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HERITAGE SCOPING REPORT FOR THE INVUBU-THETA 400 KV TRANSMISSION LINE

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COMPANY DETAILS

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TABLE OF CONTENTS

ILLUSTRATIONS, MAPS AND TABLES

Illustrations

Maps

Tables

1. INTRODUCTION

Khensani Heritage Consulting was commissioned by Bembani Sustainability Training (Pty) Ltd as part of a multi-disciplinary team to undertake a heritage scoping survey along two corridors proposed for the Invubu-Theta power upgrade project in Empangeni, Kwazulu Natal, and to suggest which of the two corridors was suitable on the basis of the principle of minimal impact. For the purpose of this report, **Corridor 1** is Route 1 on the heritage sensitivity map. **Corridor 2** is Route 2 which is taken to include the sub-option called Route 3 in the heritage sensitivity map.

The scoping study entailed two site visits, the first made in the company of other specialists; the second visit (organised separately by KHC) was a follow-up to fill in apparent information gaps through limited field reconnaissance and oral surveys.

2. **TERMS OF REFERENCE**[1]

a. *The broader scope of work the Sub-Consultant (Khensani Heritage Consulting cc) KHC required to carry out entailed addressing the Heritage Impact Assessment component of the proposed Invubu-Theta 400 kV Transmission line required in terms of the Principal Agreement. The HIA Study will incorporate Archaeological, Historical, Palaeontological surveys in line with SAHRA Regulations and Section 38 of the National Heritage Resources Act (NHRA), Act 25 of 1999 and other auxiliary legislations.*

b. *To identify and describe (in terms of their conservation and / or preservation importance) sites of cultural and archaeological importance that may be affected by the proposed construction project.*

c. *The proposed approach to the Heritage Impact Assessment Studies will entail, but not limited to the following:*

• ***Description of affected Natural and Cultural Heritage environment and determination of the status quo:*** *The existing Natural and Cultural Heritage Landscapes and environment will be described and the tangible and intangible heritage resources most likely to be impacted will be identified. These will be documented in different categories of significance.*

• ***Indication of how physical cultural properties or living heritage resources will be affected:*** *Typical impacts on physical cultural properties protected under the NHRA Act 25 of 1999 that could be expected from the project will be listed as well as the expected impact on contemporary living heritage on the proposed project areas. Impacts will be quantified based on duration, frequency and mitigation levels and a full description of predicted impacts (direct and indirect) will be provided.*

• ***Gaps in baseline data:*** *Gaps in baseline data will be highlighted and discussed. An indication of the confidence levels will be given. The best available data sources will be used to predict the impacts, and extensive use will be made of local knowledge. Note, all archaeological, palaeontological and historical data will be dis-aggregated and accessible primary data source will be through SAHRA and LIHRA.*

[1] Extract from the Contract between Bembani and KHC

• ***Assessment of impacts:*** *Management measures will be Identified and described. The potential impact on the physical and intangible cultural properties will be assessed and evaluated according to the magnitude, spatial scale, timing, duration, reversibility, probability and significance taking into consideration the resources' significance threshold as defined in the NHRA and SAHRA/LIHRA regulations.*

Impacts to archaeological and cultural resources that may be on proposed project site will be identified and described.

• ***Propose and explain mitigation measures:*** *Practical mitigation measures will be recommended and discussed. These will evolve around total protection of Grade 1 to 3 Heritage Resources; Salvage/rescue; relocation; or preserve by record before destruction permit is issued by SAHRA. The importance or significance of these sites and whether these sites need to be conserved, protected or relocated will be described. The procedures for mitigation or relocation of sites will be described and an indication of time required for these management measures to be implemented will be provided.*

• ***Summarize residual impacts after mitigation:*** *An impact summary table will be provided, discussing expected impacts before and after mitigation.*

• ***Indicate a monitoring programme:*** *If a need for a monitoring programme is evident, it will be highlighted and a programme proposed. Monitoring may be a critical element of mitigating for archaeological and palaeontological resources that may be encountered during development.*

The Sub-Consultant's (KHC) deliverables will include the following:

