



Integrated Specialist Services (Pty) Ltd

**PHASE 1 ARCHAEOLOGICAL AND HERITAGE
IMPACT ASSESSMENT FOR PROPOSED 132 KV
PARADISE SUBSTATION TO FONDWE
SUBSTATION POWERLINE LINE DEVIATION IN
THULAMELA LOCAL MUNICIPALITY, VHEMBE
DISTRICT MUNICIPALITY IN THE LIMPOPO
PROVINCE.**

Trust Mlilo

DOCUMENT SYNOPSIS (EXECUTIVE SUMMARY)

| Item | Description |
|--|---|
| Proposed development and location | Proposed Paradise Fondwe Substation 132kv powerline deviation in, Vhembe District Municipality in the Limpopo Province |
| Purpose of the study | The Phase 1 Archaeological Impact Assessment is for the Proposed Paradise Substation to Fondwe Substation 132kv powerline deviation in the Limpopo Province |
| 1:50 000 Topographic Map | 2828BC |
| Municipalities | Vhembe District Municipality |
| Predominant land use of surrounding area | Rural residential |
| Applicant | Eskom Holdings SOC Ltd |
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| Authors | Trust Mlilo |
| Date of Report | 10 November 2022 |

Environmental Authorisation for the construction of 132kv Paradise Substation to Fondwe Substation powerline was issued on 05 October 2015 (DEA Ref 14/12/16/3/3/1/1337) within the Thulamela and Makhado Local Municipalities, Limpopo Province. However, it was decided that Tower 72 to Tower 82 (see Figure 1) must be realigned to avoid direct impact on some households. This report serves to inform and guide the applicant and contractors about the possible impacts that the proposed powerline deviation may have on heritage resources (if any) located in the study area. In the same light, the document must also inform South African heritage authorities (SAHRA) about the presence, absence and significance of heritage resources located along the proposed powerline deviation route. This report is submitted in terms of Section 38 (8) of the National Heritage Resources Act 25 of 1999 as part of the Environmental authorisation for Eskom Holdings SOC Ltd powerline project in the Limpopo Province. The purpose of this study is to identify, record and if necessary, salvage the irreplaceable heritage resources that may be impacted upon by the proposed powerline project. In compliance with these laws, Setala Environmental (Pvt) Ltd requested Integrated Specialist Services (Pty) Ltd on behalf of Eskom Holdings to conduct a Phase 1 Archaeological and Heritage Impact Assessment (AIA/HIA) for proposed powerline project. Desktop studies, drive-throughs and fieldwalking were conducted in order to identify heritage landmarks within the proposed powerline deviation route. The study site is not on pristine ground, having seen significant transformations owing previous and current agricultural activities (see Plate 1 to 10). The general project area is known for occurrence of archaeological and historical sites. In terms of the built environment the structures along the proposed powerline were confirmed to be younger than 60 years old. The study identified one burial site located approximately 200m from the centre of the proposed powerline route. Although the burial site falls within the 500m wide study area, it can safely be avoided without realigning the powerline route. It should be noted that archaeological material and unmarked graves may still exist and when encountered during construction, work must be stopped forth-with, and the finds must be reported to the South African Heritage Resource Agency (SAHRA) or the heritage practitioner. This report must be submitted to the SAHRA for review in terms of Section 38 (4) of the NHRA.

The report makes the following observations:

- The findings of this report have been informed by desktop data review, field survey and impact assessment reporting which include recommendations to guide heritage authorities in making decisions with regards to the proposed powerline project.
- Most sections of the proposed powerline route are accessible.

- The immediate project area is predominantly communal agriculture fields and rural residential
- Some sections on the proposed site are severely degraded from previous and current agriculture activities.
- The study did not record any archaeological site within the proposed powerline route (between proposed Tower 72 to Tower 82).

The report sets out the potential impacts of the proposed powerline development on heritage matters and recommends appropriate safeguard and mitigation measures that are designed to reduce the impacts where appropriate. The Report makes the following recommendations:

1. It is recommended that SAHRA endorse the report as having satisfied the requirements of Section 38 (8) of the NHRA requirements
2. It is recommended that SAHRA make a decision in terms of Section 38 (4) of the NHRA to approve the proposed powerline deviation route on condition that the planners for the project provide a 30m buffer zone from the recorded burial site.
3. From a heritage perspective supported by the findings of this study, the project is supported. However, construction activities should be approved under observation that the dimensions do not extend beyond the area considered in this report.
4. Should chance archaeological materials or human remains be exposed during activities on any section of the electricity supply project site, work should cease on the affected area and the discovery must be reported to the heritage authorities immediately so that an investigation and evaluation of the finds can be made. The overriding objective, where remedial action is warranted, is to minimize disruption of the project scheduling while recovering archaeological and any affected cultural heritage data as stipulated by the NHRA regulations.
5. Subject to the recommendations herein made and the implementation of the mitigation measures and adoption of this heritage report, there are no significant cultural heritage resources barriers to the proposed electricity supply project. SAHRA may approve the project as planned with special commendations to implement the recommendations here in made.

This report concludes that the impacts of the proposed electricity supply project on the cultural environmental values are not likely to be significant on the entire site if the EMP includes recommended safeguard and mitigation measures identified in this report.

NATIONAL LEGISLATION AND REGULATIONS GOVERNING THIS REPORT

This is a specialist report' and is compiled in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended, and the Environmental Impact Assessment Regulations, 2014.

DECLARATION OF INDEPENDENCE

In terms of Chapter 5 of the National Environmental Management Act of 1998 specialists involved in Impact Assessment processes must declare their independence.

I, **Trust Mlilo**, do hereby declare that I am financially and otherwise independent of the client and their consultants, and that all opinions expressed in this document are substantially my own, notwithstanding the fact that I have received fair remuneration from the client for preparation of this report.

Expertise:

Trust Mlilo, PhD *cand* (Wits), MA. (Archaeology), BA Hons, PDGE and BA & (Univ. of Pretoria) ASAPA (Professional affiliation member) and more than 15 years of experience in archaeological and heritage impact assessment and management. Mlilo is an accredited member of the Association for Southern African Professional Archaeologists (ASAPA), Amafa akwaZulu Natali and Eastern Cape Heritage Resources Agency (ECPHRA). He has conducted more than hundred AIA/HIA Studies, heritage mitigation work and heritage development projects over the past 15 years of service. The completed projects vary from Phase 1 and Phase 2 as well as heritage management work for government, parastatals (Eskom) and several private companies such as BHP Billiton and Rhino Minerals.

Independence

The views expressed in this document are the objective, independent views of Mr Trust Mlilo and the survey was carried out under Integrated Specialist Services (Pty) Ltd. The company has no business, personal, financial or other interest in the proposed development apart from fair remuneration for the work performed.

Conditions relating to this report

The content of this report is based on the author's best scientific and professional knowledge as well as available information. Integrated Specialist Services (Pty) Ltd reserves the right to modify the report in any

way deemed fit should new, relevant or previously unavailable or undisclosed information become known to the author from on-going research or further work in this field or pertaining to this investigation.

This report must not be altered or added to without the prior written consent of the author and Integrated Specialist Services (Pty) Ltd. This also refers to electronic copies of the report which are supplied for the purposes of inclusion as part of other reports, including main reports. Similarly, any recommendations, statements or conclusions drawn from or based on this report must make reference to this report. If these form part of a main report relating to this investigation or report, this report must be included in its entirety as an appendix or separate section to the main report.

Authorship: This AIA/HIA Report has been prepared by Mr Trust Mlilo (Professional Archaeologist). The report is for the review of the Heritage Resources Agency (PHRA).

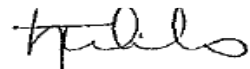
Geographic Co-ordinate Information: Geographic co-ordinates in this report were obtained using a hand-held Garmin Global Positioning System device. The manufacturer states that these devices are accurate to within +/- 5 m.

Maps: Maps included in this report use data extracted from the NTS Map and Google Earth Pro.

Disclaimer: The Authors are not responsible for omissions and inconsistencies that may result from information not available at the time this report was prepared.

The Archaeological and Heritage Impact Assessment Study was carried out within the context of tangible and intangible cultural heritage resources as defined by the SAHRA Regulations and Guidelines as to the approval of the proposed powerline development being proposed by Eskom.

Signed by



10/ 11/ 2022

ACKNOWLEDGEMENTS

The authors acknowledge Setala Environmental (Pvt) Ltd staff for their assistance with the site visit and responding to technical queries related to the project.

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ABBREVIATIONS

| | |
|---------------|--|
| AIA | Archaeological Impact Assessment |
| ASAPA | Association of South African Professional Archaeologists |
| EIA | Environmental Impact Assessment |
| EIA | Early Iron Age (<i>EIA refers to both Environmental Impact Assessment and the Early Iron Age but in both cases the acronym is internationally accepted.</i>) |
| EIAR | Environmental Impact Assessment Report |
| ESA | Early Stone Age |
| GPS | Global Positioning System |
| HIA | Heritage Impact Assessment |
| ICOMOS | International Council of Monuments and Sites |
| LIA | Late Iron Age |
| LFC | Late Farming Community |
| LSA | Late Stone Age |
| MIA | Middle Iron Age |
| MSA | Middle Stone Age |
| NEMA | National Environmental Management Act 107 of 1998 |
| NHRA | National Heritage Resources Act 25 of 1999 |
| PHRA | Provincial Heritage Resource Agency of Free State |
| SAHRA | South African Heritage Resources Agency |
| ToR | Terms of Reference |

KEY CONCEPTS AND TERMS

Periodization

Periodization Archaeologists divide the different cultural epochs according to the dominant material finds for the different time periods. This periodization is usually region-specific, such that the same label can have different

dates for different areas. This makes it important to clarify and declare the periodization of the area one is studying. These periods are nothing a little more than convenient time brackets because their terminal and commencement are not absolute and there are several instances of overlap. In the present study, relevant archaeological periods are given below.

