



**PHASE 1
HERITAGE IMPACT ASSESSMENT FOR
THE PROPOSED DEVELOPMENT OF
MAKHOBA CEMETERY SITE, WITHIN
KOKSTAD, GREATER KOKSTAD LOCAL
MUNICIPALITY, KWAZULU-NATAL**

DEVELOPED FOR



DECEMBER | 2020

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Accreditations	Association of Southern African Professional Archaeologists Association of Professional Heritage Practitioners International Association of Impact Assessment South Kwa-Zulu Natal Amafa Research and Institute

DOCUMENT INFORMATION

DOCUMENT INFORMATION ITEM	DESCRIPTION
Proposed development and location	The proposed development of the Makhoba Cemetery site, within Kokstad, Greater Kokstad Local Municipality,
Purpose of the study	To carry out a Phase 1 Heritage Impact Assessment to determine the presence/absence of heritage resources and assess their significance in terms of the NHRA of 1999 and SHARA guidelines.
Topography	Rolling terrain gently sloping on the western side of the site
Municipalities	Greater Kokstad Municipality
Predominant land use of surrounding area	Rolling terrain
Applicant	Greater Kokstad Municipality,
Co-ordinates	29,141529 -30,233135
EAP Details	Hanslab Environmental Consultants (Pty) Ltd 1 Sugar Close, Umhlanga Ridge, Umhlanga, 4139
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EXECUTIVE SUMMARY

Site name and location: The proposed cemetery site is located on the gentle sloping side of low-lying hills in Ward 2, within the Greater Kokstad Municipality. It is situated about 65 km Northeast of the Kokstad CBD.

GPS Coordinates: 30° 14' 05" S 29° 08' 27" S

Proposal: The Applicant proposes to develop a 1.91ha cemetery within the Greater Kokstad Municipality as part of its critical infrastructure provision. Owing to the current demand on existing burial sites, the municipality is under pressure to develop new ones so as to lessen the existing demand.

Findings: Hanslab (Pty) Ltd was appointed as the independent Environmental Assessment Practitioner (EAP) to undertake the Basic Assessment, Water Use License Application and associated processes in respect of the proposed development of the Makhoba cemetery within the Greater Kokstad Municipality, KwaZulu-Natal. Hanslab in turn requested Tsimba Archaeological Footprints (Pty) Ltd an independent Archaeological and Heritage Consulting Practitioner to undertake a Phase 1 Heritage Impact Assessment for the proposed development mentioned above.

Scope of Work: The scope of work for this Heritage Impact Assessment was to assess the proposed development footprint as well as assess the site for cultural heritage significance. The proposed development area exceeds 5000m² therefore it triggers section 38(1) (a) of the National Heritage Resources Act (NHRA- Act No. 25 of 1999) (1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as—any development or other activity which will change the character of a site—(i) exceeding 5 000 m² in extent. The objective of the report is to fulfil the Kwa-Zulu Natal research and institute's requirements.

Conclusions

The study area is located in the southern Maloti Drakensberg area of the KwaZulu Natal Province. It falls under the jurisdiction of the Harry Gwala District Municipality. Archaeologists have unearthed stone tools such as hand axes under the 1 800 m contour which suggests that the first inhabitants of the areas predated the first human occupation of the area by 800 000 years. Most sites falling under this period in the Drakensberg area are typified by very few on surface scatters and some stone tools. These are mostly located close to riverine environments

and were most probably made by the Homo erectus. One Stone Age site was discovered at Kruisspruit located near Kokstad but the study area is not known to have any Early Stone Age sites (Ndalo, 2013).

Recommendations

- No Stone Age material occurs in the study area and no ceramics were also noted. Stone walls attributed to the Iron Age were recorded within the study area. In terms of the archaeological component of Section 35 these sites are protected by the law. It is however important to note that these sites have been affected by natural conditions over the years therefore altering the sites. Making it difficult to interpret the sites. The fact that the developer wants to develop on the same site where the sites are located puts the sites on risk for destruction. Other Iron Age sites also exist close to the identified sites on the proposed development area.
- In the interest of future studies in the area it is recommended that the Iron Age sites be preserved for future research as they fit into the broader study area's Iron Age sequence
 - Should the developer not be able to preserve these sites, it is strongly recommended that the site be documented before destruction as the broader study area has had very little Iron Age research
 - It is recommended that an archaeological induction be carried out before construction to brief construction workers on what to expect during construction.
 - An archaeologist should be constructed to monitor the development during the construction phase
 - The appointed archaeologist should submit Regular Archaeological Watching briefs to Amafa Research and institute for the duration of the construction period.
- In terms of the built environment of the area (Section 34), no standing structures older than 60 years occur within the study area.
- In terms of Section 36 of the National Heritage Resources 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 as detailed below (see Appendix E).