- *Site Visit Report;*
- *HIA input in the Scoping Report;*
- *Heritage Impact Assessment Report (HIAR) – EIA Phase;*
- *Environmental Management Plan (EMP); and*
- *Site Specific EMP.*

3. LEGAL FRAMEWORK

For a project of this scale, compliance with national and provincial heritage legislations is imperative. A heritage impact assessment (HIA) is prescribed as a part of predevelopment impact assessment in terms of the National Heritage Resources Act (NHRA) (No. 25, 1999), as this project is likely to have significant impacts on the natural and cultural environment. An HIA is required to mitigate on possible negative effects of physical works, e.g. possible accidental destruction or disturbance of heritage sites. Sections 34 and 38 of the NHRA apply as cited below:

In terms of Section 34(1) "No person may alter or demolish any structure which is older than 60 years without a permit issued by a relevant provincial heritage resources authority".

Section 38(2) requires a developer to submit to the relevant heritage resources authority "an impact assessment report for development project specified in Section 38 (1) as follows:

(a) the construction of a road, wall, powerline, pipeline, canal or other similar form of development or barrier exceeding 300m in length;

(b) the construction of a bridge or similar structure exceeding 50m in length;

(c) any development or other activity which will change the character of a site –

(i) exceeding 5 000 sq. m in extent; or

(ii) involving three or more existing erven or divisions thereof; or

(iii) involving three or more erven or divisions thereof which have been consolidated within the past five years ; or

(iv) the costs of which will exceed a sum set in terms regulations by SAHRA or a provincial heritage resources authority;

(d) the rezoning of a s site exceeding 10 000 sq. m in extent; or

(e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority, ..."

The NHRA is applied in tandem with the provincial Act on heritage in KwaZulu-Natal, the **Kwazulu-Natal Heritage Act No. 4 (2008)**. The clauses pertinent to this exercise are Section 33 which has equivalence in Section 34 of NHRA (cited above). In addition, in view of the findings of this study reference is made to Section 35 which provides for the protection of "Traditional Burial Places" and stipulates that (1) *No grave—*

(a) not otherwise protected by this Act; and

(b) not located in a formal cemetery managed or administered by a local authority, may be damaged, altered, exhumed, removed from its original position, or otherwise disturbed without the prior written approval of the Council having been obtained on written application to the Council.

4. AIMS OF THE SCOPING SURVEY

The scoping survey was to assess the possibility of finding heritage resources in the area to determine whether or not the area merits further inquiry through a full Heritage Impact Assessment. A second objective was, using the principle of minimal impact, to decide a preferable corridor for the powerline given the options presented by the Client, Eskom.

5. METHODOLOGY

Field visits were made on 7-8 July and 14-15 August 2009 respectively. Notably, the first visit was a subcomponent of a multidisciplinary scoping survey in which six other specialists focusing on among others things ecology and visual impacts. The multidisciplinary composition of the team was a vital opportunity for sharing of ideas and opinions.

During a ground survey, the team was transported by car and stopped at several sites along the proposed transmission corridors with a view to search for and record material evidence of past human activity (see catalogue of sites in Appendix I). At least 12 sites were examined at random intervals along the two proposed transmission corridors. Conventional field methods of prospecting were employed – field-walking. A walking survey simply involves "going out on foot" and examining the ground surface in order to observe, record and photograph features and activity areas.[2] Ground visibility was generally poor mainly due to a blanket of grass growth, agricultural plantation and forest cover. Ground visibility was good along un-surfaced farm and rural roads.

An aerial survey was conducted on board a helicopter on 8 July. The aim of the fly-over was to obtain an overview of the area from which we could appreciate the landscape attributes, and possibly pick out some archaeological or other monumental features. From this exercise we gained an impression of the characteristics of land-use and landscape features. To illustrate these features,

[2] David 2006: p.9.

the photographs taken from the air were arranged in a montage or panorama and have been appended to this report (Appendix II).

The object of a second exploratory survey conducted on 14-15 August 2009 was to engage local people and experts to provide information about the heritage resources in the area. The survey was expected especially to inform on recent history, places of memory, spiritual sites, burials and aspects of intangible heritage.

