



Setjo Sesho Consultants

HERITAGE IMPACT ASSESSMENT

**FOR THE PROPOSED KAMA MINING MINERALS
PROSPECTING RIGHTS AT DUMISA, ON A PORTION OF
FARM ALEXANDRA NATIVE LOCATION NO 2 16458 IN
UMDONI LOCAL MUNICIPALITY, UGU DISTRICT
MUNICIPALITY IN THE KWAZULU-NATAL
PROVINCE OF SOUTH AFRICA**

Heritage Impact Studies Report

**FOR THE PROPOSED KAMA MINING MINERALS
PROSPECTING RIGHTS AT DUMISA, ON A PORTION
OF FARM ALEXANDRA NATIVE LOCATION NO 2
16458 IN UMDONI LOCAL MUNICIPALITY, UGU
DISTRICT MUNICIPALITY IN THE KWAZULU-NATAL
PROVINCE OF SOUTH AFRICA**

Prepared by:



Prepared for:



April 2022

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Disclaimer: *Due to the nature of the study, only archival search was applied. Setjo Sesho Consultants personnel cannot be held liable for the archaeological materials discovered on site and their expenses thereof.*

EXECUTIVE SUMMARY

The executive summary aims to communicate the information in this report in a format suited to produce specific results quickly and facilitate management decisions. The summary does not repeat all the information in the report in shorthand but rather states its decision-making results.

The study focuses on the proposed KAMA mining minerals prospecting rights at Dumisa, on a portion of Farm Alexandra Native Location NO. 2 16458 in Umdoni local municipality, Ugu district municipality in the KwaZulu-Natal province of South Africa. It needs to be noted that this is only a prospecting rights for mining possibility in the near future. Therefore, the specific area for mining is not yet identified but rather a broad area has been studied.

The study comprises of both the archival search as well as field survey investigation. A preliminary layout has been supplied to lead this phase of the study.

SCOPE OF WORK

This Heritage Impact Assessment study was conducted to determine the impacts on heritage resources within the study area. The following objectives were established to guide the investigation in the area.

- To identify possible archaeological, cultural and historical sites within the proposed area of development through archival search,
- To evaluate the potential impacts of construction and operation of the proposed development on archaeological, cultural, built and historical sites within the proposed area and,
- To recommend mitigation measures to alleviate any negative impacts on areas of archaeological, cultural, built and historical importance.

The study's primary purpose is to determine the possible occurrence of cultural heritage significance within the proposed study area.

FINDINGS

The proposed development is within two villages that are currently inhabited by mostly isiZulu speaking Africans. Heritage materials belonging to the Stone Age and Iron Age were not discovered on site and during the archival search. However, almost every household in the Dumisa village, the oldest village of the two villages likely to be impacted by the proposed mining activities, had a grave(s) in the yard. The graves in the yards were not counted and it's therefore unknown the actual number of graves per household in the two villages. However, during fieldwork, it was estimated that there are at least three graves per house on average. The second village Mbulula is relatively new (estimated to be between four to six years old). The informal consultation with the bystanders revealed that there are no graves in most households as yet. The actual geographic positions (Coordinates) and counting of graves were not undertaken as it required special permission for entering each household in the proposed prospecting area. Therefore, it was noted that this process would be conducted during the phase two Heritage Impact Assessment.

RECOMMENDATIONS

Given the sensitivity of mining activities to local communities, it was noted that the proposed mining activities should not negatively impact any man-made structures, graves, or social activities in the two villages under study. Therefore, another Heritage Impact Assessment survey should be conducted once the client has pinpointed or decided on the actual sites to mine. Setjo Sesho Consultants therefore recommends that the proposed prospecting be given the green light to proceed in light of the above recommendations.

Table 1: Requirements for specialist reports, as detailed in the NEMA Act No. 25 of 2014.

NEMA Regs (2014)	Relevant section in the report
Details of the specialist who prepared the report	Page (vii) of the report- Project management
The expertise of that person to compile a specialist report, including a curriculum vitae	Section 1.5
A declaration that the person is independent in a form as may be specified by the competent authority	Page (vi) of the report
An indication of the scope of, and the purpose for which the report was prepared	Section 1.4
The date and season of the site investigation and the relevance of the season to the outcome of the assessment	Section 4.3
A description of the methodology adopted in preparing the report or carrying out the specialized process	Section 4
The specific identified sensitivity of the site related to the activity and its associated structures and infrastructure	Not applicable
An identification of any areas to be avoided, including buffer	Section 5

A map superimposing the activity including the associated structures and infrastructure on the environmental sensitivities of the site including areas to be avoided, including buffers;	Section 5
A description of any assumptions made and any uncertainties or gaps in knowledge	Section 3
Any mitigation measures for inclusion in the EMPr	Section 5
Any conditions for inclusion in the environmental authorization	Section 11
Any monitoring requirements for inclusion in the EMPr or environmental authorization	None
A reasoned opinion as to whether the proposed activity or portions thereof should be authorized and	Section 11
If the opinion is that the proposed activity or portions thereof should be authorized, any avoidance, management and mitigation measures that should be included in the EMPr, and where applicable, the closure plan	

A description of any consultation process that was undertaken during the course of carrying out the study	Section 8
A summary and copies if any comments that were received during any consultation process	None Consultation is not covered in this phase of the study.
Any other information requested by the competent authority	None

