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A PHASE I HERITAGE IMPACT ASSESSMENT (HIA) STUDY FOR ESKOM'S PROPOSED 3x132kV POWER LINES BETWEEN THE LESIDENG SUBSTATION AND THE PROPOSED TSHATANE SUBSTATION IN THE LIMPOPO PROVINCE OF SOUTH AFRICA

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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 3x132kV power lines between the Lesideng Substation and the proposed new Tshatane Substation in the Limpopo Province. The construction of the proposed new 132kV power line is hereafter referred to as the Eskom Project whilst the areas (footprints of the developmental components) to be affected by the power line is referred to as the 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.

The Phase I HIA study for the proposed Route D for the existing 400kV Duva-Lesideng power line which runs across the Tsjate cultural landscape (and therefore also across the Tsjate Provincial Heritage Site) concluded with the following remarks:

'The village of Tsjate and surrounding cultural landmarks have witnessed the unfolding of important historical events during the late eighteenth and nineteenth centuries in the northern region of South Africa. Here, Pedi chiefs such as Sekwati and Sekhukhune rose to prominence, received the first missionaries and fought bloody colonial wars with the ZAR and the British. These historical events were preceded by activities of even greater antiquity. Early Iron Age farmers lived near the Leolo Mountain range from as early as AD500 to AD900. Their forerunners were Stone Age hunters whose stone tools are found in the extensive network of dongas which occurs across Sekhukhuneland' (Pistorius 2007).

The cultural and historical importance of Tsjate is also emphasised by Küsel who states:

'The Tjate Valley is most probably one of the most important archaeological and historic sites in South African because of the number of sites recorded, their diversity and the history they represent. As a group these sites represent the history of one valley over a period of several thousand years. What is also important is that it contains two royal capitals.

Some of the recorded sites are less important but as a whole the Tjate Valley is un-surpassed in its diversity. It is important that the Tjate Valley with its surrounding mountains is seen as one of South Africa's most unique cultural and heritage landscapes, and is of National importance but also represents international interest because of the Sekhukhune War of 1879' (Kusel 2008).

'Today centuries after these events occurred, the Tsjate Valley is a degraded landscape ravaged by the never ending process of erosion. Uncontrolled agricultural practices have destroyed the valley's floor and with it the wealth of archaeological sites which used to exist in this part of the valley. Settlements near the foot slopes of the Leolo Mountain have been constructed on pre-historical and historical sites to such an extent that the 'new' Tsjate village cannot be distinguished from the historical Tsjate any longer. Other developments in the valley include the emergence of platinum mines, the presence of power lines and the Lesideng Substation, dirt roads and numerous footpaths (Pistorius 2007)'

The inevitable influence of development on this cultural landscape has also forced Küsel to remark:

'Unfortunately the valley and adjacent areas have come under severe thread from mining (Granite, Platinum, Chrome and other heavy minerals) as well as population growth. In the last ten years the cultural landscape has been totally transformed by mining operations, Eskom power lines, new roads and informal settlements. The area has become the fastest mining development area in South Africa. This will have a severe effect on the rich cultural heritage resources of the area if not properly managed. These cultural heritage resources unfortunately occur on top of the world's largest and richest Minerals deposit the Bushveld Igneous Complex'.

Although the Tsjate valley is occupied by thousands of people and the area is continuously being upgraded the Limpopo Government declared a large portion of this land a Provincial Heritage Site on 23 February 2007 (Provincial Gazette No 1333 33). A small museum was also developed in the village of Tsjate.

The Project Area can roughly be divided in a northern part which corresponds with the Tsjate Provincial Heritage Site and a southern part which is located in some of the foothills of the Leolo Mountains and further to the south of the Tsjate Provincial Heritage Site.

Recommendation:

After leaving the Lesideng Substation Options 01, 02 and 03 for the proposed 3x132kV Lesideng-Tshatane power line run across the Tsjate Provincial Heritage Site in the northern part of the Project Area. These options follow Eskom's existing 400kV Duvha-Lesideng power line which was constructed across the Tsjate cultural landscape and across the Tsjate Provincial Heritage Site soon after its declaration. These power lines cross the western part of the Tsjate cultural landscape which is a disturbed piece of land where agricultural activities were conducted for centuries. It is highly unlikely that any heritage resources of significance will be affected where the proposed new power lines will be established.

