

ARCHAEOLOGICAL IMPACT ASSESSMENT

**For The Proposed Aveng Grinaker LTE Storage Yard On
Portions 109 And 110 of the Farm Olifantsfontein 402 J. R, Gauteng**

Client:

LEAP

Client info:

Nkhensani Sithole

E – mail: env@leapenviro.co.za



HCAC - Heritage Consultants

Private Bag X 1049

Suite 34

Modimolle

0510

Tel: 082 373 8491

Fax: 086 691 6461

E-Mail: jaco.heritage@gmail.com

Report Author:

Mr. J. van der Walt

Project Reference:

216048

Report date:

April 2016

DOCUMENT PROGRESS
Archaeological Impact Assessment

Document status

Document Version	v1.0
Report Purpose	Draft Report for review
Report Ref. No.	216048

Distribution List

Date	Report Reference number	Document Distribution	Number of Copies
2016/04/24	216048	LEAP	Electronic copy

General

The possibility of unmarked or informal graves and subsurface finds cannot be excluded. If any possible finds are made during construction, the operations must be stopped and a qualified archaeologist contacted for an assessment of the find/s.

Disclaimer: *Although all possible care is taken to identify sites of cultural importance during the investigation of study areas, it is always possible that hidden or sub-surface sites could be overlooked during the study. Heritage Contracts and Archaeological Consulting CC and its personnel will not be held liable for such oversights or for costs incurred as a result of such oversights.*

Copyright: Copyright in all documents, drawings and records whether manually or electronically produced, which form part of the submission and any subsequent report or project document shall vest in Heritage Contracts and Archaeological Consulting CC. None of the documents, drawings or records may be used or applied in any manner, nor may they be reproduced or transmitted in any form or by any means whatsoever for or to any other person, without the prior written consent of Heritage Contracts and Archaeological Consulting CC. The Client, on acceptance of any submission by Heritage Contracts and Archaeological Consulting CC and on condition that the Client pays to Heritage Contracts and Archaeological Consulting CC the full price for the work as agreed, shall be entitled to use for its own benefit and for the specified project only:

- The results of the project;
- The technology described in any report;
- Recommendations delivered to the Client.

CLIENT:

LEAP

CONTACT PERSON:**Nkhensani Sithole****LEADING CONSULTANT:****HCAC** - Heritage Contracts and Archaeological Consulting CC (HCAC)**CONTACT PERSON:**

Jaco van der Walt

Heritage Contracts and Archaeological Consulting

Professional Member of the Association of Southern African Professional Archaeologist (#159)

I, Jaco van der Walt as duly authorised representative of Heritage Contracts and Archaeological Consulting CC, hereby confirm my independence as a specialist and declare that neither I nor the Heritage Contracts and Archaeological Consulting CC have any interest, be it business, financial, personal or other, in any proposed activity, application or appeal in respect of which the client was appointed as Environmental Assessment practitioner, other than fair remuneration for work performed on this project.

**SIGNATURE:**

EXECUTIVE SUMMARY

Site name and location: The Aveng Grinaker LTE storage yard will be located on Portions 109 and 110 of the Farm Olifantsfontein 402 JR in the Gauteng Province.

1: 50 000 Topographic Map: 2528 CC.

EIA Consultant: LEAP

Developer: Aveng Grinaker LTE

Heritage Consultant: Heritage Contracts and Archaeological Consulting CC (HCAC).

Contact person: Jaco van der Walt Tel: +27 82 373 8491 E –mail jaco.heritage@gmail.com.

Date of Report: 28 April 2016.

Findings of the Assessment:

HCAC was appointed to assess the study area in terms of the archaeological component of Section 35 of the NHRA as part of the basic assessment for the project. No raw material suitable for stone tool manufacture occurs in the study area and no ceramics or stone walls attributed to the Iron Age were recorded. Similarly no sites of archaeological significance were recorded by other studies in the area (e.g. van Schalkwyk 2015, Van Vollenhoven & Marais - Botes 2014, Pelser 2013). No further mitigation prior to construction is recommended in terms of Section 35 for the proposed development to proceed.

In terms of the built environment of the area (Section 34), no standing structures older than 60 years occur within the study area. From the 1943 topographic map of the study area it is clear that no historical features occurred in the area at that time.

In terms of Section 36 of the Act no burial sites were recorded in the study area. However if any graves are located in future they should ideally be preserved *in-situ* or alternatively relocated according to existing legislation. Due to the subsurface nature of archaeological remains and the fact that graves can occur anywhere on the landscape, it is recommended that a chance find procedure is implemented for the project as part of the EMP.

The study area is surrounded by industrial and residential developments and no significant cultural landscapes or views were noted during the fieldwork.

Due to the lack of significant heritage features in the study area there is from an archaeological point of view no reason why the development cannot commence based on approval from SAHRA.