Our target area was the rural communal lands of Somopho and Macekane located north of Empangeni and through which the proposed transmission lines will be routed. Prior to the visit, the consultants were in contact with, Mr. Sibiya, a councillor in the Ntambanana Municipality; and on our arrival he provided names of potential informants. The oral survey focused on a small section of the length of the transmission Corridor 1. As a micro-study it was productive, indicating at least 6 potential heritage sites located along Corridor 1 (Appendix I).

Consultations were made with researchers who have worked in the area. Archaeologist Dr. Len van Schalkwyk drew our attention to a database in the Natal Museum in Pietermaritzburg and work in the area by archaeologists Gavin Anderson and Gavin Whitelaw. On the way to Empangeni we met briefly with Gavin Anderson who gave an outline of the archaeology of the area. On his advice further consultations were held in Pietermaritzburg with Conservation Specialist, Debbie Whelan, who shared with us information on land claims south of Nseleni.

A literature survey was undertaken for historical and other information relating to the area.

A **Site Recording Template** is a framework used for recording sites that were investigated. Some fields in the template have been left blank because in a scoping survey of this nature some information is not immediately available. The site recording template contains brief textual descriptions of site attributes as well as photographs.

6. LIMITATIONS OF THE STUDY

Poor ground visibility was possibly the reason why not a single artefact was found and no micro-features were located. While the areas examined were randomly chosen, they were limited to

intersections of the proposed transmission Corridors 1 and 2 and existing roads. To that extent it was a "windscreen survey", and the sample accordingly biased. The aerial survey, to an extent, provided some compensation, although it must be conceded that at best it provided an impressionistic overview as no closer examination of the ground was possible.

The oral survey was a micro-study in terms of the number of informants engaged and the size of the area covered.

7. RESULTS

Twenty sites were examined and documented and this record combined with the aerial survey form the basis of our observations which are hereby summarised.

7.1. Archaeology

While no archaeological material was encountered during the surveys, sites dating to the Early, Middle and Later Stone Age, and the Early and Later Iron Age have been previously recorded in the area north of Empangneni.[3] However, in so far as these archaeological layers are concerned, the area north of Empangeni is considered generally "disturbed" by later human activities, especially plantation farming. If any sites have survived they would be confined to the edge of rivers and streams that run through the area, and hilltops.

7.2. **Cultural Landscapes**

Transmission lines will be routed through sugarcane plantations which date back to the 1930s and 1940s. As such they are a historical **Cultural Landscape** of potential heritage significance for which possible adverse impacts must be considered. By their nature these elements are highly visible. Cultural landscapes are landforms and features that "represent the combined works of nature and man" and demonstrate "the evolution of human society and settlement over time, under the influence of the physical constraints and/or opportunities presented by their natural environment and of successive social, economic and cultural forces, both internal and external".[4]

[3] Len Van Schalkwyk and Gavin Anderson, pers. com. August 2009.

[4] *Operational Guidelines for the Implementation of the World Heritage Convention* (2005): paragraph 47.

The eucalyptus plantations located south of Nseleni and around Invubu substation date back to the 1970's. As such they fall outside the 60 year threshold and the jurisdiction of Sections 34 and 33 of NHRA and Amafa Act respectively (Appendix I, Site No 8). The commercial benefits apart their introduction is linked to the development of the Richards Bay Harbour and the necessity to drain the coastal marshlands to control malaria.[5]

Four types of cultural landscapes were identified in the area of study and their heritage significance assessed on the basis of age.

	Cultural landscape description	**Age**	**Potential heritage value**
1	Agro-pastoral landscape representative of modern commercial ranching;	?	Uncertain
2	Agricultural landscape representative of commercial sugarcane plantation	>60	High
3	Agricultural landscape representative of commercial timber (eucalyptus) plantation;	<60	Low
4	Rural landscape with scattered homestead may be typical of this part of KwaZulu-Natal	<60	High

Table 1. Typologies of cultural landscapes

These human activities are superimposed on an undulating landform of hills divided by wooded streams and rivers spread over a large area and forming a cultural landscape of remarkable scenic beauty. Along the proposed corridors the plantations are interrupted by the rural settlements of Somopho and Macekane. It must be noted that while these landscapes retain their basic characteristic frames, they are internally dynamic and changing due to the nature of the associated human activities – planting and harvest, and the construction of new homesteads.