In the southern part of the Project Area, outside the Tsjate Provincial Heritage Site graves and graveyards were identified along the dirt road that runs through the village of Tshatane. These graveyards roughly correspond with part of Option 03 for the proposed 3x132kV Lesideng-Tshatane power line but will not be affected by this option as these graveyards mostly occur within the confines of homesteads along the road.

There is consequently no reason from a heritage point of view why any of the three options for Eskom's proposed 132kV Lesideng-Tshakane power line cannot be used for the construction of the new power line. However, Option 01 and Option 02 would be preferred from a heritage point of view as these two options follow the existing 400kV Duvha-Lesideng power line which is located along the western perimeter of the Tsjate Provincial Heritage Site. The routing of Option 03 around the mountain of Swale is not encouraged as it enters the central part of the Tsjate cultural landscape where its high visibility may detract from heritage beacons such as Mosego hill where Sekwati was buried.

Although the Tsjate cultural landscape has been ravaged by natural deterioration and developmental activities this does not imply that heritage resources with significance may not be found in disturbed or in undisturbed parts of this landscape. It is recommended that an archaeologist accredited with the Association for Southern African Professional Archaeologist (ASAPA) supervises the excavations of the pylons that cross the Tsjate Provincial Heritage site when the construction of the power lines commences as undisturbed subsurface heritage remains may be exposed during the construction activities. Should this occur the archaeologist must implement all necessary mitigation measures to salvage the exposed heritage remains. This may include obtaining the necessary permits from the South African Heritage Resources Authority (SAHRA) to conduct the archaeological salvage work.

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 notify 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

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 3x132kV power line between the Lesideng Substation and the proposed Tshatane 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 3x132kV power lines between the Lesideng Substation and the proposed Tshatane 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 pro-active measures with regard to any heritage resources that may be affected, damaged or destroyed when the Eskom Project is implemented. Dynamic Integrated Geohydro Environmental Services (DIGES), 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 Project Area with a vehicle and selected spots on foot.
- Briefly surveying literature relating to the pre-historical and historical context of the Project Area.
- Consulting maps of the proposed Project Area.
- Consulting archaeological (heritage) data bases.
- Consulting spokespersons regarding the possible presence of graves and graveyards in the Project Area.
- Synthesising all information obtained from the data bases, fieldwork, maps and literature survey.

3.1 Fieldwork

The proposed Project Area (which involves three options for three 3x132kV power lines was surveyed with a vehicle (where accessible roads existed) as these power lines run along more than thirty kilometres.

Selected stretches of the power lines as well as spots along the power line corridors were surveyed on foot. Long stretches of the different options for the power lines 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. Those stretches where the power lines run across foothills of the Leolo Mountains were not surveyed as they were inaccessible. It is highly unlikely that these rugged, even terrain which is exposed to forces of nature were ever occupied by humans in the past.

Figure 1- A GPS track log for the Eskom's Lesideng Tshatane Project recorded with fixed GPS device (Lesideng Substation in the north, Tshatane Substation in the south).

3.2 Databases, literature survey and maps

The desktop study also involved consulting heritage data banks maintained at institutions such as the Limpopo Provincial Heritage Resources Agencies, the Archaeological Data Recording Centre at the National Flagship Institute (Museum Africa) in Pretoria and the national heritage resources register at the South African Heritage Resources Agency (SAHRIS) in Cape Town.

The author is acquainted with the Project Area at large as he had done several heritage impact assessment studies in the area. Other heritage impact assessments which were done in close proximity of the Tsjate heritage site are the following: (see Part 9, 'Select Bibliography').

- Kusel, U. 2008. *Assessment of the Cultural Heritage Resources on the provincial heritage site of Tsjate on the farm Djate 249KT in Sekhukhune Limpopo Province*. Unpublished report. African Heritage Consultants.
- Pistorius, J.C.C. 2001. An Archaeological impact assessment report for the proposed Impala Platinum Mine at Steelpoort in the Northern Province of South Africa. Unpublished report prepared for Pulles, Howard and De Lange Incorporated.

