

Prepared for:

SAVANNAH ENVIRONMENTAL (PTY) LTD

AND

ESKOM TRANSMISSION

**A HERITAGE SCOPING ASSESSMENT REPORT FOR
ESKOM'S MOKOPANE INTEGRATION PROJECT BETWEEN
POLOKWANE, MOKOPANE AND LEPHALALE IN THE
LIMPOPO PROVINCE OF SOUTH AFRICA**

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EXECUTIVE SUMMARY

Eskom is expanding transmission and generation infrastructure to ensure a sufficient generation capacity to sustain South Africa's economic growth. Eskom transmission therefore intends to implement the Mokopane Integration Project in the Limpopo Province of South Africa. The Mokopane Integration Project involves the following:

- The construction of the new 400/132kV Mokopane substation on one of four possible sites.
- The integration of the new substation into the transmission system by looping-in and -out of one of the existing Matimba-Witkop 400kV lines (i.e. two lines running parallel for a distance of approximately 10km).
- Construction of a new 765kV power line between the Delta substation in Lephalale and the new Mokopane substation (approximately 150km).
- Construction of a new 765kV power line between the Delta substation in Lephalale and the Witkop substation (approximately 200km).
- Construction of a new 765kV power line between the new Mokopane substation and the existing Witkop substation (approximately 60km).
- Construction of a 765kV power line between the Delta substation and the Medupi power station.
- Associated works to integrate the new Mokopane substation and transmission lines into the transmission grid.

Eskom's proposed Mokopane Integration Project may impact on South Africa's 'national estate' which comprises a wide range of heritage resources, some of which may occur in Mokopane Integration Project Area (see Part 3, 'The National Estate'). Therefore, ultimately, a Phase I Heritage Impact Assessment (HIA) has to be undertaken for the Mokopane Integration Project as outlined in Section 38 of the National Heritage Resources Act (No 25 of 1999).

This Heritage Scoping report precedes the Phase I HIA study as it outlines the following:

- The possible presence of certain types and ranges of heritage resources as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999) (see Part 3) which may occur in the Mokopane Integration Project Area by means of consulting

archaeological data bases, literary sources, earlier HIA studies and observations made from a helicopter fly-over of the project area (see Part 4, 'Methodology').

- The scope, objectives and approach for the Phase I HIA for the Mokopane Integration Project during the Environmental Impact Assessment (EIA) phase in order to comply with Section 38 of the National Heritage Resources Act (No 25 of 1999) as well as with the objectives of the EMP report that has to be completed for the Mokopane Integration Project.

The Mokopane Integration Project study area covers a considerable piece of land in the Limpopo Province of South Africa as it runs from the Witkop substation, located between Polokwane and Mokopane in the east across the Waterberg mountain range to the Delta substation and the Medupi Power Station near Lephalale in the west (2326 Lephalale, 2328 Polokwane & 2428 Modimolle 1:250 000 maps).

Four heritage zones can be distinguished in the Mokopane Integration Project study area when ecological, historical and pre-historical criteria are considered. These are the plains with scattered mountains, kopjes and knolls to the west of Polokwane and Mokopane in the eastern part of the project area. This area represents the sphere of influence of the Langa-Ndebele as well as other Ndebele clans who occupied the area during the Late Iron Age to the present. The Waterberg mountain mass occurs in the middle of the study area and is associated with San hunter-gatherer groups who occupied cave dwellings in this part of the project area. They may also have left rock paintings in the mountains. The first colonists (Voortrekkers) also occupied this area during the early part of the nineteenth century where they practised a mixed farming existence. A flat outstretched piece of bush and sand veldt marks the far western part of the study area. It is here where the San and Vaalpense roamed and established temporary, ephemeral types of settlements. Isolated flat-topped hills (mesa) and kopjes in thorn-veldt in the north-western part of the study area corresponds with the Seleka-Ndebele and the Shongwane clans who maintained spheres of influence in this region during the Late Iron Age and the historical period.

When considering the pre-historical and historical context for the Mokopane Integration Project study area it is clear that some of the following types and ranges of heritage

resources as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999) may occur in the project area, namely:

- Stone Age sites or scatters of stone tools near pans, in eroded areas or dongas, near small outcrops and along older beds and floodplains of the Mogol, Lephale and Mogalakwena Rivers as well as tributaries running into these rivers.
- Early Iron Age farming settlements near main rivers or where tributaries join these major rivers. Small numbers of potsherds and evidence for occupation may be associated with outcrops in the area.
- Late Iron Age remains in the Langa-Ndebele, Seleka-Ndebele and the Shongwane spheres of influence.
- Farm homesteads with associated infrastructure such as sheds and outbuildings, family graveyards or informal graveyards which date from the historical period. (If historical farm homesteads with associated infrastructure and activity areas have remained unaltered such complexes may constitute cultural landscapes).
- Graveyards and informal graves which occur together with dilapidated homesteads on farms, townships and informal villages which scattered across the project area.
- Individual buildings such as farm houses which are older than sixty years which therefore qualify as heritage resources.

The Mokopane Integration Project may impact on the 'national estate' (see Part 3) that may occur in the project area. These impacts may occur as a result of construction activities or may be the result of a particular visual affect a new power line may cause to heritage resources and landscapes. The significance of these impacts will be determined by means of assessing criteria such as the nature, extend, duration, probability and severity of impacts on the various types and ranges of heritage resources.

Therefore, a Phase I HIA for the proposed Mokopane Integration Project study area has to be undertaken to comply with Section 38 of the National Heritage Resources Act (No 25 of 1999) which requires the following scope and objectives:

- (a) 'The identification and mapping of all heritage resources in the area affected;
- (b) an assessment of the significance of such resources in terms of the heritage assessment criteria set out in section 6(2) or prescribed under Section 7;

- (c) an assessment of the impact of development on such heritage resources;
- (d) an evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development;
- (e) the results of consultation with communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources;
- (f) if heritage resources will be adversely affected by the proposed development, the consideration of alternatives; and
- (g) plans for mitigation of any adverse effects during and after the completion of the proposed development'.

The Phase I HIA study will consist of a reconnaissance of the Mokopane Integration Project study area with a vehicle while sensitive spots and areas will be surveyed. Information received from landowners regarding heritage resources that will be affected by the Mokopane Integration Project will be verified by means of site visits to various properties. The Phase I HIA study will also include the geo-referencing, mapping, photographing and describing of any heritage resources and graveyards which may exist in the project area. The significance of these heritage resources will be determined by means of stipulations derived from the National Heritage Resources Act (No 25 of 1999) and criteria relating to the types and ranges of heritage resources that may be affected by the Mokopane Integration Project. Mitigation measures will be proposed for heritage resources that may be affected by the development project. Most of these mitigation principles are generally referred to as Phase II investigations.

The Phase I HIA report will also outline management proposals for any heritage resources that may continue to exist unaffected in the project area in the short-, medium- or long-term.

The protection and management of the national estate usually occurs through formal and general protection measures.

- Formal protection involves identifying (or nominating) national and provincial heritage sites; designating areas of land as protected areas; providing provisional protection to protected areas or heritage resources; compiling and maintaining

- heritage registers (for Grade II and Grade III heritage resources); designating heritage areas in order to protect places of environmental or cultural interest as heritage sites and declaring objects/collections of objects as a heritage object(s).
- General protection of heritage resources provides for control in the importation of foreign heritage resources; prevention of the destruction/altering of heritage resources older than 60 years; special measures in dealing with archaeological/paleontological material and meteorites; conserving and caring for burial grounds and graves; protecting public monuments and memorials and requiring developers to implement heritage resources management plans for various categories of development.

Mitigation measures (Phase II studies) that would be applied to any of the possible types and ranges of heritage resources in the Mokopane Integration Project study area would entail some of those listed under 'general protection'.

Phase II studies include in-depth heritage studies and vary according to the types and ranges of heritage resources that may be affected. These studies include the documentation of sites dating from the Stone Age, Iron Age and the Historical Period by means of mapping (surveying), excavating, photographing and describing archaeological sites. Excavations of archaeological sites could be followed by laboratory work when archaeological collections have to be studied and analysed.

Phase II work may also include the documenting of rock art, engravings or historical sites and dwellings; the sampling of archaeological sites or shipwrecks; extended excavations of archaeological sites; the exhumation and relocation of graves and graveyards; the collection or excavation of paleontological samples, etc. and may require the input of different types of specialists.

Phase II work requires permission from the Provincial Heritage Resources Authority (PHRA) who would provide the necessary permits authorising the undertaking of Phase II heritage work. Phase II investigations are done before construction activities - that may affect heritage resources - are undertaken.

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1 BACKGROUND TO THE PROJECT

Eskom is expanding transmission and generation infrastructure to ensure a sufficient generation capacity to sustain South Africa's economic growth. Eskom transmission therefore intends to implement the Mokopane Integration Project in the Limpopo Province of South Africa. The project has the following aims:

- to transfer the power which will be generated at the new Medupi Power Station into the transmission grid;
- to support the greater need for power which is required by mines in the Steelpoort area and
- to improve the reliability of electricity supply to the Polokwane area.

The Mokopane Integration Project involves the following:

- The construction of the new 400/132kV Mokopane substation on one of four possible sites.
- The integration of the new substation into the transmission system by looping-in and -out of one of the existing Matimba-Witkop 400kV lines (i.e. two lines running parallel for a distance of approximately 10km).
- Construction of a new 765kV power line between the Delta substation in Lephalale and the new Mokopane substation (approximately 150km).
- Construction of a new 765kV power line between the Delta substation in Lephalale and the Witkop substation (approximately 200km).
- Construction of a new 765kV power line between the new Mokopane substation and the existing Witkop Substation (approximately 60km).
- Construction of a 765kV power line between the Delta substation and the Medupi power station.
- Associated works to integrate the new Mokopane substation and transmission lines into the transmission grid.

2 AIMS WITH THIS REPORT

Eskom's proposed Mokopane Integration Project may impact on South Africa's 'national estate' which comprises a wide range of heritage resources, some of which may occur in Mokopane Integration Project study area (see Part 3, 'The National Estate'). Therefore, ultimately, a Phase I Heritage Impact Assessment (HIA) has to be undertaken for the Mokopane Integration Project as outlined in Section 38 of the National Heritage Resources Act (No 25 of 1999).

This Heritage Scoping report precedes the Phase I HIA study as it outlines the following:

- The possible presence of certain types and ranges of heritage resources as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999) (see Part 3) which may occur in the Mokopane Integration Project study area by means of consulting archaeological data bases, literary sources, maps, earlier HIA studies and observations made from a helicopter fly-over of the project area during May 2008 (see Part 4, 'Methodology').
- The scope, objectives and approach for the Phase I HIA for the Mokopane Integration Project during the Environmental Impact Assessment (EIA) phase in order to comply with Section 38 of the National Heritage Resources Act (No 25 of 1999), as well as with the objectives of the EMP report that has to be completed for the Mokopane Integration Project.

3 THE NATIONAL ESTATE

Section 3 of the National Heritage Resources Act (No 25 of 1999) lists a wide range of heritage resources that qualify as part of South Africa's 'national estate'. When conducting a Heritage Impact Assessment (HIA) study the following types and ranges of heritage resources have to be identified:

- (a) places, buildings structures and equipment of cultural significance;
- (b) places to which oral traditions are attached or which are associated with living heritage;
- (c) historical settlements and townscapes;
- (d) landscapes and natural features of cultural significance;
- (e) geological sites of scientific or cultural importance;
- (f) archaeological and paleontological sites;
- (g) graves and burial grounds including-
 - (i) ancestral graves;
 - (ii) royal graves and graves of traditional leaders
 - (iii) graves of victims of conflict
 - (iv) graves of individuals designated by the Minister by notice in the Gazette;
 - (v) historical graves and cemeteries; and
 - (vi) other human remains which are not covered by in terms of the Human Tissue Act, 1983, Act No. 65 of 1983
- (h) sites of significance relating to the history of slavery in South Africa;
- (i) moveable objects, including -
 - (i) objects recovered from the soil or waters of South Africa, including archaeological and paleontological objects and material, meteorites and rare geological specimens;
 - (ii) objects to which oral traditions are attached or which are associated with living heritage;
 - (iii) ethnographic art and objects;
 - (iv) military objects;
 - (v) objects of decorative or fine art;

(vi) objects of scientific or technological interest; and
(vii) books, records, documents, 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.

Section 3 of the National Heritage Resources Act, Act No. 25 of 1999 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;
- (b) its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;
- (c) its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;
- (d) 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) its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa; and
- (i) sites of significance relating to the history of slavery in South Africa.

4 METHODOLOGY

This Heritage Scoping Assessment report was conducted by means of consulting archaeological (heritage) data bases; doing a survey with a helicopter; studying maps of the project area and doing a brief survey of literature relating to the pre-historical and historical context of the Mokopane Integration Project Area.

4.1 Archaeological data bases

Archaeological data bases kept at heritage institutions such as the African Window Museum in Pretoria (Tshwane), the South African Heritage Resources Authority (SAHRA) (Cape Town [national]) and the Limpopo Heritage Resources Authority (LIHRA) were consulted to establish if any heritage resources of significance occur in or near the Mokopane Integration Project study area.

4.2 Survey with a helicopter

The Mokopane Integration Project study area was surveyed with a helicopter. All the proposed power line corridors and sites for the proposed new substation were inspected from the air.

4.3 Maps

The 1: 50 000 topographical maps, the 1: 250 000 maps and compilations of various other maps that were produced outlining the Mokopane Integration Project study area were studied and used in conjunction with the field observations that were made during the helicopter survey.

The author is not totally unacquainted with the larger project area as he has undertaken several heritage impact assessment studies for transmission,

distribution and rural power lines in and near the Mokopane Integration Project study area (see Part 7, 'Select Bibliography').

4.4 Survey of literature

A brief survey of literature relating to the pre-historical and cultural history of the region was undertaken in order to contextualise the Mokopane Integration Project study area (see Part 5, 'The Mokopane Integration Project study area' and Part 8, 'Select Bibliography').

4.5 Limitations and assumptions

The Mokopane Integration Project study area covers a considerable piece of land and cannot be covered in full even when a foot survey of the area is undertaken due to time and budget constraints.

The helicopter survey proved what the maps predicted, namely that the Mokopane Integration Project study area represents a varied topographical landscape with different ecological niches. This variation in natural features also corresponds with different cultural spheres of influence and heritage features that occur across this vast landscape.

The aerial survey only assisted with the identification of large structures such as farm houses and other infrastructure with possible historical significance. Smaller archaeological features such as scatters of stone tools, Early Iron Age sites or single graves and small cemeteries could not be observed.

Heritage resources therefore may have been missed during this Heritage Scoping Survey. The Phase I HIA study which will include a survey with a vehicle and a survey of sensitive areas or spots on foot would identify the presence of heritage resources with a greater degree of accuracy.

4.6 Some remarks on terminology

Terminologies that may be used in this report are briefly outlined in Box 1.

Box 1. Terminologies that may be used in this report

The Heritage Impact Assessment (HIA) referred to in the title of this report includes a survey of heritage resources as outlined in the National Heritage Resources Act, 1999 (Act No 25 of 1999) (See Box 1).

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.

The term '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 Mokopane, Polokwane and Lephalale by the first Colonists who settled in this area after c. 1840.

The term 'relatively 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.

It is not always possible, based on observations alone, to distinguish clearly between archaeological remains and historical remains, or between historical remains and remains from the relatively recent past. Although certain criteria may help to make this distinction possible, these criteria are not always present, or, when they are present, they are not always clear enough to interpret with great accuracy. Criteria such as square floor plans (a historical feature) may serve as a guideline. However, circular and square floors may occur together on the same site.

The term 'sensitive remains' is sometimes used to distinguish graves and cemeteries as well as ideologically significant features such as holy mountains, initiation sites or other sacred places. Graves in particular are not necessarily heritage resources if they date from the recent past and do not have head stones that are older than sixty years. The distinction between 'formal' and 'informal' graves in most instances also refers to graveyards that were used by colonists and by indigenous people. This distinction may be important as different cultural groups may uphold different traditions and values with regard to their ancestors. These values have to be recognised and honoured whenever graveyards are exhumed and relocated.

The term '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).

The terms 'Early Iron Age' and 'Late Iron Age' respectively refer to the periods between the first and the second millenniums AD. The 'Late Iron Age' refers to the period between the 17th and the 19th centuries and therefore include the historical period.

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

The term '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 in order to establish the presence of all possible types of heritage resources in any given area.

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 bodies and the relocation of graveyards, etc. Phase II work may require the input of specialists and requires the co-operation and approval of SAHRA.

5 THE MOKOPANE INTEGRATION PROJECT STUDY AREA

5.1 Location

The Mokopane Integration Project involves the construction of a new substation and two new power lines, namely:

- The proposed new Mokopane Substation on one of four proposed sites (Options 1-4), namely on the border between Aronsfontein 722 and Doornfontein 721 (Options 1 & 2), on Zuid-Holland 733 (Option 3) and on Noord Brabant 774 (Option 4).

Two power lines running parallel with each other will be constructed:

- A 765kV power line running between the Delta substation and the Mokopane substation. This power line may follow either a northern (Option 1), a central (Option 2) or a southern (Option 3) route.
- A 765kV power line running from the Delta substation to the Mokopane substation and from here to the Witkop substation (Option 1-3). One of several alternatives may be followed between the Mokopane and Witkop substations.
- A 765kV power line running between the Delta substation and the Medupi power station.

The Mokopane Integration Project study area covers a considerable piece of land in the Limpopo Province of South Africa as it runs from the Witkop substation located between Polokwane and Mokopane in the east across the Waterberg mountain range to the Delta substation and Medupi power station near Lephalale in the west (2326 Lephalale, 2328 Polokwane & 2428 Modimolle 1:250 000 maps).

Four heritage zones can be distinguished in the Mokopane Integration Project Area when ecological, historical and pre-historical criteria are considered. These are the plains with scattered mountains, kopjes and knolls in the east; the

Waterberg mountain mass in the middle of the project area; outstretched bush and sand veldt in the far west and isolated flat-topped hills (mesa) and kopjes in thorn-veldt in the north-western part of the project area.

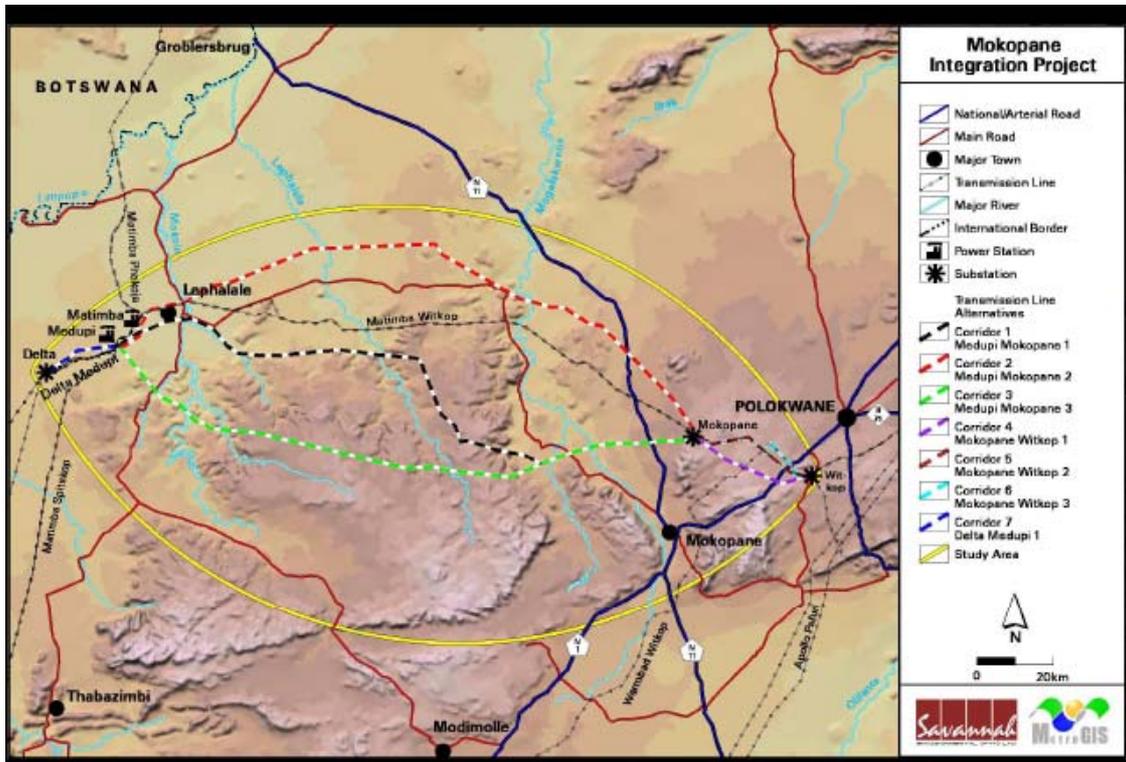


Figure 1- The Mokopane Integration Project study area with proposed 765kV power line corridors and sites for the Mokopane substation in the Limpopo Province of South Africa.

The project area stretches from Polokwane and Mokopane in the east across different ecological zones and cultural spheres of interest to Lephalele in the west (above).

5.2 Contextualising the Mokopane Integration Project study area

Four archaeological (heritage) zones can be distinguished in the Mokopane Integration Project study area considered from an ecological, historical and pre-historical perspective. These are the plains to the west of Polokwane and Mokopane which are dotted with scattered mountains, kopjes and knolls across a vast plain; the Waterberg mountain mass in the central part of the project area; flat outstretched bush and sand veldt to the west of the Waterberg mountains and a number of isolated flat-topped hills (mesa) and kopjes in thorn-veldt in the north-western part of the project area.

The plains towards the west of Polokwane and Mokopane are characterised by a number of large mountains and smaller kopjes and knolls. Some of these mountains, further towards the west, near the Potgietersrust Platinum Mine (PPM), bear historical names such as Mapela, Masenya, Tshaba and the historically well-known Fonthane. These mountains serve as historical beacons outlining the spheres of influence of the Langa-Ndebele, a Nguni group who settled in this area during the sixteenth and seventeenth centuries. The Ledwaba/Maune Ndebele clans, who are related to the Langa-Ndebele, live in the Bergzicht-Kalkspruit and Mašašane townships near the proposed new Mokopane Substation. The southern option (Corridor 3) for the proposed 765kV power line runs across these historical Ndebele spheres of influence.

The extensive Waterberg mountain mass in the central part of the Mokopane Integration Project study area covers the largest part of the project area. This mountainous terrain is divided by both the Mogol and Magalakwena Rivers which runs from the south to the north through this mountain range. No dense concentrations of archaeological or other heritage sites have yet been recorded in this eco-zone. However, krantzies and ridges along the northern and southern escarp in this part of the project area, as well as valleys that criss-cross the mountain range, harbour some rock paintings. Caves and rock shelters also

occur where Stone Age hunter-gatherers established semi-permanent settlements, particularly during the Middle Stone Age. During the nineteenth century colonial (Voortrekkers) families established themselves in the Waterberg where they practised a mixed farming existence. They also hunted antelope and big game in order to supplement food resources but also to use products from the hunt to barter for living commodities. Both the central and southern options for the 765kV power lines (Corridors 1 & 3) to be established between the Delta substation and the Mokopane substation run across the Waterberg mountain range.



Figure 2- The plains with scattered mountains and kopjes west of Polokwane and Mokopane served as the sphere of influence of the Langa Ndebele during the Late Iron Age and historical period (above).

On the far western end of the Waterberg, after passing the last foothills in this range, open sand veldt covered with thorn trees marks the Mokopane Integration Project study area. This land was formerly the sphere of influence of the pre-historical San and historical Vaalpense who roamed the area in small family groups acting as nomadic hunters and herders. Early Iron Age farmers also lived near the western perimeter of the Waterberg where they herded cattle, possibly practised limited crop planting but smelted iron on a substantial scale at the site of Diamand. Both the southern option for the 765kV power lines running between the Delta and Mokopane substations (Corridor 3) as well as the 765kV power line running between the Delta substation and the Medupi power station (Corridor 7) run across the western edge and foothills of the Waterberg mountain range.



Figure 3- The Waterberg mountains mass in the central part of the project area. Historical farmstead complexes that may constitute cultural landscapes if associated with outbuildings, graveyards other infrastructure occur in this part of the project area (above).



Figure 4- Flat-topped hills in the north-western part of the project area. Here, the Seleka-Ndebele and Shongwane clans established spheres of influence during the Late Iron Age and historical period (above).

Isolated kopjes and flat-top hills (mesa) in thorn-veld occur across the north-western part of the Mokopane Integration Project study area where these topographical features corresponds with the northern perimeters of the spheres of influence of the Seleka-Ndebele and the Batlhalerwa (Shongwane). Both these clans have their origins in the Late Iron Age and historical periods. The Ndebele of Seleka is a remnant of the Southern Ndebele people who moved from the Pretoria area into their present homeland during the 18th century. The Shongwane originates from Bokgalaka (Zimbabwe) and settled in this far north-western corner during the 18th century. They are historically associated with Nora and Bobididi, two of the flat-topped hills in the area.

In this far north-western part of the project area these communities practised farming and metal working, the remains of which still occur in the area. The northern option for the 765kV power lines (Corridor 2) running between the Delta and Mokopane Substations runs slightly to the north of these flat-topped hills, isolated kopjes and krantzes where the Seleka and Shongwane lived.



Figure 5- The vast, homogenous plains to the west of the Waterberg where the Vaalpense and their predecessors and contemporaries, the San, lived as hunters and foragers in ephemeral types of settlements (above).

