

Archaeological Impact Assessment

**For the proposed Filling Station hub In Embhuleni On the Farm Honingklip, Mpumalanga
Province**

Prepared For

Midturion Information Consultants

By



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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.



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EXECUTIVE SUMMARY

Site name and location:

The filling station is in the CBD of Embhuleni at site No 45 Embhuleni on the farm Honingklip, on the R541 in the Towns of Embhuleni.

Purpose of the study: Phase 1 Archaeological Impact Assessment to determine the presence of cultural heritage sites and the impact of the proposed project.

1:50 000 Topographic Map: 2630 BA.

Environmental Consultant: Midturion Information Consultants

Developer: Gouveias Properties CC (Ricardo Fernandes Gouveia)

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

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Date of Report: 11 August 2015

Findings of the Assessment:

The study area was assessed in terms of the archaeological component of Section 35 of the NHRA and considering that the study area has been highly disturbed by various land uses and activities in the past it is highly unlikely that any significant heritage resources are still present within the study area. This was confirmed during the survey and no surface indicators of archaeological (Stone or Iron Age) material was identified in the study area. Other studies in the area similarly recorded no sites of significance e.g. Van Van Schalkwyk (2008). In terms of the built environment of the area (Section 34), no standing structures occur in the study area.

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

General

Due to the subsurface nature of archaeological material and unmarked graves the possibility of the occurrence of unmarked or informal graves and subsurface finds cannot be excluded. If during construction any possible finds such as stone tool scatters, artefacts or bone and fossil remains are made, the operations must be stopped and a qualified archaeologist must be contacted for an assessment of the find.

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.*

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

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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

<i>Kind of study</i>	Archaeological Impact Assessment
<i>Type of development</i>	Road Upgrades
<i>Developer:</i>	Gouveias Properties CC (Ricardo Femandes Gouveia)
<i>Consultant:</i>	Midturion Information Consultants

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 area on foot and by vehicle; Phase 3, reporting the outcome of the study.

During the surveys no sites of significance were identified within the proposed development footprint. General site conditions and features on sites 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

Conducting 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 a legal body, 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 AIAs 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 filling station is in the CBD of Embhuleni at site No 45 Embhuleni on the farm Honingklip, on the R541 in the Towns of Embhuleni (Figure 1). The site is located approximately 25 km to the east of Badplaas. The proposed project site for the service station is a vacant piece of land surrounded by low density residential areas (Figure 2). The site is located at 26° 02' 20.5708" S, 30° 47' 28.4934" E.

1.3.2. Location Map

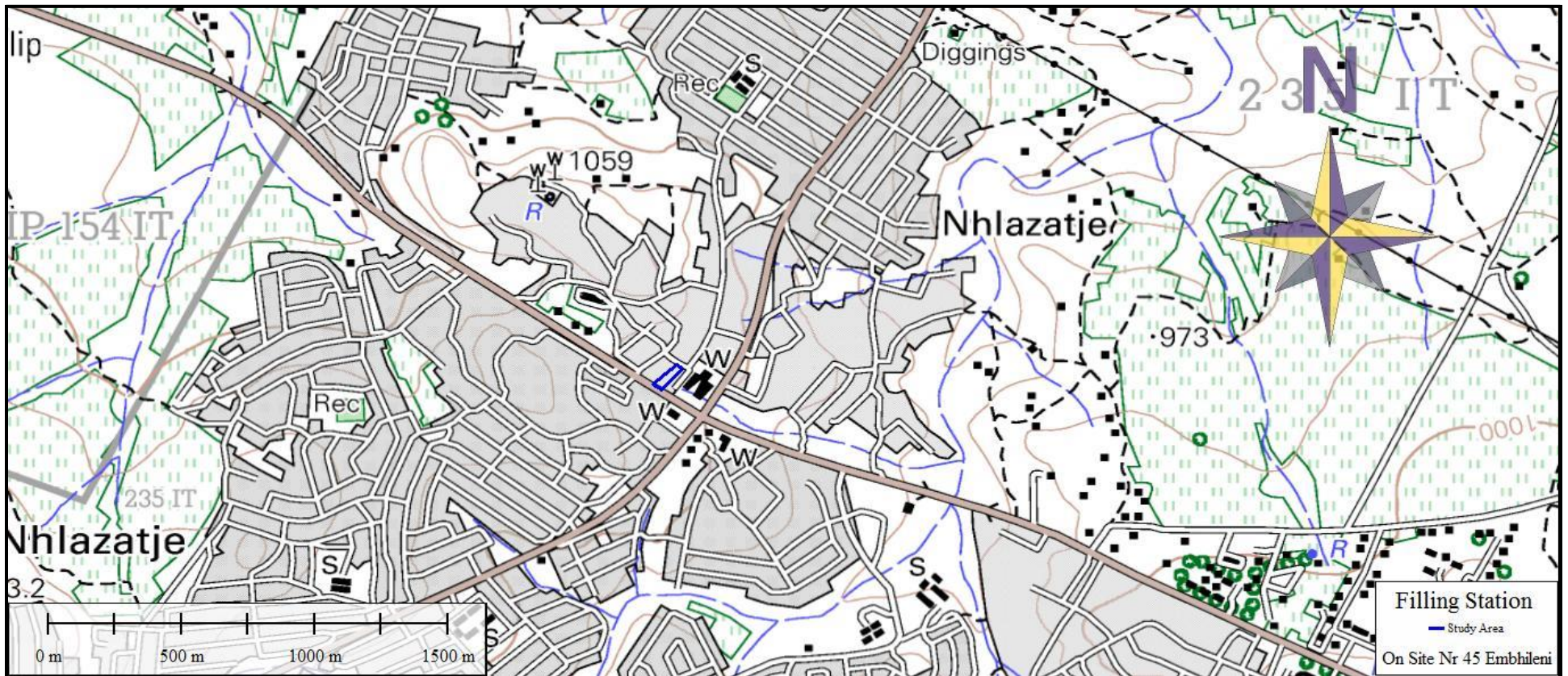


Figure 1: Location of the study area indicated in blue



Figure 2. Google Earth image of the study area in blue with track logs in black.

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 a desktop study scanning existing records for archaeological sites, historical sites, graves, architecture (structures older than 60 years) of the area.

2.1.1 Literature Search

Utilising data for information gathering stored in the archaeological database at Wits and previous CRM reports done in 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

A public participation process is conducted by Midturion. No heritage concerns were raised.

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 study area was conducted. The study area was surveyed by means of vehicle and extensive surveys on foot (Figure 2) by a professional archaeologist on 19 June 2015.

2.3. Limitations and Assumptions

Due to the fact that most cultural remains may occur below surface, the possibility exists that some features or artefacts may not have been discovered/ recorded during the survey. Low ground visibility of parts of the study area is due to high vegetation and impact from previous road work activities, and the possible occurrence of unmarked graves and other cultural material cannot be excluded. This study did not assess living or intangible heritage.

Only the surface infrastructure footprint area was surveyed as indicated in the location map, and not the entire farm. 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 stone tool scatters, artefacts, bones or fossils, be exposed during the process of development. It is assumed that information for the wider region is applicable.

3. NATURE OF THE DEVELOPMENT

The proposed project consists of the following:

- Construction of a new fuel filling station
- Construction of a new truck stop
- Construction of a new quick shop
- Construction of a new workshop
- Construction of a new shopping centre
- Restaurant and take ways

4. HISTORICAL AND ARCHAEOLOGICAL BACKGROUND OF THE STUDY AREA

4.1 Databases Consulted

SAHRIS

Few CRM studies are on record for the greater study area on SAHRIS, most notably is the studies by van Schalkwyk (2008) who recorded no heritage features and Huffman (2001) who also conducted a study close to Badplaas, he recorded grave sites and homesteads of low significance.

Genealogical Society and Google Earth Monuments

Neither the Genealogical Society nor the monuments database at Google Earth (Google Earth also include some archaeological sites and historical battlefields) have any recorded sites in the study area.

4.2 Archaeological Information Available on the greater Study Area

4.2.1 Stone Age

The Later phases of the Stone Age began at around 20 000 years BP (Before Present). This period was marked by numerous technological innovations and social transformations within these early hunter-gatherer societies. Hunting tools now included the bow and arrow. More particularly, the link-shaft arrow which comprises a poisoned bone tip loosely linked to a shaft which fell away when an animal was shot and left the arrow tip embedded in the prey animal. Other innovations included bored stones used as digging –stick weights to help with uprooting of tubers and roots, small stone tools, normally less than 25mm long, which was used for cutting meat and scraping hides. There were also polished bone needles, twine made from plant fibers, tortoiseshell bowls, fishing equipment including bone hooks and stone sinkers, ostrich eggshell beads and other decorative artwork (Delius, 2007).

These people may be regarded as the first modern inhabitants of Mpumalanga, known as the San or Bushmen. They were a nomadic people who lived together in small family groups and relied on hunting and gathering of food for survival. Evidence of their existence is to be found in numerous rock shelters throughout the Eastern Mpumalanga where some of their rock paintings are still visible. A number of these shelters have been documented throughout the Province (Bornman, 1995; Schoonraad in Barnard, 1975; Delius, 2007). These include areas such as Witbank, Ermelo, Barberton, Nelspruit, White River, Lydenburg and Ohrigstad.

San paintings in Mpumalanga are characterized by representations of animals and human figures and are normally fine-lined paintings which are produced by using brushes made of plant material, sticks and quills. The colours are usually red and black or sometimes white. It has been argued that the red ochre source for some of these paintings is to be found at Dumaneni, near Malelane (Bornman, 1995).

At Honingklip near Badplaas in the Carolina District, two LSA rock shelters with four panels of rock art was discovered and archaeologically investigated. The site was used between 4870 BP and as recently as 200 BP. Stone walls at both sites date to the last 250 years of hunter-gatherer occupation and they may have served as protection against intruders and predators. Pieces of clay ceramic and iron beads found at the site indicates that there was early social interaction between the hunter-gatherer (San) communities and the first farmers who moved into this area at around 500 AD (Celliers 2010).

Evidence from Welgelegen Shelter on the banks of the Vaal River near Ermelo suggests that the early farming (Bantu) and hunter-gatherer (San) communities coexisted (Delius, 2007; Bergh, 1999).

The farmers, who used metal tools, occupied the shelter while an independent hunter-gatherer group who made typical LSA (Late Stone Age) stone tools and used pottery, occupied the overhang area of the shelter. Similar "symbiotic" relationships existed between the Batwa San from the Lake Chrissie area and the Swazi well into the 20th century (Delius, 2007).

4.2.2. Iron Age

According to A.C. Myburgh there are various stone ruins in the Carolina and Belfast districts. These settlements consist of various stone enclosures and beehive shaped stone huts and is usually located close to terraces and water canals. Many are also to be found on hilltops and are in most cases protected by a circular wall. Myburgh states that contemporary and archaeological evidence show that the ruins can be attributed to the Sotho people who used to live in the area until the hostilities of the Swazi forced them out of the area during the nineteenth century. (Myburgh 1956: 126)

Various stone ruins in the Machadodorp area show that Iron Age humans also settled in this region. It would seem that these people were livestock farmers and also practiced subsistence farming. From archaeological and anthropological studies it seems that the first black people who lived in the area were called the Koni. They were ousted by the Pedi who built a rather large settlement in the area. The area was also occupied by the Swazi people at the time. (Myburgh 1956: 126).

One of the prominent groups of people who inhabit this area today is the Swazi. The Swazi people have a very rich political and cultural history and numerous academics have devoted their time on researching this group. The abundance of secondary work available is thus of great assistance in obtaining a concise overview of the history of this area.

During the nineteenth century the Lowveld area of Mpumalanga was extensively occupied by both black and white groups that migrated into this territory. Black migration mainly resulted from a political upheaval known as the *Difaqane* (Sotho), or *Mfekane* ("the crushing" in Nguni-languages). This was a period of bloody tribal and faction struggles in present-day KwaZulu-Natal and on the Highveld area, which occurred around the early 1820s until the late 1830s. (Bergh *et al* 1999:109-115) The *Mfekane* came about in response to heightened competition for land and trade, which caused population groups like gun-carrying Griquas and the Zulu under leadership of King Shaka to attack other tribes. (Giliomee 2003:133). During this period, a movement of Swazi people took place to the areas located north and northwest of Swaziland. As a result, reports indicate that the Swazi were living in the Lowveld area of Mpumalanga by the 1840's. (Bergh *et al* 1999:1) Swazi troops moved through the area during the *Mfekane*. These migrants were moving in a north westerly direction from Swaziland towards the area of the Stoffberg.

Bergh (1999) indicates 1792 Iron Age sites in the Mpumalanga area including sites in the Badplaas area.

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 filling station 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.

FIELD RATING	GRADE	SIGNIFICANCE	RECOMMENDED 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

6. BASELINE STUDY-DESCRIPTION OF SITES

It is important to note that the entire farm was not surveyed but only the proposed footprint area as indicated in Figure 1 & 2. The study area consists of a portion of an Erf in a proclaimed township and is located at 26° 02' 20.5708" S, 30° 47' 28.4934" E. Over time various land uses have established themselves surrounding the site and it currently consists of an undeveloped piece of land surrounded by low density residential areas. The site is extensively disturbed, probably by agricultural activities (ploughed) and more recently earthworks and dumping of rubble. All these activities would have destroyed any surface indicators of heritage sites. No archaeological sites of significance were noted during the survey.



Figure 3. General site conditions in the study area.



Figure 4. General site conditions in the study area.



Figure 5. General site conditions



Figure 6. High density grass cover at the site

7. RECOMMENDATIONS AND CONCLUSIONS

To comply with legislation the study area was assessed in terms of the archaeological component of Section 35 of the NHRA and no surface indicators of archaeological (Stone or Iron Age sites were identified in the study area. Other studies in the area similarly recorded no sites of archaeological significance e.g. van Schalkwyk (2008).

Based on the results of the field work and considering that the study area is highly disturbed it is highly unlikely that any significant heritage resources are still present within the study area and there is from an archaeological point of view no reason why the development cannot commence work based on approval from SAHRA.

The possible occurrence of unmarked or informal graves and subsurface finds cannot be excluded. If during construction any possible finds such as stone tool scatters, artefacts or bone and fossil remains are made, the operations must be stopped and a qualified archaeologist must be contacted for an assessment of the find.

It is therefore recommended that chance find procedures are put in place during the construction period to mitigate any accidental finds as described below.

Chance finds 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 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, 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.

7.1 Reasoned Opinion

If the above recommendations are adhered to and based on approval from SAHRA, HCAC is of the opinion that the development can continue.

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 valid for/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 AIAs since 2000.

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