- Pistorius, J.C.C. 2007. A Phase I Heritage Impact Assessment (HIA) study for the proposed Route D for the 400kV Duvha-Lesideng power line running across the Tsjate Valley in the Steelpoort in the Limpopo Province. Unpublished report prepared for Eskom Megawatt Park.
- Pistorius, J.C.C. 2007. A Phase I Heritage Impact Assessment (HIA) study for Marula Platinum's proposed new shaft, corridor and extension to an existing waste dump in the Limpopo Province of South Africa. Unpublished report prepared for Metago Environmental Engineers.
- Pistorius, J.C.C. 2010. A Heritage Management Plan for Marula Platinum in the Steelpoort Valley in the Limpopo Province of South Africa. Unpublished report prepared for SRK Consulting.
- Pistorius, J.C.C. 2011. A Phase I Heritage Impact Assessment (HIA) study for Marula Platinum (Pty) Ltd's (Marula) proposed new mine infrastructure, re-positioning of the approved Merensky Shafts and the incorporation of prospecting areas into the mining rights area in the Steelpoort Valley in the Limpopo Province. Unpublished report prepared for Metago Environmental Engineers.
- Pistorius, J.C.C. 2012. A Phase I Heritage Impact Assessment (HIA) study for Eskom's 2x132kV power lines between the proposed Tshatane and Lesego Substations and between the proposed Tshatane and the existing Jane Furse Substation in the Limpopo Province. Unpublished report prepared for DIGES.

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 (2430CA Steelpoort, 2430AC Moroke and 2429DB Sekwati 1:50 000 topographical maps; 2428 Modimolle 1: 250 000 map).

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 Eskom Project Area is situated approximately forty-five kilometres to the north-west of Steelpoort in the Steelpoort River Valley in the Limpopo Province. The Eskom Project Area runs from the north to the south-west whilst crossing the Leolo mountain range as well as the farms Hackney 118KT, Tsjate 249KT, Fernkloof 539KT, Thornhill 544KS and Parys 779KS. This elongated area runs from the north to the south through a narrow kloof in the Leolo mountain range. The Eskom Project Area therefore involves a flat valley floor to the north of the Leolo mountains as well as the south of the mountain but incorporates the rugged Leolo mountain range in the central part (2430CA Steelpoort, 2430AC Moroke and 2429DB Sekwati 1:50 000 topographical maps; 2428 Modimolle 1: 250 000 map) (Figures 1 & 2).

The Steelpoort Valley's name is derived from the Steelpoort (Tubatse) River, one of the main geographical features in this valley. The Steelpoort River is a southern tributary of the Olifants River. It flows from an altitude higher than 1 800m on the Highveld near Wonderfontein in the Belfast district northwards and then north-eastwards to join the Olifants River before the latter cuts through the Drakensberg to enter the Lowveld. Other prominent beacons in the wider study area include the Chromite Hills to the north-east of the study area and the imposing Leolo Mountain range in the study area. The Leolo Mountain range is known as a beacon in the origin history of the Pedi.

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 the area. 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 Mountain range which bisects the Project Area in a northern and southern part. This part of the Steelpoort Valley 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 the Steelpoort Valley and 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 the Steelpoort Valley are established on top of older (archaeological and historical) settlements while expanding villages gradually incorporates older villages which are mainly located along the foot slopes of the Leolo Mountain range.

Figure 1- The Tsjate cultural landscape has been degraded by agricultural activities over centuries (above).

The people of the Steelpoort Valley practised cultivating and stock farming for many centuries. In the past, chiefs allocated pieces of land to the heads of wards who 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 towards the north across the Project Area. The dirt road runs to the village of Tsjate to the north of the Leolo mountain range. All three options for the proposed new power line follow this road which is the only access across the mountains (above).

Although each person usually 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 the Steelpoort Valley over a long period of time, an increase in population numbers as well as increasing development in the region is however, inevitably gradually changing an extraordinary cultural landscape with unique heritage characters and features.

4.3 The nature of the Eskom Project

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

- The construction of 3x132kV power lines between the existing Lesideng Substation and the proposed new Tshatane Substation. The three power lines will follow one of three possible alternatives routes, namely Option 01, Option 02 and Option 03 (Figure 4).

The three options for the Tshatane Substation have been evaluated in a separate report, namely:

- Pistorius, J.C.C. 2012. A Phase I Heritage Impact Assessment (HIA) study for Eskom's 2x132kV power lines between the proposed Tshatane and Lesego Substations and between the proposed Tshatane and the existing Jane Furse Substation in the Limpopo Province. Unpublished report prepared for DIGES.