CONTENTS

ABBREVIATIONS	8
GLOSSARY	8
1. BACKGROUND INFORMATION.....	9
1.1. Terms of Reference	10
1.2. Archaeological Legislation and Best Practice	10
1.3. Description of Study Area	12
1.3.1 Location Data	12
1.3.2. Location Map	13
2. APPROACH AND METHODOLOGY	14
2.1 Phase 1 - Desktop Study	14
2.1.1 Literature Search	14
2.1.2 Information Collection	14
2.1.3 Consultation	14
2.1.4 Google Earth and Mapping Survey.....	14
2.1.5 Genealogical Society of South Africa	14
2.2 Phase 2 - Physical Surveying	14
2.3. Restrictions	16
3. NATURE OF THE DEVELOPMENT	16
4. HISTORICAL AND ARCHAEOLOGICAL BACKGROUND OF THE STUDY AREA.....	16
4.1 Databases Consulted.....	16
4.2. Brief background to the study area	16
5. HERITAGE SITE SIGNIFICANCE AND MITIGATION MEASURES	19
5.1. Field Rating of Sites	20
6. BASELINE STUDY-DESCRIPTION OF SITES	21
7. CONCLUSIONS AND RECOMMENDATIONS.....	25
7.1 Reasoned Opinion	26
8. PROJECT TEAM	26
9. STATEMENT OF COMPETENCY	26
10. REFERENCES.....	27

FIGURES

Figure 1. Location map	13
Figure 2. Track logs of the areas surveyed indicated in black with the development footprint indicated in red.	15
Figure 3: Study area viewed from the north.	22
Figure 4. Study area viewed from the west.	22
Figure 5. Study area viewed from the east.	22
Figure 6. South eastern portion of study area.	22
Figure 7. Extract of the 1943 topographical map.	23
Figure 8. Google Image of the study area showing no features or structure in the study area. Note the extensive ploughing in the study area.	24

ABBREVIATIONS

AIA: Archaeological Impact Assessment
ASAPA: Association of South African Professional Archaeologists
BIA: Basic Impact Assessment
CRM: Cultural Resource Management
ECO: Environmental Control Officer
EIA: Environmental Impact Assessment*
EIA: Early Iron Age*
EIA Practitioner: Environmental Impact Assessment Practitioner
EMP: Environmental Management Plan
ESA: Early Stone Age
GPS: Global Positioning System
HIA: Heritage Impact Assessment
LIA: Late Iron Age
LSA: Late Stone Age
MEC: Member of the Executive Council
MIA: Middle Iron Age
MPRDA: Mineral and Petroleum Resources Development Act
MSA: Middle Stone Age
NEMA: National Environmental Management Act
PRHA: Provincial Heritage Resource Agency
SADC: Southern African Development Community
SAHRA: South African Heritage Resources Agency

**Although EIA refers to both Environmental Impact Assessment and the Early Iron Age both are internationally accepted abbreviations and must be read and interpreted in the context it is used.*

GLOSSARY

Archaeological site (remains of human activity over 100 years old)

Early Stone Age (~ 2.6 million to 250 000 years ago)

Middle Stone Age (~ 250 000 to 40-25 000 years ago)

Later Stone Age (~ 40-25 000, to recently, 100 years ago)

The Iron Age (~ AD 400 to 1840)

Historic (~ AD 1840 to 1950)

Historic building (over 60 years old)

1. BACKGROUND INFORMATION

Heritage Contracts and Archaeological Consulting CC (**HCAC**) was appointed to conduct an Archaeological Impact Assessment for the proposed Grinaker Storage Yard project as part of the Basic Assessment process.

The aim of the study is to identify cultural heritage sites, document, and assess their importance within local, provincial and national context. It serves to assess the impact of the proposed project on non-renewable heritage resources, and to submit appropriate recommendations with regard to the responsible cultural resources management measures that might be required to assist the developer in managing the discovered heritage resources in a responsible manner. It is also conducted to protect, preserve, and develop such resources within the framework provided by the National Heritage Resources Act of 1999 (Act 25 of 1999).

The report outlines the approach and methodology utilized before and during the survey, which includes: Phase 1, a desktop study that includes collection from various sources and consultations; Phase 2, the physical surveying of the study area on foot and by vehicle; Phase 3, reporting the outcome of the study.

General site conditions were recorded by means of photographs, GPS locations, and site descriptions. Possible impacts were identified and mitigation measures are proposed in the following report.

This report must also be submitted to the SAHRA for review.

1.1. Terms of Reference

Desktop study

Conduct a brief desktop study where information on the area is collected to provide a background setting of the archaeology that can be expected in the area.

Field study

Conduct a field study to: a) systematically survey the proposed project area to locate, identify, record, photograph and describe sites of archaeological, historical or cultural interest; b) record GPS points identified as significant areas; c) determine the levels of significance of the various types of heritage resources recorded in the project area.