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ABBREVIATIONS

Acronyms	Description
AIA	Archaeological Impact Assessment
ASAPA	Association of South African Professional Archaeologists
CRM	Cultural Resource Management
DEA	Department of Environmental Affairs
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment
ESA	Early Stone Age
GIS	Geographic Information System
GPS	Global Positioning System
HIA	Heritage Impact Assessment
LSA	Late Stone Age
LIA	Late Iron Age
MIA	Middle Iron Age
MSA	Middle Stone Age
SAHRA	South African Heritage Resources Agency

GLOSSARY

Achievement	<ul style="list-style-type: none"> ▪ Something accomplished, esp. by valour, boldness, or superior ability
Aesthetic	<ul style="list-style-type: none"> ▪ Relating to the sense of the beautiful or the science of aesthetics.
Community	<ul style="list-style-type: none"> ▪ All the people of a specific locality or country
Culture	<ul style="list-style-type: none"> ▪ The sum total of ways of living built up by a group of human beings, which is transmitted from one generation to another.
Cultural	<ul style="list-style-type: none"> ▪ Of or relating to culture or cultivation.
Diversity	<ul style="list-style-type: none"> ▪ The state or fact of being diverse; difference; unlikeness.
Geological (geology)	<ul style="list-style-type: none"> ▪ The science which treats of the earth, the rocks of which it is composed, and the changes which it has undergone or is undergoing.
High	<ul style="list-style-type: none"> ▪ Intensified; exceeding the common degree or measure; strong; intense, energetic
Importance	<ul style="list-style-type: none"> ▪ The quality or fact of being important.
influence	<ul style="list-style-type: none"> ▪ Power of producing effects by invisible or insensible means.
Potential	<ul style="list-style-type: none"> ▪ Possible as opposed to actual.
Integrity	<ul style="list-style-type: none"> ▪ The state of being whole, entire, or undiminished.
Religious	<ul style="list-style-type: none"> ▪ Of, relating to, or concerned with religion.
Significant	<ul style="list-style-type: none"> ▪ important; of consequence
Social	<ul style="list-style-type: none"> ▪ Living, or disposed to live, in companionship with others or in a community, rather than in isolation.
Spiritual	<ul style="list-style-type: none"> ▪ Of, relating to, or consisting of spirit or incorporeal being.
Valued	<ul style="list-style-type: none"> ▪ Highly regarded or esteemed

1.0 INTRODUCTION

1.1 Project Background

Tsimba Archaeological Footprints (Pty) Ltd was requested by Hanslab Environmental Consultants (Pty) Ltd to conduct a Heritage Impact Assessment (HIA) for the proposed development of a 1.91ha cemetery within the Greater Kokstad Municipality as part of its critical infrastructure provision. Owing to the current demand on existing burial sites, the municipality is under pressure to develop new ones so as to lessen the existing demand.

A heritage impact assessment is required where potential impacts to archaeological resources are identified in the overview study. The impact assessment is designed to gain the fullest possible understanding of heritage resources which would be affected by the project.

The Terms of Reference for this HIA study are:

- Review existing theories and models of cultural heritage resources interpretation and how to develop effective methods of archaeological interpretation for future generations to assist and assist SAHRA in their deliberations;
- Clarify the extent and ways in which current site context archaeological findings may affect the interpretation of cultural sites for present and future generations;
- Shed light on the potential challenges and opportunities brought about by the existence of archaeological sites and other conflicting views of the values of a site;
- Set out the ethical considerations on the interpretation and preservation of archaeological findings given the varied range of approaches available;
- Explain that the issue of archaeological preservation and conservation as relevant not only National Heritage or Provincial Heritage properties, but also for any significant cultural site;
- Focus on best practice of interpretation and preservation of archaeological findings.

The aim: - There are two interlinked aims for this HIA. The first is to identify and document cultural heritage sites, cultural resources, sites associated with oral histories (intangible heritage), graves, cultural landscapes, and any structures of historical significance (tangible heritage) that may be affected within the development footprint. The second aim of this HIA is to assess the archaeological significance of the findings and make

recommendations based on the best archaeological practice of interpretation and preservation of archaeological findings

The findings: - The findings of this report have been informed by desktop data review and impact assessment reporting which include recommendations to guide heritage authorities in making decisions with regards to the proposed project. This study was conducted before any activities took place on the proposed development area. The impact assessment study also includes detailed recommendations on how to mitigate and manage negative impacts while enhancing positive effects on the project area.

1.2 International heritage Protection documents used

- The Australia ICOMOS charter for places of cultural significance (the Burra Charter).
- The Principles for the analysis, conservation and structural restoration of architectural heritage (2003)
- The Athens Charter, the Restoration of Historic Monuments (1931)
The International Council on Monuments and Sites (1965)
- The World Heritage Convention(1972)
- The Washington Charter (1987)
- The International Charter for the Conservation and Restoration of Monuments and sites (the Venice charter 2006).
- The Organisation of World Heritage Cities (1993).

1.3 Scope of works

The Proposed project scope of the activities is given in the table below;

- **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 that 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.