The developmental components for the project (the three options for the power lines) 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 Tsjate Provincial Heritage site

The Project Area near the Lesideng Substation in the north overlaps with the Tsjate cultural landscape which represents the heartland of the pre-historical and the historical Pedi chiefdom. A part of this landscape was declared a Provincial Heritage Site by the Limpopo Government on 23 February 2007 (Provincial Gazette No 1333 33). A small museum was also developed in the village of Tsjate. **(**The archaeological and historical significance of this landscape is briefly described in Part 5, 'Contextualising the Project Area'.

Figures 3 & 4- The Tsjate museum in the village of Tsjate (above) is located next to the commemorative beacon that was erected for British soldiers who died in the Sekhukhune Wars (1879) (below).

The co-ordinates for the Tsjate Provincial Heritage site are as follows (see Figure 3):

S 24° 31’ 41.5”	E 29° 59’ 26”
S 24° 27’ 53”	E 29° 59’ 30”
S 24° 27’ 10”	E 30° 01’ 12.5”
S 24° 27’ 41”	E 30° 02’ 45”
S 24° 30’ 06”	E 30° 02’ 46”
S 24° 31’ 27.5”	E 30° 02’ 03”

Coordinates for the Tsjate Provincial Heritage Site.

5 CONTEXTUALISING THE PROJECT AREA

The Project Area is located in 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 between the Leolo and other mountain ranges in the northern part of the Steelpoort Valley. Some sites have been observed by the author on farms such as Hendriksplaats 281, Derde Gelid 278, Onverwacht 292, Winterveld 293, Annex Grootboom 335 and Apiesboomen 295 (Pistorius 2005a, 2005b). 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 the Steelpoort River Valley 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. 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 (Pistorius 2005a). 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 (Inskeep 1978, Whitelaw 1996).

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 (Mönnig 1978; Delius 1984, 2007):

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 (Erasmus 1995).

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 (Mönnig 1978; Delius 1984, 2007).

5.4 Historical beacons near the Eskom Project Area

Several outstanding significant historical beacons are located in or near the Leolo Mountain range and in the peripheral area outside the Eskom Project Area which deserves specific reference, namely:

- The mountain Thaba ya Mosego is part of the Leolo Mountain range. It was here that the British and their allies subjugated the Pedi of Sekhukhune in 1879 during the Battle of Sekhukhune. The Sekhukhune Wars of 1876 and 1879 were both fought near/on this mountain (and in the Leolo Mountain range) where the Pedi chiefs Sekwati and Sekhukhune also established their mountain fortresses. Sekwati is buried on Thaba ya Mosego.
- One of the main Pedi villages (*mošate*) during this war, namely Tsjatse, is also located along the foot of the Leolo Mountain range.
- The missionary station known as Maandagshoek (or Ratagou) was established in the middle of the 19th century on Maandagshoek, to the south of the Eskom Project Area.
- Two mountains in the Leolo Mountain chain are known as ‘Modimolle’. The name ‘modimolle’ implies that these mountains are sacred places. It is possible that Pedi chiefs (and possibly their wives as well) were buried near one or both of these mountains. (These mountains are probably still sacred places nowadays). The spirits

of deceased chiefs (*badimo*) are venerated at these places and sacrifices are made annually at such places.

- The mountain Monganeng on Winterveld 293 may be where Thulare - one of the greatest Pedi chiefs of all time - lived during the early 19th century. The remains of his villages may be located near the Tubatse (Steelpoort) River.
- Names such as 'Badimo' and 'Badimong' are recorded on a mountain close to Monganeng. These names refer to forefathers ('*badimo*') and the place of the forefathers ('*badimong*') and therefore possibly to important settlements and graveyards that have important significance in the origin history of the Pedi.

6 THE PHASE I HERITAGE IMPACT ASSESSMENT STUDY

6.1 The Phase I heritage study

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

6.1.1 The power line between Lesideng and Thatsane

Three options are proposed for this power line with Option 02 and Option 03 representing mere slight variations for Option 01 which therefore represents the actual alignment which the 3x132kV power lines will follow from the Lesideng Substation to the proposed Tshatane Substation with three possible options.

The main stretches for Option 02 and Option 03 therefore are identical to that of Option 01. Short stretches in both Option 02 and Option 03 therefore represent stretches which are different from the overall length which are proposed for all three options.