Declaration of Independence

I, **Jennifer Mokakabye**, declare that –

- I act as the independent heritage practitioner in this application
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favorable to the applicant
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting heritage impact assessment studies which are inclusive of desktop studies, i knowledge of the Act, regulations and any guidelines that have relevance to the proposed activity
- I will comply with the Act, regulations and all other applicable legislation;
- I will take into account, to the extent possible, the matters listed in section 38 of the NHRA when preparing the application and any report relating to the application
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;

- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- I will ensure that information containing all relevant facts in respect of the application is distributed or made available to interested and affected parties and the public and that participation by interested and affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced to support the application;
- I will provide the competent authority with access to all information at my disposal regarding the application, whether such information is favorable to the applicant or not
- All the particulars furnished by me in this form are true and correct;
- I will perform all other obligations as expected from a heritage practitioner in terms of the Act and the constitutions of my affiliated professional bodies; and
- I acknowledge that a false declaration is an offence in terms of regulation 71 of the Regulations and is punishable in terms of section 24F of the NEMA.

Disclosure of Vested Interest

- I do not have and will not have any vested interest (either business, financial, personal or other) in the proposed activity proceeding other than remuneration for work performed in terms of the regulations;

PROJECT MANAGEMENT

Site name and location: The proposed KAMA mining minerals prospecting at Dumisa, on a portion of Farm Alexandra Native Location NO 2 16458 in the KwaZulu-Natal province of South Africa.

Municipal Area: Umdoni local municipality, Ugu district municipality

Environmental Consultants: Conservation Exposure Education and Training (CEET).

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First Draft: April 2022	

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GLOSSARY OF TERMS

The following terms used in this Archaeology are defined in the National Heritage Resources Act [NHRA], Act Nr. 25 of 1999, South African Heritage Resources Agency [SAHRA] Policies as well as the Australia ICOMOS Charter (*Burra Charter*):

Archaeological Material: remains resulting from human activities, which are in a state of disuse and are in, or on, land and which are older than 100 years, including artefacts, human and hominid remains, and artificial features and structures.

Artifact: Any movable object that has been used, modified or manufactured by humans.

Conservation: All the processes of looking after a site/heritage place or landscape including maintenance, preservation, restoration, reconstruction, and adaptation.

Cultural Heritage Resources: refers to physical cultural properties such as archaeological sites, palaeontological sites, historic and prehistorical places, buildings, structures, and material remains cultural sites such as places of rituals, burial sites or graves and their associated materials, geological or natural features of cultural importance or scientific significance. This includes intangible resources such as religious practices, ritual ceremonies, oral histories, memories indigenous knowledge.

Cultural landscape: “the combined works of nature and man” and demonstrate “the evolution of human society and settlement over time, under the influence of the physical constraints and/or opportunities presented by their natural environment and of successive social, economic and cultural forces, both internal and external”.

Cultural Resources Management (CRM): the conservation of cultural heritage resources, management, and sustainable utilization and present for present and for the future generations

Cultural Significance: is the aesthetic, historical, scientific and social value for past, present and future generations.

Chance Finds: means Archaeological artifacts, features, structures or historical cultural remains such as human burials that are found accidentally in context previously not identified during cultural heritage scoping, screening and assessment studies. Such finds are usually found during earthmoving activities such as water pipeline trench excavations.

Compatible use: means a use, which respects the cultural significance of a place. Such use involves no, or minimal, impact on cultural significance.

Conservation means all the processes of looking after a place so as to retain its cultural significance.

Expansion: means the modification, extension, alteration or upgrading of a facility, structure or infrastructure at which an activity takes place in such a manner that the capacity of the facility or the footprint of the activity is increased.

Grave: A place of interment (variably referred to as burial), including the contents, headstone or other markers of such a place, and any other structure on or associated with such a place.

Heritage Impact Assessment (HIA): Refers to the process of identifying, predicting and assessing the potential positive and negative cultural, social, economic and biophysical impacts of any proposed project, plan, Programme or policy which requires the authorization of permission by law and which may significantly affect the cultural and natural heritage resources. The HIA includes recommendations for appropriate mitigation measures for minimizing or avoiding negative impacts, measures enhancing the positive aspects of the proposal and heritage management and monitoring measures.

Historic Material: remains resulting from human activities, which are younger than 100 years, but no longer in use, including artefacts, human

remains, and artificial features and structures.

Impact: the positive or negative effects on human well-being and/or on the environment.

In situ material: means material culture and surrounding deposits in their original location and context, for instance, archaeological remains that have not been disturbed.

Interested and Affected Parties: Individuals, communities or groups, other than the proponent or the authorities, whose interests may be positively or negatively affected by the proposal or activity and/ or who are concerned with a proposal or activity and its consequences.

Interpretation: means all the ways of presenting the cultural significance of a place.

Late Iron Age: this period is associated with the development of complex societies and state systems in southern Africa.

Material Culture means buildings, structure, features, tools and other artifacts that constitute the remains from past societies.

Mitigate The implementation of practical measures to reduce adverse impacts or enhance beneficial impacts of an action.

Place: means site, area, land, landscape, building or other work, a group of buildings or other works, and may include components, contents, spaces, and views.

Protected Area: means those protected areas contemplated in section 9 of the NEMPAA and the core area of a biosphere reserve and shall include their buffers.

Public Participation Process: A process of involving the public in order to identify issues and concerns, and obtain feedback on options and impacts associated with a proposed project, programme or development. Public Participation Process in terms of NEMA refers to a process in which potential

interested and affected parties are given an opportunity to comment on or raise issues relevant to specific matters.