- **Reasoned Opinion**

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) and the KwaZulu-Natal Heritage Act, 1997 (Act No. 4 of 2008).

2.0 DESCRIPTION OF THE RECEIVING ENVIRONMENT

2.1 Location

The proposed Makhoba cemetery is located in Ward 2, within the Greater Kokstad Municipality. It is situated about 65 km North-east of the Kokstad CBD. Entry to cemetery can be undertaken via the P604. The proposed development occurs approximately 1km east of the Mzimvubu River. It is anticipated the study site will not have critically biodiverse vegetation as it is currently used as graze land for domestic animals.

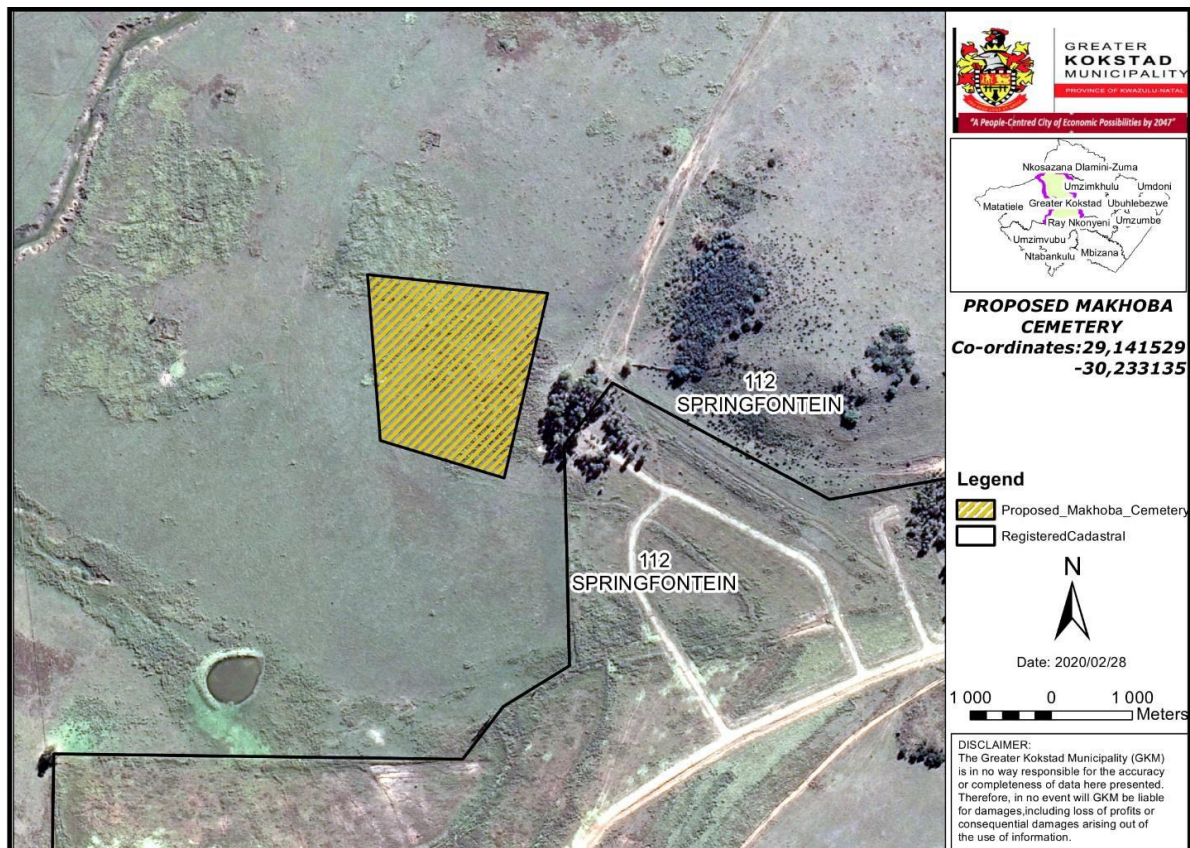


Figure 1: Locality map of the proposed development site (Greater Kokstad Municipality)

3.0 METHODOLOGY

3.1 Literature review

The methodology used in this HIA is based on a comprehensive understanding of the current or baseline situation; the type, distribution and significance of heritage resources as revealed through desk-based study and additional data acquisition, such as archaeological investigations, and the actual field survey. This is systematically integrated by the use of matrices with information on the nature and extent of the proposed engineering and other works to identify potential heritage resources. The following tasks were also undertaken in relation to the cultural heritage and are described in this report:

The background information search of the proposed development area was conducted following the site maps from the client. Sources used in this study included:

- Published academic papers and HIA and PIA studies conducted in and around the region where the proposed infrastructure development will take place;
- Available archaeological literature on the Springs area was consulted;
- The SAHRIS website and the National Data Base were consulted to obtain background information on previous heritage surveys and assessments in the area; and other planning documents.
- Map Archives - Historical maps of the proposed area of development and its surrounds were assessed to aid information gathering of the proposed area of development and its surrounds

3.2 Field Survey / Ground Trothing

Tsimba Archaeological Footprints heritage specialists attended to the site on the 5th of December 2020. A systematic survey of the site was conducted paying specific attention to the stones that mainly exist on site. The survey was conducted on foot, a systemic survey of the area resulted in the maximum coverage of the structure. The descriptions of the shape of these objects/ sites were also sketched and described.

