



## TRANS-AFRICA PROJECTS

**PHASE I ARCHAEOLOGICAL AND CULTURAL HERITAGE IMPACT  
ASSESSMENT SPECIALIST REPORT FOR THE PROPOSED CONSTRUCTION  
OF THE 3,5 KM LETABA-JULESBURG 22KV POWERLINE ON THE  
REMAINDER OF THE FARM MOHLABAS LOCATION 567LT IN GREATER  
TZANEEN LOCAL MUNICIPALITY OF MOPANI DISTRICT MUNICIPALITY,  
LIMPOPO PROVINCE**

February, 2023

## ©COPYRIGHT

This Phase 1 Archaeological contains intellectual information that is protected by copyright in favour of *Vhubvo Consultancy Cc*. Thus, it may not be reproduced or edited without the prior written consent of *Vhubvo Consultancy Cc*; it has been exclusively prepared for *Trans-Africa Projects on behalf of Eskom*.



## DECLARATION

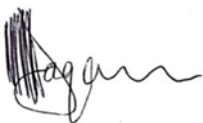
### ABILITY TO CONDUCT THE PROJECT

Alvord Nhundu is a professional archaeologist. He completed his Bachelor of Science with Honours degree in archaeology with the University of the Witwatersrand (Wits) and Masters in Archaeology with the University of Pretoria (UP). His research interest lies in old and new world archaeology, palaeoenvironmental and climatology, archaeological theory, Later Stone Age, rock art, hunter-gatherers, hunter-gatherer interactions, several aspects of Southern African Iron Age and Indigenous archaeologies. Alvord is an accredited Cultural Resource Management (CRM) member of the Association of southern African Professional Archaeologists (ASAPA #338) with Director Status in Stone Age and Iron Age archaeology, and Field Supervisor Status in Rock Art. He is also affiliated to Society of South Africanist Archaeologists (SAfA) and the International Council of Archaeozoology (ICAZ). He has been practising CRM for more than 10 years, and has completed over 100 Archaeological Impact Assessments (AIA) for developmental projects in the Limpopo, Mpumalanga, North-West, Eastern Cape, Free State and KwaZulu Natal provinces of South Africa. The projects include establishment and upgrade of power substations, road construction, and establishment and expansion of mines. He has also conducted the relocation of graves. His detailed CV is available on request.

Munyadziwa Magoma is a professional archaeologist, having obtained his BA degree in Archaeology and Anthropology at University of South Africa (UNISA), an Honours degree at the University of Venda (UNIVEN), and a Master's degree at the University of Pretoria (UP). He is an accredited Cultural Resource Management (CRM) member of the Association for southern African Professional Archaeologists (ASAPA) and Amafa aKwaZulu-Natali. Munyadziwa is further affiliated to the South African Archaeological Society (SAAS), the Society of Africanist Archaeologists (SAfA), Historical Association of South Africa (HESA); Anthropology Southern Africa (ASnA); International Association for Impact Assessment (IAIAsa); International Council on Monuments and Sites (ICOMOS) and the International Council of Archaeozoology (ICAZ). He has more than fifteen years' experience in heritage management, having worked for different CRM organisations and government heritage authorities. As a CRM specialist, Munyadziwa has completed well over 2000 hundred Archaeological Impact Assessments (AIA) for developmental projects situated in several provinces of the Republic of South Africa. The AIAs projects he has been involved with are diverse, and include the establishment of major substation, upgrade and establishment of roads, establishment and extension of mines. In addition, he has also conducted Heritage Impact Assessments (HIAs) for the alteration to heritage buildings and the relocation of graves. His detailed CV is available on request.

We declare that this report has been prepared independently of any influence as may be specified by all relevant departments, institutions and organisations. We act as the independent specialists in this application, and will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant. We declare that there are no circumstances that may compromise our objectivity in performing such work. We vow to comply with all relevant Acts, Regulations and applicable legislation.

### AUTHOR AND CONTACT DETAILS:



Munyadziwa Magoma  
 Cell: 082 535 6855  
 Tel: 011 312 2878  
 E-mail: [info@vhubvo.co.za](mailto:info@vhubvo.co.za)



Alvord Nhundu



## Acknowledgements

The author and the team of Vhubvo Consultancy Cc would like to acknowledge community members, Trans Africa Projects and Eskom officials for their assistance in relation to the conduction of this project, also Google Earth and Wikipedia.



## Executive Summary

### Introduction

Vhubvo Consultancy Cc has been appointed by Trans-Africa Projects (Pty) Ltd to conduct a Phase I Cultural Heritage Impact Assessment (HIA) Study for the proposed construction of 3,5 km Letaba-Julesburg 22kV powerline on remainder of the farm Mohlabas location 567-LT within Greater Tzaneen Local Municipality of Mopani District Municipality in Limpopo Province. The study was conducted with the main objective of investigating the availability of archaeological sites, cultural resources, sites associated with oral histories, graves, cultural landscapes, and any structures of historical significance that may be affected by the proposed construction. Further, the study aims to advise on mitigation measures should any sites be impacted, these mitigations will, in turn, assist the developer in making decisions on the most appropriate option (s) in line with the National Heritage Resources Act, 1999 (Act 25 of 1999).

To reach a defensible recommendation, both desktop study and field survey were conducted. The desktop study was undertaken through South African Heritage Resources Information System (SAHRIS) for previous Archaeological Impact Assessments conducted in the region of the proposed development, and also for research that has been carried out in the wider area over recent years. The field survey was conducted to validate any assumptions made during the desktop study.

### Receiving Environment

The proposed development is linear in nature. The powerline will traverse different natural and manmade features, such as the veld, valleys, streams, residential areas and also some dilapidated structures. The total length of the new powerline is approximately 3,5 km (See Fig 1-2). The topography is fairly flat, and part of which is encroached by thick vegetation (See Fig 4-5).

### Background and Need of the Project

Eskom is facing serious constraints to meet the energy demand of the country. The country is faced with a power crisis and load shedding has become a norm. This have had serious consequences on the economy and livelihoods. The main causes are the ageing machinery and the slow pace to build new power stations. Eskom is thus responding to this problem by expanding generation and distribution capacity of electricity. In this case the powerline is meant to do load shifting. Load shifting is an electricity load management technique in which load demand is shifted from peak hours to off-peak hours of the day. In this case, Eskom will simply move electricity consumption to a different interval of time, but total consumption will remain the same.



## Methodology and Approach

The study method refers to the SAHRA Policy Guidelines for impact assessment, 2012. As part of this impact assessment; the following processes were followed:

- Literature Review: To understand the background archaeology of the area, a background study was undertaken and relevant institutions were consulted. These studies entail the view of archaeological and heritage impact assessment studies that have been conducted around the proposed area through SAHRIS. In addition, E-journal platforms such as J-stor, Google scholars and History Resource Centre were searched. The University of Pretoria's Library collection was also utilised;
- The field survey was conducted on **27 February 2023** by an archaeologist from Vhubvo. The study constituted about 3,5 km in length.
- The final step involved the recording and documentation of relevant archaeological resources, as well as the assessment of resources in terms of the heritage impact assessment criteria and report writing, as well as mapping and useful recommendations.

The applicable maps, tables, and figures, are included as stipulated in the NHRA (no 25 of 1999), the National Environmental Management Act (NEMA) (no 107 of 1998) and the Minerals and Petroleum Resources Development Act (MPRDA) (28 of 2002).

## Impact Statement

The impact of the proposed development on archaeological, and cultural heritage remains is rated as being low. The probability of locating any important archaeological remains dating to the Stone or Iron Age during the construction of the project is rated as low. Similarly, no grave sites are expected, though chance finds cannot be ruled out.

## Restrictions and Assumptions

Some of the portions of the site proposed for the development is encroached by bush which make it almost impossible to see what is on the surface, however, much of the area was thoroughly investigated as there is a road and a railway line running parallel with the line. As with any survey, archaeological materials may be under the surface and therefore unidentifiable to the surveyor until they are exposed once construction resume. As a result, should any archaeological/ or grave site be observed during construction stage, a heritage specialist monitoring the development must immediately be notified. In the meantime, no further disturbance may be made until such time as the heritage specialist has been able to make an assessment of the find in question. It is the responsibility of the contractor to protect the site from publicity (i.e., media) until all assessments are made.



## Survey Findings and Discussions

The Phase I Archaeological and Cultural Heritage Impact Assessment for the proposed construction of a powerline have identified no momentous impacts to archaeological resources on the footprint of the proposed pylon position. However, note must be taken that there is a family grave (see Fig. 12) on the servitude, as well as a formal cemetery (See Fig. 13) adjacent the proposed powerline. In addition, the powerline crosses an old railway line (See Fig. 14). The family burial ground is properly fenced (and is within the Eskom powerline servitude) and approximately 30m west of the proposed LJB7 pylon pole, and 35m east of the proposed LJB6 pylon pole. The municipality cemetery is 100m north of LJB10 pylon pole, while the railway line is 14m south of LJB25.

Although the family burial ground and cemetery are known by the developer and community members and will not be directly affected by the proposed development, they may be indirectly affected by the proposal. Note must thus be taken that graves and cemetery are of high significance and are protected by various laws. Legislation with regard to graves include Section 36 of the National Heritage Resources Act (Act 25 of 1999) whenever graves are 60 years and older. Other legislation with regard to graves includes those when graves are exhumed and relocated, namely the Ordinance on Exhumations (no 12 of 1980) and the Human Tissues Act (Act 65 of 1983 as amended), when graves are less than 60 years. Burial sites and its contents are thus accorded the highest heritage accolades in South Africa, and elsewhere, principally by their relation with human beings. Burial sites are often the focus of emotional and ethical sentiments to people. Dealing with human remains thus requires the highest ethical standards, Section 36 of the National Heritage Resources Act (3) states that, 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 a formal cemetery administered by a local authority. This burial ground, as aforesaid, will not be directly impacted.

