

Prepared for:

ESKOM NORTHERN REGION

**A PHASE I HERITAGE IMPACT ASSESSMENT (HIA) STUDY FOR
ESKOM'S PROPOSED UITKYK SUBSTATION AND FOR THE
PROPOSED 132kV POWER LINES BETWEEN THE MAMATSHEKELE
AND PROPOSED UITKYK SUBSTATIONS AND BETWEEN THE
PROPOSED UITKYK SUBSTATION AND THE NALEDI SUBSTATION
IN THE LIMPOPO PROVINCE OF SOUTH AFRICA**

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November 2012

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EXECUTIVE SUMMARY

A Phase I Heritage Impact Assessment (HIA) study as required in terms of Section 38 of the National Heritage Resources Act (No 25 of 1999) was done for Eskom's proposed new Uitkyk Substation and for the proposed 132kV power lines between the proposed Mamatshekele and Uitkyk Substations and the 132kV power lines between the proposed Uitkyk Substation and the existing Naledi Substation in the Limpopo Province. The construction of the proposed new substation and 132kV power lines is hereafter referred to as the Eskom Project whilst the areas (footprints of the developmental components) to be affected by the power lines is referred to as the Eskom Project Area.

The aims with the Phase I HIA study were the following:

- To establish whether any of the types and ranges of heritage resources ('national estate') as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999) do occur in the Project Area and, if so to determine the significance of these heritage resources.
- To make recommendations regarding the mitigation and management of significant heritage resources that may be affected by the Eskom Project.

At least two graveyards and remains from the recent past were recorded in the Eskom Project Area. The graveyards and remains from the recent past are located near Option 03 for the proposed 132kV power line which runs between the Mamatshekele and Uitkyk Substations.

The significance of the graveyards

All graveyards and graves are considered to be of high significance and are protected by various laws (Table 1). Legislation with regard to graves includes Section 36 of the National Heritage Resources Act (No 25 of 1999) whenever graves are older than sixty years. The act also distinguishes various categories of graves and burial grounds. Other legislation with regard to graves includes those which apply when graves are exhumed and relocated, namely the Ordinance on Exhumations (No 12 of 1980) and the Human Tissues Act (No 65 of 1983 as amended).

The impact assessment for the graveyards is given in Table 1. The significance of potential impacts on graveyards in close proximity of Option 03 for the proposed 132kV power line between Mamatshekele and Uitkyk is indicated as very low.

The significance of the remains from the recent past

All buildings and structures older than sixty years are considered to be of historical significance and are protected by Section 34 and Section 38 of the National Heritage Resources Act (No 25 of 1999).

The remains from the recent past therefore are not historical in nature and can be considered to be of low significance (Table 2). The significance of potential impacts on the remains from the recent past in close proximity of Option 03 for the proposed 132kV power line between Mamatshekele and Uitkyk is indicated as very low.

Summary:

There is consequently no reason from a heritage point of view why the Eskom Project cannot proceed. However, preference is given from a heritage point of view for the construction of either Option 01 or Option 02 for the proposed 132kV power line running between the Mamatshekele and Uitkyk Substations.

Option 01 or Option 2 can be used for the proposed Uitkyk Substation.

There is no reason from a heritage point of view why the 132kV power line between the Uitkyk and Naledi Substations cannot be constructed.

General

This Phase I HIA study may have missed heritage resources in the Project Area as heritage sites may occur in thick clumps of vegetation while others may lie below the surface of the earth and may only be exposed once development commences.

If any heritage resources of significance is exposed during the Eskom Project the South African Heritage Resources Authority (SAHRA) should be notified immediately, all development activities must be stopped and an archaeologist accredited with the Association for Southern African Professional Archaeologist (ASAPA) should be notified in order to determine appropriate mitigation measures for the discovered finds. This may include obtaining the necessary authorisation (permits) from SAHRA to conduct the mitigation measures.

CONTENTS

Executive summary	2
1 INTRODUCTION	6
2 AIMS WITH THIS REPORT	8
3 METHODOLOGY	9
3.1 Fieldwork	9
3.2 Databases, literature survey and maps	9
3.3 Assumptions and limitations	10
3.4 Some remarks on terminology	10
4 THE ESKOM PROJECT AREA	15
4.1 Location	15
4.2 The developed nature of the Eskom Project Area	15
4.3 The nature of the Eskom Project	18
4.3 The heritage potential of the Eskom Project Area	19
5 CONTEXTUALISING THE PROJECT AREA	20
5.1 Pre-historical context	20
5.2 Pre-historical and early Historical Period	20
5.3 The Historical Period	22
6 THE PHASE I HERITAGE IMPACT ASSESSMENT	25
6.1 The proposed Uitkyk Substation	25
6.2 The power line between Mamatshekele and Uitkyk	27
6.2.1 Option 01	27
6.2.2 Option 02	29
6.2.3 Option 03	30
<u>Heritage resources</u>	32

6.3	The power line between Uitkyk and Naledi	33
6.4	Table	35
6.5	Summary	35
7	THE SIGNIFICANCE, POSSIBLE IMPACT ON AND MITIGATION OF THE HERITAGE RESOURCES	36
7.1	The significance of the heritage resources	36
7.1.1	The significance of the graveyards	37
7.1.2	The significance of the remains from the recent past	38
7.2	Mitigating the heritage resources	39
7.2.1	Mitigating the graveyards	40
7.2.2	Mitigating the remains from the recent past	40
8	CONCLUSION AND RECOMMENDATIONS	41
9	SELECT BIBLIOGRAPHY	43

Attachments:

Declaration of Independence

Details of the specialist

1 INTRODUCTION

This document contains the report on the results of the Phase I Heritage Impact Assessment (HIA) study that was done for Eskom's proposed new Tshatane Substation and for 132kV power lines between the proposed Tshatane and Lesego Substations and between the proposed Tshatane Substation and the existing Jane Furse Substation in the Limpopo Province.

Focused archaeological research has been conducted in the Limpopo Province for several decades. This research consists of surveys and of excavations of Stone Age and Iron Age sites as well as of the recording of rock art and historical sites in this area. The Limpopo Province has a rich heritage comprised of remains dating from the pre-historical and from the historical (or colonial) periods of South Africa. Pre-historical and historical remains in the Limpopo Province of South Africa form a record of the heritage of most groups living in South Africa today.

Various types and ranges of heritage resources that qualify as part of South Africa's 'national estate' (as outlined in the National Heritage Resources Act [No 25 of 1999]) occur in the Limpopo Province (see Box 1, next page).