The survey followed investigated the cultural resources onsite using the best possible technologies for archaeological field surveys, a Samsung GPS Logger (2018) was used to pick co-ordinates and a Nikon W300 Camera(with built in GPS) was used to document the resources as well as the receiving environment.

3.3 Public Participation Process

Article 12 of the Burra Charter states the conservation, interpretation and management of a heritage resource should provide for the participation of people for whom the place has significant associations and meanings, or who have social, spiritual or other cultural responsibilities for the place.

A comprehensive public participation process was carried out by Hanslab Environmental Consultants [Pty] Ltd in terms of the EIA Regulations (2014), and has ensured that the public participation principles are upheld. A successful Public Participation Programme (PPP) is one that is inclusive, actively engages the public and provides ample opportunity for the public to participate in the process.

The purpose of the PPP is to ensure that the issues, inputs and concerns of Interested and Affected Parties (I&APs) are taken into account during the decision-making process. This requires the identification of I&APs (including authorities, technical specialists and the public), communication of the process and findings to these I&APs and the facilitation of their input and comment on the process and environmental impacts, including issues and alternatives that are to be investigated.

3.4 Data Consolidation and Report Writing

Data captured on the development area (during the field survey) by means of a desktop study and physical survey is used as a basis for this HIA. This data is also used to establish assessment for any possible current and future impacts within the development footprint. This includes the following:

- ✚ Assessment of the significance of the cultural resources in terms of their archaeological, built environment and landscape, historical, scientific, social, religious, aesthetic and tourism value;
- ✚ A description of possible impacts of the proposed development, especially during the construction phase, in accordance with the standards and conventions for the management of cultural environments;
- ✚ Proposal of suitable mitigation measures to minimize possible negative impacts on the cultural environment and resources that may result during construction;
- ✚ Review of applicable legislative requirements that is the NEMA (read together with the 2014 EIA Regulations) and the NHRA of 1999
- ✚ The consolidation of the data collected using the various sources as described above;
- ✚ Acknowledgement of impacts on heritage resources (such as unearthed graves) predicted to occur during construction; and
- ✚ Geological Information Systems mapping of known archaeological sites and maps in the region
- ✚ A discussion of the results of this study with conclusions and recommendations based on the available data and study findings.

4.0 LEGISLATIVE FRAMEWORK

This HIA is informed and conducted to fulfil the requirements of the National Heritage Resources Act (No 25 of 1999) 38(1) (a) of the National Heritage Resources Act (NHRA- Act No. 25 of 1999) (1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as—any development or other activity which will change the character of a site—(i) exceeding 5 000 m² in extent; and 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.

4.1 Cultural Heritage Resources Management Policy Objectives

- a. To preserve representative samples of the National archaeological resources for the scientific and educational benefit of present and future generations;
- b. To ensure that development proponents consider archaeological resource values and concerns in the course of project planning; and
- c. To ensure where decisions are made to develop land, the proponents adopt one of the following actions:
 - o Avoid archaeological sites wherever possible;
 - o Implement measures which will mitigate project impacts on archaeological sites; or
 - o Compensate the local communities for unavoidable losses of significant archaeological value.

5.0 ARCHEOLOGICAL BACKGROUND

The Stone Age

The case study area is located in the southern Maloti Drakensberg area of the KwaZulu Natal Province. It falls under the jurisdiction of the Harry Gwala District Municipality. Archaeologists have unearthed stone tools such as hand axes under the 1 800 m contour which suggests that the first inhabitants of the areas predated the first human occupation of the area by 800 000 years. Most sites falling under this period in the Drakensberg area are typified by very few on surface scatters and some stone tools. These are mostly located close to riverine environments and were most probably made by the Homo erectus. One Stone Age site was discovered at Kruisspruit located near Kokstad but the study area is not known to have any Early Stone Age sites (Ndalo, 2013).

The Middle and Later Stone Age communities form part of the layering of human occupation in this area. The Middle Stone Age people were anatomically similar to the modern humans known as Homo sapiens sapiens. These people had the capacity to build sophisticated stone tools. They moved into area approximately 200 000 years ago. These societies were more efficient hunters than their predecessors, the Early Iron Age (Mitchell, 2002). Mitchell further posited that Middle Stone Age communities from the eastern and southern parts of Africa later moved out of the continent and occupied the rest of the world. In the Drakensberg area, most sites occur on both the South African and Lesotho side of the mountain and also in the deep cave deposits.