6.1.1.1 Option 01

- The first stretch for this alternative runs from the Lesideng Substation south-westwards across the farm Hackney 118KT where it bends to the south-east for approximately 1,5km before jinking to the south.
- The second stretch bends to the west and then to the south-west in order to run across the farm Tsjate 249KT.

These stretches run across the Tsjate cultural landscape (and therefore across the Tsjate provincial heritage site) and follows the existing 400kV Duvha-Lesideng power line (former Route D) which was constructed across the Tsjate cultural landscape after the Tsjate provincial heritage site was declared.

- On Fernkloof 539KT the third stretch bends to the west and runs across the farm Thornhill 544KT. Here, it bends to the south and then to the south-east.
- The fourth stretch bends to the south-west on the farm Parys 799KS and runs in a straight line to the Tshatane Substation 1 which is located on this farm.
- The line can also pass substation alternative 1 running south-westwards across Eenzaam 811KS and through a mountain range to the eastern outskirts of the village of Ga-Maja to Tshatane substation 3.

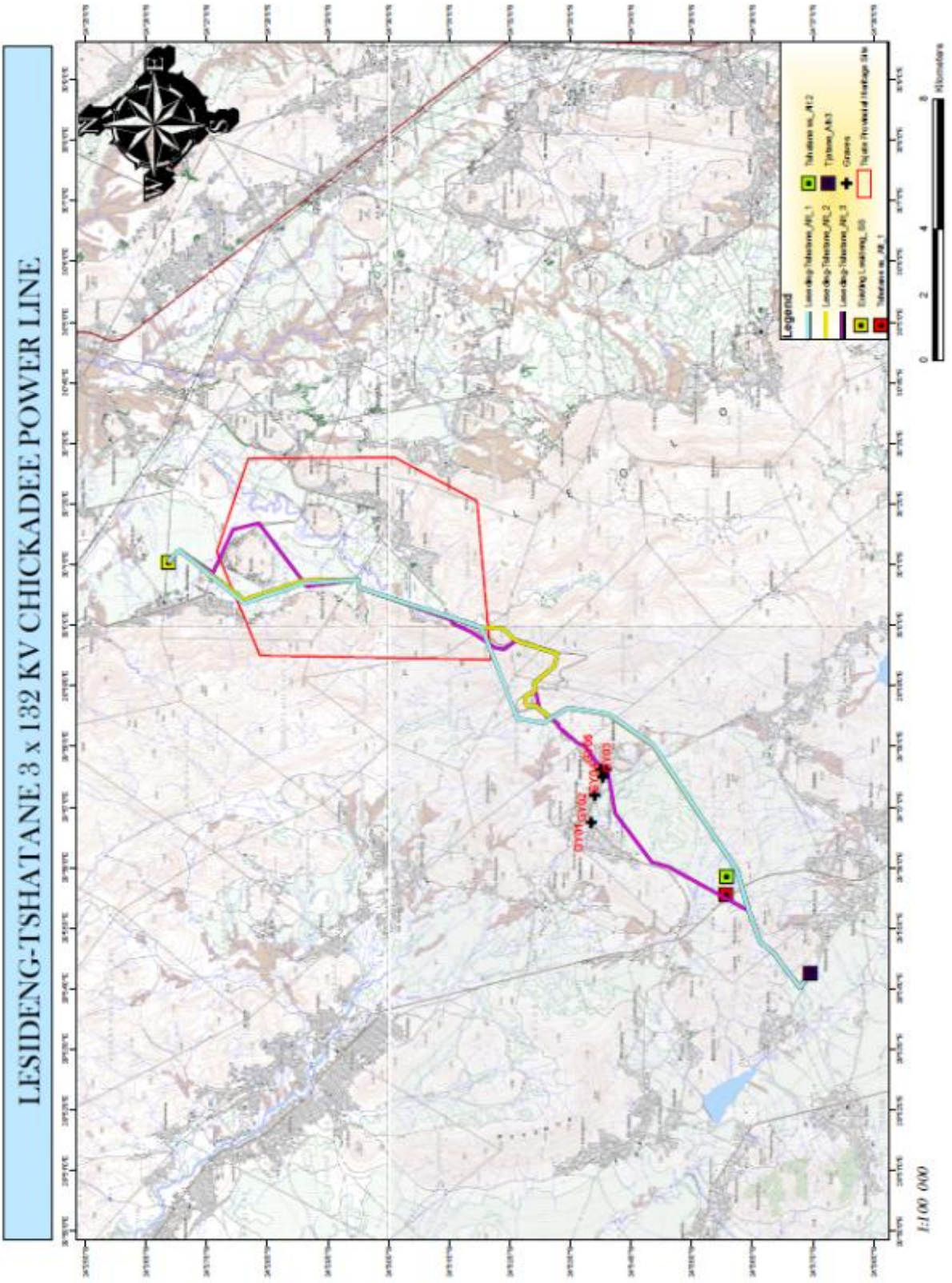
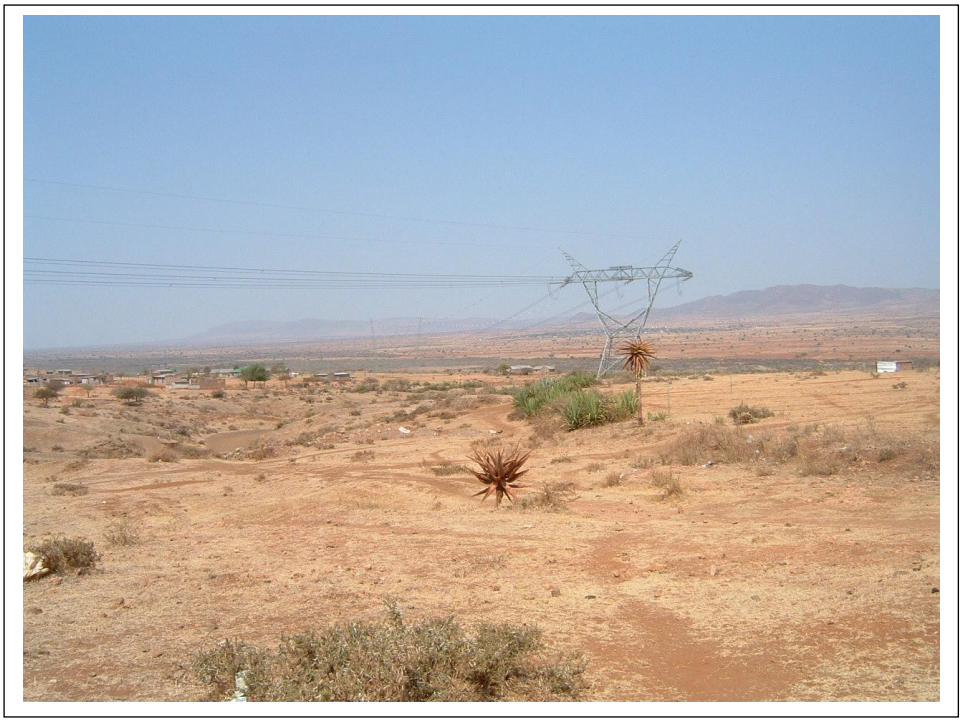