Box 1: Types and ranges of heritage resources (the national estate) as outlined in Section 3 of the National Heritage Resources Act, 1999 (No 25 of 1999).

The National Heritage Resources Act (Act No 25 of 1999, Art 3) outlines the following types and ranges of heritage resources that qualify as part of the National Estate, namely:

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

The National Heritage Resources Act (Act No 25 of 1999, Art 3) also distinguishes nine criteria for places and objects to qualify as 'part of the national estate if they have cultural significance or other special value ...'. These criteria are the following:

- (a) its importance in the community, or pattern of South Africa's history;
- (a) its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;
- (b) its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;
- (c) its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;
- (e) its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;
- (f) its importance in demonstrating a high degree of creative or technical achievement at a particular period;
- (g) its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons; (h)
- (h) its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa;
- (i) sites of significance relating to the history of slavery in South Africa

2 AIMS WITH THIS REPORT

Eskom intends to construct the Uitkyk Substation and 132kV power lines between the proposed Uitkyk and Mamatshekele Substations and between the proposed Uitkyk Substation and the existing Naledi Substation in the Limpopo Province. This Eskom Project may have an influence on any of the types and ranges of heritage resources which are listed in Section 3 of the National Heritage Resources Act (No 25 of 1999).

In order to comply with heritage legislation, Eskom requires knowledge of the presence, relevance and the significance of any heritage resources that may be affected by the Eskom Project. Eskom needs this knowledge in order to take proactive measures with regard to any heritage resources that may be affected, damaged or destroyed when the Eskom Project is implemented. Shumani SHE Specialists, the environmental company responsible for compiling the Environmental Impact Assessment (EIA) for the Eskom Project therefore commissioned the author to undertake a Phase I HIA study for the Eskom Project Area.

The aims with the Phase I HIA were the following:

- To establish whether any of the types and ranges of heritage resources ('national estate') as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999) do occur in the Eskom Project Area and, if so to determine the significance of these heritage resources.
- To make recommendations regarding the mitigation and management of significant heritage resources that may be affected by the Eskom Project.

3 METHODOLOGY

This Phase I HIA study was conducted by means of the following:

- Surveying the proposed Eskom Project Area with a vehicle and selected spots on foot.
- Briefly surveying literature relating to the pre-historical and historical context of the Eskom Project Area.
- Consulting maps of the proposed Eskom Project Area.
- Consulting archaeological (heritage) data bases.
- Consulting spokespersons regarding the possible presence of graves and graveyards in the Eskom Project Area.
- Synthesising all information obtained from the data bases, fieldwork, maps and literature survey.

3.1 Fieldwork

The proposed Eskom Project Area (which involves the sites for the proposed Uitkyk Substation, for the proposed Mamatshekele-Uitkyk power lines as well as for the proposed Uitkyk-Naledi power lines) was surveyed with a vehicle (where accessible roads existed) as these power lines run along more than sixty kilometres.

Selected stretches of the power lines as well as spots along the power line corridors were surveyed on foot. Long stretches of the power line follow major and minor roads. These corridors for the new power lines were surveyed from the roads. Shorter distances along these linear trajectories were surveyed on foot, e.g. where evidence for earlier occupation could be observed. This sort of evidence mostly comprises surface features such as ecological indicators reflecting an altered environment from the original, e.g. unnatural plant growth, bald or overgrown areas, evidence for an uneven terrain, etc.. (A fixed (mounted) GPS was used to record the track log).



Figure 0 - Broad outline of GPS track log for Eskom’s Mamatshekele project recorded with fixed GPS device.

3.2 Databases, literature survey and maps

Databases kept and maintained at institutions such as the Provincial Heritage Resources Agency (PHRA) and the Archaeological Data Recording Centre at the National Flagship Institute (Museum Africa) in Pretoria were consulted to determine whether any heritage resources of significance has been identified during earlier heritage surveys in or near the Eskom Project Area.

The author is not unacquainted with the Eskom Project Area at large as he had done several heritage impact assessment studies near the Eskom Project Area (see Part 8, ‘Select Bibliography’).

Literature relating to the pre-historical and the historical unfolding of the Eskom Project Area was reviewed (see Part 5, ‘Contextualising the Project Area’) in order to comprehend the identity and meaning of heritage sites which may be found in and near the Project Area.

Maps outlining the Eskom Project Area were studied (2529DA Ga Masemola, 2529 DC Phokwane, 2429DD Jane Furse and 2529BB Roosenekal 1:50 000 topographical maps; 2428 Modimolle and 2528 Pretoria 1: 250 000 maps).

3.3 Assumptions and limitations

It is possible that this Phase I HIA study may have missed heritage resources in the Eskom Project Area as heritage sites may occur in thick clumps of vegetation while others may lie below the surface of the earth and may only be exposed once development commences.

If any heritage resources of significance is exposed during the Eskom Project the South African Heritage Resources Authority (SAHRA) should be notified immediately, all development activities must be stopped and an archaeologist accredited with the Association for Southern African Professional Archaeologist (ASAPA) should be notify in order to determine appropriate mitigation measures for the discovered finds. This may include obtaining the necessary authorization (permits) from SAHRA to conduct the mitigation measures.

3.4 Some remarks on terminology

Terms that may be used in this report are briefly outlined below:

- **Conservation:** The act of maintaining all or part of a resource (whether renewable or non-renewable) in its present condition in order to provide for its continued or future use. Conservation includes sustainable use, protection, maintenance, rehabilitation, restoration and enhancement of the natural and cultural environment.
- **Cultural resource management:** A process that consists of a range of interventions and provides a framework for informed and value-based decision-making. It integrates professional, technical and administrative functions and interventions that impact on cultural resources. Activities include

planning, policy development, monitoring and assessment, auditing, implementation, maintenance, communication, and many others. All these activities are (or will be) based on sound research.

- **Cultural resources:** A broad, generic term covering any physical, natural and spiritual properties and features adapted, used and created by humans in the past and present. Cultural resources are the result of continuing human cultural activity and embody a range of community values and meanings. These resources are non-renewable and finite. Cultural resources include traditional systems of cultural practice, belief or social interaction. They can be, but are not necessarily identified with defined locations.
- **Heritage resources:** The various natural and cultural assets that collectively form the heritage. These assets are also known as cultural and natural resources. Heritage resources (cultural resources) include all human-made phenomena and intangible products that are the result of the human mind. Natural, technological or industrial features may also be part of heritage resources, as places that have made an outstanding contribution to the cultures, traditions and lifestyles of the people or groups of people of South Africa.
- **In-Situ Conservation:** The conservation and maintenance of ecosystems, natural habitats and cultural resources in their natural and original surroundings.
- **Iron Age:** Refers to the last two millennia and 'Early Iron Age' to the first thousand years AD. 'Late Iron Age' refers to the period between the 16th century and the 19th century and can therefore include the Historical Period.
- **Maintenance:** Keeping something in good health or repair.
- **Pre-historical:** Refers to the time before any historical documents were written or any written language developed in a particular area or region of the world. The historical period and historical remains refer, for the Project Area, to the first appearance or use of 'modern' Western writing brought to the Eastern Highveld by the first Colonists who settled here from the 1840's onwards.