Reporting

Report on the identification of anticipated and cumulative impacts the operational units of the proposed project activity may have on the identified heritage resources for all 3 phases of the project; i.e., construction, operation and decommissioning phases. Consider alternatives, should any significant sites be impacted adversely by the proposed project. Ensure that all studies and results comply with Heritage legislation and the code of ethics and guidelines of ASAPA.

To assist the developer in managing the discovered heritage resources in a responsible manner, and to protect, preserve, and develop them within the framework provided by the National Heritage Resources Act of 1999 (Act 25 of 1999).

1.2. Archaeological Legislation and Best Practice

Phase 1, an AIA or a HIA is a pre-requisite for development in South Africa as prescribed by SAHRA and stipulated by legislation. The overall purpose of a heritage specialist input is to:

- » Identify any heritage resources, which may be affected;
- » Assess the nature and degree of significance of such resources;
- » Establish heritage informants/constraints to guide the development process through establishing thresholds of impact significance;
- » Assess the negative and positive impact of the development on these resources;
- » Make recommendations for the appropriate heritage management of these impacts.

The AIA or HIA, as a specialist sub-section of the EIA, is required under the National Heritage Resources Act NHRA of 1999 (Act 25 of 1999), Section 23(2) (b) of the NEMA and section S. 39 (3) (b) (iii) of the MPRDA.

The AIA should be submitted, as part of the EIA, BIA or EMP, to the PHRA if established in the province or to SAHRA. SAHRA will be ultimately responsible for the professional evaluation of Phase 1 AIA reports upon which review comments will be issued. 'Best practice' requires Phase 1 AIA reports and additional development information, as per the EIA, BIA/EMP, to be submitted in duplicate to SAHRA after completion of the study. SAHRA accepts Phase 1 AIA reports authored by professional archaeologists, accredited with ASAPA or with a proven ability to do archaeological work.

Minimum accreditation requirements include an Honours degree in archaeology or related discipline and 3 years post-university CRM experience (field supervisor level).

Minimum standards for reports, site documentation and descriptions are set by ASAPA in collaboration with SAHRA. ASAPA is based in South Africa, representing professional archaeology in the SADC region. ASAPA is primarily involved in the overseeing of ethical practice and standards regarding the archaeological profession. Membership is based on proposal and secondment by other professional members.

Phase 1 AIA's are primarily concerned with the location and identification of sites situated within a proposed development area. Identified sites should be assessed according to their significance. Relevant conservation or Phase 2 mitigation recommendations should be made. Recommendations are subject to evaluation by SAHRA.

Conservation or Phase 2 mitigation recommendations, as approved by SAHRA, are to be used as guidelines in the developer's decision making process.

Phase 2 archaeological projects are primarily based on salvage/mitigation excavations preceding development destruction or impact on a site. Phase 2 excavations can only be conducted with a permit, issued by SAHRA to the appointed archaeologist. Permit conditions are prescribed by SAHRA and includes (as minimum requirements) reporting back strategies to SAHRA and deposition of excavated material at an accredited repository.

In the event of a site conservation option being preferred by the developer, a site management plan, prepared by a professional archaeologist and approved by SAHRA, will suffice as minimum requirement.

After mitigation of a site, a destruction permit must be applied for from SAHRA by the client before development may proceed.

Human remains older than 60 years are protected by the National Heritage Resources Act, with reference to Section 36. Graves older than 60 years, but younger than 100 years fall under Section 36 of Act 25 of 1999 (National Heritage Resources Act), as well as the Human Tissues Act (Act 65 of 1983), and are the jurisdiction of SAHRA. The procedure for Consultation Regarding Burial Grounds and Graves (Section 36[5]) of Act 25 of 1999) is applicable to graves older than 60 years that are situated outside a formal cemetery administrated by a local authority. Graves in this age category, located inside a formal cemetery administrated by a local authority, require the same authorisation as set out for graves younger than 60 years, in addition to SAHRA authorisation. If the grave is not situated inside a formal cemetery, but is to be relocated to one, permission from the local authority is required and all regulations, laws and by-laws, set by the cemetery authority, must be adhered to.

Human remains that are less than 60 years old are protected under Section 2(1) of the Removal of Graves and Dead Bodies Ordinance (Ordinance no. 7 of 1925), as well as the Human Tissues Act (Act 65 of 1983), and are the jurisdiction of the National Department of Health and the relevant Provincial Department of Health and must be submitted for final approval to the office of the relevant Provincial Premier. This function is usually delegated to the Provincial MEC for Local Government and Planning; or in some cases, the MEC for Housing and Welfare. Authorisation for exhumation and reinternment must also be obtained from the relevant local or regional council where the grave is situated, as well as the relevant local or regional council to where the grave is being relocated. All local and regional provisions, laws and by-laws must also be adhered to. To handle and transport human remains, the institution conducting the relocation should be authorised under Section 24 of Act 65 of 1983 (Human Tissues Act).