The railway lines form part of industrial archaeology, and thus protected by the National Heritage Resources Act (Act 25 of 1999) by virtue of age and most importantly, its historical value. According to Section 34(1) of the National Heritage Resource Act, 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, in this case, LIHRA. Section 3 of the same Act also protects the demolition or altering of any historical structures. It should however be borne in mind that the railway line is not considered to be of high significance and will not be affected by the construction of pylon LJB25 and LJB26 pylon position which are 14m and 20m respectively.



## Recommendations and Discussions

Recommendations are given from a heritage point of view and considering the nature of the proposed project (Powerline) and the cultural significance of the heritage resources in the vicinity of the proposed area. Accordingly, powerline, unlike for example road or pipeline causes minimal impact to the ground. However, if not mitigated, the impact of powerline can similarly be fatal to heritage resources. The following are the recommendations based on the above findings, and are to ensure that the impact is mitigated:

- ✚ The developer must ensure that the descendants (community members in this instance) of the graves are sought, and notified about this proposed construction which may have an impact (indirectly) on their grave(s). This can be done by means of placing of placard(s) in the village, or through liaising with the ward-councilor/ and or traditional leader (Chief);
- ✚ Aspects related to dumping of construction material within this buffer zone (50m) and stone robbing or removal of any material should be discourage;
- ✚ Access road to the cemeteries must never be closed or demarcated at any given times of the project. Thus, the developer should ensure that there is always access to the cemetery and burial ground. If any road is to be affected, such must be communicated prior, especially in regard family graves located nearby LJB6 and 7; and
- ✚ Labor-intensive workers should be notified about the burial ground, and most importantly, the developer should avoid conveying duty during the time when the graveyard is active (that's mostly Saturday morning). Especially regarding the construction of pylon position LGB6 to LJB10. Furthermore, minimal monitoring must be maintained during construction of LJB25 to LJB26 since these are located nearby a railwayline.

The client is further reminded that archaeological resources often happen underground, as such should any archaeological material be unearthed accidentally during the course of construction (e.g., excavation), SAHRA should be alerted immediately and construction activities be stopped within a radius of at least 10m of such indicator. The area should then be demarcated by a danger tape. Accordingly, a professional archaeologist or SAHRA officer should be contacted immediately. In the meantime, it is the responsibility of the Environmental officer and the contractor to protect the site from publicity (i.e., media) until a mutual agreement is reached. It is mandatory to report any incident of human remains encountered to the South African Police Services, SAHRA staff member and professional archaeologist. Any measure to cover up the suspected archaeological material or to collect any resources is illegal and punishable by law under Section 35(4) and 36(3) of the National Heritage Resources Act, Act 25 of 1999. The developer must induct field workers about archaeology, and steps that should be taken in the case of exposing archaeological materials. Pre-construction education and awareness training Prior to construction, contractors should be given training on how to identify and protect archaeological remains that may be discovered during the project. The pre-construction training should include some limited site recognition training for the types of archaeological sites





that may occur in the construction areas. Below are some of the indicators of archaeological site that may be found during construction:

- Flaked stone tools, bone tools and loose pieces of flaked stone;
- Ash and charcoal;
- Bones and shell fragments;
- Artefacts (e.g., beads or hearths); and
- Packed stones which might be uncounted underground, and might indicate a grave or collapse stone walling

## Conclusions

A thorough background study and survey of the proposed development was conducted and findings were recorded in line with SAHRA guidelines. As per the recommendations above, there are no major heritage reasons why the proposed development could not be allowed to proceed.



## Table of Contents

Executive Summary .....	5
Acronyms and Abbreviations .....	12
Glossary of Terms .....	13
1. Introduction.....	17
2. Sites Location and Description .....	17
3. Nature and Need of the Proposed Project.....	24
4. Purpose of the Cultural Heritage Study .....	24
5. Methodology and Approach.....	25
6. Applicable Heritage Legislation .....	26
7. Degree of Significance.....	27
8. Discussion of (Pre-) History of the Study Area.....	40
9. Findings and Discussions .....	42
10. Recommendations.....	48
11. Conclusions .....	49
Appendix I: Site Significance.....	53
Appendix II: Chance Find Procedure.....	54



## List of Figures

Figure 1: Locality map of the study area. ....	18
Figure 3: General site overview of the substation at Letaba. ....	20
Figure 4: Another view of the proposed development showing the existing powerline at Letaba.....	20
Figure 5: View of some areas to be traversed by the powerline at Letaba.....	21
Figure 6: View of the railway line: the new line will run parallel to it for most of the part. ....	21
Figure 7: View of some of the roads that will be crossed by the powerline. ....	22
Figure 8: An overview of the area that forms part of the project towards Julesburg.....	22
Figure 9: Another view of the area proposed for construction at Julesburg. ....	23
Figure 10: View of some of the residential areas that are close to the proposed development.....	23
Figure 11: View of the area where the proposed development will traverse at Julesburg.....	24
Figure 12: Sensitivity map of the proposed area.....	45
Figure 13: An overview of the formal cemetery at Nkowankowa.....	46
Figure 14: View of the railway line where it is crossed by the new powerline.....	47



## Acronyms and Abbreviations

AIA	Archaeological Impact Assessment
EMP	Environmental Management Plan
EO	Environmental Officer
ECO	Environmental Control Officer
HIA	Heritage Impact Assessment
LIA	Late Iron Age
MIA	Middle Iron Age
EIA	Early Iron Age
HMP	Heritage Management Plan
LSA	Late Stone Age
MSA	Middle Stone Age
ESA	Early Stone Age
NASA	National Archives of South Africa
NHRA	National Heritage Resources Act
SAHRA	South African Heritage Resources Agency



## 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 artifacts, human and hominid remains, and artificial features and structures.

**Artefact:** 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. These include intangible resources such religion 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 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 artefacts, 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 earth moving activities such as water pipeline trench excavations.

**Compatible use:** means a use, which respects the cultural significance of a place. Such a 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 marker of such a place, and any other structure on or associated with such 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 authorisation of permission by law and which may significantly affect the cultural and natural heritage resources. The HIA includes recommendations for appropriate mitigation measures for minimising 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 artifacts, 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 artefacts 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, 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., 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 artefacts, structures, and organic and environmental remains, as residues of past human activity.





## 1. Introduction

Trans-Africa Projects requested Vhubvo Consultancy Cc to conduct an Archaeological and cultural heritage impact assessment study for the proposed 22kV powerline between Letaba and Julesburg on the remainder of the farm Mohlabas Location 567 LT within the jurisdiction of the Greater Tzaneen Local Municipality of Mopani District Municipality in the Limpopo Province. The powerline is 3,5 km in length. The study aims are to outline the archaeological sites, cultural resources, sites associated with oral histories, graves, cultural landscapes, and any structure of historical significance that may be affected by the proposed development, and to advise on mitigation measures should any be affected and these will in turn assist the developer to make a decisions on the most appropriate options in line with the National Heritage Resource Act, 1999 (Act 25 of 1999). The survey was conducted in accordance with the SAHRA Minimum Standards for Archaeology and Palaeontology which clearly specify the required contents of reports of this nature.

## 2. Sites Location and Description

The proposed development is of a 22kV powerline which is 3, 5 km in length. The power line is 3,5 km in length. It runs from Letaba to Julesburg on the remainder of the farm Mohlabas location 567LT in the local municipality of the Greater Tzaneen of Mopani District in the Limpopo Province. The vegetation of the study area is dominated by the savanna vegetation of scattered trees and open grasslands. There is a dense vegetation around the substation at Letaba. The topography of the area is fairly flat with sandy-loamy soils. The proposed development run parallel to the railway line, and passes through some veld areas, grasslands, mango orchards, some firms and residential areas. The site is disturbed by construction and other developments that have happened in the past.

### Summary of Project Location Details

Province:	Limpopo
Local:	Greater Tzaneen
District:	Mopani
Township name(s):	Nkowankowa
Farm name:	Remainder of Mohlabas 567LT
Proposed development:	Eskom 22kv 3,5 KM Transmission powerline



# Electrification - Letaba-Julesburg 22kV

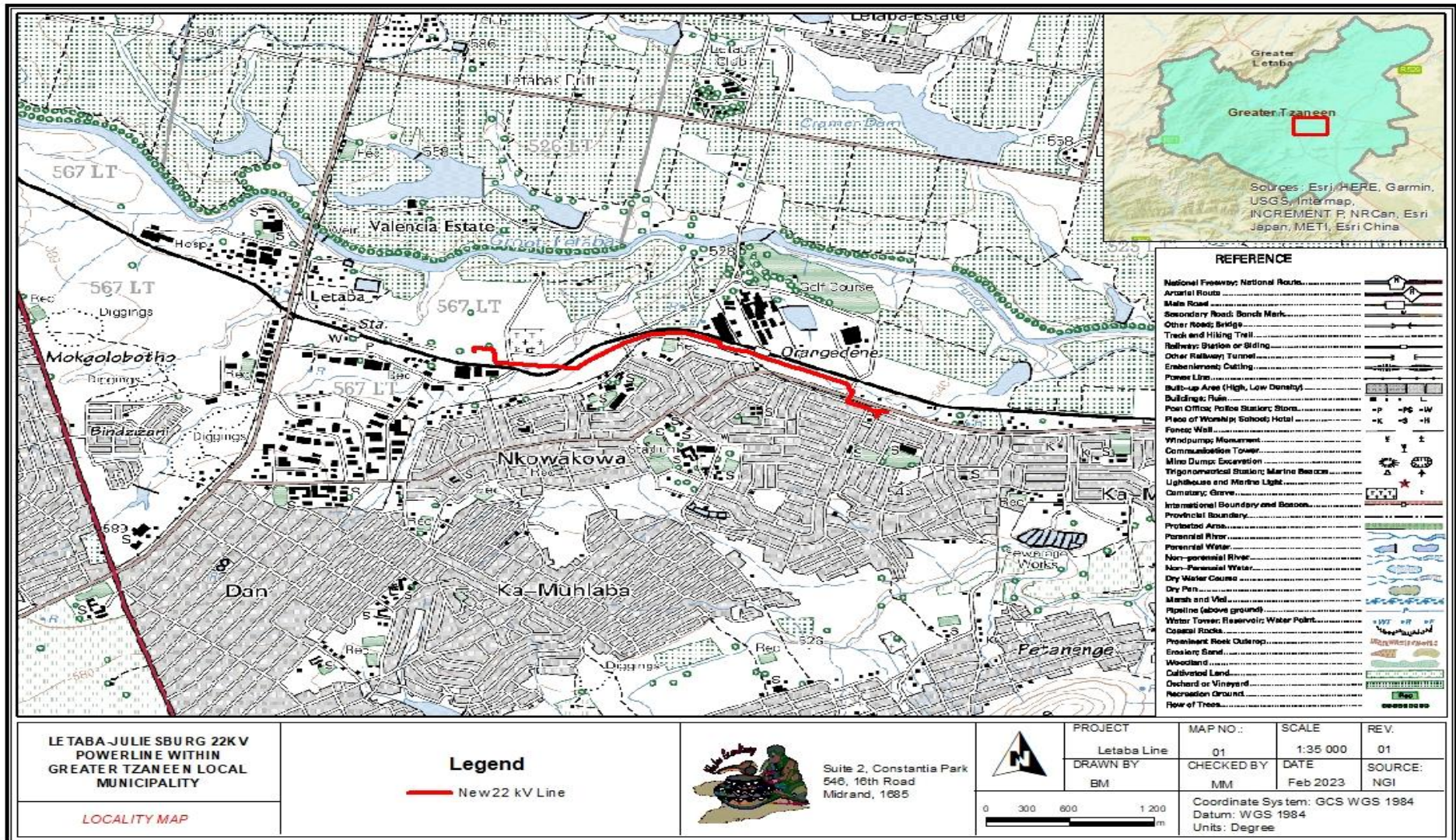


Figure 1: Locality map of the study area.



# Electrification - Letaba-Julesburg 22kV

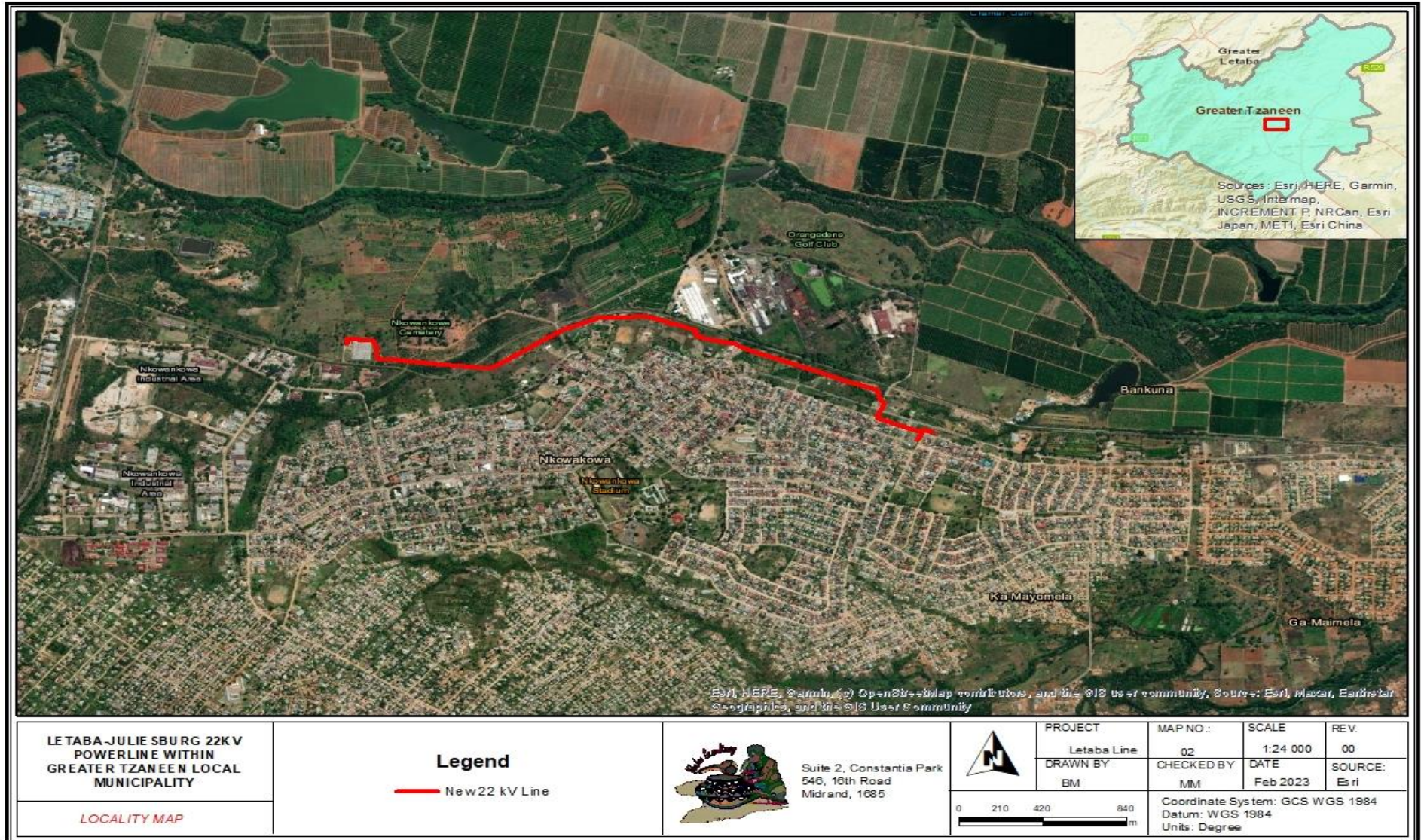


Figure 1: An overview of the Google Earth map of the proposed development.





**Figure 2:** General site overview of the substation at Letaba.



**Figure 3:** Another view of the proposed development showing the existing powerline at Letaba.





**Figure 4:** View of some areas to be traversed by the powerline at Letaba.



**Figure 5:** View of the railway line: the new line will run parallel to it for most of the part.





**Figure 6:** View of some of the roads that will be crossed by the powerline.



**Figure 7:** An overview of the area that forms part of the project towards Julesburg.





**Figure 8:** Another view of the area proposed for construction at Julesburg.



**Figure 9:** View of some of the residential areas that are close to the proposed development.





**Figure 10:** View of the area where the proposed development will traverse at Julesburg.

### **3. Nature and Need of the Proposed Project**

The proposed 22kV powerline which is 3,5 km in length will be constructed between Letaba and Julesburg on the farm Mohlabas in Nkowankowa Township of Limpopo Province. The powerline is meant for loadshedding. Eskom is facing serious constraints to meet the energy demand of the country. The country is faced with a power crisis and load shedding has become a norm. This has had serious consequences on the economy and livelihoods. In this case the problem will be lessened by load shifting. Load shifting is an electricity load management technique in which load demand is shifted from peak hours to off-peak hours of the day. In this case, Eskom will simply move electricity consumption to a different interval of time, but total consumption will remain the same.

### **4. Purpose of the Cultural Heritage Study**

The purpose of this Archaeological and Cultural Heritage study is to entirely identify and document archaeological sites, cultural resources, sites associated with oral histories, graves, cultural landscapes, and any structure of historical significance that may be affected by the proposed electrification of 45 households, these will, in turn, assist the developer in ensuring proper conservation measure in line with the National Heritage Resource Act, 1999 (Act 25 of





1999). Impact assessments highlight many issues facing sites in terms of their management, conservation, monitoring and maintenance, and the environment in and around the site. Therefore, this study involves the following:

- Identification and recording of heritage resources that may be affected by the proposed construction;
- Providing recommendations on how best to appropriately safeguard identified heritage sites. Mitigation is an important aspect of any development on areas where heritage sites have been identified.

## 5. Methodology and Approach

### 5.1 Background study introduction

The methodological approach is informed by the 2012 SAHRA Policy Guidelines for impact assessment. As part of this study, the following tasks were conducted:

- 1) Literature review;
- 2) Consultations with community members;
- 3) Completion of a field survey; and
- 4) Documentations and analysis of the acquired data, leading to the production of this report.

#### 5.1.1 Literature Review

The desktop study was undertaken through SAHRIS for previous Cultural Heritage Impact Assessments conducted in the region of the proposed development, and also for researches that have been carried out in the area over the past years, as well as historical aerial maps located in the Deeds Office. These literatures were used to screen the proposed area and to understand the baseline of heritage sensitivities.

#### 5.1.2 Oral interview

Oral interview was conducted with community members, this aimed to understand the landscapes and/ or intangible heritage of the area

#### 5.1.3 Physical survey

The field survey was undertaken on the **27th of February 2023**. Two archaeologists from Vhubvo, accompanied by an Eskom official conducted the survey.

#### 5.1.4 Documentation

The general project area was documented. This documentation included taking photographs using cameras a 14.1 mega-pixel Sony Cybershort Digital Camera. Plotting of finds was done by a Garmin etrex Venture HC.



### 5.2 Restrictions and Assumptions

As with any survey, archaeological materials may be under the surface and therefore unidentifiable to the surveyor until they are exposed once construction resume. As a result, if any archaeological/ or gravesite is observed during construction, a heritage specialist must be notified immediately.

## 6. Applicable Heritage Legislation

Several legislations provide the legal basis for the protection and preservation of 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 case where a listed activity is triggered. Such activities include:

- (a) *the construction of a road, wall, powerline, pipeline, canal or other similar form 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 m<sup>2</sup> 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 m<sup>2</sup> 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 national estate. When conducting 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 formation 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 a 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 palaeontological 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 to the region. 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)	Site of National Value	Nominated to be declared by SAHRA
Provincial (Grade II)	Site of Provincial Value	Nominated to be declared by PHRA
Local Grade (IIIA)	Site of High Value Locally	Retained as heritage
Local Grade (IIIB)	Site of High Value Locally	Mitigated and part retained as heritage



<b>General Protected Area A</b>	Site of High to Medium	Mitigation necessary before destruction
<b>General Protected Area B</b>	Medium Value	Recording before destruction
<b>General Protected Area C</b>	Low Value	No action required before destruction

**Significance rating of sites**

(i) High

(ii) Medium

(iii) Low

This category relates to the actual artefact 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, thus 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.

**High**

- This is a ‘do not touch’ situation, 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 determine the rating system on the receiving environment.

**Table 3: Rating System**

<b>NATURE</b>		
Including a brief description of the impact of the heritage parameter being assessed in the context of the project. This criterion includes a brief written statement of the heritage aspect being impacted upon by a particular action or activity.		
<b>TOPOGRAPHICAL EXTENT</b>		
This is defined as the area over which the impact will be expressed. Typically, the severity and significance of an impact have different scales and as such bracketing ranges are often required. This is often useful during the detailed assessment of a project in terms of further defining the determined.		
<b>1</b>	Site	The impact will only affect site.
<b>2</b>	Local/district	Will affect the local area or district.
<b>3</b>	Province/region	Will affect the entire province or region.
<b>4</b>	International and National	Will affect the entire country.
<b>PROBABILITY</b>		
This describes the chance of occurrence of an impact		
<b>1</b>	Unlikely	The chance of the impact occurring is extremely low (Less than 25% chance of occurrence).



2	Possible	The impact may occur (Between a 25% to 50% chance of occurrence).
3	Probable	The impact will likely occur (Between 50% to 75% chance of occurrence).
4	Definite	Impact will certainly occur (Greater than 75% chance of occurrence).

**REVERSIBILITY**

This describes the degree to which an impact on a heritage parameter can be successfully reversed upon completion of the proposed activity.

1	Completely reversible	The impact is reversible with implementation of minor mitigation measures.
2	Partly reversible	The impact is partly reversible but more intense mitigation measures are required.
3	Barely reversible	The impact is unlikely to be reversed even with intense mitigation measures.
4	Irreversible	The impact is irreversible and mitigation measures exist.

**IRREPLACEABLE LOSS OF RESOURCES**

This describes the degree to which heritage resources will be irreplaceably lost as a result of proposed activity

1	No loss of resource	The impact will not result in the loss of any resources.
2	Marginal loss of resource	The impact will result in marginal loss of resources.
3	Significant loss of resource	The impact will result insignificant loss of resources.



4	Complete loss of resource	The impact is result in a complete loss of all resources.
<b>DURATION</b>		
This describes the duration of the impact on the heritage parameter. Duration indicates the lifetime of a result of the proposed activity.		
1	Short term	The impact and its effects will either disappear with mitigation or will be mitigated through natural process in span shorter than the construction phase (0-1 years), or the impact and its effects will last for the period of a relatively short construction period and a limited recovery time after construction, thereafter it will be entirely negated (0-2 years).
2	Medium term	The impact and its effects will continue or last for some time after the construction phase but will be mitigated by direct human action or by natural processes thereafter (2-10 years).
3	Long term	The impact and its effects will continue or last for entire operational life of the development, but will be mitigated by direct human action or by natural processes thereafter (10-50 years).



4	Permanent	The only class of the impact that will non-transitory. Mitigation either by man or natural process will not occur in such a way or such a time span that the impact can be considered transient (Indefinite).
---	-----------	---

**CUMULATIVE EFFECT**

This describes the cumulative effect of the impacts on the heritage parameter. A cumulative effect/impact is an effect, which in itself may not be significant but may become significant if added to other existing or potential impacts emanating from similar or diverse activities as a result of the project activity in question.

1	Negligible Cumulative Impact	The impact would result in negligible to no cumulative effects.
2	Low Cumulative Impact	The impact would result in insignificant cumulative effects
3	Medium Cumulative Impact	The impact would result in minor cumulative effects
4	High Cumulative Impact	The impact would result in significant cumulative effects.

**MAGNITUDE**

Describes the severity of an impact.

1	Low	Impact affects the quality, use and integrity of the system/component in a way that is barely perceptible.
---	-----	--





2	Medium	Impact alters the quality, use and integrity of the system/component but system/component still continues to function in a moderately modified way and maintains general integrity (some impact on integrity).
3	High	Impact affects the continued viability of the system/component and the quality, use, integrity and functionality of the system or component is severely impaired and may temporarily cease. High costs of rehabilitation and remediation.
4	Very High	Impact affects the continued viability of the system/component and the quality, use, integrity and functionality of the system or component permanently ceases and is irreversibly impaired (system collapsed). Rehabilitation and remediation often impossible. If possible, rehabilitation and remediation often unfeasible due to extremely high costs of rehabilitation and remediation.

**SIGNIFICANCE**

Significance is determined through a synthesis of impact characteristics. Significance is an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates the level of mitigation required. This describes the significance of the impact on heritage parameter.



## 7. Discussion of (Pre-) History of South Africa

South Africa possesses a rich archaeological record. It has one of the longest sequences of human development in the world. South African scientists have been actively involved in the search of human origins since 1925 when Raymond Dart identified the *Taung* child as an infant halfway between apes and humans. Dart named the remains *Australopithecus Africanus*, southern ape-man, and his work fundamentally changed the focus of human evolution from Europe and Asia to Africa, and it is now widely accepted that humanity originated from Africa, hence reference to Africa as the “cradle of humanity” (Robins et al.1998). In many ways, Dart’s discovery marked the birth of palaeoanthropology as a discipline. The archaeology of South Africa which fits well into the southern African periodisation is broadly divided into Stone Age, Iron Age and the Historical Period.

### ***Stone Age***

The Stone Age is the pre-historic period when humans widely used stone for tool making (Robins et al. 1998). As the early ancestors progressed physically, mentally and socially they developed stone tools. These tools are the earliest evidence for culture in southern Africa (Clark & Kuman 2000). The Stone Age began approximately 2.6 million years ago and ended around 20 000 years ago. It is divided into three phases namely the Early Stone Age, Middle Stone Age and Later Stone Age. It is argued that there are two transitional periods. Noteworthy that the time used for the Stone Age is approximate and it differs from one researcher to another (See Robins et al.1998; Korsman & Mayor 1999; Mitchell 2002).

### ***Early Stone Age (ESA)***

The Early Stone Age is dominated by two industries; the Oldowan and Acheulian. The Oldowan industry which was the earliest was developed by the earliest members of the genus *Homo*, such as *Homo habilis* around 2.6 million years ago. The Oldowan tools which are only found in Africa, and not anywhere else are mainly simple flakes which were struck from cobbles. The assemblage comprises tools such as cobble cores and pebble choppers. They were not task-specific tools, and one tool could be used for many functions (Wurz 2000). The Oldowan industry was completely replaced by the Acheulian around 1.7 million years ago. *Homo ergaster* was probably responsible for the manufacture of Acheulian tools in South Africa. Acheulian tools were longer with sharper edges which suggest they could be used for a variety of activities ranging from the butchering of animals, chopping wood, digging roots and cracking bones for marrow. The most diagnostic tools of this period are the handaxes and the cleaver. In South Africa, Oldwans tools have been found



at Sterkfontein (Brian 1985), and Kroomdrai (Clark 1993). Wonderwerk Cave (Chazan *et al.*, 2008). Sites that have yielded Acheulian tools in South Africa are Swartkraans, Kroomdri, and Sterkfontein.

### ***Middle Stone Age (MSA)***

The Middle Stone Age artefacts started appearing about 250 000 years ago and these replaced the larger handaxes and cleavers. In contrast to the ESA technique of removing flakes from a core, MSA tools were flakes to start with. There were of a predetermined size and shape and were made by preparing a core of suitable material and striking off the flake so that it was flaked according to a shape which the toolmaker desired. MSA people made a range of tools from both coarse and fine-grained rock types, sometimes rocks used for tool making were transported considerable distances, probably in bags or containers, as such tool assemblages from some MSA sites tend to lack some of the preliminary cores and contain predominantly finished products like flakes and retouched pieces. The stone toolkit of this period is dominated by elongated, parallel-sided blades as well as triangular flakes. Many MSA sites have evidence of control of fire, prior to this, rock shelters and caves would have been dangerous for human occupation due to predators (Deacon & Deacon 1999). Besides the introduction of fire, the widespread use of red ochre, probably as body paint, also shows that MSA behavior had become more human. The recent finds of decorated ochre at Blombos and decorated ostrich egg shells at Diepkloof also in the Cape further cements the point. Other sites that have yielded MSA tools in South Africa are Klassies River Mouth, Bloombos and Border Cave (Deacon & Deacon 1999).

### ***Later Stone Age (LSA)***

The Later Stone Age ranges from 20 000 to 2000 years ago. It is important to note that the transition from MSA to LSA did not occur simultaneously in southern Africa. It is described by Deacon (1984) as a period when man refined small blade tools conversely abandoning the MSA prepared-core technique. Anatomically speaking, as the brain gets bigger, tools became smaller and more efficient. Thus, refined artefacts such as thumbnails, convex-edge scrapers, crescents, and bladelets are associated with this period. Other tools of the period are hammers, adzes, bores, grooved stones, hafted tools, and points. The period also saw the introduction of poisoned arrows to enhance the effectiveness of bone points and this led to improved hunting (Walker & Thorp 1997). Faunal evidence suggests that LSA hunter-gatherers trapped and hunted zebras, impala, warthog and bovinds of various sizes. They also diversified their protein diet by gathering tortoises, marine resources, and land snails (*Achatina*) in large quantities. In addition to bow-hunting and



marine sources collection, human behaviour was recognisably modern in many ways; uniquely traits such as rock art and purposefully burial with ornaments were common practices (Villa *et al.*2012). Rock art in form of paintings and engravings is an important signature of this period. Examples of LSA sites in South Africa are Cottage Cave and Nelson Bay Cave.

### **Iron Age**

Iron Age is a period in human history when metal was mainly used to produce tools. The period marks the movement of farming communities into South Africa in the first millennium AD, or 2500 years ago (Mitchell 2002:259). The people were agro-pastoralists that settled in the vicinity of water. In terms of material culture, pottery is a dominant and critical component of an Iron Age assemblage. Iron Age archaeologists use pottery to identify the presence and chronology of different cultural groups on sites. Through the study of stylistic traditions related to vessel shape and decoration, the movement, interaction and lineage of cultural groups can be traced (Huffman 1989). Pottery seriation in conjunction with linguistic data has been used by researchers to trace the origin of these people who brought the Iron Age culture. Researchers have traced the origin of the Bantu people with their agro-pastoral to what is now the border of Nigeria and Cameroon. These people migrated eastward and southward breaking into two groups. According to Huffman (2007) there were two streams of Early Iron Age expansion in southern Africa, one referred to as the Urewe-Kwale tradition (or the eastern stream) and another one called the Kalundu tradition (or the western stream).



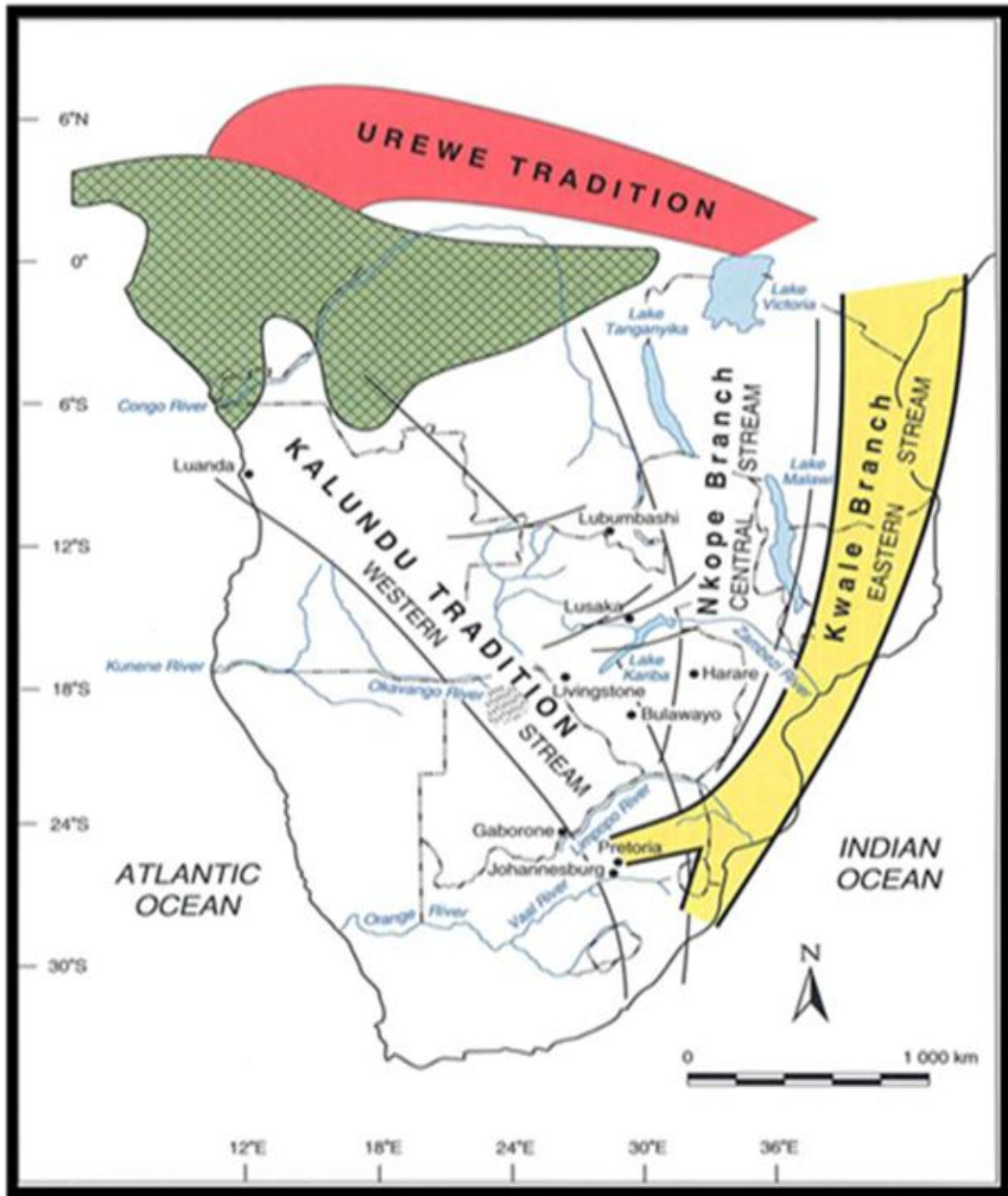


Figure 12: View of the spread of EIA movements.

### *Early Iron Age (EIA)*

Early Iron Age dwelling were built-in low-lying areas, such as river valleys and the coastal plain, where forests and savannas facilitated shifting (slash and burn), they also cultivate grains such as cow peas, ground beans, sorghum and millets (Mitchell 2002). Early Iron Age pottery is characterized by large and prominent inverted rims, large neck areas and fine elaborate decorations. Unlike the broad and flat surface grinding stones of Late Iron Age, the Early Iron Age grinding



stones is deeper and more lenticular grooves. Well known EIA sites in South Africa include Happy Rest in the Limpopo Province, Lydenburg Heads in Mpumalanga, Broederstroom in North West, and Mzonjani in KwaZulu-Natal Province.

### ***Middle Iron Age (MIA)***

The Middle Iron Age stretches from AD900 to 1300 and marks the origins of the Zimbabwe culture. It is marked by a change in emphasis from grain cultivation to cattle herding, however, the importance of cattle cut across all the three ages of the Iron Age period (Huffman 2007). In South Africa a clear shift from the EIA to the MIA is apparent in the Shashe-Limpopo basin where it marks the origins of the Zimbabwe culture where it came with class distinction and sacred leadership (Huffman 2005, 2007). Middle Iron Age sites in the Shashe-Limpopo basin are Schroda, K2 and Mapungubwe.

### ***Late Iron Age (LIA)***

The Late Iron Age dates from AD1300 to 1840. Greater focus on economic growth and the increased importance of trade marks the beginning of the LIA. Specialisation in terms of natural resource exploitation and utilisation is a character feature of this period. Iron slags which tend to occur only in certain localities compared to earlier times. Also, Later Iron Age settlements were no longer located in river valleys, but were built on higher ground where homestead which in most instances were made of stone for building purposes would benefit from cooling breezes and good views most probably for strategic purposes. Pottery styles also underwent significant changes; maize was also introduced during this period (Maggs 1980). Well-known Late Iron Age sites in the area is Madikwe in the North West (Huffman 2007).

### ***Historical Period***

The Historical period dates from 1600. It deals with Europe's infiltration, settlement, spread and domineering of European influence in southern Africa. Its segments are; Dutch settlement in the Western Cape, the troubled times of Zululand (Mfecane/Difaqane), Voortrekkers, early missions, and the diamond rush. This period also witnessed or saw the compilation of early maps by missionaries, explorers and military personnel.

Bartolomeo Dias was the first European to sail around the southern point of Africa in 1486, he named it "The Cape of Good Hope", nine years later it was Vasco da Gama, however, these Portuguese seafarers were not seriously interested in southern Africa. Nevertheless, the history of



southeast part will change forever on the 6th of April 1652. This is when the Dutch seafarer Jan van Riebeeck arrived in Table Bay with his three ships. His mission was not to establish a full-fledged colony at the Cape but to establish a supply station on behalf of the Dutch East India Company (DEIC); however, it committed itself when it granted nine company servants' freedom in 1657 to establish private farms in the Rondebosch area below the eastern slopes of Table Mountain. One of the reasons why the Dutch settled at the Cape was to access the herds of cattle kept by the Khoi-Khoi, this was first achieved by friendly trade, however it was not long before disputes over land erupted after Free Burghers began to encroach on traditional communal grazing lands. By the early 1700's the Dutch colonists have prevailed (Bergh 1999). These new white settlers will influence the context and content of South African's culture forever, starting with the development of Cape Town into an urban center, however it took many years for it to equal the size of the Mapungubwe Kingdom which was attained five centuries earlier (it is also argued that Mapungubwe was during its peak more developed than other areas in Europe). These newcomers also introduced a new style of houses consisting of flat roofs and ornate pediments, slaves were also imported from other parts of Africa, i.e., Madagascar, India, and East Asia, these slaves who were used as labourers were skilled carpenters and bricklayers as such their skills played an invaluable role in speeding up the progress and development of the Cape. It is important to note that the intermingling between the slaves, Africans, and the European population marked the beginning of the coloured community.

One of the most significant historical occurrences in the early history of South Africa was the Mfecane/Difaqane. Shaka was a shrewd king and he established a kingdom that became the strongest throughout the region in the 19<sup>th</sup> Century. During the Mfecane/Difaqane at the end of the 19<sup>th</sup> Century, communities who had settled in the KwaZulu-Natal were displaced and forced to move out by wars between the Zulu chiefdoms (Shillington 2013). Many generals were such as Mzilikazi, Soshangane were displaced as Zululand became a desert storm. Shaka's majesty rule came to end in 1828 when he was assassinated by his half-brothers, Dingane, and Mhlangana, with Dingane assuming the leadership (Laband 1995). The kingdom became weaker and Cape merchants moved into the region to colonise Natal, and also the Voortrekker who became dissatisfied with British rule, also moved into the area (McKenna 2011).

Over a span of three years starting in 1835, some 12,000 Voortrekkers (pioneers) left the Cape Colony and trekked into the interior by ox wagon. In time, these Voortrekkers who were escaping British policies started to build a unique identity and started calling themselves Afrikaners, they



also developed a hybrid language, Afrikaans, which stemmed from high Dutch but incorporated strong French, Malay, German and Black influences. The Afrikaans - speaking descendants of these people would later simply be called “Boere” (boers or farmers) (Bergh 1999). From the 1820s European missionaries worked tirelessly to Christianise indigenous communities and to in-culture them in a European way of life, whatever intention these missionaries have undermine African and contributed in displacing African tradition across South Africa. By the 1860s, African states began to weaken as Europeans were eager to exploit Africans as a source of labour and to acquire the fertile area, during this era most African leaders died, e.g.: Makapane (1854); Soshangane (1858); Sekwate (1861); Mswati (1865); Mzilikazi (1868); Moshoeshoe (1870); Mpande (1872); Sekhukhune (1882) and Makhado (1895).

With the discovery of diamonds and gold in the 19th century, urbanisation started in South Africa. People came from all over the world to claim their stake in the diamond fields, these discoveries also made the British to realise that there was great wealth for the taking outside the Cape Colony, and with these discoveries South African black’s view of life were further changed. Nevertheless, the 1902 Peace treaty in Vereeniging marked the end of Anglo/Boers war, this gave South African black people peace treaty as they hope for better opportunity after all the suppression and domination by the minority, unfortunately it turned out differently as it made no provisions as far as human rights for black people were concerned, actually the process of segregation increased in South Africa.

## 8. Discussion of (Pre-) History of the Study Area

Limpopo Province is one of the few South African Provinces with a multi-layered archaeological record, documenting the existence of the Stone Age people, Iron Age farmers and the colonial settlers of the province is a complex task. Although Stone Age sites are found in abundance throughout the province, it is one of the richest Provinces in Iron Age, and several archaeology researches had been conducted producing diverse Iron Age sites. The archaeology of the province can be divided into the Stone Age, Iron Age and Historical timeframe.

### Stone Age

Limpopo Province is known for the existence of several Stone Age sites that conform to the generic South African periodization spilt into the Early Stone Age (ESA), Middle Stone Age (MSA) and Late Stone Age (LSA) (van der Walt 2012). It is well known for the World Heritage Site Makapans Caves which yields evidence of hominid occupation by “*Australopithecus africanus*” from





approximately 3.3 million years ago (Bergh 1999; van der Walt 2012). The Caves of Hearths is considered to be one of the two known in the world to have yielded an unbroken sequence showing evidence and artefacts of occupation of the caves through ESA, MSA, LSA, and right up to the Iron Age; and it is one of the few rock shelters to present Acheulian assemblages in Southern Africa (Mitchell 2002). Most of the LSA sites in the region are well documented and preserved. LSA in the region is well represented by sites that had been discovered in the Waterberg which is known for its many rock art sites including those containing shaded painting such as at Haakdoorndraai (Eastwood et al., 2002). Other rock art site can be found at Makgabeng plateau which has over 460-recorded rock art sites (Pager 1973; Eastwood et al., 2002). Rock art paintings have also been documented at Blouberg Mountains and Soutpansberg Mountains (Blundell & Eastwood, 2001; Eastwood, 2003; Hall & Smith, 2000; Louw 1969).

No Stone Age sites were noted during the survey.

### Iron Age

Limpopo Province is one of the provinces with the most extensive research done on Iron Age (Huffman 2007). Many of the Limpopo Province Iron Age sites are located near flood plains, along and near some of the major rivers, hill slopes and/or mountain areas (Hall & Smith 2000; Huffman 2007; van Schalkwyk 2007) The Iron Age of Limpopo Province region dates back to the 5th century AD when the Early Iron Age proto-Bantu-speaking farming communities began arriving in the area, which was then occupied by Stone Age people. The region is well known for the famous golden rhino that was recovered from Iron Age settlement site of Mapungubwe in the Limpopo Shashi Valley, now a UNESCO World Heritage Site.

The Early Iron Age (EIA) in the wider area of Limpopo Province is represented by sites such Schroda in the Limpopo Valley, Kommando Kop and Pont Drift. The EIA of the area of study is significantly represented by the site at Silver Leaves a few kilometres south of Tzaneen which has provided the oldest evidence for grain cultivation in southern Africa and represents the earliest phase of the Kwale Branch in South Africa (Klapwijk & Huffman 1996). In the study area Iron Age manifests in metal working industries in the form of mining. Several metal working sites with a bias towards a hunting economy at the expense of domestic animals were found in the Letaba area (Mason et al. 1983). Other sites that have been studied recently include Loole, Sekgopo and Ga-Masisimale. These sites are associated with the Makusane people, Maseke-Malatje, Majaji-Malatji as well as the Bashai historical people (Schalkwyk 2010).

No Iron Age cultural material were noted during the survey.



### Historical era

Historically the people in the wider vicinity of the study area include the Pedi people, Shangaan/Tsonga and Lobedu (Krieger 1938). The first Europeans arrived in the area around 1838, with the second group arriving in 1844. They were not able to settle permanently due to tsetse fly. ([http://www.kruger2canyons.org/tribal\\_history.html](http://www.kruger2canyons.org/tribal_history.html)). Some 28 years later, in 1912 when a railway line connected Pietersburg (now Polokwane) to the gold rush towns of Leydsdorp and the old Eastern Transvaal, Tzaneen was recognized as a town. The main economic activity was to act as a strategic point for other towns in the region. From that time the town developed into an agricultural hub with farming becoming the predominant economic activity in the area. The discovery of gold at what was to become Leydsdorp set the scene for outsiders to enter the area in large numbers. However, the gold did not last long and after heyday lasting approximately 10 years, the little town of Tzaneen was largely forgotten (Schalkwyk 2010).

### Cultural Landscapes

Over the past twenty years a territorial approach to heritage has shifted emphasis from sites to the recognition of broad territorial attributes of heritage. Within the international discourse which has ensued, a genre of heritage called Cultural Landscapes has emerged. Article 47 of the Operational Guidelines for the Implementation of the World Heritage Convention (2005) defines Cultural Landscapes as:

Cultural landscapes are cultural properties that represent the —combined works of nature and of man" designated in Article 1 of the World Heritage Convention. They are illustrative of 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 external and internal.

## 9. Findings and Discussions

The Phase I Archaeological and Cultural Heritage Impact Assessment for the proposed construction of a powerline have identified no momentous impacts to archaeological resources on the footprint of the proposed pylon position. However, note must be taken that there is a family grave site (see Fig. 12) on the servitude, as well as a formal cemetery (See Fig. 13) adjacent the proposed powerline. In addition, the powerline crosses an old railway line (See Fig. 14). The family burial ground is properly fenced (though within the Eskom powerline servitude) and approximately 30m west of LJB7 pylon pole and 35m east of LJB6 pylon pole. The municipality cemetery is 100m north of LJB10 pylon pole, while the railway line is 14m south of LJB25.



Graves and cemeteries are of high significance and are protected by various laws. Legislation with regard to graves include Section 36 of the National Heritage Resources Act (Act 25 of 1999) whenever graves are 60 years and older. Other legislation with regard to graves includes those when graves are exhumed and relocated, namely the Ordinance on Exhumations (no 12 of 1980) and the Human Tissues Act (Act 65 of 1983 as amended), when graves are less than 60 years. Burial sites and its contents are thus accorded the highest heritage accolades in South Africa, and elsewhere, principally by their relation with human beings. Burial sites are often the focus of emotional and ethical sentiments to people. Dealing with human remains thus requires the highest ethical standards, Section 36 of the National Heritage Resources Act (3) states that, 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 a formal cemetery administered by a local authority. This burial ground, as aforesaid, will not be directly impacted.

The railway lines form part of industrial archaeology, and thus protected by the National Heritage Resources Act (Act 25 of 1999) by virtue of age and most importantly, its historical value. According to Section 34(1) of the National Heritage Resource Act, 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, in this case, LIHRA. Section 3 of the same Act also protects the demolition or altering of any historical structures. It should be borne in mind that the railway line is not considered to be of high significance and will not be affected by the construction of pylon LJB25 and LJB26 position which are 14m and 20m respectively.

**Table 3:** Resources found in the area.

<b>Site Name</b>	<b>Gps</b>	<b>Descriptions</b>	<b>Threats</b>	<b>Action</b>
<b>Nkw001</b>	S25°52' 54.82" E30°16'57.88"	A family grave with 5 graves and demarcated. This burial is within the servitude and approximately 30m west of LJB7 and 35m east of LJB6 pylon pole. <b>Significance:</b> High	High possibility of threat from construction workers. <b>Magnitude:</b> Medium	Monitoring by the EO
<b>Nkw002</b>	S25°52' 54.42" E30°16'57.81"	An existing burial ground with hundreds of graves. This site is north of the proposed site, and 100m north	Possibility of threat from construction workers. <b>Magnitude:</b> Medium	Monitoring by the ECO



## Electrification - Letaba-Julesburg 22kV

		from the closest pylon pole <b>Significance:</b> High		
<b>Nkw003</b>	S25°52'56.24" E30°17'11.92"	An old railway line crossed by the powerline. <b>Significance:</b> Medium-Low	Possibility of threat from construction workers. <b>Magnitude:</b> High	Monitoring by the ECO



# Electrification - Letaba-Julesburg 22kV

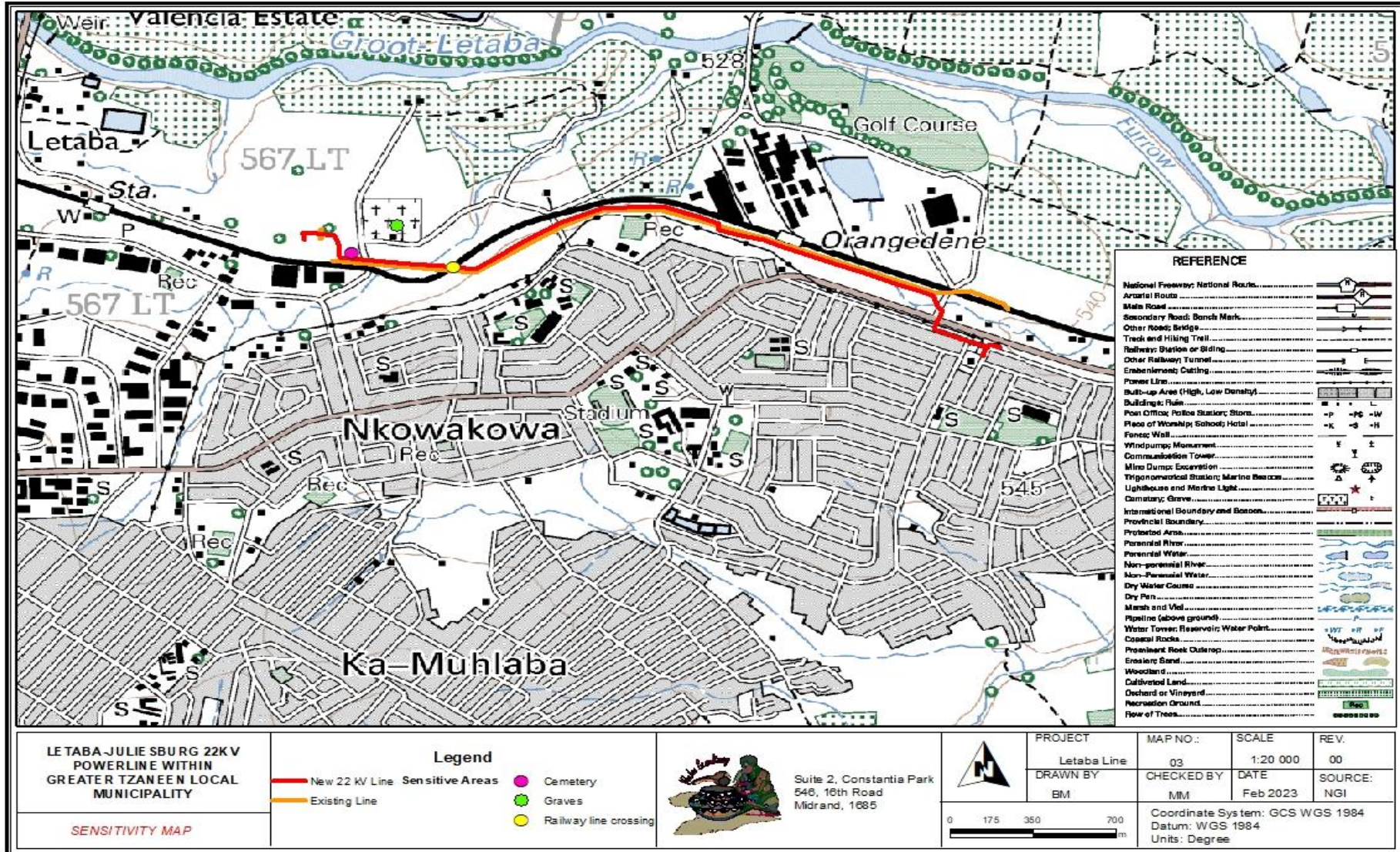


Figure 11: Sensitivity map of the proposed area.





**Figure 12:** View of the family burial ground nearby the Letaba substation and on the servitude of the Eskom line.



**Figure 13:** An overview of the formal cemetery at Nkowankowa.



**Figure 14:** View of the railway line where it is crossed by the new powerline.

### 9.1 Impact assessment

Below is a description of the proposed development impact ratings. These ratings are for archaeological and cultural heritage sites known to exist in the proposed area, and include Stone and Iron Age, as well as Historical era materials. Note that these impacts are assessed as per Table 2 above:

**Table 4:** Anticipated impact rating.

Description	Ratings
Nature	Negative
Topographical Extent	The impact will only affect site
Duration	Long term
Magnitude	Medium
Probability	Possible
Reversibility	Irreversible
Irreplaceable Loss	The impact will not result in the loss of any resources



## 10. Recommendations and Discussion

Recommendations are given from a heritage point of view and considering the nature of the proposed project and the cultural significance of the heritage resources in the vicinity of the proposed area. By nature, powerline causes minimal impact to the ground since they transverse overhead. The only impact is mostly where pylon pole will be situated. As such, if not mitigated, the impact of powerline can be fatal to heritage resources. However, if mitigated, the impact can be significantly reduced.

### Possible Impact on Graves

Nkw001 and Nkw002 (See Fig. 12 and13) will not to be negatively affected by the proposed electrification project as both these sites are located at fairly safe distances from the proposed new pylon position. Nkw001 is respectively located 35m and 30m of LJB6 and LJB7 of the proposed pylon position and may be parenthetically affected if no mitigation is put in place. Hence, the mitigation below must be considered with responsiveness.

### Mitigating

All construction activity happening around LJB6 and LJB7 must be strictly monitored by the Environmental Officer as these graves are adjacent the proposed area of electrification project, and the significance of any possible impact is medium-low. However, Nkw002 is located reasonably away from the proposed area, and monitoring during construction must be monitored by the Environmental Control Officer.

The following are further recommendations that must be always observed:

- ✚ The developer must ensure that the descendants (community members in this instance) of the graves are sought, and notified about this proposed construction which may have an impact (indirectly) on their grave(s). This can be done by means of placing of placard(s) in the village, or through liaising with the ward-councilor/ and or traditional leader;
- ✚ Aspects related to dumping of construction material within this buffer zone (50m) and stone robbing or removal of any material should be discourage;
- ✚ Access road to the cemeteries must never be closed or demarcated at any given times of the project. Thus, the developer should ensure that there is always access to the cemetery and burial ground. If any road is to be affected, such must be communicated prior, especially in regard family graves located nearby LJB6 and 7; and
- ✚ Labor-intensive workers should be notified about the burial ground, and most importantly, the developer should avoid conveying duty during the time when the graveyard is active (that's mostly Saturday morning). Especially regarding the construction of pylon position





LGB6 to LJB10. Furthermore, minimal monitoring must be maintained during construction of LJB25 to LJB26 since these are located nearby a railwayline.

The client is reminded that archaeological resources often happen underground, as such should any archaeological material be unearthed accidentally during the course of construction (e.g., excavation), SAHRA should be alerted immediately, and construction activities be stopped within a radius of at least 10m of such indicator. The area should then be demarcated by a danger tape. Accordingly, a professional archaeologist or SAHRA officer should be contacted immediately. In the meantime, it is the responsibility of the Environmental officer and the contractor to protect the site from publicity (i.e., media) until a mutual agreement is reached. It is mandatory to report any incident of human remains encountered to the South African Police Services, SAHRA staff member and professional archaeologist. Any measure to cover up the suspected archaeological material or to collect any resources is illegal and punishable by law under Section 35(4) and 36(3) of the National Heritage Resources Act, Act 25 of 1999. The developer must induct field workers about archaeology, and steps that should be taken in the case of exposing archaeological materials.

### **Pre-construction education and awareness training**

Prior to construction, contractors should be given training on how to identify and protect archaeological remains that may be discovered during the project. The pre-construction training should include some limited site recognition training for the types of archaeological sites that may occur in the construction areas. Below are some of the indicators of archaeological site that may be found during construction:

- ✚ Flaked stone tools, bone tools and loose pieces of flaked stone;
- ✚ Ash and charcoal;
- ✚ Bones and shell fragments;
- ✚ Artefacts (e.g., beads or hearths);
- ✚ Packed stones which might be uncounted underground, and might indicate a grave or collapse stone walling.

## **11. Conclusions**

A thorough background study and survey of the proposed development was conducted and findings were recorded in line with the NHRA guidelines. As per the recommendations above, there are no major heritage reasons why the proposed development could not be allowed to proceed. It is recommended that the proposed development of the powerline proceed on condition that the recommendation indicated above are adhered to.



## References

Bergh, J.S. (red.). 1999. Geskiedenisatlas van Suid-Afrika. Die viernoordelikeprovinsies. Pretoria: J.L. van Schaik.

Bradfield, J., Holt, S. & Sadr, K. 2009. The last of the LSA on the Makgabeng Plateau, Limpopo Province. South African Archaeological Bulletin 64 (190), pp. 176- 183.

Coertze, P.J. & Coertze, R.D. 1996. Verklarende vakwoordeboek vir Antropologie en Argeologie. Pretoria: R.D. Coertze.

Daniel, S. 2015. Old kraals and a cave found in the hills on the Waterberg Project. (Unpublished report, Johannesburg, GeoActive Dynamic Geological Services).

De Jong, R.C. 2010. Heritage Impact Assessment Report: Support of the Environmental Impact Assessment for the proposed upgrading of the Bulk Municipal Water Supply Pipeline (12km) on the farms Zeeland 526 LQ, Worcester 520 LQ, and Paarl 522 LQ, Lephalale Local Municipality, Limpopo Province. Unpublished Report for Gudani Consulting Polokwane July 2010.

Eastwood, E., van Schalkwyk, J. & Smith, B. 2002. Archaeological and Rock Art Survey of the Makgabeng Plateau, Central Limpopo Basin. The Digging Stick, 19 (1).

Hall, S & Smith, B. 2000. Empowering places: rock shelters and ritual control in farmer-forager interactions in the Northern Province. South African Archaeological society Doodwin Series, 8: 30-46.

Hanisch, E.O.M. 2003. Archaeology- A first synthesis of the Environmental, Biological and Cultural Assets of the Soutpansberg.

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

International Finance Corporation. 2012. Overview of performance standards on Environmental and Social Sustainability. Performance Standard 8, Cultural Heritage. World Bank Group.



Knudson, S.J. 1978. Culture in retrospect. Chicago: Rand McNally College Publishing Company.

Korsman, S.A. & Meyer, A. 1999. Die Steentydperkenrotskuns. Bergh, J.S. (red.). Geskiedenisatlas van Suid-Afrika. Die viernoordelikeprovinsies. Pretoria: J.L. vanSchaik.

Krige, E.J. & Krige, J.D., 1943. The Realm of a Rain Queen. A study of the pattern of Lobedu society. Oxford University Press.

Krige, E.J., 1938. The Place of the North-Eastern Transvaal Sotho in the South Bantu Complex. Africa: Journal of the International African Institute, Vol. 11, No. 3 (Jul., 1938), pp.265-293.

Mitchell, P. 2002. The Archaeology of Southern African. Cambridge: Cambridge University Press.

Murimbika, M. 2006. Archaeological Impact Assessment Study for the Proposed Construction of Electricity Distribution Powerlines Within, Limpopo Province. An unpublished report by Nzumbululo Heritage Solutions

Oberholster, J.J. 1972. The historical monuments of South Africa. Cape Town: C. Struik (Pty.) Ltd.

Pager, H. 1973. Shaded rock-paintings in the Republic of South Africa, Lesotho, Rhodesia and Botswana. The South African Archaeological Bullentin.

Pistorius, J.C.C. May 2012. A Phase I Heritage Impact Assessment Study for Eskom's Proposed Letaba Project: Limpopo Province.

Roodt, F., 2001a. Archaeological Impact Assessment: Fry Dam: Raising of Dam Wall, Matomashoek 371 LT & Gemsbokspruit 372 LT. An unpublished report by R & R Cultural Resource Consultants on file at SAHRA as: 2001-SAHRA-0005.

Roodt, F., 2001b. Proposed Tzaneen Extension 60, Archaeological Impact Assessment. An unpublished report by R & R Cultural Resource Consultants on file at SAHRA as: 2001-SAHRA 0029.



Sadr, K. 2005. Mphokwane test excavation of site MB5 (Mont Blanc) (Unpublished report, WITS University).

Smith, B.W. & Van Schalkwyk, J.A. 2002. The white camel of the Makgabeng. *Journal of African History*. 43, pp. 235-254.

Stoffberg, D.P. 1988. *Argeologieseopgrawings van die Schoemansdalse Voortrekkerskans (distrik Louis Trichardt)*. Pretoria: Etnologiesediens, SA Leërhoofkwartier.

Van der Ryst, M.M. & Meyer, A. 1999. *Die Ystertydperk*. Bergh, J.S. (red.). *Geskiedenisatlas van Suid-Afrika. Die viernoordelikeprovinsies*. Pretoria: J.L. van Schaik.

Van Schalkwyk, J. A. 2016. *Cultural Heritage Impact Assessment for the construction of the proposed Shangani Gate and associated infrastructure in the Kruger National Park, Limpopo Province*. A report prepared for Envirolution Consulting.

Van Schalkwayk, J.A. 2010. *Heritage Impact Assessment for Groot Letaba River Water Development Project*.



## Appendix I: Site Significance

The following guidelines for determining site *significance* were developed by SAHRA in 2003. It must be kept in mind that the various aspects are not mutually exclusive, and that the evaluation of any site is done with reference to any number of these.

**(a) Historic value**

- Is it important in the community, or pattern of history?
- Does it have strong or special association with the life or work of a person, group or organization of importance in history?
- Does it have significance relating to the history of slavery?

**(b) Aesthetic value**

- Is it important in exhibiting particular aesthetic characteristics valued by a community or cultural group?

**(c) Scientific value**

- Does it have potential to yield information that will contribute to an understanding of natural or cultural heritage?
- Is it important in demonstrating a high degree of creative or technical achievement at a particular period?

**(d) Social value**

- Does it have strong or special association with a particular community or cultural group for social, cultural or spiritual reasons?

**(e) Rarity**

- Does it possess uncommon, rare or endangered aspects of natural or cultural heritage?

**(f) Representivity**

- Is it important in demonstrating the principal characteristics of a particular class of natural or cultural places or objects?
- What is the importance in demonstrating the principal characteristics of a range of landscapes or environments, the attributes of which identify it as being characteristic of its class?
- Is it important in demonstrating the principal characteristics 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 II: Chance Find Procedure

### Introduction

The purpose of this document is to provide Eskom and their contractors with the appropriate response guidelines (extracted and adapted from the National Heritage Resources Act (Act No. 25 of 1999) Regulations Reg No. 6820, GN: 548, taking into consideration international best practice based on World Bank, Equator Principles and the International Finance Corporation Performance Standards, 1972 UNESCO Convention on the Protection of World Cultural and Natural Heritage (World Heritage Convention), that should be implemented in the event of chance discovery of heritage resources. These guidelines or chance find procedures (CFPs) can be incorporated into Eskom's policies that may have relevance during construction and operational phases. The CFPs aim to avoid and/or reduce project risks that may result due to chance finds, whilst considering international best practice.

### Purpose of ACFP

The aim of this Archaeological Chance Find Procedure (ACFP) are to protect previously unexposed heritage resources that are yet unknown although might be encountered during the project operation or construction phase. This document serves to provide best practices to manage accidental exposed heritage resource during the development. The procedures are given to the client/applicant/contracts in order to prevent and minimize negative impact on heritage resources encountered by accident. Thus, the heritage specialist(s) compiled this chance find document with a purpose to give instructions based on relevant and appropriate actions in line with the NHRA and best guidelines to protect the chance finds on the proposed site. In significant, the ACFP stand in place to promote the preservation of heritage resources and present mitigation measure to avoid disturbance on heritage resources.

### ACFP for Heritage Resources

The following procedures must be followed when heritage resources are encountered during the operational or construction phase:

- All construction/clearance activities in the vicinity of the heritage resources found by accident on site must cease immediately to avoid further damage to the chance finds



## Electrification - Letaba-Julesburg 22kV

- Immediately report the chance finds to the supervisor/site manager or if they are unavailable, report to the project Environmental Officer (EO) who will provide further instructions.
- Record (note taking, photograph with a scale, GPS coordinates) of all the chance find exposed during the activity.
- All remains are to be stabilised in situ.
- Secure (e.g., barricade) the area to prevent further disturbance on heritage resources.
- The EO must contact the qualified archaeologist registered with the association for Association for Southern African Professional Archaeologist (ASAPA) or South African Heritage Resources Agency (SAHRA).
- The project archaeologist will conduct the inspection and assess the significance of the chance finds under SAHRA guidelines, give recommendation and mitigation measures.