- Preservation: Conservation activities that consolidate and maintain the existing form, material and integrity of a cultural resource.
- Recent past: Refers to the 20th century. Remains from this period are not necessarily older than sixty years and therefore may not qualify as archaeological or historical remains. Some of these remains, however, may be close to sixty years of age and may, in the near future, qualify as heritage resources.
- Protected area: A geographically defined area designated and managed to achieve specific conservation objectives. Protected areas are dedicated primarily to the protection and enjoyment of natural or cultural heritage, to the maintenance of biodiversity, and to the maintenance of life-support systems. Various types of protected areas occur in South Africa.
- Reconstruction: Re-erecting a structure on its original site using original components.
- Replication: The act or process of reproducing by new construction the exact form and detail of a vanished building, structure, object, or a part thereof, as it appeared at a specific period.
- Restoration: Returning the existing fabric of a place to a known earlier state by removing additions or by reassembling existing components.
- Stone Age: Refers to the prehistoric past, although Late Stone Age peoples lived in South Africa well into the Historical Period. The Stone Age is divided into an Earlier Stone Age (3 million years to 150 000 thousand years ago) the Middle Stone Age (150 000 years to 40 000 years ago) and the Late Stone Age (40 000 years to 200 years ago).
- Sustainability: The ability of an activity to continue indefinitely, at current and projected levels, without depleting social, financial, physical and other resources required to produce the expected benefits.

- Translocation: Dismantling a structure and re-erecting it on a new site using original components.
- Project Area: refers to the area (footprint) where the developer wants to focus its development activities (refer to Figure 3).
- Phase I studies refer to surveys using various sources of data in order to establish the presence of all possible types and ranges of heritage resources in any given Project Area (excluding paleontological remains as these studies are done by registered and accredited palaeontologists).
- Phase II studies include in-depth cultural heritage studies such as archaeological mapping, excavating and sometimes laboratory work. Phase II work may include the documenting of rock art, engraving or historical sites and dwellings; the sampling of archaeological sites or shipwrecks; extended excavations of archaeological sites; the exhumation of human remains and the relocation of graveyards, etc. Phase II work involve permitting processes, require the input of different specialists and the co-operation and approval of SAHRA.

4 THE PROJECT AREA

4.1 Location

The Project Area is located in the Nebo District in Sekhukhuneland. It is bordered in the north by foothills of the Strydpoort and Leolo mountain ranges and in the east and in the south by the Thaba Ya Sekhukhune mountain range. The north-western corner of the Project Area is bisected by the Olifants River whilst numerous rivers and streams criss-cross the area as they are running from the higher mountainous area in the east towards the lower Olifants River Valley in the west.

The main topographical features of the region is its vast landscapes with undulating surfaces which are dotted with mountain ranges and smaller kopjes, granite domes and protrusions. A prominent mountain range occurs on the farm Masleroems oude Stad 840KS towards the central part of the Project Area (2529DA Ga Masemola, 2529 DC Phokwane, 2429DD Jane Furse and 2529BB Roosenekal 1:50 000 topographical maps; 2428 Modimolle and 2528 Pretoria 1: 250 000 map) (Figures 1 to 3).

4.2 The nature of the Eskom Project Area

The Project Area is not a pristine piece of land any longer as informal villages are scattered throughout Sekhukhuneland. Communities have practised mixed farming for decades and perhaps even for centuries. This is definitely the case for historical villages such as Tsjate and others which occur along the Leolo, Makaa and Thaba ya Sekhukhune mountain ranges which delineate the Project Area towards the north, east and the south. Sekhukhuneland used to be the home of numerous diverse clans who eventually were moulded into the nineteenth century Pedi chiefdom (see Part 5, 'Contextualising the Project Area').

Archaeological and heritage resources in the Project Area, as elsewhere in Sekhukhuneland, are being destroyed at an increasing rate as a result of three main factors, namely:

- Uncontrolled agricultural practises on valley floors where hundreds of archaeological sites have been under-ploughed particularly since tractors have been introduced in agriculture in this part of the country.
- Erosion, which washes archaeological deposits away. Archaeological remains consisting of stone tools and potsherds that have been washed from archaeological deposits can be seen in the numerous dongas that are scattered across the region.
- Settlements in Sekhukhuneland are established on top of older (archaeological and historical) settlements while expanding villages gradually incorporates older villages which are mainly located along the footslopes of the Thaba ya Sekhukhune and the Leolo Mountain ranges.



Figure 1- View across the Eskom Project Area near the borders of the village of Uitkyk where Options 01 and 02 for the proposed 132kv Mamatshekele-Uitkyk power line will be established. Note the outstretched undulating landscape with granite knolls and domes which are scattered across the Eskom Project Area (above).

The people of Sekhukhuneland practised cultivating and stock farming for many centuries – practices that are still continued today. Agricultural plots are utilized by local communities. In the past, chiefs allocated pieces of land to the heads of wards that then provided plots to married men. The sizes of plots were determined by the number of wives a man had, but each plot was usually 1 to 2 hectares, which is the maximum that a woman could cultivate using a hoe. The introduction of the plough allowed families to cultivate larger areas of land, up to about 4, 5 hectares.

Crops included sorghum (*mabele*) and millet (*letsoa*), which were later largely replaced by maize (*mahea*) as a staple food. Supplementary crops included pumpkins (*marotse*), various varieties of gourd (*maraka*), beans (*dinawa*) and a type of groundnut (*ditloo*). Tobacco and sugarcane were also planted.



Figure 2- View across the Eskom Project Area near the village of GaPahla where extensive agricultural fields occur along the western borders of this village. Agricultural fields and plots comprise a large part of the Eskom Project Area (above).

Although each person possessed his own stock, pasturage was used on a communal basis. At a fixed time the tribal ruler declared the reaped grain fields open for use as winter grazing. Grazing cattle in particular disturbs heritage resources, as deposits on sites are churned under hoof and low stone foundations are broken and scattered.

The uninterrupted occupation of Sekhukhuneland over a long period of time, an increase in population numbers as well as un-preceded development in the region is however gradually changing a once extraordinary cultural landscape with unique heritage characters and features.



Figure 3- View across the Eskom Project Area near Masleroems oude Stad 840KS reveals the extensive mountain range which occurs towards the central part of the Eskom Project Area (above).

4.3 The nature of the Eskom Project

The key development components of the proposed Eskom Project include the following:

- The construction of the proposed Uitkyk Substation. Two alternatives are proposed for the substation, namely Option 01 and Option 02.
- The construction of the proposed 132kV power line between the Mamatshekele Substation and the Uitkyk Substation. Three alternatives are proposed for this power line, namely Option 01, Option 02 and Option 03.
- The construction of the proposed 132kV power line between the Uitkyk Substation and the existing Naledi Substation.

The different developmental components (substation sites and power line corridors) for the project are referred to as the Eskom Project whilst the areas (footprints) of the various developmental components are referred to as the Project Area.

4.4 The heritage potential of the Project Area

The Project Area is located to the south of the Leolo Mountain range and also to the south of the heartland of the pre-historical and the historical Pedi chiefdom. This part of Sekhukuneland is relatively unknown with regard to its heritage potential. The archaeological and historical significance of the larger region which incorporates the Pedi heartland is therefore briefly described before the results of the Phase I HIA study is discussed (see Part 5, 'Contextualising the Project Area').

5 CONTEXTUALISING THE PROJECT AREA

The Project Area is located to the south of the Pedi heartland in Sekhukhune. The following background information is aimed at contextualising the Project Area with regard to the presence of certain types and ranges of heritage resources that may be found in the region.

5.1 Pre-historical context

Stone Age sites are scattered in the extensive network of dongas which occur across the wide valleys floors in Sekhukhuneland. Sites which have been observed by the author occur on farms such as Hendriksplaats 281, Derde Gelid 278, Onverwacht 292, Winterveld 293, Annex Grootboom 335 and Apiesboomen 295. These stone tools date from the Early Stone Age (500 000 to 200 000 years ago), the Middle Stone Age (200 000 to 40 000 years ago) and from the Late Stone Age (40 000 to 200 years ago).

However, no archaeological survey for Stone Age sites as part of any extensive or in-depth Stone Age research project has to the knowledge of this author been done in Sekhukhuneland as yet.

5.2 Pre-historical and early Historical Period

The origins of the first Bantu-Negroid farming communities who practised agriculture, live-stock herding and metal working can be traced to the Steelpoort Valley in Sekhukhuneland. These Early Iron Age farming communities whose settlements have been recorded on amongst others Hendriksplaats 281 and Derde Gelid 278 were related to Early Iron Age communities who, contemporaneously, AD500 to AD900 settled further towards the east in the Lydenburg Valley. One of the settlements belonging to the Early Iron Age Lydenburg culture won international acclaim as the Lydenburg clay masks were discovered at this site near the Sterkspruit, south of Lydenburg.

The historical period in the Steelpoort Valley is associated with the second millennium AD when a predominantly Northern Sotho-speaking population occupied the Steelpoort. These people are part of a larger Northern Sotho-speaking community who occupy a vast area between the Limpopo River in the north, the Drakensberg in the east and the Sekhukhune Mountains in the west. Numerous divisions and groups or clans therefore occupy this vast region. The history of the people of this area can be divided into several periods:

The earliest period of settlement is characterized by small groups of Bantu people who started to drive the San and Khoi Khoi from the area and who are difficult to identify. From approximately AD1700 ancestral groupings of the present inhabitants of the land began to arrive in the area. Groups that can be distinguished include:

- A large group of Sotho who came from the north-eastern parts of the Lowveld and who settled on the plateau to the north and to the south of the Strydpoortberge.
- Small groups of Kgatla and Huruthshe-Kwena origin moved from the Tswana area (Brits and Rustenburg) into the territory. Amongst them were the present Pedi (or Rota) who moved into what is now Sekhukhuneland, where they subjected the Sotho already living there.
- During these times Sekhukhuneland was also penetrated by Sotho arriving from the south-east.
- After AD1600 the Northern Ndebele arrived from the south-east and settled in what is now the Mokerong district.

It is assumed that during the period from AD1700 to AD1826 the Pedi took political control over the territory previously known as Lebowa, but to the south of the Strydpoortberge. The Pedi chiefdom reached its zenith during the reign of Thulare who died in 1824.

During the disruption of the *difaqane* (AD1822 to AD1828) Mzilikazi attacked the Pedi from the south-east in 1826 and in 1827/1828. This caused large-scale depopulation of the southern part of the Northern-Sotho territory. The Pedi sought refuge in the Soutpansberg in 1822 and only returned in 1828.

After the wars with Mzilikazi there were wars with the Swazi. The Voortrekkers arrived in the Steelpoort area in the late 1840's. Several armed struggles between the Voortrekkers and the Pedi ensued.

5.3 The Historical Period

After the British annexed the Transvaal (AD1877 to AD1881) the Pedi was subjugated by the British who were supported by the Swazi during the war of Sekhukhune in 1879 (see more detail below).

In 1842 Andries Hendrik Potgieter wished to move from the British sphere of influence and to establish trade relations with Delagoa Bay. He moved with his followers from Potchefstroom to the Eastern Transvaal and founded Andries Ohrigstad (named after himself and Gergios Gerhardus Ohrig, a merchant from Amsterdam who was well disposed towards the Voortrekkers). The name was later abbreviated to Ohrigstad. The town also served as the seat of the Volksraad.

During 1848 to 1849 Ohrigstad was abandoned when many people died of malaria. The town of Lydenburg was founded further to the south near the confluence of the Sterkspruit and the Spekboom River. This area was located on higher ground and was therefore healthier than Ohrigstad.

The railway line between Steelpoort and Lydenburg was constructed in 1924 due to an increase in the mining of chrome and magnetite. The name Steelpoort is derived from a hunting expedition that took place either in the late 19th century or the early 20th century. When a group of Voortrekkers from Natal under Frans Joubert had settled there, a man called Scholtz shot an elephant at dusk and on returning next morning found that the tusks had been removed. When the wagons were searched, the tusks were found in the possession of a man called Botha, after which the farm Bothashoek was named. Because an elephant had been killed there, the poort was named Olifantspoort. The river flowing through the poort was called Steelpoort River ('steel' meaning steal).

The Pedi were governed by Thulware until his death in 1824. His main village was Monganeng on the banks of the Tubatse River. His son, Sekwati, fled to the Soutpansberg in the north during the raids of Mzilikazi in 1822. He returned in 1828 and occupied the mountain fortress Phiring, his capital from where he united the Pedi.