The immediate predecessors of the San are called the Later Stone Age people. They also made stone tools as suggested by the name designated to them. In comparison to the tool assemblage of the earlier and middle stone age communities, the tools of the Later Stone Age were much smaller, diverse and more efficient. These tools were made before the discovery of iron by modern humans. These communities were responsible for the discovery of the bow and arrow which made them flourish in the Drakensberg. Their ability to exploit the surrounding environment for their own survival was much excellent due to the discovery of more efficient tools

(Mitchell, 2002). These communities had developed symbolic expressions as evidenced by the widespread of rock art in the Maloti Drakensberg. The oldest evidence for Later Stone Age occupation of the Maloti Drakensberg was found at Sehonghong Cave in south eastern Lesotho as well as from the Strathalan Cave in the Eastern Cape section of the region (Prins, 2017). Although a lot of research has been done on the Stone Age communities occupying the Drakensberg, no evidence of Stone Age occupation has been found within the actual confines of the study area.

The Iron Age

The Archaeology of the Kokstad area in the KwaZulu Natal province has not been fully studied but is associated with Nguni speakers. Therefore, in order to comprehend the archaeology of this area, reference has to be made with the archaeology of the greater KwaZulu Natal Province. The Iron Age communities in South Africa, also known as the farming communities, only arrived in modern day South Africa approximately 2000 years ago (Huffman, 2007). In the KZN province, farming communities only arrived around AD1300. They contribute to the multiple historical layering scattering within the borders of the KwaZulu Natal province as highlighted in the earlier section. The subsistence of these communities was partly anchored on iron tool production and the resulting tools were either used domestically or used as trade goods (Huffman 2007). The term “Iron Age” has become obsolete in the current archaeological fraternity because of its derogative nature. The designation “Farming Communities” has become viable mostly because these communities also depended on cattle and crop farming.

6.0 DISCUSSION OF THE FINDINGS

Two (2) Iron Age sites were discovered within the proposed development footprint, with a further two noted to be existing outside the boundaries of the site but within close proximity. The sites discovered on farm Makhaba appears to fit the characteristics of the Early Iron Age Moor Park walling. The sites are characterised by low walling with a rudimentary layout of stones. Moreover, the sites were built on low lying areas, a classic characteristic of the Nguni Early Iron Age in the central KwaZulu Natal Province. However, there is a curious rectilinear structure on one of the sites. The presence of rectilinear structures on Moor Park settlements suggests contact with Europeans which places the site in the 19th century.

Nevertheless, on arrival in South Africa, the Farming communities typically built stone walled sites in low lying areas such as of the foot of hills or cliffs (Huffman, 2004). These sites are classified under the Urewe Tradition. In the KZN province, the stone walled structures have been designated the “Moor Park” Stone structures and have been associated with Nguni speakers (Huffman, 2004; 2007). Huffman further argues that these stone walled structures are the oldest in South Africa. Around AD1350 the Moor Park communities began to shift their settlements from low lying areas to high lying

areas e.g. on hilltops and built low stone walling. These sites have been associated with the so called Central Cattle Pattern (CCP) in which dwellings were built around cattle kraals. The spatial layout of the Moor Park sites is dominated by a perimeter wall enclosing the front two thirds of the homestead. It is unlikely that the occupants of the stone walled structures on Makhaba farm were successful farmers because Iron Age farmers preferred arable and fertile land (Roodt and Roodt, 2013). The area has poor lands for crop agriculture.

6.1 Site 1 – GPS Coordinates: 30° 13' 59.23" S 29° 08' 27.74" E



Figure 2: A view of the first Iron Age site. Notice the presence of a round hut floor and rectangular floors. The combination of these two floors on one site shows European influence in building.

❖ Assessment of Significance

Cultural Significance: Low to Medium

Heritage Significance: Grade III

Field Rating: Generally Protected B (GP.B)

Mitigation: See below

Probability of Impact: Probable

Duration of Impact: Long term

Scale of Impact: Site and region

Significance of Impact: High

Magnitude of Impact: High

6.2 Site 2- GPS Coordinates: 30° 13' 58.81" S 29° 08' 32.14" E



Figure 3: View of the second site. Note the use of mortar to hold the stones together in fig.4 below which is also a sign of European influence in building.



Figure 4: View of part of the stone walls joined with mortar

❖ Assessment of Significance

Cultural Significance: Low to Medium

Heritage Significance: Grade III

Field Rating: Generally Protected B (GP.B)

Mitigation: See below

Probability of Impact: Probable

Duration of Impact: Long term

Scale of Impact: Site and region

Significance of Impact: High

Magnitude of Impact: High

7.0 HERITAGE ASSESSMENT OF SIGNIFICANCE

Site significance classification standards prescribed by SAHRA (2006), and acknowledged by ASAPA for the SADC region, were used for the purposes of this report.

- ❖ The main aim in assessing significance is to produce a succinct statement of significance, which summarises an item's heritage values. The statement is the basis for policies and management structures that will affect the item's future.

SAHRA's Site significance classification minimum standards			
Filed Rating	Grade	Classification	Recommendation
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.A)		Low Significance	Destruction

Site significance is calculated by combining the following concepts in the given formula.

$$S = (E + D + M) P$$

S = Significance weighting

E = Extent

D = Duration

M = Magnitude


P = Probability

The significance weightings for each potential impact are as follows:

The significance weightings for each potential impact are as follows:		
Aspect	Description	Weight
Probability	Improbable	1
	Probable	2
	Highly Probable	4
	Definite	5
Duration	Short term	1
	Medium term	3
	Long term	4
	Permanent	5
Scale	Local	1
	Site	2
	Regional	3
Magnitude/Severity	Low	2
	Medium	6
	High	8

Impact Significance		
It provides an indication of the importance of the impact in terms of both tangible and intangible characteristics. (S) is formulated by adding the sum of numbers assigned to Extent (E), Duration (D), and Intensity (I) and multiplying the sum by the Probability. $S = (E+D+M) P$		
<30	Low	Mitigation of impacts is easily achieved where this impact would not have a direct influence on the decision to develop in the area.
30-60	Medium	Mitigation of impact is both feasible and fairly easy. The impact could influence the decision to develop in the area unless it is effectively mitigated.
>60	High	Significant impacts where there is difficult. The impact must have an influence on the decision process to develop in the area.
Nature: During the construction phase activities resulting in disturbance of surfaces and/or sub-surfaces may destroy, damage, alter, or remove from its original position archaeological material or objects.		
	Without Mitigation	With Mitigation
Extent	Local (1)	Local (1)
Duration	Permanent (5)	Permanent (5)
Magnitude	Low (2)	Low(2)
Probability	Not Probable (2)	Not probable (2)
Significance	Low (16)	Low(16)
Status	Negative	Negative
Reversibility	Not irreversible	Not irreversible
Irreversible loss of resources	No resources were recorded	No resources were recorded
Can impacts be mitigated?	Yes, a chance find procedure should be implemented.	Yes
Mitigation: Impacts are rated as 30 Low to Medium (60) Mitigation of impact is both feasible and fairly easy.		

7.1 Conclusions

-  *This report is an independent view and makes recommendations to The Provincial Heritage Authority based on its findings. The authority will consider the recommendations and make a decision based on conservation principles.*

It is the reasoned opinion of the author of this report that the provincial heritage authority should exercise its discretion and offer the proposed development a conditional approval. This is based on the fact that site interpretation of the identified heritage resources / Stone Walls noted within the proposed development footprint is difficult considering the condition the sites are in. Preservation of these sites would therefore not have any benefit on research and further studies. Conditions for the approval are given in the recommendations below.

7.2 Recommendations

- No Stone Age material occurs in the study area and no ceramics were also noted. Stone walls attributed to the Iron Age were recorded within the study area. In terms of the archaeological component of Section 35 these sites are protected by the law. It is however important to note that these sites have been affected by natural conditions over the years therefore altering the site, making it difficult to interpret the sites. The fact that the developer wants to develop on the same site where the sites are located puts the sites on risk for destruction. Other Iron Age sites also exist close to the identified sites on the proposed development area.
- In the interest of future studies in the area it is recommended that the Iron Age sites be preserved for future research as they fit into the broader study area's Iron Age sequence
 - Should the developer not be able to preserve these sites, it is strongly recommended that the site be documented before destruction as the broader study areas has had very little Iron Age research
 - It is recommended that an archaeological induction be carried out before construction to brief construction workers on what to expect during construction.
 - An archaeologist should be constructed to monitor the development during the construction phase
 - The appointed archaeologist should submit Regular Archaeological Watching briefs to Amafa Research and institute for the duration of the construction period.
- In terms of the built environment of the area (Section 34), no standing structures older than 60 years occur within the study area.
- In terms of Section 36 of the National Heritage Resources 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 EMPr as detailed below (see Appendix E).

8.0 REFERENCES

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APPENDIX A: DEFINITION OF TERMS ADOPTED IN THIS HIA

- The terminology adopted in this document is mainly influenced by the NHRA of South Africa (1999) and the Burra Charter (1979).

Adaptation: Changes made to a place so that it can have different but reconcilable uses.

Artefact: Cultural object (made by humans).

Buffer Zone: Means an area surrounding a cultural heritage which has restrictions placed on its use or where collaborative projects and programs are undertaken to afford additional protection to the site.

Co-management: Managing in such a way as to take into account the needs and desires of stakeholders, neighbours and partners, and incorporating these into decision making through, amongst others, the promulgation of a local board.

Conservation: In relation to heritage resources, includes protection, maintenance, preservation and sustainable use of places or objects so as to safeguard their cultural significance as defined. These processes include, but are not necessarily restricted to preservation, restoration, reconstruction and adaptation.