Figure 5- The Eskom Project Area involving the construction of 3x132kV power lines between the Lesideng and Tshatane Substations in the Limpopo Province. Note the presence of graveyards near the Project Area (above).

Figures 6 & 7 – Options 01 and 02 run from the Lesideng Substation (background) between Swale (left) and the Leolo mountain range (right) and follow Eskoms' existing 400kV Duvha-Lesideng power line (former Route D) (above). These options cross the Tsjate Provincial Heritage Site and a degraded agricultural landscape (below).

Figures 8 & 9 – The middle stretch for Options 01, 02 and 03 run between foothills of the Leolo mountain range roughly following the only dirt road that crosses this part of the mountain range (above). The penultimate stretch for Options 01 and 02 leave the foothills of the Leolo mountain range before reaching the village of Tshatane (below).



Figures 10 & 11 – Options 01 and 02 follow the existing 400kV Duvha Lesideng power line from Tshatane before reaching the agricultural plots on Parys 799KS were Option 01 and Option 02 for the proposed Tshatane Substation will be established. The plots are currently laying foul awaiting to be cultivated by community members of Tshatane (above).

6.1.1.2 Option 02

This option follows Option 01 and 03 with one minor difference, namely:

- A short stretch that runs to the east around a small hill on the farm Tsjate 249KT before joining Option 01 on the farm Thornhill 544KS.