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

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

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

Early Iron Age (~ AD 200 to 1000)

Late Iron Age (~ AD1100-1840)

Historic (~ AD 1840 to 1950, but a Historic building is classified as over 60 years old)

Definitions

Definitions Just like periodization, it is also critical to define key terms employed in this study. Most of these terms derive from South African heritage legislation and its ancillary laws, as well as international regulations and norms of best practice. The following aspects have a direct bearing on the investigation and the resulting report:

Cultural (heritage) resources are all non-physical and physical human-made occurrences, and natural features that are associated with human activity. These can be singular or in groups and include significant sites, structures, features, ecofacts and artefacts of importance associated with the history, architecture, or archaeology of human development.

Cultural significance is determined by means of aesthetic, historic, scientific, social, or spiritual values for past, present, or future generations.

Value is related to concepts such as worth, merit, attraction or appeal, concepts that are associated with the (current) usefulness and condition of a place or an object. Although significance and value are not mutually exclusive, in some cases the place may have a high level of significance but a lower level of value. Often, the evaluation of any feature is based on a combination or balance between the two.

Isolated finds are occurrences of artefacts or other remains that are not in-situ or are located apart from archaeological sites. Although these are noted and recorded, but do not usually constitute the core of an impact assessment, unless if they have intrinsic cultural significance and value.

In-situ refers to material culture and surrounding deposits in their original location and context, for example an archaeological site that has not been disturbed by farming.

Archaeological site/materials are remains or traces of human activity that 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. According to the National Heritage Resources Act (NHRA) (Act No. 25 of 1999), no archaeological artefact, assemblage or settlement (site) and no historical building or structure older than 60 years may be altered, moved or destroyed without the necessary authorisation from the South African Heritage Resources Agency (SAHRA) or a provincial heritage resources authority.

Historic material are 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.

Chance finds means archaeological artefacts, features, structures or historical remains accidentally found during development.

A grave is a place of interment (variably referred to as burial) and includes the contents, headstone or other marker of such a place, and any other structure on or associated with such place. A grave may occur in isolation or in association with others where upon it is referred to as being situated in a cemetery (contemporary) or burial ground (historic).

A site is a distinct spatial cluster of artefacts, structures, organic and environmental remains, as residues of past human activity.

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 which requires authorisation of permission by law, and which may significantly affect the cultural and natural heritage resources. Accordingly, an HIA must include recommendations for appropriate mitigation measures for minimising or circumventing negative impacts, measures enhancing the positive aspects of the proposal and heritage management and monitoring measures.

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

Mitigation is the implementation of practical measures to reduce and circumvent adverse impacts or enhance beneficial impacts of an action.

Mining heritage sites refer to old, abandoned mining activities, underground or on the surface, which may date from the prehistorical, historical or the relatively recent past.

Study area or '**project area**' refers to the area where the developer wants to focus its development activities (refer to plan).

Phase I studies refer to surveys using various sources of data and limited field walking in order to establish the presence of all possible types of heritage resources in any given area.

Assumptions and disclaimer

The investigation has been influenced by the unpredictability of buried archaeological remains (absence of evidence does not mean evidence of absence) and the difficulty in establishing intangible heritage values. It should be remembered that archaeological deposits (including graves and traces of mining heritage) usually occur below the ground level. Should artefacts or skeletal material be exposed along the proposed powerline route during construction activities, such activities should be halted immediately, and a competent heritage practitioner and SAHRA must be notified in order for an investigation and evaluation of the find(s) to take place (see NHRA (Act No. 25 of 1999), Section 36 (6)). Recommendations contained in this document do not exempt the applicant from complying with any national, provincial, and municipal legislation or other regulatory requirements, including any protection or management or general provision in terms of the NHRA. Integrated Specialist Services (Pty) Ltd assumes no responsibility for compliance with conditions that may be required by SAHRA in terms of this report.

1 INTRODUCTION

Integrated Specialist Services (Pty) Ltd was requested by Setala Environmental (Pvt) Ltd on behalf of Eskom Holdings SOC Ltd to carry out a Phase 1 AIA/ HIA for the proposed 132KV Paradise Substation to Fondwe Substation powerline development in the Vhembe District, Municipality of Limpopo Province. Environmental Authorisation for the construction of 132kv Paradise Substation to Fondwe Substation powerline was issued on 05 October 2015 (DEA Ref 14/12/16/3/3/1/1337). However, it was decided that Tower 72 to Tower 82 (see Figure 1) must be realigned to avoid direct impact on some households. This study was conducted in terms of Section 38 (8) of the NHRA as part of environmental authorisation for the proposed 132kv powerline deviation (Tower 72 to 82). The purpose of this heritage study is to identify, assess any heritage resources that may be located along the proposed powerline deviation route in order to make recommendations for their appropriate management. To achieve this, we conducted background research of published literature, maps, and databases (desktop studies) which was then followed by ground-truthing by means of drive-through surveys and field walking. Desktop studies revealed that the general project area is rich in Late Iron Age (LIA) and historical sites. It should be noted that while heritage resources may have been located in the entire study area, previous and current agriculture activities have either obliterated these materials or reduced them to isolated finds that can only be identifiable as chance finds during construction. The proposed powerline development may be approved subject to adopting recommendations and mitigation measures proposed in this report. Based on the findings there is no archaeological and heritage reasons why the proposed powerline deviation cannot be approved, taking full cognizance of clear procedures to follow in the event of chance findings.

1.1 Terms of Reference (ToR)

The Integrated Specialist Services (Pty) Ltd was requested by Setala Environmental (Pvt) Ltd to conduct an AIA/HIA study addressing the following issues:

- Archaeological and heritage potential of the proposed powerline route including any known data on affected areas.
- Provide details on methods of study; potential and recommendations to guide the SAHRA to make an informed decision in respect of authorisation of the proposed powerline development.
- Identify all objects, sites, occurrences and structures of an archaeological or historical nature (cultural heritage sites) located along the proposed powerline route;
- Assess the significance of the cultural resources in terms of their archaeological, historical, scientific, social, religious, aesthetic and tourism value;
- Describe the possible impact of the electricity supply project site on these cultural remains, according to a standard set of conventions;
- Propose suitable mitigation measures to minimize possible negative impacts on the cultural resources; and

- Review applicable legislative requirements.

1.2 Project Location

The proposed powerline development is located approximately 35km north-east of Louis Trichardt, in the Thulamela Local Municipality, Vhembe District Municipality of Limpopo Province (see Figure 1).



Figure 1: Map showing proposed path for electricity pylons



Figure 2: Location of the proposed project site (Pty)Ltd 2022)



Figure 3: Location of the proposed powerline route and tracklogs (Pty)Ltd 2022)

1.3 Project description

Eskom Holdings SOC Ltd is constructing the Paradise Substation to Fondwe Substation 132kv powerline. However, the current study covers the proposed powerline deviation from the proposed Tower 72 to Tower 82 which were prompted by the need to avoid homesteads located on the previously approved powerline route. The goal of the project is to provide electricity for households. No permanent infrastructure will be established on site. Only mobile or temporary infrastructures such as offices, ablution facilities and etc. shall be established.

2 LEGISLATIVE CONTEXT

Three main pieces of legislations are relevant to the present study. The proposed project is conducted in terms of the National Environmental Management Act, 1998 (NEMA). Therefore, this is in fulfilment of the assessment of the impact to heritage resources as required by section 24(4)(b)(iii) of NEMA and section 38(8) of the National Heritage Resources Act, Act 25 of 1999 (NHRA). An AIA or HIA is required as a specialist sub-section of the Basic Assessment (BA) process. This study was conducted in terms of Section 38(8) as part of environmental authorisation. The provisions of this section do not apply to a development as described in subsection (1) if an evaluation of the impact of such development on heritage resources is required in terms of the Environment Conservation Act, 1989 (Act No. 73 of 1989), or the integrated environmental management guidelines issued by the Department of Environment Affairs and Tourism, or any other legislation: Provided that the consenting authority must ensure that the evaluation fulfils the requirements of the relevant heritage resources authority in terms of subsection (3), and any comments and recommendations of the relevant heritage resources authority with regard to such development have been taken into account prior to the granting of the consent.

Thus, any person undertaking any development in the above categories, 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 38 (2) (a) of the same act also requires the submission of a heritage impact assessment report for authorization purposes to the responsible heritage resources agencies (SAHRA/PHRAs). Because the proposed development will change the character of a site exceeding 5000 m², then an HIA is required according to this section of the Act.

Related to Section 38 of the NHRA are Sections 34, 35, 36 and 37. Section 34 stipulates that no person may alter damage, destroy and relocate any building or structure older than 60 years, without a permit issued by SAHRA or a provincial heritage resources authority. This section may not apply to present study since none were identified. Section 35 (4) of the NHRA stipulates that no person may, without a permit issued by SAHRA, destroy, damage, excavate, alter, or remove from its original position, or collect, any archaeological material or object. This section may apply to any significant archaeological sites that may be discovered before or during construction. This means that any chance find must be reported to the heritage practitioner or SAHRA/PHRA, who will assist in investigating the extent and significance of the finds and inform the applicant about further actions. Such actions

may entail the removal of material after documenting the find site or mapping of larger sections before destruction. Section 36 (3) of the NHRA also stipulates that no person may, without a permit issued by the South African Heritage Resources Agency (SAHRA), destroy, damage, alter, exhume or 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 section may apply in case of the discovery of chance burials, which is unlikely. The procedure for reporting chance finds also applies to the unlikely discovery of burials or graves by the applicant or his contractors. Section 37 of the NHRA deals with public monuments and memorials but this may not apply to this study because no protected monument will be physically affected by the proposed powerline development project.