Setting: means the area around a place, which may include the visual catchment.

Significance: can be differentiated into impact magnitude and impact significance. Impact magnitude is the measurable change (i.e. intensity, duration, and likelihood). Impact significance is the value placed on the change by different affected parties (i.e. the level of significance and acceptability). It is an anthropocentric concept, which makes use of value judgments and science-based criteria (i.e. biophysical, physical cultural, social and economic).

Site: a spatial cluster of artifacts, structures, and organic and environmental remains, as residues of past human activity.

LIST OF ABBREVIATIONS

AMAFA.....	KwaZulu-Natal Provincial Heritage Resource Authority
BP	Before Present
EIA.....	Early Iron Age
ESA.....	Early Stone Age
GPS	Geographic Positioning System
HIA	Heritage Impact Assessment
LIA	Late Iron Age
LSA	Late Stone Age
MYA.....	Million Years Ago
MSA	Middle Stone Age
NHRA	National Heritage Resources Act no 22 of 1999
SAHRA.....	South African Heritage Resource Agency
S&EIR	Scoping & Environmental Impact Reporting

1. INTRODUCTION

Conservation Exposure Education appointed Setjo Sesho Consultants and Training (CEET) on behalf of KAMA Mining to undertake a Phase I Heritage Impact Assessment study for the proposed Kama mining minerals prospecting at Dumisa, on a portion of Farm Alexandra Native location NO 2 16458 in Umdoni local municipality, Ugu district municipality, in the KwaZulu-Natal province. The study aims at determining the possible occurrence of cultural heritage significance within the proposed area of development. The end result of the study is based on fieldwork conducted by Setjo Sesho archaeologists, archival and document searches.

In support of the Environmental Impact Assessment, Setjo Sesho Consultants conducted an HIA study to ensure compliance with section 38(1) of the South African Heritage Resources Act (SAHRA) (25 of 1999) and section 38(8) of the National Heritage Resource Act, 1999 (Act 25 of 1999) (NHRA). Furthermore, CEET was required to comply with the Environment Conservation Act, 1989 (Act 73 of 1989), Minerals and Petroleum Resources Development Act (MPRDA) Act 28 of 2002a. Section 39(3)a as well as to obtain the necessary environmental authorization, among other legislation.

1.1 Project Background

1.1.1 Project Overview

A recent geological survey found that the proposed study area probably has copper ore, gold ore, and cobalt. In order to confirm the presence of these minerals and determine the type, location, and extent of copper ore, gold ore, and cobalt within the prospecting field, prospecting will be required. Prospecting will also determine whether or not any features may impact the economic extraction of copper ore, gold ore, and cobalt. If copper ore, gold ore and cobalt are found in this area, Kama mining will be able to mine the available reserves. No permanent services such as water supply, electricity,

or sewerage will be needed at the site. The entire infrastructure will be mobile and temporary, including generators, portable toilets, and water tanks.

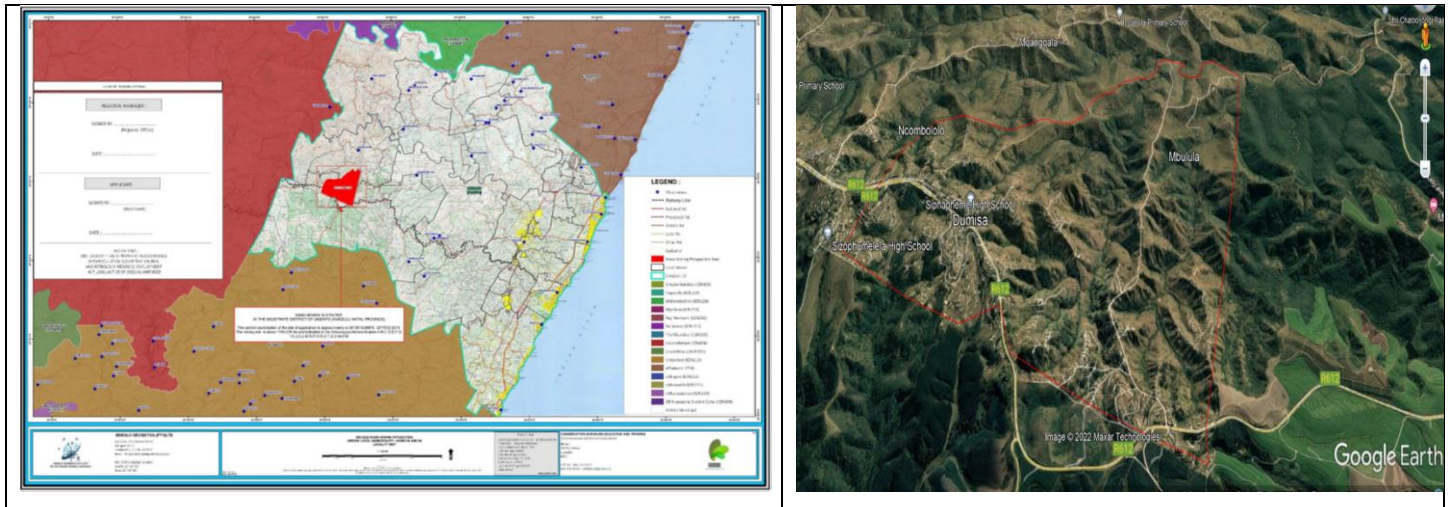


Figure 1: Map showing the proposed area of development @ Conservation Exposure Education and Training (CEET)

1.1.2. Project Location

The proposed prospection area is located on a portion of Farm Alexandra Native Location NO. 2 16458 (1150 Ha), about 24 km north-west of the town of Umzinto along the R612 regional road, within ward 4 and 5 of the Umdoni Local Municipality, within the jurisdiction of the Ugu District Municipality, KZN. The area is located within two villages which are Dumisa and Mbulula. Dumisa is said to be an older Village, whereas Mbulula was estimated to have been established between four to six years ago (based on information gathered from bystanders consulted during fieldwork).