6.1.1.3 Option 03

Option 03 mainly follows Option 01 and 02 with three minor differences, namely:

- A short stretch which departs for Option 01 and 02 after these options have left the Lesideng Substation in order to run for some distance along a dirt road south-eastwards and then south-westwards around the eastern perimeter of the mountain of Swale before joining Option 01 and Option 02 (and the existing 400kV Duvha-Lesideng power line, former Route D).

Figure 12– Option 03 runs for some distance along a dirt road and then around the mountain of Swale before joining the Options 01 and Option 2 (and the existing 400kV Duvha Lesideng power line (above).

- A short stretch on Tsjate 249KS which follows the shoulder of the dirt road which runs between the villages of Tsjate and Tshatane.

Figures 13 & 14– A shot stretch in Option 03 runs along the dirt road that runs between Tsjate and Tshatane. This road is the only accessible way across this part of the Leolo mountain range (above). The main stretch for Option 03 which differs from Option 01 and Option 02 follows the dirt road that runs through the village of Tshatane (below).

- A stretch which follows the shoulder of the dirt road that runs through the village of Tshatane before joining the Tshatane Substation.

6.1.1.4 Heritage resources

A number of graves and graveyards occur along the dirt road that runs through the village of Tshatane (Table 1).

However, these graveyards occur at safe distances from Option 03 for the proposed Lesideng Tshatane power line corridor and need not to be affected if this option is used for the new power line.

Figure 15 & 16- A number of graves and graveyards occur along the dirt road that runs through Tshatane as well as within the confines of homesteads along this road. Option 03 roughly follows the dirt road that runs through the village of Tshatane (above).

6.2 Table

Table outlines graves and graveyards near Option 03 that runs through the village of Tshatane (also note coordinates and level of significance of these remains):

GRAVEYARDS	COORDINATES	SIGNIFICANCE
GY01. Near river banks. Holds more than 50 graves	24º 33.336'S 29º 56.741'E	**HIGH**
GY02. Three graves near cattle kraal and home	24º 33 23.87'S 29º 57 12.09'E	**HIGH**
GY03. Three graves within homesteads perimeter	24º 33 32.13'S 29º 57 29.29'E	**HIGH**
GY04. Three graves near shop.	24º 33 35.20'S 29º 57 36.64'E	**HIGH**
GY05. Several graves between residences.	24º 33 29.72'S 29º 57 37.65'E	**HIGH**

Table 1- The coordinates and the significance of graveyards near the Project Area (above).

7 CONCLUSION AND RECOMMENDATIONS

The Phase I HIA study for the proposed Route D for the existing 400kV Duva-Lesideng power line which runs across the Tsjate cultural landscape (and therefore also across the Tsjate Provincial Heritage Site) concluded with the following remarks:

'The village of Tsjate and surrounding cultural landmarks have witnessed the unfolding of important historical events during the late eighteenth and nineteenth centuries in the northern region of South Africa. Here, Pedi chiefs such as Sekwati and Sekhukhune rose to prominence, received the first missionaries and fought bloody colonial wars with the ZAR and the British. These historical events were preceded by activities of even greater antiquity. Early Iron Age farmers lived near the Leolo Mountain range from as early as AD500 to AD900. Their forerunners were Stone Age hunters whose stone tools are found in the extensive network of dongas which occurs across Sekhukhuneland' (Pistorius 2007).

The cultural and historical importance of Tsjate is also emphasised by Küsel who states:

'The Tjate Valley is most probably one of the most important archaeological and historic sites in South African because of the number of sites recorded, their diversity and the history they represent. As a group these sites represent the history of one valley over a period of several thousand years. What is also important is that it contains two royal capitals.

Some of the recorded sites are less important but as a whole the Tjate Valley is un-surpassed in its diversity. It is important that the Tjate Valley with its surrounding mountains is seen as one of South Africa's most unique cultural and heritage landscapes, and is of National importance but also represents international interest because of the Sekhukhune War of 1879' (Kusel 2008).