7.3. **Historical Background of the Area**

From a theoretical perspective, the historical profile of the area under study is a pointer to the potential richness of the area in terms of tangible and intangible heritage, and possibly archaeology.

[5] Debbie Whelan, pers. com. August 2009.

The coastal zone between the Tugela and the Pongola Rivers was the cradle of the 19th century Zulu state. It was also the epicentre of 19th century inter-ethnic wars and a political revolution that set in motion the epic dispersal of the Nguni to various parts of southern Africa, known as the Mfecane or Difaqane (Grout 1861, Omer-Cooper 1966; Roberts 1974, Omer-Cooper 1980).

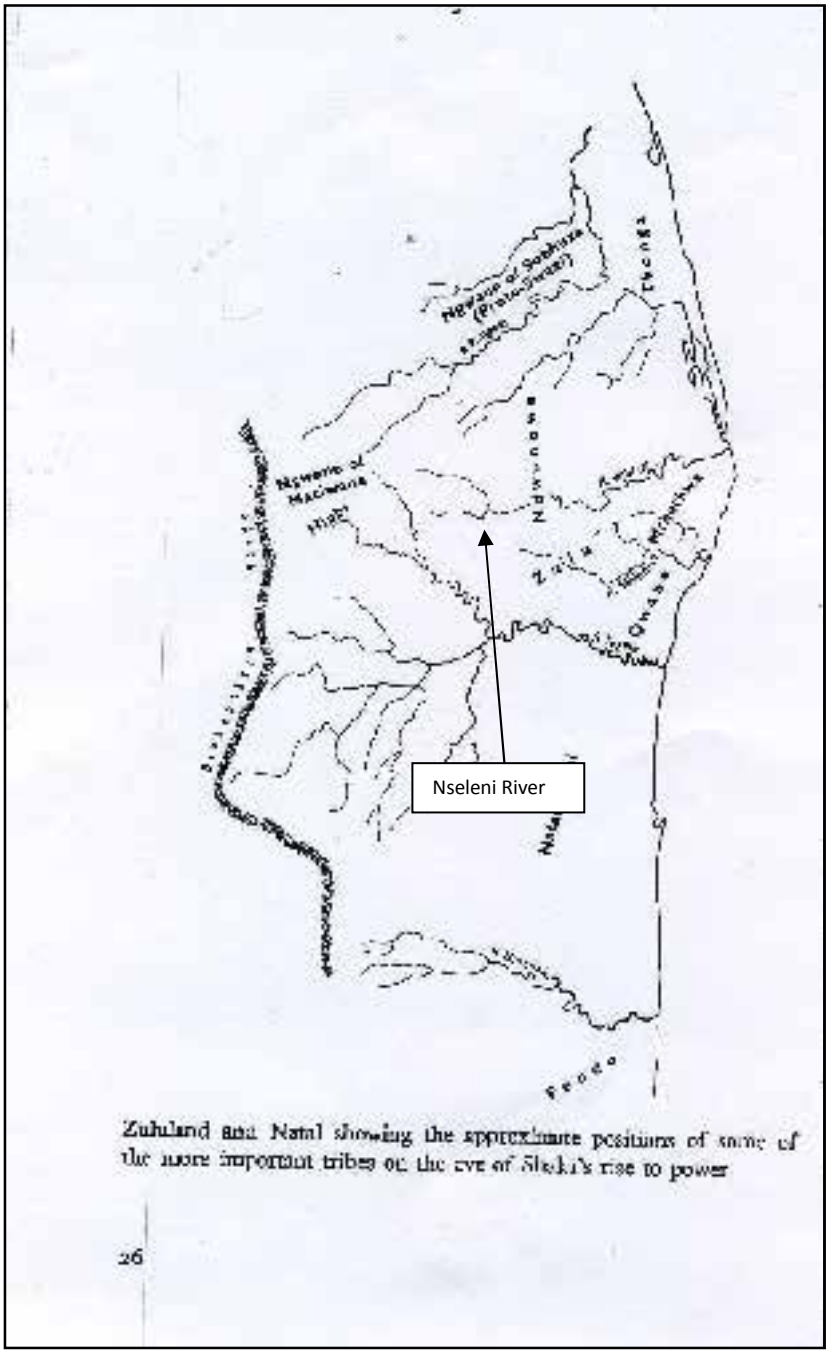


Fig. 1. Omer-Cooper 1966: 26

Fig. 1 shows the approximate positions of the main ethnic groups which coalesced into the Zulu nation after 1818. The nucleus Zulu people were located across the Mhlatuze River while the

neighbouring Mthethwa were settled between the Nseleni River and the coast. The rise of the Zulu under King Shaka can be traced back to the reign of Dingiswayo of the Mthethwa prior to 1818. As Becker puts it, "the unrest that was to sweep Zululand began south of the Black Umfolozi among the Mthethwa clan who inhabited the highlands between the Ntseleni River and the Indian Ocean" (Becker 1962:22-23). The area under study lies just north of Mhlatuze River and runs across the Nseleni River.

Dingiswayo instituted a number of military reforms which saw the Mthethwa gaining an urge over Ndwandwe living to the north under their chief, Zwide. Even then, the astute Dingiswayo was to fall into a trap and killed by the Ndwandwe. There is a theory that the fall of Dingiswayo was orchestrated by Shaka. The ironic twist is that Shaka had served his military cadetship in Dingiswayo's army having been posted there by his mother after breaking with his father and chief of the Zulu, Senzangakhona. The death of Dingiswayo paved way for the rise of Shaka. Possibly building upon Dingiswayo's military innovations, Shaka himself became a remarkable genius of war, and is credited with the invention of the assegai – the short stabbing spear.

Some of the remarkable episodes of Shaka's military exploits were the defeat of Zwide's army at the Battle of Gqokoli Hills south of the White Umfolozi River in 1818 (Becker 1962: 30, Omer-cooper 1966: 32) and the final routing of Zwide's army led by the general, Soshangane, at the Battle of Mhlatuze River at the end of 1818. From this point the Mfecane was in full swing and the long distances migrations began, the most remarkable of these being those of Soshagane, Zwangendaba and Mzilikazi. The above is an important frame of reference for the heritage survey and indicates the potential richness of the area of study in terms of heritage resources.

7.3.1. **Chiefly Burials of the Mthembu**[6]

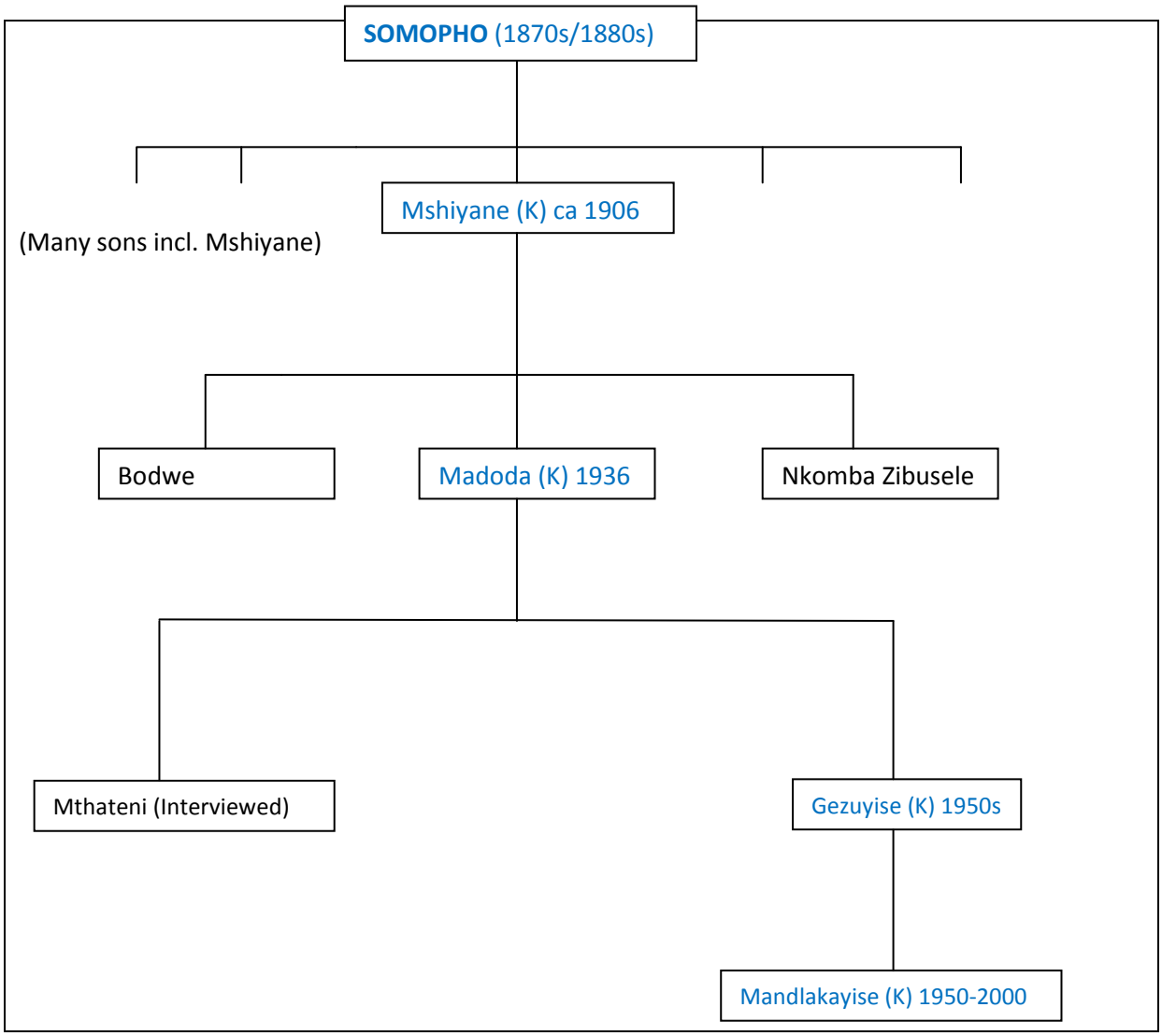
Indeed an oral survey, though very limited in scope, confirmed that the area is fairly well resourced as demonstrated by the history of the origin and development of the Somopho and Macekane villages which is here outlined. Information to hand is that the villages date back to the 19th century. The Mthembu, the predominant inhabitants of the area, are a segment of the Zulu. Somopho was a paramount chief (Induna-nkulu) during the reign of King Mpande; this would have been prior to 1870. He was a close trustee of the kings - both Mpande and his son and successor, Cetshwayo - and

[6] The profile is based on information provided by Jeffrey S. Mthembu.

an *impi* (regiment) was placed under his command. Responding to increasing European activity in the coastal region, Somopho's regiment and village were moved from central parts of the Zulu state in the west to its present location to create a cordon and sentinel position against the threat of European expansion from the sea.

The regiment was placed on permanent guard at a fort located where the Empangeni Aerodrome was later sited. In addition there used to be a training camp for *amajaha* (young men) at the present site of the steel plant on the north-western outskirts of Empangeni.

The chieftainship of the Mthembu has traditionally been an exclusive entitlement of the Somopho family. While historically the title has been *induna*, it has now been upgraded to a kingship, *Inkosi*. The chiefly successions of the Mthembu since the 1880s are summarised in the following genealogical diagram.



LEGEND

(K) – Appointed king of the Mthembu.