1.3. Description of Study Area

1.3.1 Location Data

The Aveng Grinaker LTE storage yard will be located on Portions 109 and 110 of the Farm Olifantsfontein 402 JR, Marwyn Agricultural Holdings in the Gauteng Province (Figure 1). The site is easily accessible from tarred roads that also form the northern boundary of the site (Porcelain Avenue) and Townhouse Street that forms the western boundary of the study area. The site is centred on the following coordinates 25° 56' 33.5721" S, 28° 14' 20.5634" E.

1.3.2. Location Map

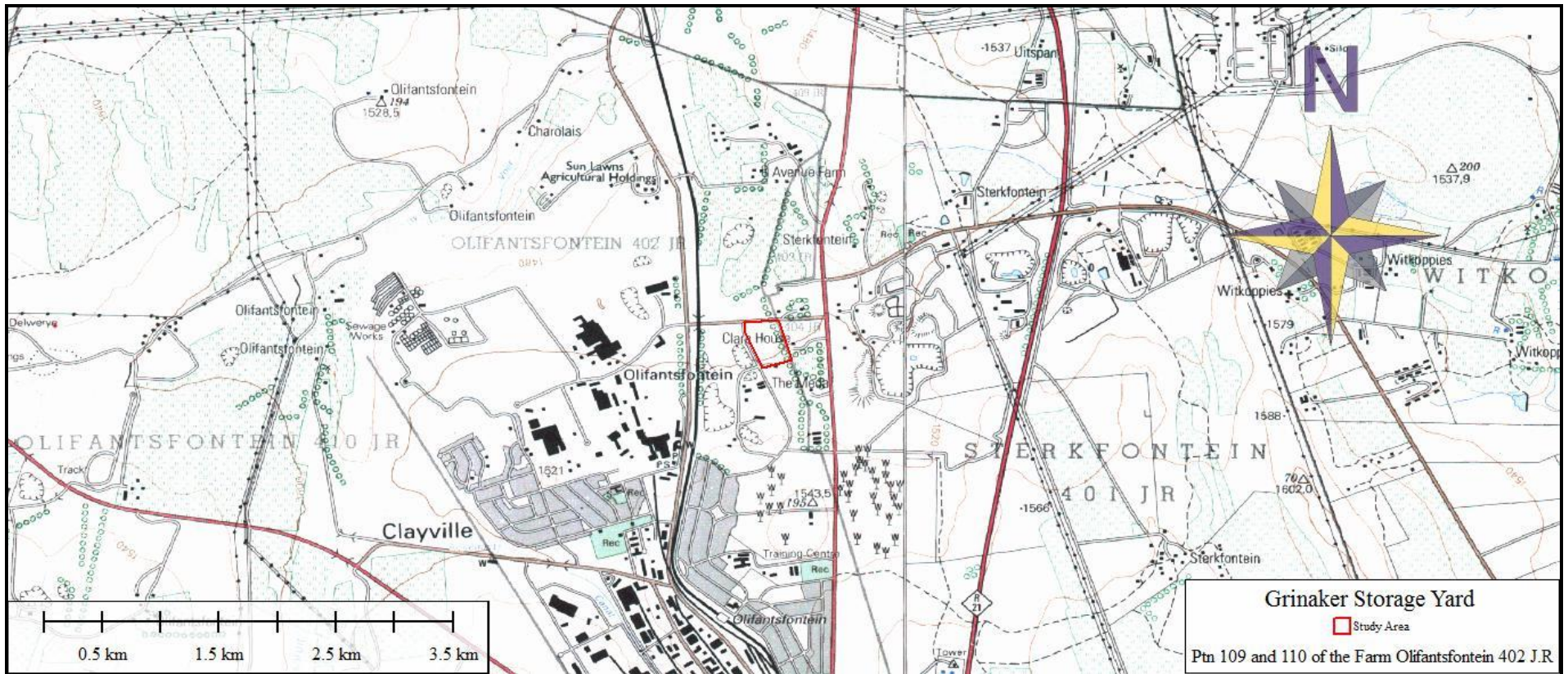


Figure 1. Location map

2. APPROACH AND METHODOLOGY

The aim of the study is to cover archaeological databases to compile a background of the archaeology that can be expected in the study area followed by field verification; this was accomplished by means of the following phases.

2.1 Phase 1 - Desktop Study

The first phase comprised desktop, scanning existing records for archaeological sites, historical sites, graves, architecture (structures older than 60 years) of the area. The following approach was followed:

2.1.1 Literature Search

This was conducted by utilising data stored in the national archives and published reports relevant to the area. The aim of this is to extract data and information on the area in question.

2.1.2 Information Collection

SAHRIS was consulted to collect data from previously conducted CRM projects in the region to provide a comprehensive account of the history of the study area.

2.1.3 Consultation

No public consultation was done by the author as this was done independently as part of the BA.

2.1.4 Google Earth and Mapping Survey

Google Earth and 1:50 000 maps of the area were utilised to identify possible places where sites of heritage significance might be located.

2.1.5 Genealogical Society of South Africa

The database of the Genealogical Society was consulted to collect data on any known graves in the area.

2.2 Phase 2 - Physical Surveying

Due to the nature of cultural remains, the majority of which occurs below surface, a field survey of the proposed development was conducted. The study area was surveyed by means of vehicle and extensive pedestrian surveys on 15 April 2016.

The survey was aimed at covering the proposed development footprint, focussing on specific areas on the landscape that would be more likely to contain archaeological and/or other heritage remains like drainage lines, rocky outcrops as well as slight elevations in the natural topography. These areas were searched more intensively, but many other areas were walked in order to confirm expectations in those areas. Track logs of the areas covered were taken (Figure 2).



Figure 2. Track logs of the areas surveyed indicated in black with the development footprint indicated in red.

2.3. Restrictions

Due to the subsurface nature of archaeological artefacts, the possibility exists that some features or artefacts may not have been discovered/ recorded during the survey and the possible occurrence of unmarked graves and other cultural material cannot be excluded. This report only deals with the footprint area of the proposed development as indicated in the location map.

Although HCAC surveyed the area as thoroughly as possible, it is incumbent upon the developer to stop operations and inform the relevant heritage agency should further cultural remains, such as graves, stone tool scatters, artefacts, bones or fossils, be exposed during the process of development.

3. NATURE OF THE DEVELOPMENT

The proposed development will comprise a storage yard with associated infrastructure. The extent of the project is approximately 9, 4709 Hectares.

4. HISTORICAL AND ARCHAEOLOGICAL BACKGROUND OF THE STUDY AREA

4.1 Databases Consulted

Five previously recorded sites are on record for the 2528 CC topographic map at the Wits database. Only one site is of relevance to this study, consisting of an open air LSA site on the farm Zevenfontein 407 JR and Zwartkops located well away and to the west from the current study area.

Several previous studies are on record for the general study area (e.g. van Schalkwyk 2002 & 2015, Van Vollenhoven & Marais - Botes 2014, Pelser 2013). Van Schalkwyk 2002 recorded 15 sites on the farm Olifantsfontein. These sites consisted of cemeteries, Stone Age Sites associated with streams and historic buildings. The 2015 study was conducted in Clayville where no sites of significance were recorded. Van Vollenhoven and Marais-Botes conducted a study for the proposed new road, K105, and no archaeological sites were recorded. Pelser 2013 similarly did not record sites of archaeological significance but did however record a cemetery.

Genealogical Society and Google Earth Monuments

No cemeteries are indicated for the farm under investigation.

4.2. Brief background to the study area

A farm does not exist in isolation and the history of the surrounding area will be briefly discussed. Sources for the history of the area surrounding the study area include secondary source material, maps, electronic sources, and archival documents. A brief history of human settlement from the source of J. S. Bergh (1999) will be used to write a short history of the area.

4.2.2. Historical background of the area

Excavations by Mason (1997) at the Boulders shopping centre (approximately 12 km to the south west of the current study area) was aimed at interpreting the cultural layering of the Midrand area and provides a good platform for understanding the cultural use of the wider landscape. He identified 7 occupational layers in his excavations that can be broadly divided into Stone Age, Iron Age and historical occupations.

The Stone Age can be divided in three main phases as follows;

- Later Stone Age; associated with Khoi and San societies and their immediate predecessors. Recently to ~30 thousand years ago
- Middle Stone Age; associated with Homo sapiens and archaic modern humans. 30-300 thousand years ago.
- Earlier Stone Age; associated with early Homo groups such as Homo habilis and Homo erectus. 400 000-> 2 million years ago.

Remains dating to all three of these phases were identified by Mason at the Boulders shopping Centre site, MSA and LSA material was also recorded at Glenn Ferness cave. The Iron Age of the region consists of Tswana speaking people who settled in the area from the early 16th century.

J. S. Bergh's historical atlas of the four northern provinces of South Africa is a very useful source for the writing of local and regional history. The study area is located about 34 km north east of the Melville Koppies, which is a Middle Stone-Age site. (Bergh 1999: 4) This area was also important to Iron Age communities, since these people had smelted and worked iron ore at the Melville Koppies site since the year 1060, by approximation. (Bergh 1999: 7, 87)

Regarding the Iron Age, the Smelting Site at Melville Koppies requires further mention. The site was excavated by Professor Mason from the Department of Archaeology of WITS in the 1980's. Extensive Stone walled sites are also recorded further South at Klipriviers Berg Nature reserve belonging to the Late Iron Age period. A large body of research is available on this area. These sites (Taylor's Type N, Mason's Class 2 & 5) are now collectively referred to as Klipriviersberg (Huffman 2007). These settlements are complex in that aggregated settlements are common, the outer wall sometimes includes scallops to mark back courtyards, there are more small stock kraals, and straight walls separate households in the residential zone. These sites dates to the 18th and 19th centuries and was built by people in the Fokeng cluster.

In this area the Klipriviersberg walling would have ended at about AD 1823, when Mzilikazi entered the area (Rasmussen 1978). This settlement type may have lasted longer in other areas because of the positive interaction between Fokeng and Mzilikazi.

The Difaqane (Sotho), or Mfekane ("the crushing" in Nguni) was a time of bloody upheavals in Natal and on the Highveld, which occurred around the early 1820's until the late 1830's (Bergh 1999: 10). It came about in response to heightened competition for land and trade, and caused population groups like gun-carrying Griquas and Shaka's Zulus to attack other tribes. (Bergh 1999: 14; 116-119) It seems that, in 1827, Mzilikazi's Ndebele started moving through the area where Johannesburg is located today. This group went on raids to various other areas in order to expand their area of influence (Bergh 1999: 11).

During the time of the Difaqane, a northwards migration of white settlers from the Cape was also taking place. Some travellers, missionaries and adventurers had gone on expeditions to the northern areas in South Africa, some already as early as the 1720's. It was however only by the late 1820's that a mass-movement of Dutch speaking people in the Cape Colony started advancing into the northern areas. This was due to feelings of mounting dissatisfaction caused by economical and other circumstances in the Cape. This movement later became known as the Great Trek.

This migration resulted in a massive increase in the extent of that proportion of modern South Africa dominated by people of European descent (Ross 2002: 39). By 1939 to 1940, farm boundaries were drawn up in an area that includes the present-day Johannesburg and Krugersdorp (Bergh 1999: 15).

The first settlers moved in the Midrand area in the 1820s, this included hunters, traders, missionaries and other travellers. Voortrekker farmers such as Frederik Andries Strydom and Johannes Elardus Erasmus established the farms Olifantsfontein and Randjesfontein respectively around the 1840's and this indicated permanent occupation of the area by white settlers. These early white settlers and their descendants were often buried on their farms and formal and informal graves and graveyards can be expected anywhere on the landscape (Van Schalkwyk 1998).

The Anglo-Boer War (1899-1902) also touched Midrand, and for a short period it was a key focus of the British war effort, when the British forces under Lord Roberts advanced through Midrand from Johannesburg en route to Pretoria. Pretoria was occupied on 5 June 1900. Some British military units were stationed close to the study area this includes the Escom Training Centre as well as Bibury Grange. No major battles took place in Midrand. Conflict in the area was defined by the Boer attempts to sabotage the railway line as well as attacks on troop trains. A notable incident was the successful Boer demolition of the railway culvert near the Pinedene Station. The railway had to be completely rebuilt by the Imperial Military Railways in 1901 (Van Schalkwyk 1998).

5. HERITAGE SITE SIGNIFICANCE AND MITIGATION MEASURES

The presence and distribution of heritage resources define a 'heritage landscape'. In this landscape, every site is relevant. In addition, because heritage resources are non-renewable, heritage surveys need to investigate an entire project area, or a representative sample, depending on the nature of the project. In the case of the proposed project the local extent of its impact necessitates a representative sample and only the footprint of the areas demarcated for development were surveyed. In all initial investigations, however, the specialists are responsible only for the identification of resources visible on the surface.

This section describes the evaluation criteria used for determining the significance of archaeological and heritage sites. The following criteria were used to establish site significance:

- » The unique nature of a site;
- » The integrity of the archaeological/cultural heritage deposits;
- » The wider historic, archaeological and geographic context of the site;
- » The location of the site in relation to other similar sites or features;
- » The depth of the archaeological deposit (when it can be determined/is known);
- » The preservation condition of the sites;
- » Potential to answer present research questions.

Furthermore, The National Heritage Resources Act (Act No 25 of 1999, Sec 3) distinguishes nine criteria for places and objects to qualify as 'part of the national estate' if they have cultural significance or other special value. These criteria are:

- » Its importance in/to the community, or pattern of South Africa's history;
- » Its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;
- » Its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;
- » Its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;
- » Its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;
- » Its importance in demonstrating a high degree of creative or technical achievement at a particular period;
- » Its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;
- » Its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa;
- » Sites of significance relating to the history of slavery in South Africa.

5.1. Field Rating of Sites

Site significance classification standards prescribed by SAHRA (2006), and acknowledged by ASAPA for the SADC region, were used for the purpose of this report. The recommendations for each site should be read in conjunction with section 7 of this report.

<i>FIELD RATING</i>	<i>GRADE</i>	<i>SIGNIFICANCE</i>	<i>RECOMMENDED MITIGATION</i>
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

6. BASELINE STUDY-DESCRIPTION OF SITES

It is important to note that the entire farm was not surveyed but only the development footprint. The topography of the study area is flat and characterised by well drained, apedal soils. The entire site has been cultivated in the recent past with irrigation and archaeological visibility is low (Figure 3 - 6). From google imagery it is deducted that the study area has been recently cultivated. These activities would have destroyed any surface signs of heritage sites.

From the 1943 topographic map of the study area (Figure 7) it is clear that no features occurred in the area. No traces of any archaeological remains were identified during the survey, a search on archaeological data bases also yielded no known sites within the study area and no heritage significant sites were identified during the desktop study. The farm Olifantsfontein does however have several heritage significant sites located well away from the current impact area like the original old Olifantsfontein farmstead (S 25 56'19.8"; E 28 12'12.1") that was established 150 years ago by Frederik Andries Strydom. The farmhouse was not burnt down during Anglo-Boer War, but was used as a British army base. A family cemetery is associated with the farm house. Another site of interest is the ruins of old lime works (S 25 55'47.7"; E 28 12'53.2"). The remains of the lime kiln and other works was established by John Richard Holmes in the 1890's. This site is also associated with a cemetery. Several other cemeteries and buildings are on record for the farm (van Schalkwyk 2002). All of these sites are located well away to the north west of the current area of investigation.

The area is characterised by industrial developments and agricultural activities and no significant cultural landscapes or views were noted during the fieldwork.



Figure 3: Study area viewed from the north.



Figure 4. Study area viewed from the west.



Figure 5. Study area viewed from the east.



Figure 6. South eastern portion of study area.

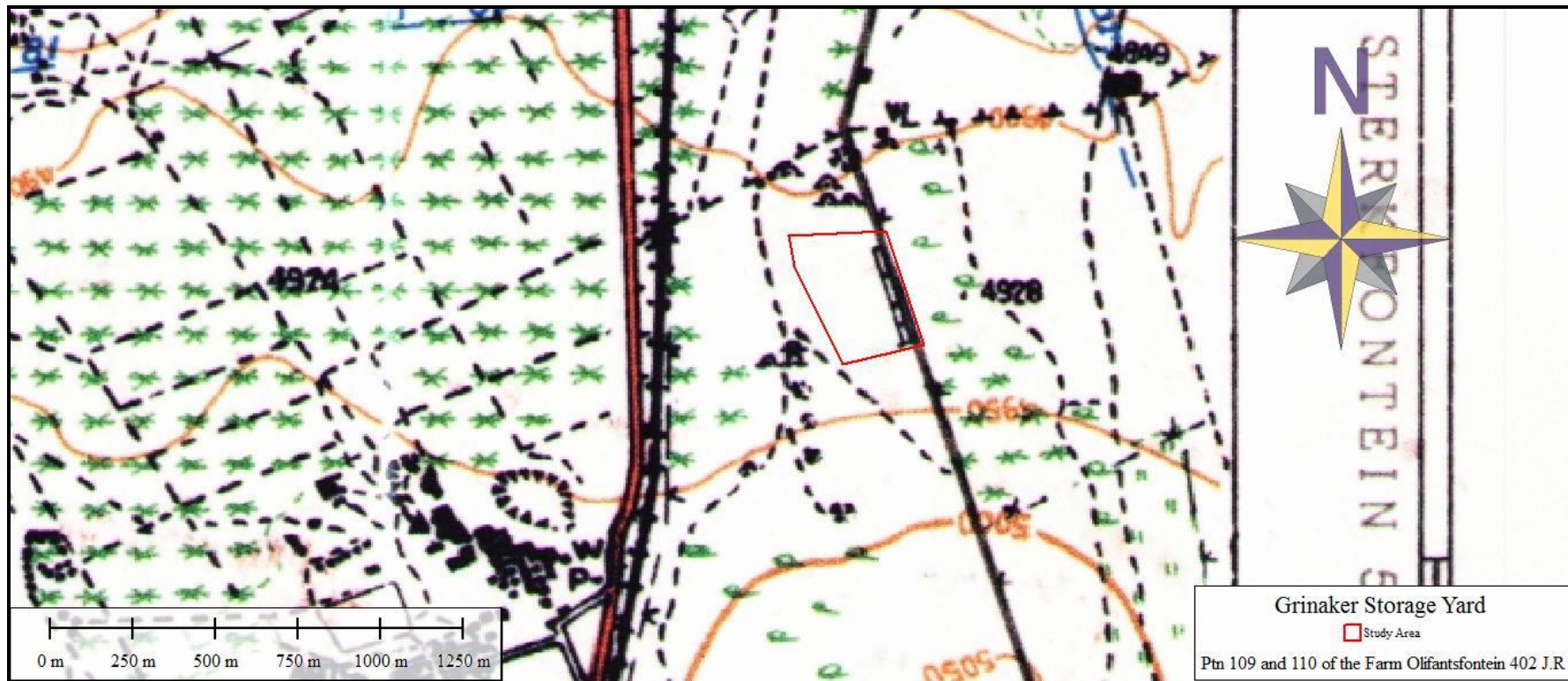


Figure 7. Extract of the 1943 topographical map.



Figure 8. Google Image of the study area showing no features or structures in the study area. Note that the study area was ploughed.