In addition, the EIA Regulations of 2014 (as amended in 2017) promulgated in terms of NEMA (Act 107 of 1998) stated that environmental assessment reports will include cultural (heritage) issues. The new regulations in terms of Chapter 5 of the NEMA provide for an assessment of development impacts on the cultural (heritage) and social environment and for Specialist Studies in this regard. The end purpose of such a report is to alert the applicant, SAHRA/ PHRA and interested and affected parties about existing heritage resources that may be affected by the proposed Paradise Substation to Fondwe Substation 132kv powerline development project, and to recommend mitigatory measures aimed at reducing the risks of any adverse impacts on these heritage resources.

Table 1: Evaluation of the proposed development as guided by the criteria in NHRA and NEMA

| ACT | Stipulation for developments | Requirement details |
|-------------------------------------|---|--|
| NHRA Section 38(8) | The provisions of this section do not apply to a development as described in subsection (1) if an evaluation of the impact of such development on heritage resources is required in terms of the Environment Conservation Act, 1989 (Act No. 73 of 1989), or the integrated environmental management guidelines issued by the Department of Environment Affairs and Tourism, or the Minerals Act, 1991 (Act No. 50 of 1991), or any other legislation: Provided that the consenting authority must ensure that the evaluation fulfils the requirements of the relevant heritage resources authority in terms of subsection (3), and any comments and recommendations of the relevant heritage resources authority regarding such developments have been taken into account prior to the granting of the consent | yes |
| NHRA Section 34 | Impacts on buildings and structures older than 60 years | Non recorded |
| NHRA Section 35 | Impacts on archaeological and palaeontological heritage resources | Subject to identification during Phase 1 |
| NHRA Section 36 | Impacts on graves | Subject to identification during Phase 1 |
| NHRA Section 37 | Impacts on public monuments | Subject to identification during Phase 1 |
| Chapter 5 (21/04/2006) NEMA | HIA is required as part of an EIA | Yes |
| Section 39(3)(b) (iii) of the MPRDA | AIA/HIA is required as part of an EIA | No, it is not a mining project |

3 METHODOLOGY

This document aims at providing an informed heritage-related opinion about the proposed powerline development in the Vhembe District, Limpopo Province. This is usually achieved through a combination of a review of any existing literature and a site inspection. As part of the desktop study, published literature and cartographic data, as well as archival data on heritage legislation, the history and archaeology of the area were studied. The desktop study was followed by field surveys. The field assessment was conducted according to generally accepted AIA/HIA practices and aimed at locating all possible objects, sites, and features of cultural significance on the development footprint. Initially a drive-through was undertaken around the project area as a way of acquiring the archaeological impression of the general area. This was then followed by a walk down survey along the proposed powerline route, with a handheld Global Positioning System (GPS) for recording the location/position of each possible site. Detailed photographic recording was also undertaken where relevant. The findings were then analysed in view of the proposed electricity supply project in order to make recommendations to the competent authority. The result of this investigation is a report indicating the presence/absence of heritage resources and how to manage them in the context of the proposed powerline development.

3.1 The Fieldwork survey

The fieldwork survey was undertaken on the 25th of October 2022. The focus of the survey involved a pedestrian survey which was conducted within the electricity supply site. The pedestrian survey focused on parts of the project area where it seemed as if disturbances may have occurred in the past, for example bald spots in the grass veld; stands of grass which are taller than the surrounding grass veld; the presence of exotic trees; evidence for building rubble, existing buildings and ecological indicators such as invader weeds.

The literature survey suggests that prior to the 20th century modern residential developments; the general area would have been a rewarding region to locate heritage resources related to Iron Age and historical sites (Bergh 1999: 4). However, the situation today is completely different. The study area now lies on a clearly modified landscape that is dominated by residential developments, agriculture and associated infrastructure developments (see Figure 1).

3.2 Visibility and Constraints

Most sections of the proposed powerline route are accessible although visibility was partially impeded by vegetation cover. It is conceded that due to the subterranean nature of cultural remains this report should not be construed as a record of all archaeological and historic sites in the area.

3.3 Consultations

The Basic Assessment (BA) Public Participation process is conducted by the EAP. The study team consulted residents about the heritage character of the study area. The BA Public Participation Process will also invite and address comments from affected communities and any registered heritage bodies on any matter related to the proposed project including heritage concerns that may arise relating to construction activities. The heritage issues and concerns raised by the public will also be included in the Final Basic Assessment Report.

The following photographs illuminate the nature and character of the Project Area.



Plate 1: showing proposed powerline route cutting through agriculture fields



Plate 2: showing proposed powerline route cutting through agriculture fields



Plate 3: showing proposed powerline route.



Plate 4: showing proposed powerline route.



Plate 5: showing proposed powerline route.



Plate 6: showing proposed powerline route



Plate 7: showing agriculture fields along the proposed powerline route



Plate 8: showing proposed powerline route



Plate 9: showing proposed powerline route



Plate 10: showing proposed powerline route



Plate 11: showing terminal position of the proposed powerline deviation route



Plate 12: showing transformer near proposed pole number 83

4 ARCHAEOLOGICAL CONTEXT

4.1 Stone Age Archaeology

The project area is in the Vhembe District Municipality of Limpopo Province of South Africa that boasts a rich traditional history of contemporary Venda people (Huffman 2007, Coetzee 2010). Archaeological and heritage studies in the Limpopo region indicate that the area is of high pre-historic and heritage significance. It is in fact a cultural landscape where Stone Age, Iron Age and Historical period sites contribute the bulk of the cultural heritage of the region (also Calebrese 1996; Huffman, 2007; Murimbika, 2006; Schoeman, 2006; Meyer, 2000; van Doornum, 2008).

Stone Age sites are general identifiable by stone artefacts found scattered on the ground surface, as deposits in caves and rock shelters as well as in eroded gully or river sections. Archaeological sites recorded in the project region confirms the existence of Stone Age sites that conform to the generic SA periodization split into the Early Stone Age (ESA) (2.5 million years ago to 250 000 years ago), the Middle Stone Age (MSA) (250 000 years ago to 22 000 years ago) and the Late Stone Age (LSA) (22 000 years ago to 300 years ago). Stone Age sites in the region are also associated with rock painting sites. From an archaeological perspective, the area, like most of Limpopo region has potential to yield Stone Age period sites (also see Deacon and Deacon, 1997). However, the specific affected project-receiving environment has low potential for Stone Age sites.

The Iron Age of the Limpopo region dates back to the 5th Century AD when the Early Iron Age (EIA) proto-Bantu-speaking farming communities began arriving in this region, which was then occupied by hunter-gatherers. These EIA communities are archaeologically referred to as the Kwale branch of the Urewe EIA Tradition (Huffman, 2007: 127-9). The Iron Age communities occupied the foot-hills and valley lands introducing settled life, domesticated livestock, crop production and the use of iron (also see Maggs 1984a; 1984b; Huffman 2007). Alongside the Urewe Tradition was the Kalundu Tradition whose EIA archaeological sites have been recorded along the Limpopo region. Limpopo region is 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 Limpopo region is also known for the Zimbabwe tradition sites such as Thulamela and Dzata to the northeast, in the modern-day Venda region. From about 15 00 AD the region was occupied by new coming groups of Late Iron Age farmers of the Kalundu Tradition (ibid). The region was the centre of immigration and migration of different African groups some of which are ancestors of the contemporary Venda predominant in the region.

The period c. A.D 950 – 1350 AD was dominated by ceramics that were derived from the preceding EIA and which have been called the Eiland (Evers 1981) or Herringbone pottery (Denbow 1983). At Eiland itself there is an apparent gap between this final phase of the Early Iron Age and Letaba. Available radiocarbon dates to Letaba ceramics range from the early 17th – 19th centuries (Evers 1981). There were two unrelated ceramic styles in the 12th (Eiland) and 19th century (Letaba). Earlier groups comprised two ceramic styles that are Moloko and Kgopolwe. Moloko and Kgopolwe are contemporary with general similarities to Eiland which is the third development of the Western Stream Early Iron Age immigrants. Iron Age people started to settle in southern Africa c. AD 300, with one of the oldest known sites at just to the west of the tunnels at Wylies Poort, dating to c. AD 400. By AD 800 people were occupying a number of villages in the Limpopo River valley and, with the East Coast trade, populations rapidly expanded. This resulted in the development of kingdoms that ruled over large tracts of land. However, drought and changes in the trade patterns, forced these people by AD 1250 to abandon these areas, some moving north, other south (Huffman 2005, Huffman & Hanisch 1987; Calabrese 2005). During this period trade flourished in the area, with gold and ivory being exchanged for glass beads, porcelain and cloth.

The occupation of the larger geographical area did not start much before the 1500s. By the 16th century things changed, with the climate becoming warmer and wetter, creating condition that allowed Late Iron Age (LIA) farmers to occupy areas previously unsuitable. Population movements, competition for resources, etc. created tensions amongst different groups and people were forced to congregate into large towns for defensive purposes. These stone-walled villages were almost always located near cultivatable soil and a source of water (Loubser 1991). Throughout the middle of the 1800s the region witnessed the Mfecane migrations and displacements linked to groups such as the Ndebele of Mzilikazi. In 1826 Mzilikazi devastated Sotho and Venda chiefdoms along his way.

From the 1840s the Voortrekkers began arriving in the flat lands foothills in the regions spreading northeast into modern day Limpopo. They spread establishing settlements, which came to be settler towns such as Schoemansdale, Petersburg, and the Louis Trichardt across modern day Limpopo. The Voortrekkers arrived in Limpopo regions in the shadow of the weakened African kingdoms and chiefdoms in the aftermath of the Mfecane. This effectively ushered in new era of colonial occupation by succeeding Afrikaans and British colonial administration authorities through the last half of the 1800s and into the last 1900s. By 1850s the region witnessed the influx of more settler communities which triggered settler wars between the African chiefdoms and the incoming Afrikaner settlers. Some of these colonial wars and battles lasted into Anglo-Boer wars of 1899-1902. The later effectively led to complete subjugation of African communities to settler administration starting as part of the ZAR of Transvaal. There after the region was subsequently annexed by the British and effectively placed the majority of African communities under the Union of South Africa in 1910, which eventually ended with the establishment of the new South Africa in 1994.

Whites moved into the Makhado area first as hunters, traders and missionaries, with settlers following closely on their heels. The Makhado area has a long history of ivory hunting during the eighteenth century, while prehistoric and historic mines occur across the Makhado area, e.g. on the farms Jooste and Dorothy (Murimbika 2006). From 1898 the Makhado area with the rest of the Soutpansberg was placed under direct control of the ZAR following the defeat of the Venda kingdom. From 1917 most of the farms in the area have been in the hands of commercial family farmers. Today the area is predominantly occupied by Sotho-Tswana and Venda speaking communities (Loubser 1991).

Makhado, known until recently as Louis Trichardt, is the second most northerly town in South Africa and the second last town before the border with Zimbabwe. Beit Bridge Border Post, South Africa's busiest border post, lies on the Limpopo River some 97 km north of Makhado.

4.2 Intangible Heritage

As defined in terms of the UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage (2003) intangible heritage includes oral traditions, knowledge and practices concerning nature, traditional craftsmanship and rituals and festive events, as well as the instruments, objects, artefacts and cultural spaces associated with group(s) of people. Thus, intangible heritage is better defined and understood by the particular group of people that uphold it. In the present study area, very little intangible heritage remains because no historically known groups occupied the study area and most of the original settler descendants moved away from the area.

4.3 SAHRIS Data Base and Impact Assessment Reports in the project area

Several archaeological and heritage studies were conducted within the project area and its vicinity since 2001 and these presents the nature and heritage character of the area. The HIA conducted in the area also provide some

predictive evidence regarding the types and ranges of heritage resources to be expected in the proposed project area: (see reference list for HIA reports). The studies include mining, road, water pipeline and powerline projects completed by Pistorius 2008, 2016, Pelser and Van Vollenhoven 2010, 2011, 2014, 2015 for mining and infrastructure development survey also recorded no sites. Van Schalkwyk conducted HIAs for infrastructure developments for example Van Schalkwyk, (2010, 2015). Gaigher, S. also conducted work in the project area for mining developments (Gaigher 2012). Other HIA studies by Pelser (2010), Pikirayi *et al* (2012), Murimbika (2006, 2007, 2008), Chirikure. & Bandama. (2014), Roodt, F. (2008, 2009), Matodzi., Matenga. & Pikirayi,. (2013). Pistorius (2016) cited prehistoric copper working activities site approximately 29km from Musina. Pelser, 2011 mentioned LIA site around Musina for example an Iron Age site on the farm Messina 4MT (Njebeli Hill).

5 RESULTS OF THE FIELD STUDY

5.1 Archaeology

The site was scanned for archaeological remains and no remains were identified during the survey. Based on the field study results and field observations, the receiving environment for electricity supply project site is low to medium potential to yield previously unidentified archaeological remains during construction. Literature review also revealed that no Stone Age sites are not shown on a map contained in a historical atlas of this area. This, however, should rather be seen as a lack of research in the area and not as an indication that such features do not occur.

5.2 Burial grounds and Graves

Human remains and burials are commonly found close to archaeological sites and abandoned settlements; they may be found in abandoned and neglected burial sites or occur sporadically anywhere because of prehistoric activity, victims of conflict or crime. It is often difficult to detect the presence of archaeological human burials on the landscape as these burials, in most cases, are not marked at the surface and concealed by dense vegetation cover. Human remains are usually identified when they are exposed through erosion, earth moving activities and construction. In some instances, packed stones or bricks may indicate the presence of informal burials. If any human bones are found during the course of construction, then they should be reported to an archaeologist and work in the immediate vicinity should cease until the appropriate actions have been carried out by the archaeologist. Where human remains are part of a burial, they would need to be exhumed under a permit from either SAHRA (for pre-colonial burials as well as burials later than about AD 1500) or Department of Health for graves younger than 60 years.

The field survey identified one burial site approximately 200m from the centre of the proposed powerline route at GPS Coordinates 22° 55' 46''S 30° 14' 10''E (see Figure 2 & Plate 13&14). The burial site is located under a huge tree between proposed Tower 78 &79) and there are two graves marked tombstones and inscribed headstones. The burial site is known to the local community and it can be safely avoided without changing the layout plan of the proposed powerline route. It should be noted that burial grounds and gravesites are accorded the highest social significance threshold (see Appendix 3). They have both historical and social significance and are considered sacred. Wherever they exist or not, they may not be tempered with or interfered with without a permit from SAHRA. The possibility of encountering human remains during subsurface earth moving activities anywhere on the landscape is ever present. Although the possibility of encountering previously unidentified burial sites is low within project site, should such sites be identified during construction, they are still protected by applicable legislations, and they should be protected. The proposed powerline development may be approved

without any further investigation and mitigation in terms of Section 36 of the NHRA read together with the Human Tissue Act of 1983 and SAHRA Regulations of 2020.



Plate 13: showing 2 graves located near the proposed powerline route



Plate 14: showing two graves at the informal burial site

5.3 Public Monuments and Memorials

The study did not record any public memorials and monuments along the proposed powerline route that require protection during construction. As such the proposed powerline development may be approved without any further investigation and mitigation in terms of Section 27 & 9 of the NHRA.

5.4 Buildings and Structures

The study did not record any buildings or structures within the proposed powerline route. As such, the proposed powerline development may be approved without any further investigation and mitigation in terms of Section 34 of the NHRA.

5.5 Impact Statement

The main cause of impacts to archaeological sites is direct, physical disturbance of the archaeological remains themselves and their contexts. It is important to note that the heritage and scientific potential of an archaeological site is highly dependent on its geological and spatial context. This means that even though, for example a deep excavation may expose buried archaeological sites and artefacts, the artefacts are relatively meaningless once removed from their original position. The primary impacts are likely to occur during clearance and digging of tower foundations, indirect impacts may occur during movement of heavy construction vehicles and machinery during installation of powerline towers and stringing. Any additional clearance of access roads will result in the relocation or destruction of all existing surface heritage material (if any are present).

Since heritage sites, including archaeological sites, are non-renewable, it is important that they are identified, and their significance assessed prior to construction. It is important to note that due to the localised nature of archaeological resources, that individual archaeological sites could be missed during the survey, although the probability of this is very low along the proposed powerline route. Further, archaeological sites and unmarked graves may be buried beneath the surface and may only be exposed during surface clearance. The purpose of the AIA is to assess the sensitivity of the area in terms of archaeology and to avoid or reduce the potential impacts of the proposed powerline development by means of mitigation measures (see appended Chance Find Procedure). It is the considered opinion of the author that the chances of recovering significant archaeological materials is very low along the proposed powerline route.

Table 2: Summary of Findings

| Heritage resource | Status/Findings |
|--|--|
| Buildings, structures, places and equipment of cultural significance | None recorded along the proposed powerline route |
| Areas to which oral traditions are attached or which are associated with intangible heritage | None exist |
| Historical settlements and townscapes | None survives in the proposed area |
| Landscapes and natural features of cultural significance | None |
| Archaeological and palaeontological sites | None recorded along the proposed powerline route |
| Graves and burial grounds | One burial site was recorded approximately 200m from the proposed powerline centre line |
| Movable objects | None |
| Overall comment | The surveyed area has no confirmable archaeological remains. The proposed powerline development is supported from a heritage perspective subject to ensuring that the identified burial site is protected during construction. |

5.6 Assessment of development impacts

An impact can be defined as any change in the physical-chemical, biological, cultural, and/or socio-economic environmental system that can be attributed to human activities related to the project site under study for meeting a project need. The significance of the impacts of the process will be rated by using a matrix derived from Plomp (2004) and adapted to some extent to fit this process. These matrixes use the consequence and the likelihood of the different aspects and associated impacts to determine the significance of the impacts.

The significance of the impacts will be assessed considering the following descriptors:

Table 3: Criteria Used for Rating of Impacts

| Nature of the impact (N) | | |
|--------------------------|---|--|
| Positive | + | Impact will be beneficial to the environment (a benefit). |
| Negative | - | Impact will not be beneficial to the environment (a cost). |
| Neutral | 0 | Where a negative impact is offset by a positive impact, or mitigation measures, to have no overall effect. |

| Magnitude(M) | | |
|-------------------------------|----|--|
| Minor | 2 | Negligible effects on biophysical or social functions / processes. Includes areas / environmental aspects which have already been altered significantly and have little to no conservation importance (negligible sensitivity*). |
| Low | 4 | Minimal effects on biophysical or social functions / processes. Includes areas / environmental aspects which have been largely modified, and / or have a low conservation importance (low sensitivity*). |
| Moderate | 6 | Notable effects on biophysical or social functions / processes. Includes areas / environmental aspects which have already been moderately modified and have a medium conservation importance (medium sensitivity*). |
| High | 8 | Considerable effects on biophysical or social functions / processes. Includes areas / environmental aspects which have been slightly modified and have a high conservation importance (high sensitivity*). |
| Very high | 10 | Severe effects on biophysical or social functions / processes. Includes areas / environmental aspects which have not previously been impacted upon and are pristine, thus of very high conservation importance (very high sensitivity*). |
| Extent (E) | | |
| Site only | 1 | Effect limited to the site and its immediate surroundings. |
| Local | 2 | Effect limited to within 3-5 km of the site. |
| Regional | 3 | Activity will have an impact on a regional scale. |
| National | 4 | Activity will have an impact on a national scale. |
| International | 5 | Activity will have an impact on an international scale. |
| Duration (D) | | |
| Immediate | 1 | Effect occurs periodically throughout the life of the activity. |
| Short term | 2 | Effect lasts for a period 0 to 5 years. |
| Medium term | 3 | Effect continues for a period between 5 and 15 years. |
| Long term | 4 | Effect will cease after the operational life of the activity either because of natural process or by human intervention. |
| Permanent | 5 | Where mitigation either by natural process or by human intervention will not occur in such a way or in such a time span that the impact can be considered transient. |
| Probability of occurrence (P) | | |
| Improbable | 1 | Less than 30% chance of occurrence. |
| Low | 2 | Between 30 and 50% chance of occurrence. |
| Medium | 3 | Between 50 and 70% chance of occurrence. |
| High | 4 | Greater than 70% chance of occurrence. |
| Definite | 5 | Will occur, or where applicable has occurred, regardless or in spite of any mitigation measures. |

Once the impact criteria have been ranked for each impact, the significance of the impacts will be calculated using the following formula:

$$\text{Significance Points (SP)} = (\text{Magnitude} + \text{Duration} + \text{Extent}) \times \text{Probability}$$

The significance of the ecological impact is therefore calculated by multiplying the severity rating with the probability rating. The maximum value that can be reached through this impact evaluation process is 100 SP (points). The significance for each impact is rated as High (SP≥60), Medium (SP = 31-60) and Low (SP<30) significance as shown in the below.