The proposed area has a typical KZN landscape and is characterised by several hills with grasslands and woody shrubs (Figure 3). Majority of the land is inhabited; those without permanent structures (houses) are used for subsistence farming or are inaccessible, for example, deep valleys with both perennial and Non-perennial rivers in some cases (Figure 4).



Figure 2: Overview of the proposed area of development@ Setjo drone image



Figure 3: View of KZN landscape @Setjo drone image



Figure 4: View of the subsistence farming @Setjo Sesho drone image

1.2 GPS track path

GPS track path is used to provide proof of the areas traversed during the field survey. Setjo Sesho personnel extensively traversed the land under consideration, highlighted in deep red in Figure 5. In other sections, inaccessible areas where the archaeologists couldn't walk on, the drone was used to observe what was on the surface. Which, in this case, was the majority of the area under study.

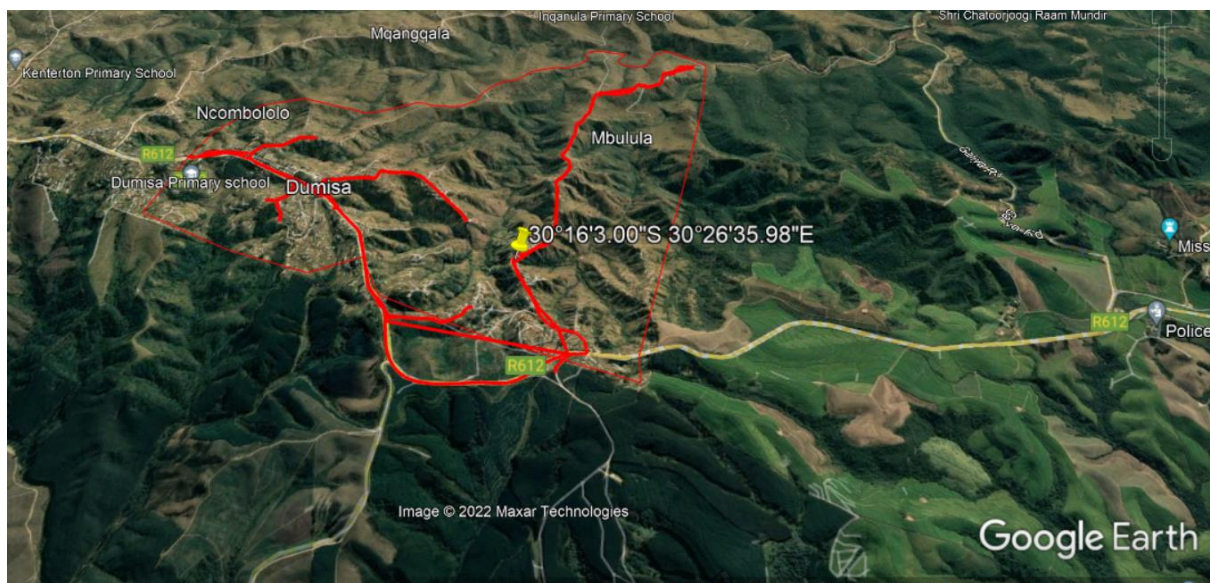


Figure 5: Track path of the proposed area of development

1.3 Terms of reference

Conservation Exposure Education and Training (CEET) appointed Setjo Sesho Consultants as the specialist heritage practitioners to undertake Heritage Impact Assessment studies in order to comply with the requirements for section 38(1) of the South African Heritage Resources Act (SAHRA) (25 of 1999) and Section 38(8) of the National Heritage Resource Act, 1999 (Act 25 of 1999) (NHRA). As well as for Conservation Exposure Education and Training (CEET) to comply with Environment Conservation Act, 1989 (Act 73 of 1989), or the integrated environmental management guidelines issued by the Department of Environment Affairs and Tourism, or the Minerals Act, 1991 (Act 50 of 1991), or any other legislation.

1.4 Scope of work

A Phase I Heritage Impact Assessment study was conducted to determine the impacts on heritage resources within the study area. Below are the tasks that were conducted as part of the investigation:

- A desktop investigation of the area.
- Identification of possible archaeological, cultural and historical sites within the proposed area of development through archival search.
- An evaluation of the potential impacts of construction and operation of the proposed development on archaeological, cultural, built and historical sites within the proposed area and
- A recommendation of measures to mitigate any negative impacts on areas of archaeological, cultural, built and historical importance.