7. CONCLUSIONS AND RECOMMENDATIONS

HCAC was appointed to assess the study area in terms of the archaeological component of Section 35 of the NHRA. No raw material suitable for stone tool manufacture occurs in the study area and no ceramics or stone walls attributed to the Iron Age were recorded within the study area. No further mitigation is recommended in terms of Section 35 for the proposed development to proceed prior to the construction phase.

In terms of the built environment of the area (Section 34), no standing structures older than 60 years occur within the study area. From the 1943 topographic map of the study area it is clear that no features of significance occurred in the area.

In terms of Section 36 of the Act no burial sites were recorded. However if any graves are located in future they should ideally be preserved *in-situ* or alternatively relocated according to existing legislation. Due to the subsurface nature of archaeological remains and the fact that graves can occur anywhere on the landscape, it is recommended that a chance find procedure is implemented for the project as part of the EMP.:

Chance find procedure

This procedure applies to the developer's permanent employees, its subsidiaries, contractors and subcontractors, and service providers. The aim of this procedure is to establish monitoring and reporting procedures to ensure compliance with this policy and its associated procedures. Construction crews must be properly inducted to ensure they are fully aware of the procedures regarding chance finds as discussed below.

- If during the pre-construction phase, construction, operations or closure phases of this project, any person employed by the developer, one of its subsidiaries, contractors and subcontractors, or service provider, finds any artefact of cultural significance or heritage site, this person must cease work at the site of the find and report this find to their immediate supervisor, and through their supervisor to the senior on-site manager.
- It is the responsibility of the senior on-site Manager to make an initial assessment of the extent of the find, and confirm the extent of the work stoppage in that area.
- The senior on-site Manager will inform the ECO of the chance find and its immediate impact on operations. The ECO will then contact a professional archaeologist for an assessment of the finds who will notify the SAHRA.

The study area is surrounded by residential developments and no significant cultural landscapes or viewsapes were noted during the fieldwork.

7.1 Reasoned Opinion

From a heritage perspective the proposed project is acceptable from a heritage point of view. If the above recommendations are adhered to and based on approval from SAHRA, HCAC is of the opinion that the development can continue as the development will not impact negatively on the archaeological record of the area. If during the pre-construction phase or during construction, any archaeological finds are made (e.g. graves, stone tools, and skeletal material), the operations must be stopped, and the archaeologist must be contacted for an assessment of the finds. Due to the subsurface nature of archaeological material and graves the possibility of the occurrence of unmarked or informal graves and subsurface finds cannot be excluded, but can be easily mitigated by preserving the sites *in-situ* within the development.

8. PROJECT TEAM

Jaco van der Walt, Project Manager

9. STATEMENT OF COMPETENCY

I (Jaco van der Walt) am a member of ASAPA (no 159), and accredited in the following fields of the CRM Section of the association: Iron Age Archaeology, Colonial Period Archaeology, Stone Age Archaeology and Grave Relocation. This accreditation is also acknowledged by SAHRA and AMAFA.

I have been involved in research and contract work in South Africa, Botswana, Zimbabwe, Mozambique, Tanzania and the DRC; having conducted more than 300 AIA's since 2000.

10. REFERENCES

Archaeological Database Wits University Referenced 2009

Bergh, J.S., (ed.) Geskiedenisatlas van Suid-Afrika. Die vier noordelike provinsies. Pretoria: J. L. van Schaik Uitgewers. 1999.

Huffman, T.N. 2007. Handbook to the Iron Age: The Archaeology of Pre-Colonial Farming Societies in Southern Africa. University of KwaZulu-Natal Press, Scottsville.

Kusel, U. 2012. Cultural Heritage Resources Impact Assessment Of The Proposed Extension Of Midrand Estate Portions 35, 39, A Portion Of Portion 48 And 128, Remainder Of Portion 34 And The Remainder Of The Farm Olifantsfontein 410 Jr Ekurhuleni Gauteng. Unpublished report.

Pelser, A.J. 2013. A Report On A Phase 1 Hia For The Clayville Extension 55 Township Development Located On A Portion Of The Farm Olifantsfontein 402JR, Gauteng Province For: Seaton Thomson & Associates.

Rasmussen, R.K. 1978 Migrant kingdom: Mzilikazi's Ndebele in South Africa. London: Rex Collings
Ross, R. A concise history of South Africa. Cambridge University Press. Cambridge. 1999.

SAHRA Report Mapping Project Version 1.0, 2009

SAHRIS (Cited 2016)

Van Schalkwyk, J. 2002. A Survey Of Cultural Resources On The Farm Olifantsfontein, Midrand Municipal Area, Gauteng Province. Unpublished Report.

Van Schalkwyk, J. 2015. Heritage Impact Assessment For The Proposed Light Industrial Development Project On The Farm Rensburg 623JR, Clayville, Gauteng Province

Van Vollenhoven, A.C. & Marais-Botes, L. 2014. Phase 1 Heritage Impact Assessment for the Proposed New Road K105 from Nellmapius Drive to K220, Irene Gauteng Province