Mokopane and Polokwane in the east represent two of the oldest colonial (Voortrekker/Boer) towns in the former Transvaal Province. This area incorporates plains with granite hills to the west of Mokopane and was also home

to the Ndebele tribes of Kekana and Langa. These clans occupied places such as Maraba, Mašašane and Vaaltyn to the north-west of Mokopane. The town of Lephalale in the west is much younger as it was established as a result of the area's importance in coal reserves.

Each of these eco-zones is therefore associated with human groups from the past. Descendants of these populations, such as the Ndebele, Vaalperse, colonials (Boers) and Shongwane still live and work in the area and can be found in towns and villages in or close to the Mokopane Integration Project Area.

5.3 Possible types and ranges of heritage resources in the Study Area

When considering the pre-historical and historical context for the Mokopane Integration Project study area at large it is clear that some of the following types and ranges of heritage resources as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999) may occur in the Mokopane Integration Project study area, namely:

- Stone Age sites or scatters of stone tools near pans, in eroded areas or dongas, near small outcrops and along older beds and floodplains of the Mogol, Lephalale and Mogalakwena Rivers as well as tributaries running into these rivers.
- Early Iron Age farming settlements near main rivers or where tributaries join these major rivers. Small numbers of potsherds and evidence for occupation may be associated with outcrops in the area.
- Late Iron Age remains in the Langa-Ndebele, Seleka-Ndebele and the Shongwane spheres of influence.
- Farm homesteads with associated infrastructure such as sheds and outbuildings, family graveyards or informal graveyards which date from the historical period. (If historical farm homesteads with associated infrastructure and activity areas have remained unaltered such complexes may constitute cultural landscapes).

- Graveyards and informal graves which occur together with dilapidated homesteads on farms, townships and informal villages which scattered across the project area.
- Individual buildings such as farm houses which are older than sixty years which therefore qualify as heritage resources.

6 THE PHASE I HERITAGE IMPACT ASSESSMENT (HIA) STUDY

6.1 The National Heritage Resources Act (No 25 of 1999)

The Mokopane Integration Project may impact on the 'national estate' (see Part 3) that may occur in the project area. These impacts may occur as a result of construction activities or may be the result of a particular visual affect a new power line may cause to heritage landscapes. The significance of these impacts will be determined by means of assessing criteria such as the nature, extend, duration, probability and severity of impacts on the various types and ranges of heritage resources.

Therefore, a Phase I HIA for the proposed Mokopane Integration Project study area has to be undertaken to comply with Section 38 of the National Heritage Resources Act (No 25 of 1999) which requires the following scope and objectives:

- (a) 'The identification and mapping of all heritage resources in the area affected;
- (b) An assessment of the significance of such resources in terms of the heritage assessment criteria set out in section 6(2) or prescribed under section 7;
- (c) an assessment of the impact of development on such heritage resources;
- (d) an evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development;
- (e) the results of consultation with communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources;
- (f) if heritage resources will be adversely affected by the proposed development, the consideration of alternatives; and

- (g) plans for mitigation of any adverse effects during and after the completion of the proposed development’.

6.2 Approach and methodology

The Phase I HIA study for the proposed Mokopane Integration Project study area will consist of a scoping study supplemented with a Phase I HIA study. This study contains the results for the scoping study. The nature and extent of the scoping and the Phase I HIA studies are the following:

6.2.1 This scoping study

This scoping study consisted of a desk top study which included the following:

- A survey of relevant literature in order to contextualise the project area.
- A survey of archaeological and heritage databases.
- Studying maps that helped to identify some of the types and ranges of heritage resources that may exist in the project area.
- Consulting earlier HIA studies of the larger project area (of which the author has done several himself)

This information consisted of a mix (synthesis) of pre-historical, historical and cultural (ethnographic) evidence which contextualised the project area in a local and regional cultural historical context.

6.2.2 The Phase I HIA study

The Phase I HIA survey will support, supplement or refute the contextual evidence which emanated from the literature research and data bases by providing physical (or material) evidence that these heritage resources exist (or not exist) in the Mokopane Integration Project study area.

The Phase I HIA study will consist of a reconnaissance of the Mokopane Integration Project study area with a vehicle while sensitive spots and areas will be surveyed on foot. The Phase I HIA study will also include the geo-referencing, mapping, photographing and describing of any heritage resources and graveyards which may exist in or near the project area. The significance of these heritage resources will be determined by means of stipulations derived from the National Heritage Resources Act (No 25 of 1999) and by means of criteria relating to the types and ranges of heritage resources to be affected by the project. Mitigation measures will be proposed for those heritage resources that may be affected by the development project. Most of these mitigation principles are generally referred to as Phase II investigations.

The Phase I HIA report will also outline management proposals for any heritage resources that may continue to exist unaffected in the project area in the short-, medium- or long-term.

6.3 Protecting and managing heritage resources

The Phase I HIA study will provide a synthesis of the results achieved by the scoping study and the Phase I survey and will describe the *status quo* of the Mokopane Integration Project study area with regard to its pre-historical (archaeological), historical and cultural context. Depending on the types and ranges of heritage resources that may be discovered and the level of significance of these remains certain mitigation and management measures have to be applied to these resources, particularly if they are to be affected (destroyed, altered, removed) during the construction, operation or maintenance of the Mokopane Integration Project.

The protection and management of the national estate usually occurs through formal and general protection measures.

- Formal protection involves identifying (or nominating) national and provincial heritage sites; designating areas of land as protected areas; providing provisional protection to protected areas or heritage resources; compiling and maintaining heritage registers (for Grade II and Grade III heritage resources); designating heritage areas in order to protect places of environmental or cultural interest as heritage sites and declaring objects/collections of objects as a heritage object(s).
- General protection of heritage resources provides for control in the importation of foreign heritage resources; prevention of the destruction/altering of heritage resources older than 60 years; special measures in dealing with archaeological/paleontological material and meteorites; conserving and caring for burial grounds and graves; protecting public monuments and memorials and requiring developers to implement heritage resources management plans for various categories of development.

Mitigation measures (Phase II studies) that would be applied to any of the possible types and ranges of heritage resources in the Mokopane Integration Project study area would entail some of those listed under 'general protection'.

6.4 Phase II investigations

Phase II studies include in-depth heritage studies and vary according to the types and ranges of heritage resources that may be affected. These studies include the documentation of sites dating from the Stone Age, Iron Age and the Historical Period by means of mapping (surveying), excavating, photographing and describing archaeological sites. Excavations of archaeological sites could be followed by laboratory work when archaeological collections have to be studied and analysed.

Phase II work may also include the documenting of rock art, engravings or historical sites and dwellings; the sampling of archaeological sites or shipwrecks; extended excavations of archaeological sites; the exhumation and relocation of graves and graveyards; the collection or excavation of paleontological samples, etc. and may require the input of different types of specialists.

Phase II work requires permission from the Provincial Heritage Resources Authority (PHRA) who would provide the necessary permits authorising the undertaking of Phase II heritage work. Phase II investigations are done before construction activities - that may affect heritage resources - are undertaken.

Heritage management programmes must be visionary and must ensure that possible cultural, historical or cultural resources in the Mokopane Integration Project study area are conserved and managed in the short-, medium- or long-term.

7 CONCLUSION

Eskom is expanding transmission and generation infrastructure to ensure a sufficient generation capacity to sustain South Africa's economic growth. Eskom transmission therefore intends to implement the Mokopane Integration Project in the Limpopo Province of South Africa. The Mokopane Integration Project involves the following:

- The construction of the new 400/132kV Mokopane substation on one of four possible sites.
- The integration of the new substation into the transmission system by looping-in and -out of one of the existing Matimba-Witkop 400kV lines (i.e. two lines running parallel for a distance of approximately 10km).
- Construction of a new 765kV power line between the Delta substation in Lephalale and the new Mokopane substation (approximately 150km).
- Construction of a new 765kV power line between the Delta substation in Lephalale and the Witkop substation (approximately 200km).
- Construction of a new 765kV power line between the new Mokopane substation and the existing Witkop substation (approximately 60km).
- Construction of a 765kV power line between the Delta substation and the Medupi power station.
- Associated works to integrate the new Mokopane substation and transmission lines into the transmission grid.

Eskom's proposed Mokopane Integration Project may impact on South Africa's 'national estate' which comprises a wide range of heritage resources, some of which may occur in Mokopane Integration Project study area (see Part 3, 'The National Estate'). Therefore, ultimately, a Phase I Heritage Impact Assessment (HIA) has to be undertaken for the Mokopane Integration Project as outlined in Section 38 of the National Heritage Resources Act (No 25 of 1999).

This Heritage Scoping report precedes the Phase I HIA study as it outlines the following:

- The possible presence of certain types and ranges of heritage resources as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999) (see Part 3) which may occur in the Mokopane Integration Project Area by means of consulting archaeological data bases, literary sources, earlier HIA studies and observations made from a helicopter fly-over of the project area (see Part 4, 'Methodology').
- The scope, objectives and approach for the Phase I HIA for the Mokopane Integration Project during the Environmental Impact Assessment (EIA) phase in order to comply with Section 38 of the National Heritage Resources Act (No 25 of 1999) as well as with the objectives of the EMP report that has to be completed for the Mokopane Integration Project.

The Mokopane Integration Project study area covers a considerable piece of land in the Limpopo Province of South Africa as it runs from the Witkop substation, located near Polokwane and Mokopane in the east across the Waterberg mountain range to the Delta substation near Lephalale in the west (2326 Lephalale, 2328 Polokwane & 2428 Modimolle 1:250 000 maps).

Four heritage zones can be distinguished in the Mokopane Integration Project study area when ecological, historical and pre-historical criteria are considered. These are the plains with scattered mountains, kopjes and knolls to the west of Polokwane and Mokopane in the eastern part of the project area. This area represents the sphere of influence of the Langa-Ndebele as well as other Ndebele clans who occupied the area during the Late Iron Age to the present. The Waterberg mountain mass occurs in the middle of the study area and is associated with San hunter-gatherer groups who occupied cave dwellings in this part of the project area. They may also have left rock paintings in the mountains. The first colonists (Voortrekkers) also occupied this area during the early part of the nineteenth century where they practised a mixed farming existence. A flat

outstretched piece of bush and sand veldt marks the far western part of the study area. It is here where the San and Vaalpense roamed and established temporary, ephemeral types of settlements. Isolated flat-topped hills (mesa) and kopjes in thorn-veldt in the north-western part of the study area corresponds with the Seleka-Ndebele and the Shongwane clans who maintained spheres of influence in this region during the Late Iron Age and the historical period.

When considering the pre-historical and historical context for the Mokopane Integration Project study area it is clear that some of the following types and ranges of heritage resources as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999) may occur in the project area, namely:

- Stone Age sites or scatters of stone tools near pans, in eroded areas or dongas, near small outcrops and along older beds and floodplains of the Mogol, Lephale and Mogalakwena Rivers as well as tributaries running into these rivers.
- Early Iron Age farming settlements near main rivers or where tributaries join these major rivers. Small numbers of potsherds and evidence for occupation may be associated with outcrops in the area.
- Late Iron Age remains in the Langa-Ndebele, Seleka-Ndebele and the Shongwane spheres of influence.
- Farm homesteads with associated infrastructure such as sheds and outbuildings, family graveyards or informal graveyards which date from the historical period. (If historical farm homesteads with associated infrastructure and activity areas have remained unaltered such complexes may constitute cultural landscapes).
- Graveyards and informal graves which occur together with dilapidated homesteads on farms, townships and informal villages which scattered across the project area.
- Individual buildings such as farm houses which are older than sixty years which therefore qualify as heritage resources.

The Mokopane Integration Project may impact on the 'national estate' (see Part 3) that may occur in the project area. These impacts may occur as a result of construction activities or may be the result of a particular visual affect a new power line may cause to heritage resources and landscapes. The significance of these impacts will be determined by means of assessing criteria such as the nature, extend, duration, probability and severity of impacts on the various types and ranges of heritage resources.

Therefore, a Phase I HIA for the proposed Mokopane Integration Project study area has to be undertaken to comply with Section 38 of the National Heritage Resources Act (No 25 of 1999) which requires the following scope and objectives:

- (a) 'The identification and mapping of all heritage resources in the area affected;
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- (e) the results of consultation with communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources;
- (f) if heritage resources will be adversely affected by the proposed development, the consideration of alternatives; and
- (g) plans for mitigation of any adverse effects during and after the completion of the proposed development'.

The Phase I HIA study will consist of a reconnaissance of the Mokopane Integration Project study area with a vehicle while sensitive spots and areas will be surveyed.

Information received from landowners regarding heritage resources that will be affected by the Mokopane Integration Project will be verified by means of site visits to various properties. The Phase I HIA study will also include the geo-referencing, mapping, photographing and describing of any heritage resources and graveyards which may exist in the project area.

The significance of these heritage resources will be determined by means of stipulations derived from the National Heritage Resources Act (No 25 of 1999) and criteria relating to the types and ranges of heritage resources that may be affected by the Mokopane Integration Project. Mitigation measures will be proposed for heritage resources that may be affected by the development project. Most of these mitigation principles are generally referred to as Phase II investigations.

The Phase I HIA report will also outline management proposals for any heritage resources that may continue to exist unaffected in the project area in the short-, medium- or long-term.

The protection and management of the national estate usually occurs through formal and general protection measures.

- Formal protection involves identifying (or nominating) national and provincial heritage sites; designating areas of land as protected areas; providing provisional protection to protected areas or heritage resources; compiling and maintaining heritage registers (for Grade II and Grade III heritage resources); designating heritage areas in order to protect places of environmental or cultural interest as heritage sites and declaring objects/collections of objects as a heritage object(s).
- General protection of heritage resources provides for control in the importation of foreign heritage resources; prevention of the destruction/altering of heritage resources older than 60 years; special

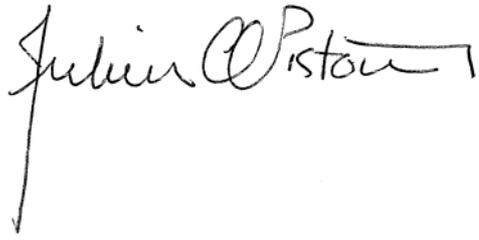
measures in dealing with archaeological/paleontological material and meteorites; conserving and caring for burial grounds and graves; protecting public monuments and memorials and requiring developers to implement heritage resources management plans for various categories of development.

Mitigation measures (Phase II studies) that would be applied to any of the possible types and ranges of heritage resources in the Mokopane Integration Project study area would entail some of those listed under 'general protection'.

Phase II studies include in-depth heritage studies and vary according to the types and ranges of heritage resources that may be affected. These studies include the documentation of sites dating from the Stone Age, Iron Age and the Historical Period by means of mapping (surveying), excavating, photographing and describing archaeological sites. Excavations of archaeological sites could be followed by laboratory work when archaeological collections have to be studied and analysed.

Phase II work may also include the documenting of rock art, engravings or historical sites and dwellings; the sampling of archaeological sites or shipwrecks; extended excavations of archaeological sites; the exhumation and relocation of graves and graveyards; the collection or excavation of paleontological samples, etc. and may require the input of different types of specialists.

Phase II work requires permission from the Provincial Heritage Resources Authority (PHRA) who would provide the necessary permits authorising the undertaking of Phase II heritage work. Phase II investigations are done before construction activities - that may affect heritage resources - are undertaken.

A handwritten signature in black ink that reads "Julius CC Pistorius". The signature is written in a cursive style with a long vertical stroke extending downwards from the 'J'. A thin red vertical line is positioned to the right of the signature.

Dr Julius CC Pistorius
Archaeologist and Heritage Consultant
Member ASAPA

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