The Pedi initially maintained good relations with the Voortrekkers who arrived in Ohrigstad from 1845. However, after a clash with Andries Hendrik Potgieter in 1852 Sekwati moved his capital to Thaba ya Mosego. Border disputes with the Zuid-Afrikaansche Republiek (ZAR) were settled in 1857 with an accord that stated that the Steelpoort River served as the border between Pedi land and the Lydenburg Republic.

Sekwati gave the Berlin Missionary Society permission to establish the Maandagshoek missionary station in Pedi territory. After Sekwati's death in 1861, his son Sekhukhune succeeded his father and also established his village at Thaba Mosego. He ordered the Berlin Missionary Society to discontinue their work and the mission station was burn down. Alexander Merensky, one of the missionaries, thereafter established the well-known Botšabelo missionary station at Middelburg.

The good relationship between the ZAR and the Pedi was gradually weakened. The period from 1876 to 1879 was one of conflict and war, first with the ZAR and then with the British who annexed the Transvaal in 1877. During the First Sekhukhune War in August 1876, the Voortrekkers attacked Thaba Mosego and partly destroyed the settlement.

The Second Sekhukhune War followed in November 1879 during which Sekhukhune was captured in the Mamatamageng cave and sent to prison in Pretoria. Two divisions attacked the Pedi. The main division, comprised of 3 000 whites and 2 500 black allies, attacked from the north-east. The Lydenburg division consist of 5 000 to 8 000 Swazi *impi*, 400 other black allies and 400 white soldiers who attacked from Burgersfort in the south. The Second Sekhukhune War is associated with the

settlements of Thaba Mosego and Tšate, a new village established by Sekhukhune close to Thaba Mosego.

6 THE PHASE I HERITAGE IMPACT ASSESSMENT STUDY

The Phase I HIA study is now briefly discussed and illustrated with photographs. The following components of the Eskom Project are discussed, namely:

6.1 The proposed Uitkyk Substation

Two options are proposed for the substation, namely Option 01 and Option 02. Both options, which are located approximately two to three hundred meters from each other, occur on the farm Uitkyk 851KS along the eastern perimeter of the village of Mohlarekoma.

Both Option 01 and Option 02 fall are situated on an undulating landscape that has not been developed in the past and which is covered with sand veld and low shrubbery. No heritage resources of significance were observed on any one of the proposed options for the Uitkyk Substation.



Figure 4 – View from the west across the farm Uitkyk 851KS where Option 01 for the proposed Uitkyk Substation will be established between low granite domes (above).

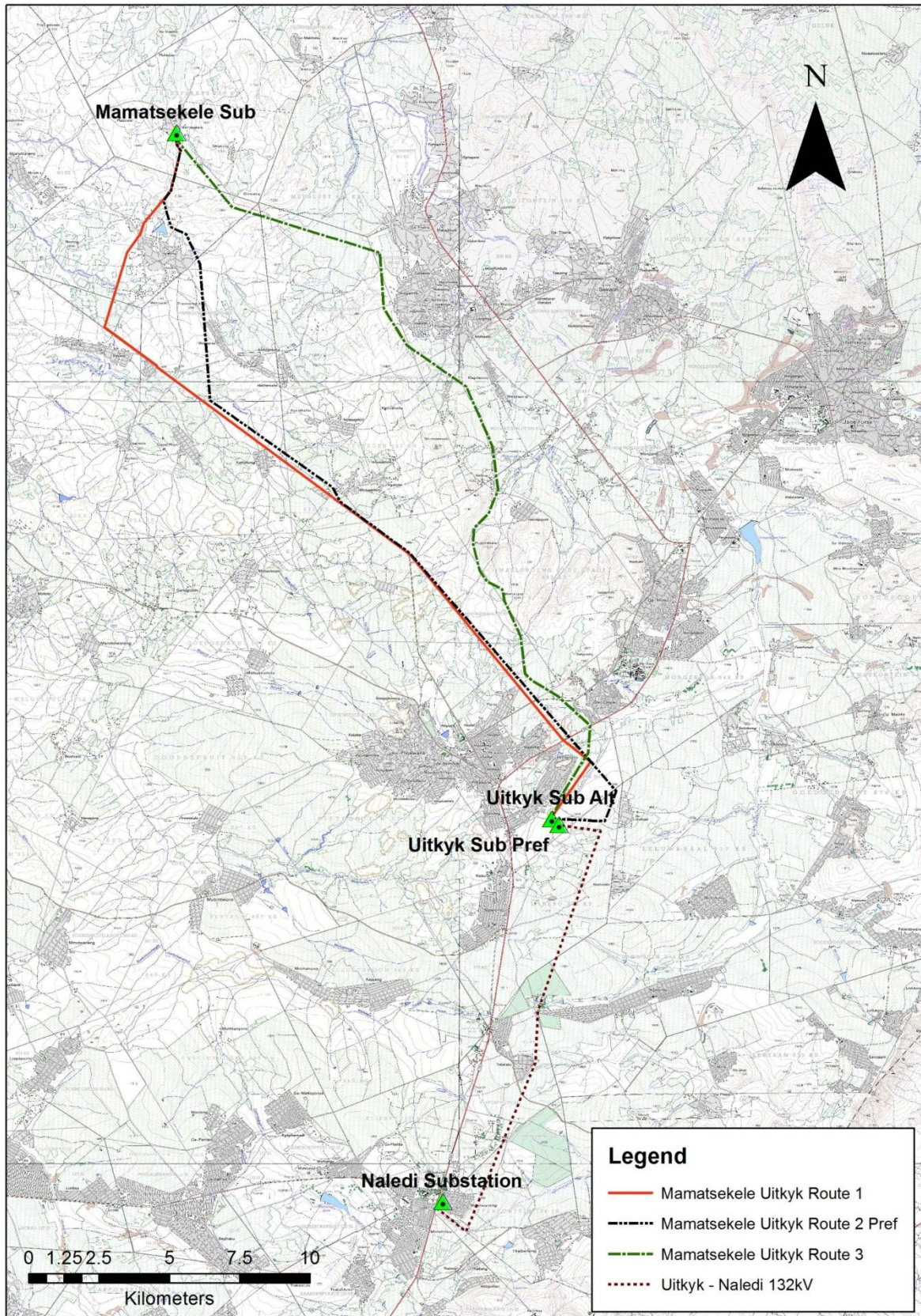


Figure 5 – The Eskom Project Area comprising the proposed Uitkyk Substation and 132kV Mamatshekele to Uitkyk and the 132kV Uitkyk to Naledi power lines in Nebo District in the Limpopo Province (above).



Figure 6 – View from the south across Uitkyk 8518KS where Option 02 for the proposed Uitkyk Substation will be established. The undulating sandy area is marked by low granite domes and is covered with sandy soil and low shrubbery (above).

6.2 The power line between Mamatshekele and Uitkyk

Three options are proposed for the 132kV power line which will run between the Mamatshekele and the proposed Uitkyk Substations, namely:

6.2.1 Option 01

This option runs along the following main stretches, namely:

- Option 01 runs from the Mamatshekele Substation on the farm Rustplaas 788KS (together with Option 02) southwards across Vlakplaats 802KS and then diverges from Option 02 in order to run along the western perimeter of the village of Mwafeng to the road that runs between the villages of Maraganeng and Kome.



Figures 7 & 8– Both Option 01 and Option 02 for the proposed 132kV power line between the Mamatshekele and Uitkyk Substations follow the respective shoulders of the dirt road that runs between Maraganeng and Kome (above). Both these options (and Option 03) run through the opening between the mountain of Tlame and the village of Uitkyk (below).



- From Kome Option 01 runs along the southern shoulder of the road and crosses the farms Deugdvallei 827KS, Goedehoop 824KS, Weltevreden 822KS (where Option 02 joins Option 01) and Frischgewaagd 637KS.
- On Frischgewaagd 637KS (where the road bends to the south-east) Option 01 continuous in a straight line across Frischgewaagd 637KS Ontevreden 838KS, and Uitkyk 851KS where Option 01 bends to the south-west in order to enter Option 01 for the proposed Uitkyk Substation.

6.2.2 Option 02

Option 02 runs from the Mamatshekele Substation along the following main stretches, namely:

- Option 02 runs from the Mamatshekele Substation on the farm Rustplaas 788KS (together with Option 01) southwards across Vlakplaats 802KS and then splits from Option 01 in order to run along the eastern perimeter of the village of Mwafeng to the road that runs between the villages of Maraganeng and Kome.



Figure 9- Option 02 for the proposed 132kV Mamatshekele-Uitkyk power line runs to the east of a dam north of the village of Mwafeng before joining the road that runs between Maraganeng and Kome (above).

- From Kome Option 02 runs along the southern shoulder of the road and crosses the farms Deugdvallei 827KS, Goedehoop 824KS, Weltevreden 822KS (where Option 01 joins Option 02) and Frischgewaagd 637KS.
- On Frischgewaagd 637KS (where the road bends to the south-east) Option 02 continues in a straight line across Frischgewaagd 637KS, Ontevreden 838KS and Uitkyk 851KS where Option 02 bends to the south-west in order to enter Option 02 for the proposed Uitkyk Substation.

6.2.3 Option 03

This option runs along the following main stretches, namely:

- The first stretch runs from the Mamatshekele Substation south-eastwards across Rustplaas 788KS where it bends to the east in order to run across Meerlust 804KS and Mooifontein 806KS to the eastern border of the village of Ga Phala. Remains of abandoned dwellings from the recent past and sisal occur along this stretch. However, no graves or graveyards were observed.
- On Mooifontein 806KS Option 03 turns to the south and crosses the farm Zoetvelden 821KS where it curves along the south-western perimeter of the village of Ga-Phahla in order to cross the farms Zoetvelden 821KS and Bothaspruit 820KS.
- Option 03 then bends and curves to the south and south-west across the farm Bothaspruit 820KS in order to run through a narrow poort in a mountain range on the farm Masleroems oude Stadt 840KS.
- Near the border of Ontevreden 803KS and Masleroems oude Stadt 840KS Option 03 approaches Option 01 and Option 02.



Figures 10 & 11- Option 03 crosses Zoetvelden 821KS and Bothaspruit 820KS which is cultivated (above) before entering a narrow poort in an extensive mountain range on Masleroems oude Stadt 840KS (below).



- From Masleroems oude Stadt 840KS Option 03 curves to the east in order to run along the southern base of the mountain of Tlame where the remains of dwellings which date from the recent past and at least two graveyards occur.
- On Uitkyk 851KS Option 03 bends to the south in order to join the Uitkyk Substation on the farm with the same name.

Heritage resources

Two graveyards, both of which holds graves older than sixty years, are located between remains from the recent past along the southern base of the mountain of Tlame, namely:

- GY01 holds as many as twenty graves most of which are fitted with granite headstones.
- GY02 comprises of two components, namely a section with at least six graves which are demarcated with upright stones and a second section with at least five graves of which four are decorated with granite headstones and trimmings.



Figure 12- Remains from the recent past along the southern base of Tlame is located in close proximity of Option 03 for the proposed new power line (above).



Figure 13- At least two graveyards occur along the southern slope of the mountain of Tlame in close proximity where Option 03 for the proposed 132kV Mamatshekele to Uitkyk power lines will run (above).

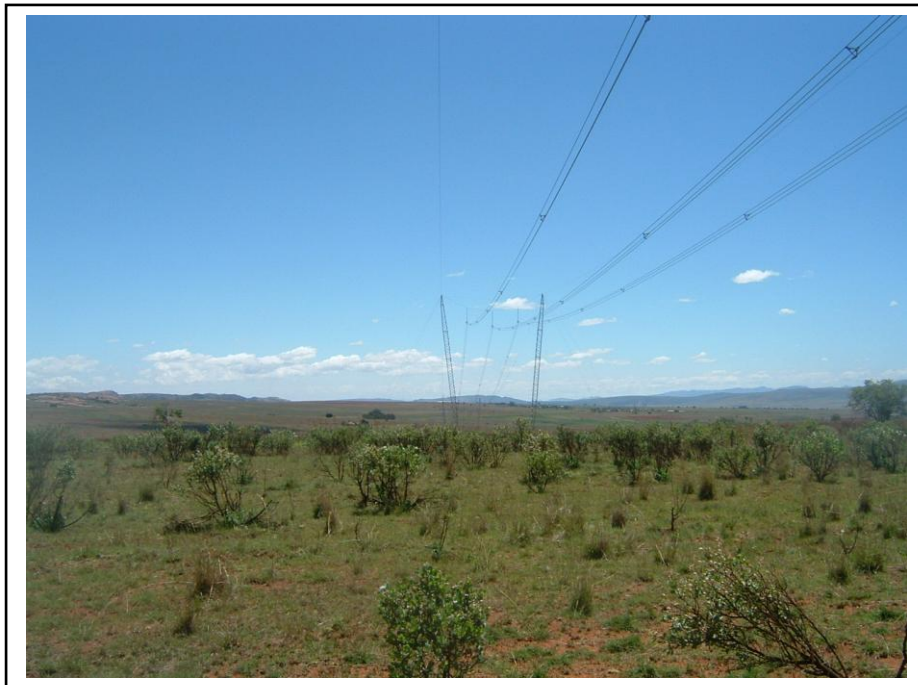
6.3 The power line between Uitkyk and Naledi

The proposed 132kV power line between the proposed Uitkyk Substation and the existing Naledi Substation will run along the following stretches, namely:

- This power line run from the Uitkyk Substation on the farm with the same name southwards across the farms Nebo 872KS and Rietfontein 876KS where it skirts the western end of the village of Ngwaritsi.
- From Ngwaritsi the Uitkyk-Naledi power line runs southwards across the farms Vierfontein 871KS and Syferfontein 136KS where it bends to the west in order to join the existing Naledi Substation.



Figure 14 & 15- The proposed 132kV power line between the Uitkyk and Naledi Substations follows an existing Eskom power line and run along open veld with patches of agricultural fields (above and below).



6.4 Table

Table outlining graveyards in the Project Area (also note coordinates and level of significance):

Graveyards	Coordinates	Significance
GY01	24° 50 58.01's 29° 46 49.46'e	HIGH
GY02	24° 51 00.45's 29° 46 59.40'e	HIGH

Table 1- Coordinates for graveyards near Option 03 for the proposed 132kV power line between the Mamatshekele and Uitkyk Substations (above).

6.5 Summary

At least two graveyards and remains from the recent past were recorded in the Eskom Project Area. The graveyards and remains from the recent past are located near Option 03 for the proposed 132kV power line which runs between the Mamatshekele and Uitkyk Substations.

7 THE SIGNIFICANCE, POSSIBLE IMPACT ON AND MITIGATION OF THE HERITAGE RESOURCES

7.1 The significance of the heritage resources

It is unlikely that the graveyards (GY01, GY02) and the remains from the recent past will be negatively affected (destroyed) when Option 03 for the proposed 132kV Mamatshekele to Uitkyk power line is constructed, in operation or when the power line is decommissioned in the future.

The significance of potential impacts on these heritage resources was determined using a ranking scale, based on the following:

- Occurrence
 - Probability of occurrence (how likely is it that the impact may/will occur?), and
 - Duration of occurrence (how long may/will it last?)
- Severity
 - Magnitude (severity) of impact (will the impact be of high, moderate or low severity?), and
 - Scale/extent of impact (will the impact affect the national, regional or local environment, or only that of the site?)

Each of these factors has been assessed for each potential impact using the following ranking scales:

Probability: 5 – Definite/don't know 4 – Highly probable 3 – Medium probability 2 – Low probability 1 – Improbable 0 – None	Duration: 5 – Permanent 4 - Long-term (ceases with the operational life) 3 - Medium-term (5-15 years) 2 - Short-term (0-5 years) 1 – Immediate
Scale: 5 – International 4 – National 3 – Regional 2 – Local 1 – Site only 0 – None	Magnitude: 10 - Very high/don't know 8 – High 6 – Moderate 4 – Low 2 – Minor

The environmental significance of each potential impact was assessed using the following formula:

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

The maximum value is 100 Significance Points (SP). Potential environmental impacts are rated as very high, high, moderate, low or very low significance on the following basis:

- More than 80 significance points indicates VERY HIGH environmental significance.
- Between 60 and 80 significance points indicates HIGH environmental significance.
- Between 40 and 60 significance points indicates MODERATE environmental significance.
- Between 20 and 40 significance points indicates LOW environmental significance.
- Less than 20 significance points indicates VERY LOW environmental significance.

7.1.1 The significance of the graveyards

All graveyards and graves are considered to be of high significance and are protected by various laws (Table 1). Legislation with regard to graves includes Section 36 of the National Heritage Resources Act (No 25 of 1999) whenever graves are older than sixty years. The act also distinguishes various categories of graves and burial grounds. Other legislation with regard to graves includes those which apply when graves are exhumed and relocated, namely the Ordinance on Exhumations (No 12 of 1980) and the Human Tissues Act (No 65 of 1983 as amended).

The impact assessment for the graveyards is outlined as very low and is indicated in Table 1.

Grave-yards	Probability of project impacting on this site	Magnitude if project impacts on this site	Duration if project impacts on this site	Scale if project impacts on this site	Significance points	Significance rating
GY01	1	2	4	1	7	Very Low
GY02	1	2	4	1	7	Very low

Table 1- Significance of potential impacts on graveyards in close proximity of Option 03 for the proposed 132kV power line between Mamatshekele and Uitkyk (above).

7.1.2 The significance of the remains from the recent past

All buildings and structures older than sixty years are considered to be of historical significance and are protected by Section 34 and Section 38 of the National Heritage Resources Act (No 25 of 1999).

The remains from the recent past therefore are not historical in nature and can be considered to be of low significance (Table 2):

The impact assessment for the remains from the recent past is outlined as very low (Table 2).

Remains recent past	Probability of project impacting on this site	Magnitude if project impacts on this site	Duration if project impacts on this site	Scale if project impacts on this site	Significance points	Significance rating
Remains recent past	1	2	4	1	7	Very low

Table 2: Significance of potential impacts on remains from the recent past in close proximity to Option 03 for the proposed 132kV power line between Mamatshekele and Uitkyk (above).

7.2 Mitigating the heritage resources

The following mitigation measures have to be applied if any of the two graveyards or the remains from the recent past is affected during the construction, operation or decommissioning of Option 03 for the proposed Mamatshekele-Uitkyk power line, namely:

7.2.1 Mitigating the graveyards

Graveyards can be mitigated in two ways depending on whether they may be affected, directly or indirectly, namely:

- By means of exhumation and relocation when graveyards are affected directly. The exhumation of human remains and the relocation of graveyards are regulated by various laws, regulations and administrative procedures. This task is undertaken by forensic archaeologists or by reputed undertakers who are acquainted with all the administrative procedures and relevant legislation that have to be adhered to whenever human remains are exhumed and relocated. This process also includes social consultation with a 60 days

statutory notice period for graves older than sixty years. Permission for the exhumation and relocation of human remains have to be obtained from the descendants of the deceased (if known), the National Department of Health, the Provincial Department of Health, the Premier of the Province and the local police.

- Graveyards can be demarcated with a brick wall or with a fence when it is not affected in any physical way (but only indirectly). Controlled access must exist for any relatives or friends who wish to visit the deceased.

7.2.2 Mitigating the remains from the recent past

The remains from the recent past need no mitigation measures and have been adequately recorded in this report.

8 CONCLUSION AND RECOMMENDATIONS

At least two graveyards and remains from the recent past were recorded in the Eskom Project Area. The graveyards and remains from the recent past are located near Option 03 for the proposed 132kV power line which runs between the Mamatshekele and Uitkyk Substations.

The significance of the graveyards

All graveyards and graves are considered to be of high significance and are protected by various laws (Table 1). Legislation with regard to graves includes Section 36 of the National Heritage Resources Act (No 25 of 1999) whenever graves are older than sixty years. The act also distinguishes various categories of graves and burial grounds. Other legislation with regard to graves includes those which apply when graves are exhumed and relocated, namely the Ordinance on Exhumations (No 12 of 1980) and the Human Tissues Act (No 65 of 1983 as amended).

The impact assessment for the graveyards is given in Table 1. The significance of potential impacts on graveyards in close proximity of Option 03 for the proposed 132kV power line between Mamatshekele and Uitkyk is indicated as very low.

The significance of the remains from the recent past

All buildings and structures older than sixty years are considered to be of historical significance and are protected by Section 34 and Section 38 of the National Heritage Resources Act (No 25 of 1999).

The remains from the recent past therefore are not historical in nature and can be considered to be of low significance (Table 2). The significance of potential impacts on the remains from the recent past in close proximity of Option 03 for the proposed 132kV power line between Mamatshekele and Uitkyk is indicated as very low.

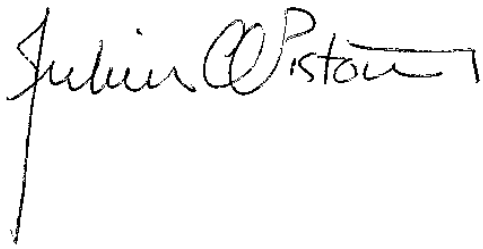
Summary:

There is consequently no reason from a heritage point of view why the Eskom Project cannot proceed. However, preference is given from a heritage point of view for the

construction of either Option 01 or Option 02 for the proposed 132kV power line running between the Mamatshekele and Uitkyk Substations.

Option 01 or Option 2 can be used for the proposed Uitkyk Substation.

There is no reason from a heritage point of view why the 132kV power line between the Uitkyk and Naledi Substations cannot be constructed.

A handwritten signature in black ink, appearing to read 'Julius CC Pistorius'. The signature is written in a cursive style with a long vertical line extending downwards from the start.

DR JULIUS CC PISTORIUS
Archaeologist and Heritage Consultant
Member ASAPA

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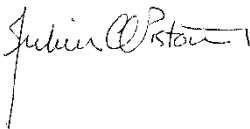
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DECLARATION OF INDEPENDENCE

<p>I, Julius CC Pistorius, declare that:</p> <ul style="list-style-type: none"> • I act as the independent environmental practitioner in this application • I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant • I declare that there are no circumstances that may compromise my objectivity in performing such work; • I have expertise in conducting environmental impact assessments, including knowledge of the National Heritage Resources Act (No 25 of 1999) and any guidelines that have relevance to the proposed activity; • I will comply with the Act, regulations and all other applicable legislation; • I will take into account, to the extent possible, the matters listed in regulation 8 of the regulations when preparing the application and any report relating to the application; • I have no, and will not engage in, conflicting interests in the undertaking of the activity; • I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority; • I will ensure that information containing all relevant facts in respect of the application is distributed or made available to interested and affected parties and the public and that participation by interested and affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced to support the application; • I will ensure that the comments of all interested and affected parties are considered and recorded in reports that are submitted to the competent authority in respect of the application, provided that comments that are made by interested and affected parties in respect of a final report that will be submitted to the competent authority may be attached to the report without further amendment to the report; • I will keep a register of all interested and affected parties that participated in a public participation process; and • I will provide the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not • all the particulars furnished by me in this form are true and correct; • I will perform all other obligations as expected from an environmental assessment practitioner in terms of the Regulations; and • I realise that a false declaration is an offence in terms of regulation 71 and is punishable in terms of section 24F of the Act. <p>Disclosure of Vested Interest I do not have and will not have any vested interest (either business, financial, personal or other) in the proposed activity proceeding other than remuneration for work performed in terms of the Environmental Impact Assessment Regulations, 2010.</p>
<p></p> <p>_____ Signature of the environmental practitioner: Private Consultant Dr Julius CC Pistorius 25 January 2013</p>
<p>_____ Signature of the Commissioner of Oaths:</p> <p>_____ Date:</p> <p>_____ Designation:</p>

2 DETAILS OF THE SPECIALIST

Profession: Archaeologist, Museologist (Museum Scientists), Lecturer, Heritage Guide Trainer and Heritage Consultant

Qualifications:

BA (Archaeology, Anthropology and Psychology) (UP, 1976)

BA (Hons) Archaeology (distinction) (UP, 1979)

MA Archaeology (distinction) (UP, 1985)

D Phil Archaeology (UP, 1989)

Post Graduate Diploma in Museology (Museum Sciences) (UP, 1981)

Work experience:

Museum curator and archaeologist for the Rustenburg and Phalaborwa Town Councils (1980-1984)

Head of the Department of Archaeology, National Cultural History Museum in Pretoria (1988-1989)

Lecturer and Senior lecturer Department of Anthropology and Archaeology, University of Pretoria (1990-2003)

Independent Archaeologist and Heritage Consultant (2003-)

Accreditation: Member of the Association for Southern African Professional Archaeologists. (ASAPA)

Summary: Julius Pistorius is a qualified archaeologist and heritage specialist with extensive experience as a university lecturer, museum scientist, researcher and heritage consultant. His research focussed on the Late Iron Age Tswana and Lowveld-Sotho (particularly the Bamalatji of Phalaborwa). He has published a book on early Tswana settlement in the North-West Province and has completed an unpublished manuscript on the rise of Bamalatji metal workings spheres in Phalaborwa during the last 1 200 years. He has written a guide for Eskom's field personnel on heritage management. He has published twenty scientific papers in academic journals and several popular articles on archaeology and heritage matters. He collaborated with environmental companies in compiling State of the Environmental Reports for Ekurhuleni, Hartebeespoort and heritage management plans for the Magaliesberg and Waterberg. Since acting as an independent consultant he has done approximately 800 large to small heritage impact assessment reports. He has a longstanding working relationship with Eskom, Rio Tinto (PMC), Rio Tinto (EXP), Impala Platinum, Angloplats (Rustenburg), Lonmin, Sasol, PMC, Foskor, Kudu and Kelgran Granite, Bafokeng Royal Resources etc. as well as with several environmental companies.