Table 4: Criteria for Rating of Classified Impacts

| Significance of predicted NEGATIVE impacts | | |
|---|--------|---|
| Low | 0-30 | Where the impact will have a relatively small effect on the environment and will require minimum or no mitigation and as such have a limited influence on the decision |
| Medium | 31-60 | Where the impact can have an influence on the environment and should be mitigated and as such could have an influence on the decision unless it is mitigated. |
| High | 61-100 | Where the impact will definitely have an influence on the environment and must be mitigated, where possible. This impact will influence the decision regardless of any possible mitigation. |
| Significance of predicted POSITIVE impacts | | |
| Low | 0-30 | Where the impact will have a relatively small positive effect on the environment. |
| Medium | 31-60 | Where the positive impact will counteract an existing negative impact and result in an overall neutral effect on the environment. |
| High | 61-100 | Where the positive impact will improve the environment relative to baseline conditions. |

Table 5: Operational Phase

| Impacts and Mitigation measures relating to the proposed project during Operational Phase | | | | | | | | | | | | | | |
|---|---|-------------------|--------|-----------|--------|----------|-------------|--------------------------|---|-----------|--------|----------|-------------|-------------------------|
| Activity/Aspect | Impact / | Aspect | Nature | Magnitude | Extent | Duration | Probability | Impact before mitigation | Mitigation measures | Magnitude | Extent | Duration | Probability | Impact after mitigation |
| Clearing and construction | Destruction of archaeological remains | Cultural heritage | - | 2 | 1 | 1 | 2 | 8 | <ul style="list-style-type: none"> Use chance find procedure to cater for accidental finds | 2 | 1 | 1 | 2 | 8 |
| | Disturbance of graves | Cultural heritage | - | 6 | 2 | 2 | 2 | 20 | <ul style="list-style-type: none"> Provide for at least 30m buffer zone from the recorded burial site Use appended Chance find procedure to cater for accidental finds. | 2 | 1 | 1 | 1 | 4 |
| | Disturbance of buildings and structures older than 60 years old | Operational | - | 2 | 1 | 1 | 1 | 4 | <ul style="list-style-type: none"> Construction management and workers must be educated about the value of historical buildings and structures. | 2 | 1 | 1 | 1 | 4 |
| Haulage | Destruction public monuments and plaques | Operational | - | 2 | 1 | 1 | 1 | 4 | <ul style="list-style-type: none"> Mitigation is not required because there are no public monuments within the project site | 2 | 1 | 1 | 1 | 4 |

5.7 Cumulative Impacts

Cumulative impacts as are defined as Impacts that result from incremental changes caused by other past, present or reasonably foreseeable actions together with the project. Therefore, the assessment of cumulative impacts for the proposed development is considered the total impact associated with the site when combined with other past, present, and reasonably foreseeable future development projects. An examination of the potential for other projects to contribute cumulatively to the impacts on heritage resources from this site was undertaken during the preparation of this report. The total impact arising from the powerline development (under the control of the applicant), other activities (that may be under the control of others, including other developers, local communities, government) and other background pressures and trends which may be unregulated.

The impacts of the proposed powerline project site were assessed by comparing the post-project situation to a pre-existing baseline. Where projects can be considered in isolation, this provides a good method of assessing a project's impact. However, in this case there are several infrastructure developments, including residential, road networks, commercial infrastructure where baselines have already been affected, the proposed development will add to the existing impacts in the project area. As such increased development in the project area will have a number of cumulative impacts on heritage resource whether known or covered in the ground. For example, during construction phase there will be increase in human activity and movement of heavy construction equipment and vehicles that could change, alter or destroy heritage resources within and outside the electricity supply project site given that archaeological remains occur on the surface. Cumulative impacts that could result from a combination of this project and other actual or proposed future developments in the broader study area include site clearance and the removal of topsoil which could result in damage to or the destruction of heritage resources that have not previously been recorded for example abandoned and unmarked graves.

Heritage resources such as burial grounds and graves, archaeological as well as historical sites are common occurrences within the greater study area. These sites are often not visible and as a result, can be easily affected or lost. Furthermore, many heritage resources in the greater study area are informal, unmarked and may not be visible, particularly during the wet season when grass cover is dense. As such, workers may not see these resources, which results in increased risk of resource damage and/or loss. Earth moving and extraction of gravel have the potential to interact with archaeology, architectural and cultural heritage.

No specific paleontological resources were found in the project area during the time of this study; however, this does not preclude the fact that paleontological resources may exist within the greater study area. As such, the proposed powerline development has the potential to impact on possible paleontological resources in the area. Sites of archaeological, paleontological, or architectural significance were not specifically identified, and cumulative effects are not applicable. The nature and severity of the possible cumulative effects may differ from site to site depending on the characteristics of the sites and variables.

Cumulative impacts that need attention are related to the impacts of clearances, digging tower foundations, access roads and impacts to buried heritage resources. Allowing the impact of the proposed powerline development to go beyond the surveyed area would result in a significant negative cumulative impact on sites outside the surveyed area. A significant cumulative impact that needs attention is related to stamping by especially construction vehicles at the site. Movement of heavy construction machinery must be monitored to ensure they do not drive beyond the approved sites. No significant cumulative impacts, over and above those already considered in the impact assessment, are foreseen at this stage of the assessment process.

5.8 Mitigation

Mitigation for the proposed powerline development is required for the protection of the recorded burial site approximately 200m from the proposed powerline route. The site must be clearly marked to avoid any accidental damage to graves. A copy of the chance finds procedure must be kept at the site office to ensure appropriate management of any accidental finds at the project site.

6 ASSESSING SIGNIFICANCE

The Guidelines to the SAHRA Guidelines and the Burra Charter define the following criterion for the assessment of cultural significance:

6.1 Aesthetic Value

Aesthetic value includes aspects of sensory perception for which criteria can and should be stated. Such criteria may include consideration of the form, scale, colour, texture, and material of the fabric; sense of place, the smells and sounds associated with the place and its use.

6.2 Historic Value

Historic value encompasses the history of aesthetics, science, and society, and therefore to a large extent underlies all the terms set out in this section. A place may have historic value because it has influenced, or has been influenced by, an historic figure, event, phase, or activity. It may also have historic value as the site of an important event. For any given place, the significance will be greater where evidence of the association or event survives in situ, or where the settings are substantially intact, than where it has been changed or evidence does not survive. However, some events or associations may be so important that the place retains significance regardless of subsequent treatment.

6.3 Scientific value

The scientific or research value of a place will depend upon the importance of the data involved, on its rarity, quality, or representativeness, and on the degree to which the place may contribute further substantial information. Scientific value is also enshrined in natural resources that have significant social value. For example, pockets of forests and bushvelds have high ethnobotany value.

6.4 Social Value

Social value embraces the qualities for which a place has become a focus of spiritual, religious, political, local, national, or other cultural sentiment to a majority or minority group. Social value also extends to natural resources such as bushes, trees and herbs that are collected and harvested from nature for herbal and medicinal purposes.

7 DISCUSSION

Several archaeological and heritage studies were conducted within the project area and its vicinity since 2001 and these presents the nature and heritage character of the area. The HIA conducted in the area also provide some predictive evidence regarding the types and ranges of heritage resources to be expected in the proposed project area: (see reference list for HIA reports). The studies include mining, road, water pipeline and powerline projects completed by Pistorius 2008, 2016, Pelser and Van Vollenhoven 2010, 2011, 2014, 2015 for mining and infrastructure development survey also recorded no sites. Van Schalkwyk conducted HIAs for infrastructure developments for example Van Schalkwyk, (2010, 2015). Gaigher also conducted work in the project area for mining developments (Gaigher 2012). Other HIA studies by Pelser (2010), Pikirayi et al (2012), Murimbika (2006, 2007, 2008), Chirikure, S. & Bandama, F. (2014), Roodt, F. (2008, 2009), Matodzi, S., Matenga, E. & Pikirayi, I. (2013). Pistorius, J.CC (2016) cited prehistoric copper working activities site approximately 29km from Musina. Pelser, 2011 mentioned LIA site around Musina for example an Iron Age site on the Farm Messina 4MT (Njebeli Hill). These studies recorded significant Archaeological sites in the broader project area, however, none are located along the proposed powerline route. The lack of confirmable archaeological sites recorded during the current survey is thought to be a result of two primary interrelated factors:

1. That proposed development is located within a degraded area and have reduced sensitivity for the presence of high significance physical cultural site remains, be they archaeological, historical, or burial sites, due to previous destructive land use activities.
2. Limited ground surface visibility on sections of the electricity supply project site was impeded by vegetation cover. It should be borne in mind that the absence of confirmable and significant archaeological cultural heritage site is not evidence in itself that such sites did not exist along the proposed powerline route.

Based on the significance assessment criterion employed for this report, the electricity supply project site was rated **low** from an archaeological perspective, However, it should be noted that significance of the sites of Interest is not limited to presence or absence of physical archaeological sites. Significant archaeological remains may be unearthed during construction. (See appended chance find procedure).

8 RECOMMENDATIONS

1. It is recommended that SAHRA endorse the report as having satisfied the requirements of Section 38 (8) of the NHRA requirements
2. It is recommended that SAHRA make a decision in terms of Section 38 (4) of the NHRA to approve the proposed powerline deviation as submitted by Eskom Holdings SOC Ltd.
3. The planners of the project must ensure that they provide at 30m buffer zone from the recorded burial site.
4. From a heritage perspective supported by the findings of this study, the proposed powerline development is supported. However, it should be approved under observation that the project dimensions do not extend beyond the area considered in this report.
5. Should chance archaeological materials or human remains be exposed during construction on any section of the electricity supply project site, work should cease on the affected area and the discovery must be reported to the heritage authorities immediately so that an investigation and evaluation of the finds can be made. The overriding objective, where remedial action is warranted, is to minimize disruption in project scheduling while recovering archaeological and any affected cultural heritage data as stipulated by the NHRA regulations.
6. Subject to the recommendations herein made and the implementation of the mitigation measures and adoption of the project EMP, there are no significant cultural heritage resources barriers to the proposed electricity supply project. The Heritage authority may approve the proposed electricity supply project as planned without investigation and mitigation.

9 CONCLUSIONS

Integrated Specialist Services (Pty) Ltd was tasked by Setala Environmental (Pvt) Ltd on behalf of Eskom Holdings SOC Ltd to carry out HIA for the proposed Paradise Substation to Fondwe Substation 132kv powerline deviation located on the Remainder of Farm Tondonwe 198 MT, in the Vhembe District Municipality of Limpopo Province. Desktop research revealed that the project area is rich in Late Iron Age and historical sites, however, the field study did not identify any sites along the proposed powerline route. In terms of the archaeology, there are no obvious 'Fatal Flaws' or 'No-Go' areas. However, the potential for chance finds, remains and the applicant and contractors are urged to be diligent and observant during topsoil clearance at the site. The procedure for reporting chance finds has clearly been laid out and if this report is adopted by SAHRA, then there are no archaeological reasons why the proposed powerline development cannot be approved.

10 REFERENCES

- Barham, L. and Mitchell, P. 2008. The first Africans: African archaeology from the earliest toolmakers to most recent foragers. Cambridge: Cambridge university press
- Bergh, J.S. (ed.) 1998. Geskiedenisatlas van Suid-Afrika. Die vier noordelike provinsies. Pretoria: J.L. van Schaik.
- Bothma, J. 2010. Final scoping report: Proposed Musina Western Ring Road. Unpublished report 12/12/20/1513. Pretoria: Chameleon Environmental.
- Calabrese, J.A. 2005. Ethnicity, class and polity: the emergence of social and political complexity in the Shashi-Limpopo valley of Southern Africa, AD 900 to 1300. Unpublished PhD thesis. Johannesburg: University of the Witwatersrand.
- Chirikure, S. & Bandama, F. 2014. Archaeological impact assessment of the proposed Krone-Endora Diamond Mine on portions of the farms Krone 104MS and Endora 66MS near Alldays Musina Limpopo Province.
- Cloete, P.G. 2000. The Anglo-Boer War: a Chronology. Pretoria: JP van der Walt
- Deacon, H. J. and Deacon, J. 1999. Human beginnings in South Africa: Uncovering the secrets of the Stone Age. Cape Town: David Philip
- Delius, P. 1984. The land belongs to us. Raven Press: Johannesburg.
- Eastwood, E.B. & Cnoops, C. 1999. Results of the Limpopo-Shashi Confluence area rock art study. 2 Vols. Louis Trichardt: Palaeo-Art Field Services
- Fourie, W., 2008. Archaeological Impact Assessments within South African Legislation. South African Archaeological Bulletin, 63(187), pp. 77-85.
- Hammerbeck, E.C.I. & Schoeman, J.J. 1976. Copper. In Coetzee, C.B. (ed.). Mineral resources of the Republic of South Africa. Handbook 7, Geological Survey. Pretoria: Government Printer. 125-146.
- Hanisch, E.O.M. 1980. An archaeological interpretation of certain Iron Age sites in the Limpopo/Shashi Valley. Unpublished MA dissertation. Pretoria: University of Pretoria.

Hartdegen, P. (ed.) 1988. Our building heritage. Halfway House: Ryll's Publishing Co.

Holm, S.E. 1966. Bibliography of South African Pre- and Protohistoric archaeology. Pretoria: J.L. van Schaik.

Huffman, T. & Hanisch, E.O.M. 1987. Settlement hierarchies in the Northern Transvaal: Zimbabwe ruins and Venda history. *African Studies* 46(1):79-116.

Huffman, T.N. 2005. Mapungubwe: ancient African Civilization on the Limpopo. Johannesburg: Wits University Press.

Huffman, T.N. 2007 Handbook to the Iron Age: The archaeology of pre-colonial farming societies in southern Africa. Scottville: University of KwaZulu Natal Press

Inskeep, R.R. 1978. The peopling of Southern Africa. David Philip: Cape Town.

Jeppe, F. 1899. Jeppe's map of the Transvaal or South African Republic. Pretoria: Surveyor General.

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

Kuman, K, Gibbon, R, Kempson, H, Langejans, G, Le Baron, J, Pollarolo, L & Suttin, M. 2005. Stone Age signatures in northernmost South Africa: early archaeology in the Mapungubwe National Park and vicinity. In d'Errico, F. & Backwell, L. (eds.) 2005. From tools to symbols: from Early Hominids to Modern Humans. Johannesburg: Witwatersrand University Press

Loubser, J.H.N. 1991. The Ethnoarchaeology of Venda-speakers in South Africa. *Navorsinge van die Nasionale Museum, Bloemfontein* 7(8):145-464.

Gaigher, S & Associates. 2009. Heritage Impact Assessment for a prospecting application – Alldays Limpopo Province. Unpublished report prepared for Venetia Mine.

Hanisch, E.O.M. 1989. Archaeological survey: Venetia. Report on findings and analysis of collected materials. Environmental Management Program Report for Venetia Mine (July 2000, Appendix 3)

Heritage Impact Assessment report and management plan relating to the establishment of the Vele Colliery near Mapungubwe World Heritage Site, Musina Limpopo Province: South Africa. Report prepared for

Limpopo Coal Company (Pty) Ltd for submission to the Department of Environmental Affairs. Report prepared by Siyathembana Trading (2012).

Mason, R. 1962. Prehistory of the Transvaal. Johannesburg: Witwatersrand University Press.

Mason, R.J. 1968. Transvaal and Natal Iron Age settlement revealed by aerial photography and excavation. African Studies. 27:167-180. Megawatt Journals

Matodzi, S., Matenga, E. & Pikirayi, I. 2013. Heritage Impact Assessment for the proposed Greater Soutpansberg General Project. Unpublished report by Mbofho Consulting and Projects.

Murimbika, M. 2006. Archaeological Impact Assessment Study for the proposed construction of Electricity Distribution Power lines Within, Limpopo Province. An unpublished report by Nzumbululo Heritage Solutions on file at SAHRA as: 2006SAHRA-0354.

Murimbika, M. 2006. Heritage Impact Assessment for the proposed Sand River Valley development at farms Jooste 511MS and Dorothy 254MS in the Musina Local Municipality Limpopo Province. Unpublished report by Nzumbululo Heritage Consultants.

Naude, M. 1998. Oral evidence of vernacular buildings and structures on farmsteads in the Waterberg (Northern Province) in the Research by the National Cultural Museum, vol. 7: 47 - 92 V & R Printing Works.

National Environmental Management Act 107 of 1998

National Heritage Resources Act NHRA of 1999 (Act 25 of 1999)

Parkington, J, Morris, D, & Rusch, N. 2008. Karoo Rock Engravings: Follow the San. Cape Town: Credo Communications.

Praagh, L.V. (ed.) 1906. The Transvaal and its mines. London: Praagh & Lloyd

Pretorius, F. 1999. Life on commando during the Anglo Boer War 1899-1902. Human & Rousseau: Cape Town.

Pelser, A. 2011. A desktop heritage assessment study for a prospecting rights application on various farms near Musina, Musina District, Limpopo Province. Unpublished report by Archaeos for the MSA group.

Pistorius, J.C.C. 2008. A Phase I Heritage Impact Assessment (HIA) study for Eskom's proposed new 132kV power line running between the Paradise - T and the Musina Substations in the Limpopo Province of South Africa. Unpublished report for Landscape Dynamics.

Raper, P.E. 2004. South African place names. Johannesburg: Jonathan Ball Publishers.

Republic of South Africa. 1980. Ordinance on Excavations (Ordinance no. 12 of 1980). The Government Printer: Pretoria.

Republic of South Africa. 1983. Human Tissue Act (Act 65 of 1983). The Government Printer: Pretoria.

Republic of South Africa. 1998. National Environmental Management Act (no 107 of 1998). Pretoria: The Government Printer.

Ross, R. 2002. A concise history of South Africa. Cambridge: Cambridge University Press.

Roodt, F. 2008. An Assessment of Possible Impacts on Heritage Resources on the Farm Hartbeestfontein 35 MS Resulting from the Drilling of Coal Exploration Boreholes: Vhembe District Municipality, Limpopo. An unpublished report by R & R Cultural Resource Consultants on file at SAHRA as: 2008-SAHRA-0228.

Roodt, F. 2008. An Assessment of Possible Impacts on Heritage Resources as a Result of Mining Prospecting on the Farms Hackthorne 30 MS, Athens 31 MS, Cerberus 38 MS, La Reve 39 MS, Hamilton 41 MS, Kilsyth 42 MS and Nekeel 45 MS in the Vhembe District - Limpopo. An unpublished report by R & R Cultural Resource Consultants on file at SAHRA as: 2008-SAHRA-0116.