1.5 Expertise of the Specialist

Jennifer Mokakabye has over nine years' experience in the heritage sector. She was previously employed by several consulting companies, and has extensive experience in the process of heritage assessment, archaeological mitigation, grave relocations, rescue excavation, the application of the NHRA section as well as stakeholder engagement. She holds a Bachelor of Environmental Sciences degree, Bachelor of Arts Honors in Archaeology (*Cum-laude*) and Master of Arts in Ethno-Archaeology, all of which were obtained from the University of Venda. Jennifer also completed various short courses such as Forensic Anthropology and Archaeology from Durham University (2020), How to do Archaeology from DigVentures (2020) and Heritage Resource Management course with the University of Cape Town (2021). She is a published author of over ten peer reviewed articles and published book chapters. She is a professional member of the Association of Southern African Archaeologist (ASAPA), and accredited by the association's Cultural Resources Management (CRM). Jennifer is also affiliated with AMAFA as a professional heritage specialist and is a member of the South African Archaeologist Society, KZN region.

2. LEGISLATIVE AND POLICY FRAMEWORK

The identification, evaluation and assessment of any cultural heritage site, artefact or find in the South African context is required and governed by the following legislation:

- National Environmental Management Act (NEMA) Act 107 of 1998
- National Heritage Resources Act (NHRA) Act 25 of 1999
- Minerals and Petroleum Resources Development Act (MPRDA) Act 28 of 2002
- Development Facilitation Act (DFA) Act 67 of 1995

The following sections in each Act refer directly to the identification, evaluation and assessment of cultural heritage resources.

- National Environmental Management Act (NEMA) Act 107 of 1998
 - a. Basic Environmental Assessment (BEA) – Section (23) (2)(d)
 - b. Environmental Scoping Report (ESR) – Section (29) (1)(d)
 - c. Environmental Impacts Assessment (EIA) – Section (32) (2)(d)
 - d. Environmental Management Plan (EMP) – Section (34) (b)
- National Heritage Resources Act (NHRA) Act 25 of 1999
 - a. Protection of Heritage Resources – Sections 34 to 36; and
 - b. Heritage Resources Management – Section 38
- Minerals and Petroleum Resources Development Act (MPRDA) Act 28 of 2002a. Section 39(3)

As per the NHRA, it is prohibited to disturb cultural heritage resources without the permission of the relevant heritage authority. The NHRA states in Section 34 (1) that "no building or part of a building which is older than 60 years may be altered or demolished without a permit from the relevant provincial heritage authority". According to the NEMA (Act No 107 of 1998), an integrated EMP should (23: 2 (b)) identify, predict and evaluate the impact on the environment, socio-economic conditions and cultural heritage. In addition to incorporating legislative requirements and EIA rating criteria, the regulations of SAHRA and ASAPA have also been incorporated to ensure a comprehensive, legally compatible HIA report.

3. ASSUMPTIONS AND LIMITATIONS

The limitations and assumptions associated with this heritage impact assessment are as follows:

- It is assumed that the information provided by the client is correct and up to date.
- The field survey was undertaken during the time of the flooding in KZN, some places were not walked through however, a drone was

used in those areas which were not accessible

- Whilst every attempt was made to obtain the latest available information. The reviewed literature does not represent an exhaustive list of information sources for the various study area.
- Archaeological materials commonly occur at subsurface levels. These types of materials may not be adequately recorded or documented by assessors without destructive and intrusive methodologies. Therefore, the reviewed literature, previously completed assessments, and the field survey results are in themselves limited to surface observations.
- The public participation conducted by the Environmental specialist included the heritage aspect and didn't need to be repeated in this report.

4. METHODOLOGY

4.1 Inventory

Inventory studies involve the in-field survey and recording of archaeological resources within a proposed development area. The nature and scope of this type of study is defined predominantly by the results of the overview study. In the case of site-specific developments, direct implementation of an inventory study may preclude the need for an overview.

There are a number of different methodological approaches of conducting inventory studies. Therefore, in collaboration with the Heritage consultant, the developer must develop an inventory plan for review and approval by SAHRA/ the provincial heritage authority (AMAFA) prior to implementation.

4.2. Evaluating Heritage Impacts

A combination of document research and the determination of the geographic suitability of areas and the evaluation of aerial photographs determined which areas could and should be accessed. After plotting the site on a GPS, the area was accessed mainly by a 4X4 vehicle and also on

foot. The site was documented by digital photographs using Canon EOS 1300D, drone and geo-located with GPS reading using GPS application downloaded on an Android phone. All this information was combined with information from an extensive literature review and the result of archival studies based on SAHRA provincial databases. This HIA relies heavily on the analysis of written documents, maps, aerial photographs and other archival sources combined with the results of site investigations.

4.3. Fieldwork and Report Compilation

For this study, fieldwork was undertaken by two personnel from Setjo Sesho Consultants on the 16th and 17th of April 2022. The survey was conducted by a 4X4 vehicle, by foot (in certain places) throughout the proposed development area. The survey was tracked using GPS and a path tracking app (Figure 5). The study area was surveyed using standard archaeological surveying methods. Sites that were not accessible were accessed through drones to observe what was on the surface. The gathered information from archival and site surveys was then merged and compiled into a report.

5. FIELD FINDINGS

The field survey was only limited to the proposed prospection area located on a portion of Farm Alexandra Native Location NO. 2 16458 (1150 Ha), about 24 km north-west of the town of Umzinto along the R612 regional road, within wards 4 and 5 of the Umdoni Local Municipality, within the jurisdiction of the Ugu District Municipality, KZN.

The proposed development is within two villages (Dumisa and Mbulula) that are currently inhabited. Heritage materials belonging to the Stone Age and Iron Age were not discovered on site and during the archival search. However, in the yard, almost every household in the Dumisa village (the oldest village) had several (estimated to be three graves per household). The graves in the yards were not counted. The actual geographic positions (Coordinates) were

not determined as it required special permission to enter each household in the proposed prospecting area. It has been noted that the counting and mapping of all graves will be undertaken during phase 2 of the Heritage Impact Assessment of the proposed project.

The second village Mbalula is relatively new, and is estimated to be between four to six years old. The informal consultation with the bystanders revealed that there are no graves in most households yet. This was also confirmed during fieldwork. The remainder of the land is mostly used for subsistence farming which means that whatever archaeological materials that might have been on the surface was destroyed. However, some sections of the area were not accessible.

In terms of the archaeological component of Section 35 of the NHRA, no archaeological significant site was recorded in the study area. No further mitigation prior to prospecting is recommended in terms of Section 35 for the proposed development to proceed. In terms of the area's-built environment (Section 34), no standing structures older than 60 years occur within the study area. As much as Dumisa village is old, most buildings in the village are modernised.

6. APPLICABLE HERITAGE LEGISLATION

Several legislations provide the legal basis for protecting and preserving both cultural and natural resources. These include the National Environment Management Act (No. 107 of 1998); Mineral Amendment Act (No 103 of 1993); Tourism Act (No. 72 of 1993); Cultural Institution Act (No. 119 of 1998), and the National Heritage Resources Act (Act 25 of 1999). Section 38 (1) of the National Heritage Resources Act requires that where relevant, an Impact Assessment is undertaken in the case where a listed activity is triggered. Such activities include:

- (a) *the construction of a road, wall, powerline, pipeline, canal or other similar forms of linear development or barrier exceeding 300m in length;*
- (b) *the construction of a bridge or similar structure exceeding 50 m in length;*
and
- (c) *any development or other activity which will change the character of an area of land, or water -*
 - (i) *exceeding 5 000 m² in extent;*
 - (ii) *involving three or more existing erven or subdivisions thereof; or*
 - (iii) *involving three or more erven or divisions thereof which have been consolidated within the past five years; or*
 - (iv) *the costs of which will exceed a sum set in terms of regulations by SAHRA or a Provincial Heritage Resources Authority;*
- (d) *the re-zoning of a site exceeding 10 000 m² in extent; or*
- (e) *any other category of development provided for in regulations by SAHRA or a Provincial Heritage Resources Authority, must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature, and extent of the proposed development.*

Section 3 of the National Heritage Resources Act (25 of 1999) lists a wide range of national resources protected under the act as they are deemed to be a national estate. When conducting a Heritage Impact Assessment (HIA) the following heritage resources have to be identified:

- (a) *Places, buildings structures, and equipment of cultural significance*
- (b) *Places to which oral traditions are attached or which are associated with living heritage*
- (c) *Historical settlements and townscapes*
- (d) *Landscapes and natural features of cultural significance*

- (e) Geological sites of scientific or cultural importance*
- (f) Archaeological and paleontological sites*
- (g) Graves and burial grounds including-*
 - (i) ancestral graves*
 - (ii) royal graves and graves of traditional leaders*
 - (iii) graves of victims of conflict*
 - (iv) graves of individuals designated by the Minister by notice in the Gazette*
 - (v) historical graves and cemeteries; and*
 - (vi) other human remains which are not covered by in terms of the Human Tissue Act, 1983 (Act No. 65 of 1983)*
- (h) Sites of significance relating to the history of slavery in South Africa*
- (i) moveable objects, including -*
 - (i) objects recovered from the soil or waters of South Africa, including archaeological and paleontological objects and material, meteorites and rare geological specimens*
 - (ii) objects to which oral traditions are attached or which are associated with living heritage*
 - (iii) ethnographic art and objects*
 - (iv) military objects*
 - (v) objects of decorative or fine art*
 - (vi) objects of scientific or technological interest; and*
 - (vii) books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1 of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996).*

Other sections of the Act with direct relevance to the AIA are the following:

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

Section 35(4) *No person may, without a permit issued by the responsible heritage resources authority:*

- *destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or paleontological site or any meteorite*

Section 36 (3) *No person may, without a permit issued by SAHRA or a provincial heritage resources authority:*

- *destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside formal cemetery administered by a local authority; or*
- *bring onto or use at a burial ground or grave any excavation equipment, or any equipment which assists in detection or recovery of metals.*

7. DEGREE OF SIGNIFICANCE

This category requires a broad, but detailed knowledge of the various disciplines that might be involved. Large sites, for example, may not be very important, but a small site, on the other hand, may have great significance, as it is unique for the region.

Significance rating of sites

This categorization relates to the actual artifact or site in terms of its actual value as it is found today, and refers more specifically to the condition that the item is in. For example, an archaeological site may be the only one of its kind in the region. Hence its regional significance is high, but there is heavy erosion of the greater part of the site. Therefore its significance rating would be medium to low. Generally speaking, the following are guidelines

for the nature of the mitigation that must take place as Phase 2 of the project. A description of each of these ratings is provided below.

High

- This is a 'do not touch' situation, an alternative must be sought for the project, examples would be natural and cultural landscapes like the Mapungubwe Cultural Landscape World Heritage Site, or the house in which John Langalibalele resided.
- Certain sites or features may be exceptionally important, but do not warrant leaving entirely alone. In such cases, detailed mapping of the site and all its features is imperative, as is the collection of diagnostic artefactual material on the surface of the site. Extensive excavations must be done to retrieve as much information as possible before destruction. Such excavations might cover more than half the site and would be mandatory; it would also be advisable to negotiate with the client to see what mutual agreement in writing could be reached, whereby part of the site is left for future research.

Medium

- Sites of medium significance require detailed mapping of all the features and the collection of diagnostic artefactual material from the surface of the site. A series of test trenches and test pits should be excavated to retrieve basic information before destruction.

Low

- These sites require minimum or no mitigation. Minimum mitigation recommended could be a collection of all surface materials and/ or detailed site mapping and documentation. No excavations would be considered to be necessary.

In all the above scenarios, permits will be required from the South African Heritage Resources Agency (SAHRA) or the appropriate PHRA as per the

legislation (the National Heritage Resources Act, no. 25 of 1999). Destruction of any heritage site may only take place when the appropriate heritage authority has issued a permit. The following table is used to grade heritage resources.

Table 2: Grading systems for identified heritage resources in terms of National Heritage Resources Act (Act 25 of 1999).

Level	Significance	Possible action
National (Grade I)	The site of National Value	Nominated to be declared by SAHRA
Provincial (Grade II)	The site of Provincial Value	Nominated to be declared by PHRA
Local Grade (IIIA)	The site of High Value Locally	Retained as heritage
Local Grade (IIIB)	The site of High Value Locally	Mitigated and partly retained as Heritage
General Protected Area A	The site of High to Medium	Mitigation necessary before Destruction
General Protected Area B	Medium Value	Recording before destruction
General Protected Area C	Low Value	No action required before Destruction

Table 3: Impact Assessment Criteria

CRITERIA	CATEGORIES	EXPLANATION
Overall nature	Negative	Negative impact on affected biophysical or human environment.
	Positive	Benefit to the affected biophysical or human environment.
Spatial Extent over which impact may be experienced	Site	Immediate area of activity incorporating the 20m zone which extends from the edge of the afforestation area.

	Local	Area up to and/or within 10km of the 'Site' as defined above.
	Regional	Entire community, drainage basin, landscape etc.
	National	South Africa
Duration of impact	Short-term	Impact would last for the duration of the activity – e.g., activities: Land clearing. Quickly reversible.
	Medium-term	Impact would dissipate after the Project activity. E.g., activity: harvesting. Reversible over time.
	Long-term	Impact would persist. E.g., operational period the growth periods between each 'short term' activity.
	Permanent	It would continue to have an impact after the proposed development is complete. The process of harvesting and removing the trees.
Probability of occurrence	Unlikely	<40% probability.
	Possible	40% - 70% probability.
	Probable	>70% probability.
	Definite	>90% probability.
Mitigation Potential [i.e. the ability to manage or mitigate an impact given the necessary resources and feasibility of application]	High	Easy and cheap to manage. It is not generally necessary to have specialized equipment or expertise. By implementing management plans or undergoing good housekeeping, the potential impacts can be mitigated. It is necessary to monitor any negative effects regularly in order to maintain appropriate levels. The likelihood of an adverse impact remains low or negligible after mitigation.
	Moderate	To maintain acceptable levels of impacts, higher levels of expertise and resources are needed. Project design can incorporate mitigation measures. After mitigation, impacts will likely be moderate to low. Possibly impossible to mitigate the effects completely, with a residual impact.
	Low	Will not be possible to mitigate this impact entirely regardless of the expertise and resources applied. The potential to manage the impact may be beyond the scope of the Project. Management of this impact is not likely to result in a measurable change in the level of significance.
Significance of Impact (preliminary only)	Slight	Largely of HIGH mitigation potential.
	Moderate	Largely of MODERATE mitigation potential.
	Substantial	Largely of LOW mitigation potential.

Table 4: Possibility of archaeological/ Heritage materials on sites.

Landscape type	Description	Occurrence possible	still Likely occurrence
Archaeology	Early, Middle and Late Stone Age; Iron Age;	No	Unlikely
Burial and Graves	Pre-colonial burials; Graves of victims of conflict; Graves older than 100 years; Graves older than 60 years; Graves younger than 60 years;	Yes	Likely
Built Environment	Formal public spaces; Historical structures; Area associated with social identity/ displacement;	None	Unlikely
Historic Farmland	Historical farm yards; Historical farm workers villages; Irrigation furrows; Historical routes; Distinctive types of planting;	None	Likely
Landscape usage	Sites associated with living heritage e.g., initiation school sites; Sites of political conflict; Sites associated with a historic event/ person;	None	Unlikely

Historic rural Town	Historic mission settlements;	None	Unlikely
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8. CONSULTATION

The two types of consultation that usually occur on site during a construction project are informal and formal. Informal site surveys often provide the opportunity to communicate with key stakeholders, such as farm managers, employees, bystanders, and sometimes older residents of the area. Through such consultations, burial grounds and graves can be identified. This may include informal cemeteries or graveyards without visible markers. In informal consultations, sacred sites or other places of significance may also be discovered that were otherwise unnoticed.

A formal consultation includes publication of the projects in newspapers, site announcements, emails, phone calls, and other formal invitations. Generally, this occurs at a prearranged venue where the community, interested parties, and affected parties are informed and invited to participate, which will be recorded.

Formal consultation was undertaken by Conservation Exposure Education and Training (CEET), a newspaper advert was undertaken on the 7-13th of December 2021 at Mid-South Coast Rising Sun newspaper. Site notices were also placed at popular places in the villages. The first public consultation was undertaken on the 6th of November 2021 and the second on the 4th of December 2021. All issues were addressed in the consultation including the heritage issues (see proof of public participation).

An informal consultation was undertaken by Setjo Sesho Consultants personnel with by standers on site. It was during this consultation that the personnel were informed that Dumisa is an older village as compared to Mbulula (as it is a new viallge where people are recently moving into the area). It was also noted that most household has graves in almost every household. It was also discovered

that most of the land with no structures was used for subsistence farming, including livestock grazing and crop farming.

9. SOCIO-CULTURAL AND HISTORICAL BACKGROUND

This section provides insights into the archaeology and cultural heritage of the receiving environment. Where a necessary, reference to archaeology and other heritage resources found within the broader region of KwaZulu-Natal will be provided.

Archaeology in Southern Africa is divided into the Stone Age, Iron Age and the Historical Period. During these periods, diverse groups of people settled on the Southern African landscape. Majority of the research on the culture, archaeology, rock art in Southern Africa has been conducted by Huffman (2002; 2007); Mason (1968; 1982; 1986); Sutton (2012), Kuman & Field (2009) Kuman et al. (1997). The proposed study area has not been extensively studied. However, the overall general area, which falls within 30 km radius from the study site, has extensive archeological research.

KZN as a whole is rich in all archaeological phases as well as the rich history of the founder of the Zulu Kingdom, Shaka kaSenzangakhona, also known as Shaka Zulu (1787 to 1828). Shaka Zulu was one of the most influential monarchs of the Zulu, which is well known worldwide.

Stone Age

The remnants of Stone Age hunter-gatherer's activities are customarily divided into the Early, Middle and Late Stone Age. According to Klein (2000) and Mitchell (2002), the ESA is comprised of the Oldowan stone tool complex, and the Acheulean stone tool complex and is characterized by small flakes, flaked cobbles and percussive tools (Klein 2000; Mitchell 2002; Diez-Martín et al.,2015; De La Torre 2016). Stone Age sites are usually associated with stone artefacts found scattered on the surface or as part of deposits in caves and rock shelters.

The Early to Middle Stone Age transition includes a change in technology from large stone tools to good quality raw material and bone tools, ochre, beads, and pendants (Clark, 1982; Deacon & Deacon, 1999, Wadley, 2007). ESA and MSA sites discovered at Scottburgh were recorded in 1899 by Oliver Davies and named 3030BD Scottburgh. Another site of MSA and LIA was also discovered in Dududu, just a few km away from the proposed site of development. The site extends over +/-30X60M and consist of MSA flakes and LIA pottery.

Iron Age

According to Huffman (2007) Iron Age can be divided into the periods, Early Iron Age (EIA); Middle Iron Age (MIA) and lastly Late Iron Age (LIA), respectively. The Iron period is characterized by farming communities that domesticated animals, produced various ceramic vessels, smelted iron for weapons and manufactured tools. Just 25km away from the proposed development site lies a LIA potsherds on a hilltop in a sugarcane field. The potsherds stem from a very brief occupancy of Later Iron Age peoples as relatively very little cultural material has survived.

Early History

Both ancient and contemporary sources suggest that Natal was rather depopulated during the years of Shaka and the Mfecane (1819-1828). Only after Boer settlement did Africans from the north begin to settle in large numbers in the area south of Tugela (Lambert 1995; Mahoney 1998) see J Bird 1890: 2-3). British annexation of Natal in 183 led to millions of refugees, many of whom were tribesmen returning to lands they had been driven from by Shaka, who had re-entered the colony. It is estimated that Martin West, the first Lt-Governor of Natal, and his diplomatic agent Theophilus Shepstone handled 100 000 refugees. Returning Africans were also given designated places to settle, many of whom settled on land that had been demarcated for them by Whites as labor tenancies or rent tenancies.

10. RECOMMENDATIONS AND CONCLUSIONS

The proposed area of development was surveyed using a 4X4 off-road vehicle by two personnel from Setjo Sesho with the aim of identifying and recording all archaeological materials that would be found on site. The field survey was only limited to the two villages. The drone was used in places that were not accessible on foot or by the vehicle.

The proposed area of development covers two villages (Dumisa and Mbulula). As a commonly practiced custom and tradition among most Nguni cultures in Southern Africa, especially in villages (rural areas) where graves are buried in their own yards and not designated graveyards for everyone in a particular village, the villages in the area under study also practice this tradition.

In terms of Section 36, graves older than 60 years (or presumed older) and/or not in a municipal graveyard are protected in terms of the National Heritage Act (No. 25 of 1999). Considering that the graves are within the yards, it is assumed that the proposed development will not impact them unless the developer is removing the entire village.

In the case that the developer will be using certain areas of the village, it is recommended that they avoid areas with any structures, have direct impact on human tradition, culture and various ways of life. Suppose the developer decides to use the entire area under consideration and communities currently inhabiting will be affected. In that case, Phase II Heritage Impact Assessment is recommended to relocate all the graves in the households and various affected households. The authors of this report strongly recommend the avoidance of graves in the area as they hold a strong cultural and social value to their families. It is also recommended that this report be submitted to AMAFA (KZN Provincial Heritage Resource Authority) for approval and comments.

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