Contextual Paradigm: A scientific approach which places importance on the total context as catalyst for cultural change and which specifically studies the symbolic role of the individual and immediate historical context.

Cultural Resource: Any place or object of cultural significance

Cultural Significance: Means aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance of a place or object for past, present and future generations.

Feature: A coincidental find of movable cultural objects.

Grading: The South African heritage resource management system is based on a grading system, which provides for assigning the appropriate level of management responsibility to a heritage resource.

Heritage Resources Management: The utilization of management techniques to protect and develop cultural resources so that these become long term cultural heritage which are of value to the general public.

Heritage Resources Management Paradigm: A scientific approach based on the Contextual paradigm, but placing the emphasis on the cultural importance of archaeological (and historical) sites for the community.

Heritage Site Management: The control of the elements that make up the physical and social environment of a site, its physical condition, land use, human visitors, interpretation etc. Management may be aimed at preservation or, if necessary at minimizing damage or destruction or at presentation of the site to the public.

Historic: Means significant in history, belonging to the past; of what is important or famous in the past.

Historical: Means belonging to the past, or relating to the study of history.

Maintenance: Means the continuous protective care of the fabric, contents and setting of a place. It does not involve physical alteration.

Object: Artefact (cultural object)

Paradigm: Theories, laws, models, analogies, metaphors and the epistemological and methodological values used by researchers to solve a scientific problem.

Preservation: Refers to protecting and maintaining the fabric of a place in its existing state and retarding deterioration or change, and may include stabilization where necessary. Preservation is appropriate where the existing state of the fabric itself constitutes evidence of specific cultural significance, or where insufficient evidence is available to allow other conservation processes to be carried out.

Protection: With reference to cultural heritage resources this includes the conservation, maintenance, preservation and sustainable utilization of places or objects in order to maintain the cultural significance thereof.

Place : Means a geographically defined area. It may include elements, objects, spaces and views. Place may have tangible and intangible dimensions.

Reconstruction: To bring a place or object as close as possible to a specific known state by using old and new materials.

Rehabilitation: The repairing and/ or changing of a structure without necessarily taking the historical correctness thereof into account.

Restoration: To bring a place or object back as close as possible to a known state, without using any new materials.

Site: A large place with extensive structures and related cultural objects. It can also be a large assemblage of cultural artefacts, found on a single location.

Sustainable: Means the use of such resource in a way and at a rate that would not lead to its long-term decline, would not decrease its historical integrity or cultural significance and would ensure its continued use to meet the needs and aspirations of present and future generations of people.

APPENDIX B: ENVIRONMENTAL CONTEXT FOR HERITAGE SPECIALIST STUDIES IN SOUTHERN AFRICA

This is a categorized by a temporal layering including a substantial pre-colonial, early contact and early colonial history as distinct from other regions. The following table can be regarded as a useful categorization of these formative layers:

Indigenous:

Palaeontological and geological:

- Precambrian (1.2 bya to late Pleistocene 20 000 ya) Archaeological:
- Earlier Stone Age (3 mya to 300 00ya) (ESA)
- Middle Stone Age (c300 000 to 30 000 ya) (MSA)
- Later Stone Age (c 30 000 to 2000 ya) (LSA)
- Late Stone Age Herder period (after 2000 ya) (LSA - Herder period)
- Early contact (c 1500 - 1652)

Colonial:

- Dutch East India Company (1652 - 1795)
- Transition British and Dutch occupation (1796-1814)
- British colony (1814 -1910)
- Union of South Africa (1911-1961)
- Republic of South Africa (1962 – 1996)

APPENDIX C: DEFINITION OF VALUES

Value	Definition
Historic Value	Important in the community or pattern of history or has an association with the life or work of a person, group or organization of importance in history.
Scientific Value	Potential to yield information that will contribute to an understanding of natural or cultural history or is important in demonstrating a high degree of creative or technical achievement of a particular period
Aesthetic Value	Important in exhibiting particular aesthetic characteristics valued by a community or cultural group.
Social Value	Have a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons
Rarity	Does it possess uncommon, rare or endangered aspects of natural or cultural heritage
Representivity	Important in demonstrating the principal characteristics of a particular class of natural or cultural places or object or a range of landscapes or environments characteristic of its class or of human activities (including way of life, philosophy, custom, process, land-use function, design or technique) in the environment of the nation, province region or locality.