Rubidge, B. 2001. Report on Palaeontology in Area Surrounding Schroda Dam. An unpublished report by the Bernard Price Institute on file at SAHRA as: 2001-SAHRA0042.

Roodt, F. 2009. Heritage Impact Assessment: Report proposed Vele Colliery Weipa Vhembe District Municipality Limpopo. Unpublished report for Jacana Environmental.

SAHRA, Burial sites, [Http://www.sahra.org.za/burial.htm](http://www.sahra.org.za/burial.htm), Accessed, 20 May 2016.

Thackeray, A.I. 1992. The Middle Stone Age south of the Limpopo River. *Journal of World Prehistory* 6(4):385-440.

Van Schalkwyk, J.A. 2001. Heritage Impact Assessment for the Proposed Main-And Wilderness Rest Camps as Well as the Main Entrance and Road at the Vhembe Dongola Trans-Frontier Park. An unpublished report by the National Cultural History Museum on file at SAHRA as: 2001-SAHRA-0108.

Van Schalkwyk, J.C.A. Heritage impact assessment for the development of the proposed Musina Western Ring Road, Musina, Limpopo Province. Unpublished report for Chameleon Environmental.

Van Ewyk, J.F. 1987. The Prehistory of an Iron Age site on Skutwater. Unpublished MA thesis. Pretoria: University of Pretoria

Van Warmelo, N.J. 1940. The Copper Miners of Musina and the early history of the Zoutpansberg. Ethnological Publications III. Pretoria: Government Printer

Van Warmelo, N.J., A Preliminary Survey of the Bantu Tribes of South Africa, Pretoria, 1935.

Van Warmelo, N.J., Grouping and Ethnic History, in Schapera, I., The Bantu-Speaking Tribes of South Africa: An Ethnographical Survey, London. 1937.

Voight, E.1981. Guide to the Archaeological sites in the Northern and Eastern Transvaal. Transvaal Museum.

Wadley, L & Turner, G. 1987. Hope Hill shelter: a Later Stone Age site in southern Transvaal. South African Journal of Science 83(3):98-105.

APPENDIX 1: CHANCE FIND PROCEDURE FOR PROPOSED 132KV PARADISE SUBSTATION TO FONDWE SUBSTATION 132KV POWERLINE DEVIATION IN THE VHEMBE DISTRICT MUNICIPALITY OF THE LIMPOPO PROVINCE

10 NOVEMBER 2022

ACRONYMS

| | |
|---------------|--|
| BGG | Burial Grounds and Graves |
| CFPs | Chance Find Procedures |
| ECO | Environmental Control Officer |
| HIA | Heritage Impact Assessment |
| ICOMOS | International Council on Monuments and Sites |
| NHRA | National Heritage Resources Act (Act No. 25 of 1999) |
| SAHRA | South African Heritage Resources Authority |
| SAPS | South African Police Service |
| UNESCO | United Nations Educational, Scientific and Cultural Organisation |

10.1 CHANCE FIND PROCEDURE

10.1.1 Introduction

An Archaeological Chance Find Procedure (CFP) is a tool for the protection of previously unidentified cultural heritage resources during construction. The main purpose of a CFP is to raise awareness of all construction workers and management on site regarding the potential for accidental discovery of cultural heritage resources and establish a procedure for the protection of these resources. Chance Finds are defined as potential cultural heritage (or paleontological) objects, features, or sites that are identified outside of or after Heritage Impact studies, normally as a result of construction monitoring. Chance Finds may be made by any member of the project team who may not necessarily be an archaeologist or even visitors. Appropriate application of a CFP on development projects has led to discovery of cultural heritage resources that were not identified during archaeological and heritage impact assessments. As such, it is considered to be a valuable instrument when properly implemented. For the CFP to be effective, the site manager must ensure that all personnel on the proposed development site understand the CFP and the importance of adhering to it if cultural heritage resources are encountered. In addition, training or induction on cultural heritage resources that might potentially be found on site should be provided. In short, the Chance find procedure details the necessary steps to be taken if any culturally significant artefacts are found during construction.

10.1.2 Definitions

In short, the term 'heritage resource' includes structures, archaeology, meteors, and public monuments as defined in the South African National Heritage Resources Act (Act No. 25 of 1999) (NHRA) Sections 34, 35, and 37. Procedures specific to burial grounds and graves (BGG) as defined under NHRA Section 36 will be discussed separately as this requires the implementation of separate criteria for CFPs.

10.1.3 Background

The proposed powerline project is located in the Vhembe District Municipality of Limpopo Province and is subject to heritage survey and assessment at planning stage in accordance with Section 38(8) of NHRA. These surveys are based on surface indications alone and it is therefore possible that sites or significant archaeological remains can be missed during surveys because they occur beneath the surface. These are often accidentally exposed in the course of construction or any associated construction work and hence the need for a Chance Find Procedure to deal with accidental finds. In this case an extensive Archaeological Impact Assessment was completed by Mlilo (2022) on the proposed powerline route. The AIA/HIA

conducted was very comprehensive covering the entire site. The current study (Milo 2022) did not record any significant archaeological or heritage resources along the proposed powerline route.

10.1.4 Purpose

The purpose of this Chance Find Procedure is to ensure the protection of previously unrecorded heritage resources along the proposed powerline route. This Chance Find Procedure intends to provide the applicant and contractors with appropriate response in accordance with the NHRA and international best practice. The aim of this CFP is to avoid or reduce project risks that may occur as a result of accidental finds whilst considering international best practice. In addition, this document seeks to address the probability of archaeological remains finds and features becoming accidentally exposed during construction and movement of construction equipment. The proposed powerline development has the potential to cause severe impacts on significant tangible and intangible cultural heritage resources buried beneath the surface or concealed by tall grass cover. Integrated Specialist Services (Pty) Ltd developed this Chance Find Procedure to define the process which govern the management of Chance Finds during construction. This ensures that appropriate treatment of chance finds while also minimizing disruption of the construction schedule. It also enables compliance with the NHRA and all relevant regulations. Archaeological Chance Find Procedures are to promote preservation of archaeological remains while minimizing disruption of construction scheduling. It is recommended that due to the low to moderate archaeological potential of the project area, all site personnel and contractors be informed of the Archaeological Chance Find procedure and have access to a copy while on site. This document has been prepared to define the avoidance, minimization and mitigation measures necessary to ensure that negative impacts to known and unknown archaeological remains as a result of project activities and are prevented or where this is not possible, reduced to as low as reasonably practical during construction.

Thus, this Chance Finds Procedure covers the actions to be taken from the discovering of a heritage site or item to its investigation and assessment by a professional archaeologist or other appropriately qualified person to its rescue or salvage.

10.2 GENERAL CHANCE FIND PROCEDURE

10.2.1 General

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

- All construction/clearance activities in the vicinity of the accidental find/feature/site must cease immediately to avoid further damage to the find site.
- Briefly note the type of archaeological materials you think you have encountered, and their location, including, if possible, the depth below surface of the find
- Report your discovery to your supervisor or if they are unavailable, report to the project ECO who will provide further instructions.
- If the supervisor is not available, notify the Environmental Control Officer immediately. The Environmental Control Officer will then report the find to the Site Manager who will promptly notify the project archaeologist and SAHRA.
- Delineate the discovered find/ feature/ site and provide 30m buffer zone from all sides of the find.
- Record the find GPS location, if able.
- All remains are to be stabilised *in situ*.
- Secure the area to prevent any damage or loss of removable objects.
- Photograph the exposed materials, preferably with a scale (a yellow plastic field binder will suffice).
- The project archaeologist will undertake the inspection process in accordance with all project health and safety protocols under direction of the Health and Safety Officer.
- **Finds rescue strategy:** All investigation of archaeological soils will be undertaken by hand, all finds, remains and samples will be kept and submitted to a museum as required by the heritage legislation. In the event that any artefacts need to be conserved, the relevant permit will be sought from the SAHRA.
- An on-site office and finds storage area will be provided, allowing storage of any artefacts or other archaeological material recovered during the monitoring process.
- In the case of human remains, in addition, to the above, the SAHRA Burial Ground Unit will be contacted and the guidelines for the treatment of human remains will be adhered to. If skeletal remains are identified, an archaeologist will be available to examine the remains.
- The project archaeologist will complete a report on the findings as part of the permit application process.
- Once authorisation has been given by SAHRA, the Applicant will be informed when construction activities can resume.

10.2.2 Management of chance finds

Should the Heritage specialist conclude that the find is a heritage resource protected in terms of the NRHA (1999) Sections 34, 36, 37 and NHRA (1999) Regulations (Regulation 38, 39, 40), Integrated Specialist Services (Pty) Ltd will notify SAHRA and/or PHRA on behalf of the applicant. SAHRA/PHRA may require that a search and rescue exercise be conducted in terms of NHRA Section 38, this may include rescue excavations, for which ISS will submit a rescue permit application having fulfilled all requirements of the permit application process.

In the event that human remains are accidentally exposed, SAHRA Burial Ground Unit or ISS Heritage Specialist must immediately be notified of the discovery in order to take the required further steps:

- a. Heritage Specialist to inspect, evaluate and document the exposed burial or skeletal remains and determine further action in consultation with the SAPS and Traditional authorities:
- b. Heritage specialist will investigate the age of the accidental exposure in order to determine whether the find is a burial older than 60 years under the jurisdiction of SAHRA or that the exposed burial is younger than 60 years under the jurisdiction of the Department of Health in terms of the Human Tissue Act.
- c. The local SAPS will be notified to inspect the accidental exposure in order to determine where the site is a scene of crime or not.
- d. Having inspected and evaluated the accidental exposure of human remains, the project Archaeologist will then track and consult the potential descendants or custodians of the affected burial.
- e. The project archaeologist will consult with the traditional authorities, local municipality, and SAPS to seek endorsement for the rescue of the remains. Consultation must be done in terms of NHRA (1999) Regulations 39, 40, 42.
- f. Having obtained consent from affected families and stakeholders, the project archaeologist will then compile a Rescue Permit application and submit to SAHRA Burial Ground and Graves Unit.

- g. As soon as the project archaeologist receives the rescue permit from SAHRA he will in collaboration with the company/contractor arrange for the relocation in terms of logistics and appointing of an experienced undertaker to conduct the relocation process.
- h. The rescue process will be done under the supervision of the archaeologist, the site representative and affected family members. Retrieval of the remains shall be undertaken in such a manner as to reveal the stratigraphic and spatial relationship of the human skeletal remains with other archaeological features in the excavation (e.g., grave goods, hearths, burial pits, etc.). A catalogue and bagging system shall be utilised that will allow ready reassembly and relational analysis of all elements in a laboratory. The remains will not be touched with the naked hand; all Contractor personnel working on the excavation must wear clean cotton or non-powdered latex gloves when handling remains in order to minimise contamination of the remains with modern human DNA. The project archaeologist will document the process from exhumation to reburial.
- i. Having fulfilled the requirements of the rescue/burial permit, the project archaeologist will compile a mitigation report which details the whole process from discovery to relocation. The report will be submitted to SAHRA and to the client.

Note that the relocation process will be informed by SAHRA Regulations and the wishes of the descendants of the affected burial.

11 APPENDIX 2: HERITAGE MANAGEMENT PLAN FOR PROPOSED POWERLINE ROUTE EMP

| Objective | <ul style="list-style-type: none">Protection of archaeological sites and land considered to be of cultural value.Protection of known physical cultural property sites against vandalism, destruction and theft; andThe preservation and appropriate management of new archaeological finds should these be discovered during construction. | | | | | | | |
|------------------------|--|--|--------------------|-------------------|------------------------|-------------|-----------|----------------|
| No. | Activity | Mitigation Measures | Duration | Frequency | Responsibility | Accountable | Contacted | Informed |
| Pre-Construction Phase | | | | | | | | |
| 1 | Planning | Ensure all known sites of cultural, archaeological, and historical significance are demarcated on the site layout plan and marked as no-go areas. | Throughout Project | Weekly Inspection | Contractor [C] CECO | SM | ECO | EA EM PM |
| Construction Phase | | | | | | | | |
| 1 | Emergency Response | Should any archaeological or physical cultural property heritage resources be exposed during excavation for the purpose of construction, construction in the vicinity of the finding must be stopped until heritage authority has cleared the development to continue. | N/A | Throughout | C CECO | SM | ECO | EA EM PM |
| | | Should any archaeological, cultural property heritage resources be exposed during excavation or be found on development site, a registered heritage specialist or PHRA official must be called to site for inspection. | | Throughout | C CECO | SM | ECO | EA EM PM |
| | | Under no circumstances may any archaeological, historical or any physical cultural property heritage material be destroyed or removed form site; | | Throughout | C CECO | SM | ECO | EA EM PM |
| | | Should remains and/or artefacts be discovered on the development site during earthworks, all work will cease in the area affected and the Contractor will immediately inform the Construction Manager who in turn will inform LIHRA | | When necessary | C CECO | SM | ECO | EA EM PM |
| | | Should any remains be found on site that is potentially human remains, the LIHRA and South African Police Service should be contacted. | | When necessary | C CECO | SM | ECO | EA EM PM |
| Rehabilitation Phase | | | | | | | | |
| | | Same as construction phase. | | | | | | |
| Operational Phase | | | | | | | | |
| | | Same as construction phase. | | | | | | |

12 APPENDIX 4: LEGAL PRINCIPLES OF HERITAGE RESOURCES MANAGEMENT IN SOUTH AFRICA

Extracts relevant to this report from the National Heritage Resources Act No. 25 of 1999, (Sections 5, 36 and 47):

General principles for heritage resources management

5. (1) All authorities, bodies and persons performing functions and exercising powers in terms of this Act for the management of heritage resources must recognise the following principles:

(a) Heritage resources have lasting value in their own right and provide evidence of the origins of South African society and as they are valuable, finite, non-renewable and irreplaceable they must be carefully managed to ensure their survival;

(b) every generation has a moral responsibility to act as trustee of the national heritage for succeeding generations and the State has an obligation to manage heritage resources in the interests of all South Africans.

(c) heritage resources have the capacity to promote reconciliation, understanding and respect, and contribute to the development of a unifying South African identity; and

(d) heritage resources management must guard against the use of heritage for sectarian purposes or political gain.

(2) To ensure that heritage resources are effectively managed

(a) the skills and capacities of persons and communities involved in heritage resources management must be developed; and

(b) provision must be made for the ongoing education and training of existing and new heritage resources management workers.

(3) Laws, procedures and administrative practices must

(a) be clear and generally available to those affected thereby;

(b) in addition to serving as regulatory measures, also provide guidance and information to those affected thereby; and

(c) give further content to the fundamental rights set out in the Constitution.

(4) Heritage resources form an important part of the history and beliefs of communities and must be managed in a way that acknowledges the right of affected communities to be consulted and to participate in their management.

(5) Heritage resources contribute significantly to research, education and tourism and they must be

developed and presented for these purposes in a way that ensures dignity and respect for cultural values.

(6) Policy, administrative practice and legislation must promote the integration of heritage resources conservation in urban and rural planning and social and economic development.

(7) The identification, assessment and management of the heritage resources of South Africa must—

(a) take account of all relevant cultural values and indigenous knowledge systems;

(b) take account of material or cultural heritage value and involve the least possible alteration or loss of it;

(c) promote the use and enjoyment of and access to heritage resources, in a way consistent with their cultural significance and conservation needs;

(d) contribute to social and economic development;

(e) safeguard the options of present and future generations; and

(f) be fully researched, documented and recorded.

12.1 Burial grounds and graves

36. (1) Where it is not the responsibility of any other authority, SAHRA must conserve and generally care for burial grounds and graves protected in terms of this section, and it may make such arrangements for their conservation as it sees fit.

(2) SAHRA must identify and record the graves of victims of conflict and any other graves which it deems to be of cultural significance and may erect memorials associated with the grave referred to in subsection (1), and must maintain such memorials.

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

(a) destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;

(b) 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; or

(c) bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation equipment, or any equipment which assists in the detection or recovery of metals.

(4) SAHRA or a provincial heritage resources authority may not issue a permit for the destruction or damage of any burial ground or grave referred to in subsection (3)(a) unless it is satisfied that the applicant has made satisfactory arrangements for the exhumation and re-interment of the contents of such graves, at the cost of the applicant and in accordance with any regulations made by the

responsible heritage resources
authority.

(5) SAHRA or a provincial heritage resources authority may not issue a permit for any activity under subsection (3)(b) unless it is satisfied that the applicant has, in accordance with regulations made by the responsible heritage resources authority

(a) made a concerted effort to contact and consult communities and individuals who by tradition have an interest in such grave or burial ground; and

(b) reached agreements with such communities and individuals regarding the future of such grave or burial ground.

(6) Subject to the provision of any other law, any person who in the course of development or any other activity discovers the location of a grave, the existence of which was previously unknown, must immediately cease such activity and report the discovery to the responsible heritage resources authority which must, in co-operation with the South African Police Service and in accordance with regulations of the responsible heritage resources authority

(a) carry out an investigation for the purpose of obtaining information on whether or not such grave is protected in terms of this Act or is of significance to any community; and

(b) if such grave is protected or is of significance, assist any person who or community which is a direct descendant to make arrangements for the exhumation and re-interment of the contents of such grave or, in the absence of such person or community, make any such arrangements as it deems fit.

(7) (a) SAHRA must, over a period of five years from the commencement of this Act, submit to the Minister for his or her approval lists of graves and burial grounds of persons connected with the liberation struggle and who died in exile or as a result of the action of State security forces or agents provocateur and which, after a process of public consultation, it believes should be included among those protected under this section.

(b) The Minister must publish such lists as he or she approves in the Gazette.

(8) Subject to section 56(2), SAHRA has the power, with respect to the graves of victims of conflict outside the Republic, to perform any function of a provincial heritage resources authority in terms of this section.

(9) SAHRA must assist other State Departments in identifying graves in a foreign country of victims of conflict connected with the liberation struggle and, following negotiations with the next of kin, or relevant authorities, it may re-inter the remains of that person in a prominent place in the capital of the Republic.

12.2 General policy

47. (1) SAHRA and a provincial heritage resources authority—

(a) must, within three years after the commencement of this Act, adopt statements of general policy for the management of all heritage resources owned or controlled by it or vested in it; and

(b) may from time to time amend such statements so that they are adapted to changing circumstances or in accordance with increased knowledge; and

(c) must review any such statement within 10 years after its adoption.

(2) Each heritage resources authority must adopt for any place which is protected in terms of this Act and is owned or controlled by it or vested in it, a plan for the management of such place in accordance with the best environmental, heritage conservation, scientific and educational principles that can reasonably be applied taking into account the location, size and nature of the place and the resources of the authority concerned, and may from time to time review any such plan.

(3) A conservation management plan may at the discretion of the heritage resources authority concerned and for a period not exceeding 10 years, be operated either solely by the heritage resources authority or in conjunction with an environmental or tourism authority or under contractual arrangements, on such terms and conditions as the heritage resources authority may determine.

(4) Regulations by the heritage resources authority concerned must provide for a process whereby, prior to the adoption or amendment of any statement of general policy or any conservation management plan, the public and interested organisations are notified of the availability of a draft statement or plan for inspection, and comment is invited and considered by the heritage resources authority concerned.

(5) A heritage resources authority may not act in any manner inconsistent with any statement of general policy or conservation management plan.

(6) All current statements of general policy and conservation management plans adopted by a heritage resources authority must be available for public inspection on request.