However, today 'centuries after these events occurred, the Tsjate Valley is a degraded landscape ravaged by the never ending process of erosion. Uncontrolled agricultural practices have destroyed the valley's floor and with it the wealth of archaeological sites which used to exist in this part of the valley. Settlements near the foot slopes of the Leolo Mountain have been constructed on pre-historical and historical sites to such an extent that the 'new' Tsjate village cannot be distinguished from the historical Tsjate any longer. Other developments in the valley include the emergence of platinum mines, the presence of power lines and the Lesideng Substation, dirt roads and numerous footpaths (Pistorius 2007)'

The inevitable influence of development on this cultural landscape has also forced Küsel to remark:

'Unfortunately the valley and adjacent areas have come under severe thread from mining (Granite, Platinum, Chrome and other heavy minerals) as well as population growth. In the last ten years the cultural landscape has been totally transformed by mining operations, Eskom power lines, new roads and informal settlements. The area has become the fastest mining development area in South Africa. This will have a severe effect on the rich cultural heritage resources of the area if not properly managed. These cultural heritage resources unfortunately occur on top of the world's largest and richest Minerals deposit the Bushveld Igneous Complex'.

Although the Tsjate valley is occupied by thousands of people and the area is continuously being upgraded the Limpopo Government declared a large portion of this land a Provincial Heritage Site on 23 February 2007 (Provincial Gazette No 1333 33). A small museum was also developed in the village of Tsjate.

The Project Area can roughly be divided in a northern part which corresponds with the Tsjate Provincial Heritage Site and a southern part which is located in some of the foothills of the Leolo Mountains and further to the south of the Tsjate Provincial Heritage Site.

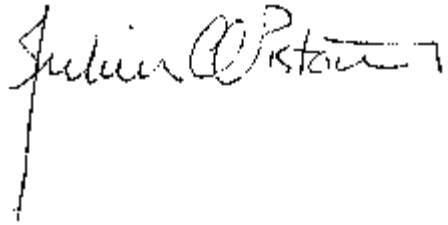
7.1 Recommendation

After leaving the Lesideng Substation Options 01, 02 and 03 for the proposed 3x132kV Lesideng/Tshatane power line run across the Tsjate Provincial Heritage Site in the northern part of the Project Area. These options follow Eskom's existing 400kV Duvha-Lesideng power line which was constructed across the Tsjate cultural landscape and across the Tsjate Provincial Heritage Site soon after its declaration. These power lines cross the western part of the Tsjate cultural landscape which is a disturbed piece of land where agricultural activities were conducted for centuries. It is highly unlikely that any heritage resources of significance will be affected where the proposed new power lines will be established.

In the southern part of the Project Area, outside the Tsjate Provincial Heritage Site graves and graveyards were identified along the dirt road that runs through the village of Tshatane. These graveyards roughly correspond with part of Option 03 for the proposed 3x132kV Lesideng-Tshatane power line but will not be affected by this option as these graveyards mostly occur within the confines of homesteads along the road.

There is consequently no reason from a heritage point of view why any of the three options for Eskom's proposed 132kV Lesideng-Tshakane power line cannot be used for the construction of the new power line. However, Option 01 and Option 02 would be preferred from a heritage point of view as these two options follow the existing 400kV Duvha-Lesideng power line which is located along the western perimeter of the Tsjate Provincial Heritage Site. The routing of Option 03 around the mountain of Swale is not encouraged as it enters the central part of the Tsjate cultural landscape where its high visibility may detract from heritage beacons such as Mosego hill where Sekwati was buried.

Although the Tsjate cultural landscape has been ravaged by natural deterioration and developmental activities this does not imply that heritage resources with significance may not be found in disturbed or in undisturbed parts of this landscape. It is recommended that an archaeologist accredited with the Association for Southern African Professional Archaeologist (ASAPA) supervises the excavations of the pylons that cross the Tsjate Provincial Heritage site when the construction of the power lines commences as undisturbed subsurface heritage remains be exposed during the construction activities. Should this occur the archaeologist must implement all necessary mitigation measures to salvage the exposed heritage remains. This may include obtaining the necessary permits from the South African Heritage Resources Authority (SAHRA) to conduct the archaeological salvage work.



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APPENDIX A: 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 Ekhurhuleni, 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.

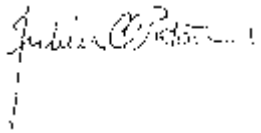
APPENDIX B: DECLARATION OF INDEPENDENCE

I, Julius CC Pistorius, declare that:

•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;
•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.

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.



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Signature of the environmental practitioner:
Private Consultant

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Name of company:
5 October 2012

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Date: