HERITAGE IMPACT ASSESSMENT

A DESKTOP STUDY

PROPOSED CONSTRUCTION OF THE NEW MATAMELA RAMAPHOSA SECONDARY SCHOOL AT SPA PARK BELA-BELA ON PORTION 266 OF THE FARM WARMBATH 1491. BELA-BELA LOCAL MUNICIPALITY, WATERBERG DISTRICT

FOR: Ronell Group (Pty) Ltd
6 Bukhara Street
Ivy Park Ext 32
Polokwane
0699

Frans Roodt
September 2022

VHUFA HASHU Heritage Consultancy CC
Sustainable community development is our speciality

25 Roodt Street, Sonheuwel, **Nelspruit**, 1201
Plot 22, Elmadal Smallholdings, **Polokwane**, 0699
Cell: 0837702131/ 0833573669

DECLARATION OF INDEPENDENCE

I, Frans Roodt representing Vhufa Hashu Heritage Consultants, hereby confirm my independence as a specialist archaeologist and heritage practitioner and declare that I have no business, financial, personal or other interest in any proposed activity, application or appeal in respect of this proposed project, other than fair remuneration for the work performed.

FRANS ROODT (*BA Hons, MA Archaeology, Post Grad Dip. in Museology; UP*)
Principal Investigator

Executive Summary

This report addresses the proposed construction of the new Matamela Ramaphosa Secondary School at SpaPark, within the Bela-Bela Local Municipality, Waterberg District of Limpopo Province.

This is a desktop study and the sources of information were published literature, relevant heritage and palaeontological impact assessment reports, relevant maps and Google earth.

The study area had been severely impacted on by informal settlement and is also surrounded by current settlements and occupied plots. It is highly unlikely that any significant heritage resources with contextual integrity exist in the study area..

In view of the above no mitigation measures are recommended.

Chance finds must however be reported to a heritage practitioner or the relevant Heritage Authority.

From a heritage resources management perspective, there is no reason why the development may not proceed.

CONTENT

1. INTRODUCTION AND TERMS OF REFERENCE

1.1 Introduction

The author was appointed the Environmental Assessment Practitioner (EAP) Mr. R Tshibubudze of the Ronell Group (Pty) Ltd to undertake a Desktop Heritage Impact Assessment for the proposed construction of the new Matamela Ramaphosa Secondary School at SpaPark, within the Bela-Bela Local Municipality, Waterberg District. This is part of the Basic Assessment Process for Environmental Authorisation.

1.2 Project location and description

The proposed development is located approximately 2km north-west of the Bela-Bela CBD at general coordinates: S24°52'28.90 " E28°16'21.20" (Figure 1&2). The BID document indicates that it is situated on Portion 266 of the farm Warmbath 1491, which is actually a new subdivision of a portion of the original farm Roodepoort 467 KR (Figure 3). The study area is currently used for residential purposes by means informal housing stands.

The proposed development will consist of:

- 30 Ordinary Classrooms (Single storey buildings no double storey)
- Large Admin Block
- Nutrition Centre
- Multipurpose School Hall
- Science and Life Science Combo (Emphasis on Combo do not separate)
- Computer Lab and Media Centre Combo (Emphasis on Combo do not separate) Media Centre being your traditional library.
- 46 Waterborne Toilets for Learners with 2 being for disabled. 1 for Female and 1 for Male
- 8 additional toilets close to the Admin for teachers. 1 to be for Disabled.
- Multipurpose Classroom
- Perimeter fencing for 4.8 Hectares or for the available land. Fence to be steel palisade at 2.1 meters high (the department advised that there should be a layer of brickwork or concrete at the bottom of the fence to avoid intrusion from below. Preferably concrete)
- Drill and Equip Borehole
- 100Kl water storage on elevated steel tanks. Half of the tanks at 4m high and the other half at 6m high
- 25 Covered Parking Bays and 15 Uncovered paved Parking bays

- Guard House
- Rainwater Harvesting tanks 2 per block
- sports grounds for the kids

1.3 Terms of reference and scope of work

Undertake a Heritage Impact Assessment and submit a specialist report, which addresses the following:

- A desktop assessment to gather information on heritage resources within the proposed development site;
- Identify possible archaeological, cultural and historic sites within the proposed development area;
- Evaluate the potential impacts of construction, operation and maintenance of the proposed development on archaeological, cultural and historical resources;
- Recommend mitigation measures to ameliorate any negative impacts on areas of archaeological, cultural or historical importance; and
- Identifying key uncertainties and risks.

2. RELEVANT LEGISLATION

Two sets of legislation are relevant for this study with regard to the protection of heritage resources and graves.

2.1 The National Heritage Resources Act (25 of 1999) (NHRA)

This Act established the South African Heritage Resources Agency (SAHRA) and makes provision for the establishment of Provincial Heritage Resources Authorities (PHRA). The Act makes provision for the undertaking of heritage resources impact assessments for various categories of development as determined by Section 38. It also provides for the grading of heritage resources (Section 7) and the implementation of a three-tier level of responsibilities and functions for heritage resources to be undertaken by the State, Provincial authorities and Local authorities, depending on the grade of the Heritage resources (Section 8).

In terms of the National Heritage Resources Act (1999) the following is of relevance in terms of the general protection of heritage resources:

Historical remains

Section 34(1) No person may alter or demolish any structure or part of a structure, which is older than 60 years without a permit issued by the relevant provincial heritage resources authority.

Archaeological remains

Section 35(3) Any person who discovers archaeological or palaeontological objects or material or a meteorite in the course of development or agricultural activity must immediately report the find to the responsible heritage resources authority or to the nearest local authority or museum, which must immediately notify such heritage resources authority.

Subsection 35(4) No person may, without a permit issued by the responsible heritage resources authority-

(a) destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;
(b) destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;
(c) trade in, sell for private gain, export or attempt to export from the republic any category of archaeological or palaeontological material or object, or any meteorite; or
(d) bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment which assist with the detection or recovery of metals or archaeological material or objects, or use such equipment for the recovery of meteorites.

Subsection 35(5) When the responsible heritage resources authority has reasonable cause to believe that any activity or development which will destroy, damage or alter any archaeological or palaeontological site is under way, and where no application for a permit has been submitted and no heritage resources management procedures in terms of section 38 has been followed, it may-

(a) serve on the owner or occupier of the site or on the person undertaking such development an order for the development to cease immediately for such period as is specified in the order;
(b) carry out an investigation for the purpose of obtaining information on whether or not an archaeological or palaeontological site exists and whether mitigation is necessary;
(c) if mitigation is deemed by the heritage resources authority to be necessary, assist the person on whom the order has been served under paragraph (a) to apply for a permit as required in subsection (4); and
(d) recover the costs of such investigation form the owner or occupier of the land on which it is believed an archaeological or palaeontological site is located or from the person proposing to undertake the development if no application for a permit is received within two weeks of the order being served.

Subsection 35(6) The responsible heritage resources authority may, after consultation with the owner of the land on which an archaeological or palaeontological site or meteorite is situated; serve a notice on the owner or any other controlling authority, to prevent activities within a specified distance from such site or meteorite.

Burial grounds and graves

Subsection 36(3)

(a) No person may, without a permit issued by SAHRA or a provincial heritage resources authority-
(c) destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or
(d) bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation equipment, or any equipment which assists in detection or recovery of metals.

Subsection 36(6) Subject to the provision of any law, any person who in the course of development or any other activity discovers the location of a grave, the existence of which was previously unknown, must immediately cease such activity and report the discovery to the responsible heritage resources authority which must, in co-operation with the South African Police Service and in accordance with regulations of the responsible heritage resources authority-

(a) carry out an investigation for the purpose of obtaining information on whether or not such grave is protected in terms of this Act or is of significance to any community; and
(b) if such grave is protected or is of significance, assist any person who or community which is a direct descendant to make arrangements for the exhumation and re-interment of the content of such grave or, in the absence of such person or community, make any such arrangement as it deems fit.

Culture Resource Management

Subsection 38(1) Subject to the provisions of subsection (7), (8) and (9), any person who intends to undertake a development***** …

must at the very earliest stages of initiating such development notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.

***'development'** means any physical intervention, excavation, or action, other than those caused by natural forces, which may in the opinion of the heritage authority in any way result in a change to the nature, appearance or physical nature of a place, or influence its stability and future well-being, including-

(a) construction, alteration, demolition, removal or change of use of a place or a structure at a place;
(b) carry out any works on or over or under a place*****;
(e) any change to the natural or existing condition or topography of land, and
(f) any removal or destruction of trees, or removal of vegetation or topsoil;

"place** means a site, area or region, a building or other structure** ..."

***"structure** means any building, works, device or other facility made by people and which is fixed to the ground …"

2.2 The Human Tissues Act (65 of 1983)

This Act protects graves younger than 60 years. These fall under the jurisdiction of the National Department of Health and the Provincial Health Departments. Approval for the exhumation and re-burial must be obtained from the relevant Provincial MEC as well as the relevant Local Authorities.

3. METHODOLOGY

3.1 Sources of information

The main sources of information are a literature review and the SAHRIS database. In addition, Google earth and the Topographical map 2428 CD was consulted.

Consulted heritage resource impact assessments that are relevant to the study area and cover at least a radius of 15km are Hutten 2015, Kusel 2006 & 2007, Matakoma 2007, Roodt, H 1999, Roodt, F 2003a&b, 2007a&b & 2008 and van der Walt 2016 (see references below).

3.2 Limitations

The study is limited by the fact that no field survey was undertaken, but in view of recent disturbances, there is no reason to believe that any heritage remains with contextual integrity could exist on the terrain.

3.3 Categories of significance

The significance of heritage sites is ranked into the following categories.

No significance: sites that do not require mitigation.
Low significance: sites, which *may* require mitigation.
Medium significance: sites, which require mitigation.
High significance: sites, which must not be disturbed at all.

The significance of specifically an archaeological site is based on the amount of deposit, the integrity of the context, the kind of deposit and the potential to help answer present research questions. Historical structures are defined by Section 34 of the National Heritage Resources Act, 1999, while other historical and cultural significant sites, places and features, are generally determined by community preferences.

3.4 Terminology

Early Stone Age:	Predominantly the Oldowan artefacts and Acheulian hand axe industry complex dating to + 1Myr yrs – 250 000 yrs. before present.
Middle Stone Age:	Various lithic industries in SA dating from ± 250 000 yrs. - 22 000 yrs. before present.
Late Stone Age:	The period from ± 22 000-yr. to contact period with either Iron Age farmers or European colonists.
Early Iron Age:	Most of the first millennium AD
Middle Iron Age:	10^{th} to 13^{th} centuries AD
Late Iron Age:	14^{th} century to colonial period. *The entire Iron Age represents the spread of Bantu speaking peoples.*
Phase 1 assessments:	Scoping surveys to establish the presence of and to evaluate heritage resources in a given area
Phase 2 assessments:	In depth culture resources management studies which could include major archaeological excavations, detailed site surveys and mapping / plans of sites, including historical / architectural structures and features. Alternatively, the sampling of sites by collecting material, small test pit excavations or auger sampling could be undertaken.
Sensitive:	Often refers to graves and burial sites, as well as ideologically significant sites such as ritual / religious places. *Sensitive* may also refer to an entire landscape / area known for its significant heritage remains.
NHRA	National Heritage Resources Act (Act 25 of 1999)
SAHRA	South African Heritage Resources Agency
SAHRIS	South African Heritage Resources Information System

4. BASELINE INFORMATION

No significant research has been conducted in the project area. The baseline information is therefore mainly generic as no publications cover the specific project area. Previous Heritage Impact Assessment reports in the general area of the project were consulted and referenced.

4.1 The Stone Age

The Stone Age covers most of southern Africa and the earliest consist of the Oldowan and Acheul artefacts assemblages. Oldowan tools are regularly referred to as “choppers”. Oldowan artefacts are associated with Homo *habilis*, the first true humans. In South Africa definite occurrences have been found at the sites of Sterkfontein and Swartkrans. Here they are dated to between 1.7 and 2 million years old. Bearing in mind the proximity of the Makapans Valley palaeontological site about 50km south-east of the project area it is possible that they may occur here. This was followed by the Acheulian technology from about 1.4 million years ago which introduced a new level of complexity. The large tools that dominate the Acheulian artefact assemblages range in length from 100 to 200 mm or more. Collectively they are called bifaces because they are normally shaped by flaking on both faces. In plan view, they tend to be pear-shape and are broad relative to their thickness. Most bifaces are pointed and are classified as handaxes, but others have a wide cutting end and are termed cleavers. The Acheulian design persisted for more than a million years and only disappeared about 250 000 years ago. Here, too the Makapans Valley Site is referenced; especially the Cave of Hearths.

The change from Acheulian with their characteristic bifaces, handaxes and cleavers to Middle Stone Age (MSA), which are characterized by flake industries, occurred about 250 000 years ago and ended about 30 000 – 22 000 years ago. For the most part the MSA is associated with modern humans; Homo sapiens. MSA remains are found in open spaces where they are regularly exposed by erosion as well as in caves. Characteristics of the MSA are flake blanks in the 40 – 100 mm size range struck from prepared cores, the striking platforms of the flakes reveal one or more facets, indicating the preparation of the platform before flake removal (the prepared core technique), flakes show dorsal preparation – one or more ridges or arise down the length of the flake – as a result of previous removals from the core, flakes with convergent sides (laterals) and a pointed shape, and flakes with parallel laterals and a rectangular or quadrilateral shape: these can be termed pointed and flake blades respectively. Other flakes in MSA assemblages are irregular in form. The Cave of Hearths in the Makapans Valley Site is referenced.

The change from Middle Stone Age to Later Stone Age (LSA) took place in most parts of southern Africa little more than about 20 000 years ago. It is marked by a series of technological innovations or new tools that, initially at least, were used to do much the same jobs as had been done before, but in a different way. Their introduction was associated with changes in the nature of hunter-gatherer material culture. The innovations associated with the Later Stone Age “package” of tools include rock art – both paintings and engravings, smaller stone tools, so small that the formal tools less that 25mm long are called microliths (sometimes found in the final MSA) and Bows and arrows. Rock art is an important feature of the LSA and is abundant in the adjacent Waterberg (from Deacon & Deacon 1999).

4.2 **The Iron Age** (Early Farming Communities)

In pre-colonial times, various Eastern Bantu-speaking people inhabited South Africa, including Nguni, Sotho-Tswana, and Tsonga. However, they were not the first groups to occupy southern Africa. About 1800 years ago their predecessors brought a new way of life to the region replacing

the Stone Age hunter-gatherers. For the first time, people lived in settled communities, cultivating such crops as sorghum, millets, ground beans and cowpeas, and they herded cattle as well as sheep and goats. Because these early farming people also made their own iron tools, many archaeologists call this block of time the Iron Age. They also represent the spread of the Eastern Bantu language into southern Africa. For convenience and to mark widespread events, it is divided into three periods: the Early Iron Age (AD 200-900), the Middle Iron Age (AD 900-1300) and the Late Iron Age (AD 1300-1820) to which the ancestors of the present day Nguni and Sotho-Tswana belonged.

Archaeologists of the Iron Age use ceramic style to establish culture-history sequences. Ceramic sequences are thus the framework for all other domains of Iron Age research, be it life ways (incorporating technology, subsistence and settlement patterns), or the explanation of cultural change.

The earliest cultural expression of the first black farmers that moved into South Africa belonged to the Uruwe Tradition originating from the Great Lakes area of Central Africa, was a secondary dispersal centre for eastern Bantu speakers. East Africa and migrated southwards as part of the Kwale Branch, i.e., the **Eastern stream** of migration and settled in the Tzaneen area in the 3rd century AD. This stream moved onto the escarpment in the Lydenberg area and as far south as Durban in KwaZulu-Natal. From the escarpment it moved to Broederstroom near Hartbeespoort Dam. During the 5th century onwards, the **Western stream** of migration, namely the Kalundu Tradition originating in the far North of Angola, was another secondary dispersal centre for eastern Bantu speakers. The Happy Rest Branch represents this stream and has been found in the Zoutpansberg area. It too moved onto the escarpment and further on to KwaZulu-Natal. On the escarpment it developed into the *Doornkop* and later the *Klingbeil* facies. In the western Bushveld of Limpopo, Happy Rest developed into the Diamant facies from which the *Eiland* facies derived (Middle Iron Age). *Eiland* represents the last phase of the Kalundu Ceramic Tradition in the South African interior dating to the 10th – 13th century AD. It occurs in the study area and over a wide area from the Zoutpansberg to the Magaliesberg.

The Middle Iron Age represents Mapungubwe and the origins of Great Zimbabwe. They are descendants of the Early Iron Age Kalundu Tradition. The Shona of Zimbabwe and the royal families of the Venda descend from the Zimbabwe culture.

The earliest recorded facies of Sotho-Tswana Moloko Branch is *Icon*. *Icon* pottery first appears in the Phalaborwa area and spread to other parts of the Limpopo Province, Mpumalanga and perhaps Botswana, dating to between about AD 1300 and 1500. According to the ceramic evidence, in some places *Icon* incorporated earlier *Eiland* elements. This phase predates the oral record.

The next phase of Moloko includes at least three separate facies derived from *Icon,* each with a similar direction of change in motifs: *Letsibogo* in Botswana and north-western Limpopo, *Madikwe* in the North West Province, and central-western Limpopo and Botswana, and *Olifantspoort* in the Magaliesberg. Emphases on different decoration techniques separate these three facies: punctates in *Letsibogo*, stabs and fingernail impressions in *Madikwe*, and fine hatching in *Olifantspoort*. Radiocarbon dates place this second phase between about AD 1500 and 1700. In all three areas, the second phase predates stonewalling ascribed to Sotho-Tswana speakers. The *Madikwe* facies may occur in the study area.

The fourth and final Sotho-Tswana cluster involves the Fokeng who originated at Ntsuanatsatsi Hill in the Free State (AD 1450 -1650) out of the Blackburn Branch (Late Iron Age) and Sothonised due

to contact with other Sotho-Tswana speakers. This developed into the *Uitkomst facies* AD 1650 – 1820, which in turn developed into the *Rooiberg facies* AD 1650 – 1750 with intermixture from the *Madikwe facies*. The *Rooiberg facies* occurs in the study area (extracted from Huffman 2007).

4.3 The historical landscape

The first owner of the farm Het Bad was Carl Van Heerden, a Voortrekker. The area in and around the mineral springs was a marshland where great numbers of wild animals were trapped and died in the mud. After the marshes were drained, the skeletons of numerous animals were found. In 1873, President Burger of the then South African Republic (ZAR) saw the tourism and recreational opportunities that Het Bad had to offer. He proposed the purchase of the farm to the ZAR. At first they refused the proposal but when President Burger wanted to purchase Het Bad from his own funds they accepted the proposal. The place was first called Hartingsburg - named after Pieter Harting (Dutch Biologist & Naturalist, 1812-1885) who conducted extensive groundwater research in effort to improve quality of water for public health. The place was commonly called “Warmbaths“. In 1903 the British government altered the name of the Post Office to *WARMBATHS.* A declaration of April, 1905, proclaims the extension of the borders of Warmbaths over the other portions of the farm *Het Bad* and since then the name *Hartingsburg* vanished. In 1920 Warm Baths was reproclaimed a town and it was not until the 1st July 1950, that it had a magisterial district of its own. In the year 2002 Warmbaths was officially renamed Bela-Bela (which means the pot that boils in Tswana).

5. RESULTS OF THE DESKTOP STUDY

5.1 Palaeontology

The project area falls within the low sensitivity blue colour code of the SAHRIS Palaeontological Sensitivity Map. This is based on the SAHRA Palaeotechnical Report; Palaeontological Heritage of Limpopo by Groenewald & Groenewald (2014). A protocol for finds is required (See Annexure A).

The Geological map 1: 250 000, 2428 Nylstroom (see Figure 4) places the area in the Skrikkloof Formation of the Rooiberg Group.

Rooiberg Group (Vro), Skrikkloof Formation (Vs). Lithology – Volcanic rock plus minor, thin but extensive horizons of metamorphosed sediments (quartzites, sandstones, mudrocks, cherts), mainly of fluvial origin. The volcanics are related to intrusives of the underlying Bushveld Magmatic Province (2.06 Ga).

Fossils within minor sedimentary units unlikely because of fluvial depositional setting and subsequent metamorphism.

5.2 Archaeology

Very few heritage impact assessments were undertaken in the immediate vicinity of the study area. Relevant reports are Hutten 2015, Kusel 2006 & 2007, Matakoma 2007, Roodt, H 1999, Roodt, F 2003a&b, 2007a&b and 2008, van der Walt 2016.

Kusel 2006 recorded two circular stone wall structures and a Late Stone Age deposit on the farm Skrikkloof 428 KR about 15km north-west of the study area, Matakoma – ARM (2007) recorded stonewalled structures at the base of Buiskop to the north-west of the study area, Roodt, H (1999)

recorded Middle Stone Age material and unidentified ceramics on the adjacent farm Het Bad 465 KR, Roodt F (2003a&b) recorded *Eiland ceramics* on the adjacent farm Roodepoort 467 KR (Figure 5) and *Rooiberg facies* stone walled settlements on the adjacent farm Bospoort 450 KR (Figure 6).

5.2.1 **The Stone Age**.

From the literature review mentioned above, it is possible that Stone Age material, especially Middle Stone Age, may be present in the study area. These mainly occur subterranean and are exposed by erosion or other earthworks. However, bearing in mind that the area is currently informally occupied, it is unlikely that any Stone Age primary context sites will be present. Surface material will most likely be out of context.

The same will be true of the Late Stone Age. The study area is not suitable for Rock Art as there are no usable large lose-standing boulders or rock overhangs which would facilitate rock art.

It is thus unlikely that significant Stone Age material or primary context sites will be present in the study area.

5.2.2 **The Iron Age (Early farming communities)**

The literature review revealed that Kusel, Roodt, F and Matakoma ARM recorded Late Iron Age stonewalled sites in the vicinity of Bela-Bela. Stonewalled settlements are reliant on the availability of suitable stones for building and nearby arable land for cultivation. From the Google image this does not seem to be the case in the study area. In addition, past human occupation normally leaves a characteristic impression on the landscape showing up as anomalies or even identifiable structures or patterns on aerial images. Nevertheless, the informal settlement will have impacted on any archaeological site and altered the integrity of such site.

It is thus unlikely that significant Iron Age site will be present in the study area.

5.3 Historical structures

No historical built structures will be impacted on by the proposed development.

5.4 Graves and burials sites

No graves are expected on the terrain due to its disturbed nature. It is also unlikely that the current inhabitants would be allowed to bury their deceased in their home yards and not in a formal cemetery.

6. DISCUSSION

The study area had been severely impacted on by informal settlement and is also surrounded by current settlements and occupied plots. It is highly unlikely that any significant heritage resources with contextual integrity exist in the study area.

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7. EVALUATION AND STATEMENT OF SIGNIFICANCE

7.1 Significance criteria in terms of Section 3(3) of the National Heritage Resources Act.

Table 1: Significance criteria and rating

Significance		Rating
1.	The importance of the cultural heritage in the community or pattern of South Africa's history (Historic and political significance)	Low
2.	Possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage (Scientific significance).	Low
3.	Potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage (Research/scientific significance)	Low
4.	Importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects (Scientific significance)	None
5.	Importance in exhibiting particular aesthetic characteristics valued by a community or cultural group (Aesthetic significance)	None
6.	Importance in demonstrating a high degree of creative or technical achievement at a particular period (Scientific significance)	None
7.	Strong or special association with a particular community or cultural group for social, cultural or spiritual reasons (Social significance)	Low
8.	Strong or special association with the life and work of a person, group or organization of importance in the history of South Africa (Historic significance)	None
9.	The significance of the site relating to the history of slavery in South Africa.	None

7.2 Assessment of cultural significance or other special values because of:

7.2.1 Section 38(3) (c) An assessment of the impact of the development on such heritage resources.

No impact on heritage resources is expected.

7.2.2 ***Section 38(3) (d) An evaluation of the impact of the development on heritage resources relative to the sustainable economic benefits to be derived from the development***.

The development will most likely have no impact on any heritage sites or remains and will have a positive social benefit in the community.

7.2.3 ***Section 38(3) (e) The results of consultation with the communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources***.

The developer should engage in community consultation for the relocation of families living on the premises.

7.2.4 Section 38(3)(f) If heritage resources will be adversely affected by the proposed development the consideration of alternatives.

No alternatives have been proposed.

7.2.5 Section 38(3)(g) Plans for mitigation of any adverse effects during and after the completion of the proposed development.

No specific mitigation measures are recommended.

8. RECOMMENDATIONS

In view of the above no mitigation measures are recommended.

Chance finds must however be reported to a heritage practitioner or the relevant Heritage Authority.

From a heritage resources management perspective, there is no reason why the development may not proceed.

9. REFERENCES

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FRANS ROODT (*BA Hons, MA Archaeology, Post Grad Dip. in Museology; UP*)
Principal Investigator

10. MAPS AND IMAGES (Figures 1 – 6).

Figure 1. Google image of the study area in relation to Bela-Bela.

Figure 2. Detailed Google image of the study area – note informal settlement.

Figure 3. Overlay of topographical map on Google image showing the study area location on the original farm Roodepoort 457 KR.

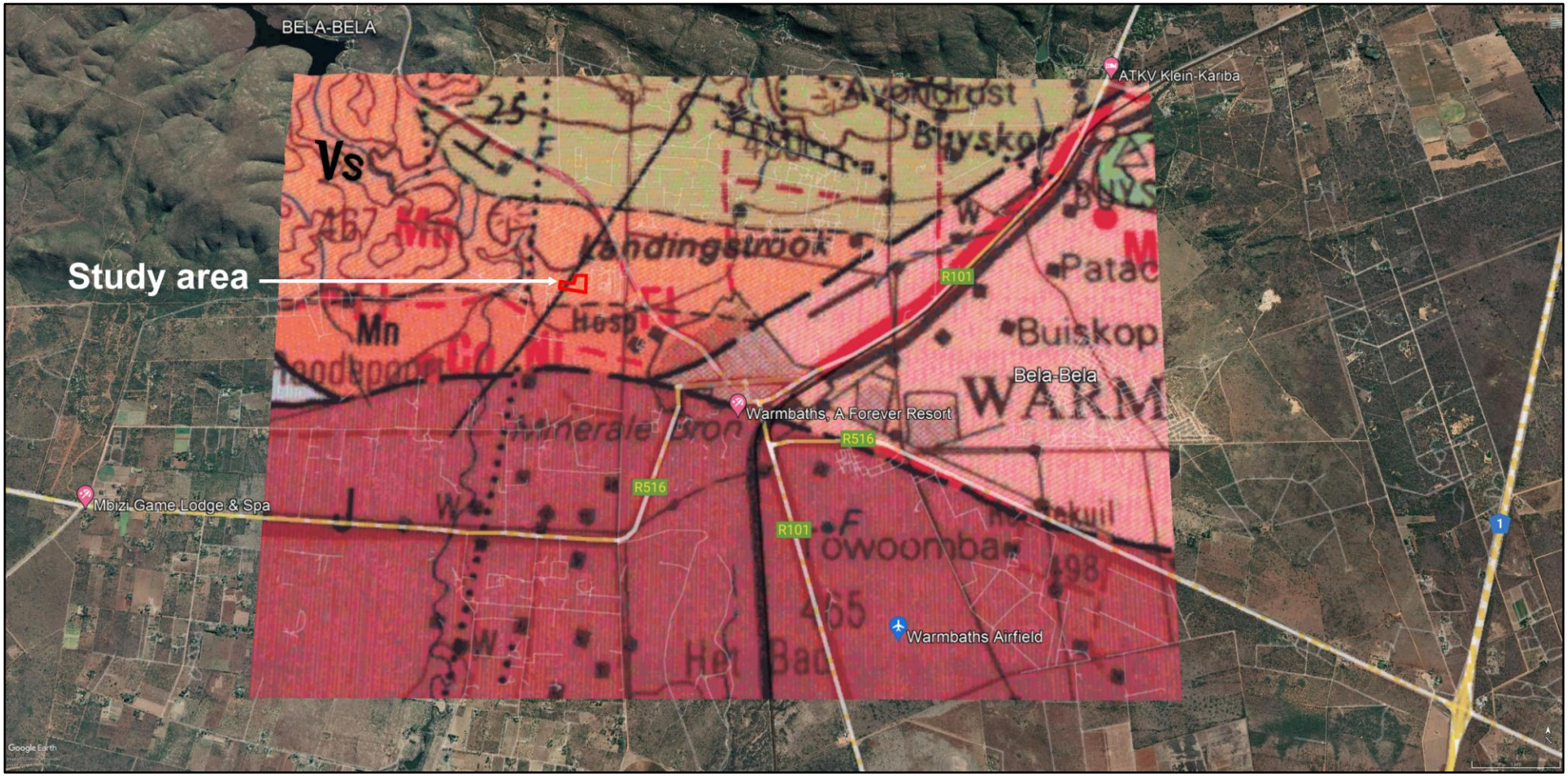

Figure 4. Overlay of 1:250000 Geological map 2428 Nylstroom on Google earth image showing the study area on the Skrikkloof Formation of the Rooiberg Group.

Figure 5. *Eiland facies* pottery (ceramics) on the farm Roodepoort 457 KR.

Figure 6. Archaeological Stonewalling on the farm Bospoort 450 KR.

ANNEXURE A

<table>
<tr><td colspan="3">CHANCE FOSSIL FINDS PROTOCOL: Proposed Construction of the New Matamela Ramaphosa Secondary School at Spa Park Bela-Bela, Bela-Bela Local Municipality.</td></tr>
<tr><td>Province & region:</td><td colspan="2">Bela-Bela Local Municipality, Waterberg District, Limpopo Province</td></tr>
<tr><td>Responsible Heritage Management Authority</td><td colspan="2">SAHRA, 111 Harrington Street, Cape Town. PO Box 4637, Cape Town 8000, South Africa. Phone: +27 (0)21 462 4502. Fax: +27 (0)21 462 4509. Web : www.sahra.org.za</td></tr>
<tr><td>Rock unit(s)</td><td colspan="2">• Rooiberg Group (Vro); Skrikkloof Formation (Vs).
• Lithology – Volcanic rocks plus minor, thin but extensive horizons of metamorphosed sediments (quartzites, sandstones, mudrocks, cherts), mainly of fluvial origin. The volcanics are related to intrusives of the underlying Bushveld Magmatic Province (2.06 Ga).</td></tr>
<tr><td>Potential fossils</td><td colspan="2">• Fossils within minor sedimentary units unlikely because of fluvial depositional setting and subsequent metamorphism.</td></tr>
<tr><td rowspan="5">Environmental officer</td><td colspan="2">1. Once alerted to fossil occurrence(s): alert site foreman, stop work in area immediately, safeguard site with security tape / fence / sand bags for support if necessary.</td></tr>
<tr><td colspan="2">2. Record key data while fossil remains are still in situ:
• Accurate geographic location – describe and mark on site map / 1: 50 000 map / satellite image / aerial photo / GPS
• Context – describe position of fossils within stratigraphy (rock layering) and depth below surface
• Photograph fossil(s) in situ with scale, from different angles, including images showing context (e.g. rock layering)</td></tr>
<tr><td>3. If feasible to leave fossils in situ:
• Alert Heritage Management Authority and project palaeontologist whowill advise on any necessary mitigation
• Ensure fossil site remains safeguarded until clearance is given by the Heritage Management Authority for work to resume</td><td>3. If not feasible to leave fossils in situ (emergency procedure only):
• Carefully remove fossils, as far as possible still enclosed within the original sedimentary matrix (e.g. entire block of fossiliferous rock)
• Photograph fossils against a plain, level background, with scale
• Carefully wrap fossils in several layers of newspaper / tissue paper / plastic bags
• Safeguard fossils together with locality and collection data (including collector and date) in a box in a safe place for examination by a palaeontologist
• Alert Heritage Management Authority and project palaeontologist who will advise on any necessary mitigation</td></tr>
<tr><td colspan="2">4. If required by Heritage Management Authority, ensure that a suitably-qualified specialist palaeontologist is appointed as soon as possible by the developer.</td></tr>
<tr><td colspan="2">5. Implement any further mitigation measures proposed by the palaeontologist and Heritage Management Authority</td></tr>
<tr><td>Specialist palaeontologist</td><td colspan="2">Record, describe and judiciously sample fossil remains together with relevant contextual data (stratigraphy / sedimentology / taphonomy). Ensure that fossils are curated in an approved repository (e.g. museum / university / Council for Geoscience collection) together with full collection data. Submit Palaeontological Mitigation report to Heritage</td></tr>
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	Resources Authority. Adhere to best international practice for palaeontological fieldwork and Heritage Management Authority minimum standards.