APPENDIX D: RESOURCE LIKELY TO OCCUR WITHIN THESE CONTEXTS AND LIKELY SOURCES OF HERITAGE IMPACTS/ISSUES

HERITAGE CONTEXT	HERITAGE RESOURCES	SOURCES OF HERITAGE IMPACTS/ISSUES
A. PALAEOLOGICAL LANDSCAPE CONTEXT	Fossil remains. Such resources are typically found in specific geographical areas, e.g. the Karoo and are embedded in ancient rock and limestone/calcrete formations.	Road cuttings Quarry excavation
B. ARCHAEOLOGICAL LANDSCAPE CONTEXT NOTE: Archaeology is the study of human material and remains (by definition) and is not restricted in any formal way as being below the ground surface.	Archaeological remains dating to the following periods: <ul style="list-style-type: none"> ▪ ESA ▪ MSA ▪ LSA ▪ LSA - Herder ▪ Historical ▪ Maritime history 	<ul style="list-style-type: none"> ▪ Subsurface excavations including ground leveling, landscaping, foundation preparation. ▪ In the case of maritime resources, development including land reclamation, harbor/marina/water front developments, marine mining, engineering and salvaging.
	Types of sites that could occur include: <ul style="list-style-type: none"> ▪ Shell middens 	
	<ul style="list-style-type: none"> ▪ Historical dumps 	
	<ul style="list-style-type: none"> ▪ Structural remains 	
C. HISTORICAL BUILT URBAN LANDSCAPE CONTEXT	<ul style="list-style-type: none"> • Historical townscapes/streetscapes. • Historical structures; i.e. older than 60 years • Formal public spaces. • Formally declared urban conservation areas. • Places associated with social identity/displacement. 	<p>A range of physical and land use changes within this context could result in the following heritage impacts/issues:</p> <ul style="list-style-type: none"> • Loss of historical fabric or layering related to demolition or alteration work. • Loss of urban morphology related to changes in patterns of subdivision and incompatibility of the scale, massing and form of new development. • Loss of social fabric related to processes of gentrification and urban renewal.

APPENDIX E CHANCE FINDS PROCEDURE

What is a Chance Finds Procedure?

The purpose of Archaeological Chance Find Procedure (CFP) is to address the possibility of cultural heritage resources and archaeological deposits becoming exposed during ground altering activities within the project area and to provide protocols to follow in the case of a chance archaeological find to ensure that archaeological sites are documented and protected as required. A CFP is a tool for the protection of previously unidentified cultural heritage resources during construction and mining. The main purpose of a CFP is to raise awareness of all mine workers on site regarding the potential for accidental discovery of cultural heritage resources and establish a procedure for the protection of these resources.

Chance finds are defined as potential cultural heritage (or paleontological) objects, features, or sites that are identified outside of or after Heritage Impact studies, normally as a result of construction monitoring. Archaeological sites are protected by The National Heritage Resources Act of 1999. They are non-renewable, very susceptible to disturbance and are finite in number. Archaeological sites are an important resource that is protected for their historical, cultural, scientific and educational value to the general public, local communities.

What are the objectives of the CFP?

The objectives of this 'Chance Find Procedure' are to promote preservation of archaeological data while minimizing disruption of construction scheduling. It is recommended that due to the moderate to high archaeological potential of some areas within the project area, all on site personnel and contractors be informed of the Archaeological Chance Find Procedure and have access to a copy while on site.

Where is a CFP applicable?

Developments that involve excavation, movement, or disturbance of soils have the potential to impact archaeological materials, if present. Activities such as road construction, land clearing, and excavation are all examples of activities that may adversely affect archaeological deposits. Chance finds may be made by any member of the project team who may not necessarily be an archaeologist or even visitors. Appropriate application of a CFP on development projects has led to discovery of cultural heritage resources that were not identified during archaeological and heritage impact assessments. As such, it is considered to be a valuable instrument when properly implemented. For the CFP to be effective, the mine manager must ensure that all personnel on the proposed mine site understand the CFP and the importance of adhering to it if cultural heritage resources are encountered. In addition, training or induction on cultural heritage resources that might potentially be found on site should be provided. In short, the Chance Find Procedure details the necessary steps to be taken if any culturally significant artefacts are found during mining or construction.

What is the CF Procedure?

The following procedure is to be executed in the event that archaeological material is discovered:

- All construction activity in the vicinity of the accidental find/feature/site must cease immediately to avoid further damage to the site.
- Briefly note the type of archaeological materials you think you've encountered, its location, and if possible, the depth below surface of the find.
- Report your discovery to your supervisor or if they are unavailable, report to the project Environmental Control Officer (ECO) who will provide further instructions.
- If the supervisor is not available, notify the ECO immediately. The ECO will then report the find to the Manager who will promptly notify the project archaeologist and SAHRA.
- Delineate the discovered find/ feature/ site and provide a 25m buffer zone from all sides of the find.
- An archaeologist should give recommendations on the cause of action to be taken.

APPENDIX F: PICTOGRAPHIC PRESENTATION OF THE GENERAL SITE LANDSCAPE



Figure 5: General vegetation cover within the proposed development footprint. Vegetation cover often makes it difficult for archaeological artefacts to be discovered during a field survey.



Figure 6: View of a gorge on the south eastern side of the site. Iron Age communities were known to settle close to water sources.



Figure 7: A view of the houses that exist just outside the proposed development site.



Figure 8: Google image showing the positions of the two sites