Table 2. Mthembu chieftaincy genealogy

As the diagram shows there have been five successions since the 19th century running from father to son. All the incumbents are deceased, of which four are buried within Corridor 1 (Sites 16, 17, 19 &20; Figs. 2-5; see map – Fig. 10). In Zulu tradition, as indeed is custom in many pre-colonial African societies, chiefly burials are held sacred. Memory of the graves is preserved in Mthembu oral traditions.

Fig. 2. Burial place of Kings Mshiyane/Mandlakayise (L) & Gezuyise (R) - (Sites 17 & 16)

Fig. 3. Burial place of Kings Mshiyane & Mandlakayise (Site 17)

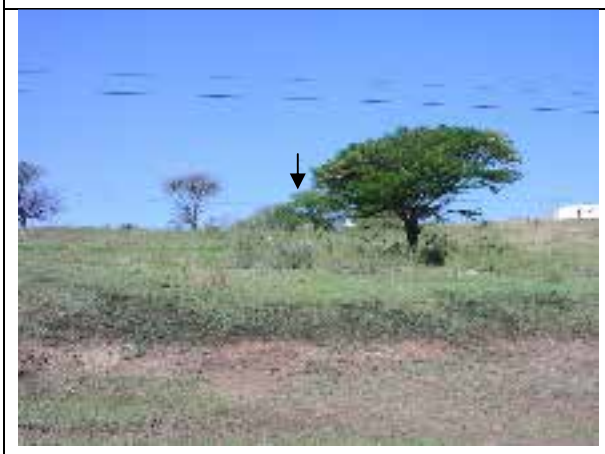


Fig. 4. King Gezuyise's grave (Site 16)

Fig. 5. King Madoda's grave (Site 19). Pylon mark path and direction of Corridor 1.

7.3.2. **Spiritual Sites**

Within Corridor 1 three sites are connected with spiritual activities. The first is a Shembe congregational site where a church building is under construction (Site 13, Fig. 6). The Shembe Church is of the African Pentecostal variety with its foundations in Zululand. It has earned international acclaim for its spectacular dances and doctrine which is a mixture of Christian teaching and Zulu culture.[7] The homestead of the chief priest of the Church at Somopho is situated near the church and in the transmission corridor. In characteristic Shembe custom it is marked by a perimeter of white painted stones (Site 14, Fig. 7). Within the same area in addition to the church there are two more spiritual sites. The first situated near the Shembe Church is the site of public gatherings presided by the king and often to offer prayers in the event of misfortunes such as droughts (Site 15, Fig. 8). Traditional rainmaking ceremonies are held at the second site, and in recent times they have been presided over by a local charismatic female traditional healer called Nkwishiza (Site 18, Fig. 9).

Fig. 6. Shembe Church, Somopho (Site 13). Proposed Corridor 1 follows transmission lines in the photo

Fig. 7. Shembe Priest's homestead, Somopho (Site 14). Corridor 1 follows transmission lines in photo

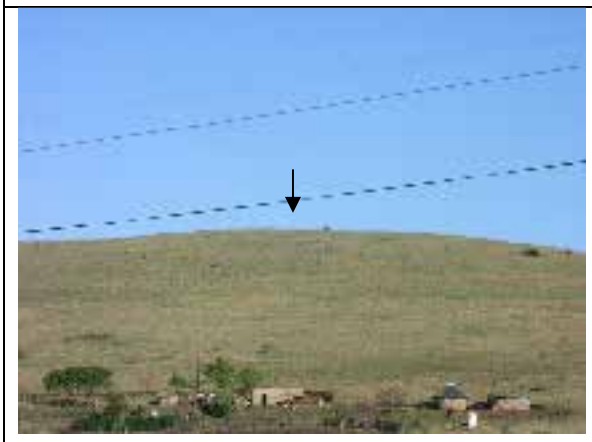


Fig. 8. Public meeting Place near Shembe Church (Site

Fig. 9. Rainmaking site, Somopho (Site 18). Corridor 1

[7] http://en.wikipedia.org/wiki/Isaiah_Shembe

15). Corridor 1 follows transmission lines in photo.	follows transmission lines in photo.

Site No	Site name	Description	Corridor	Signif. grading[8]	Proximity to corridor
1	Theta Station Option 1	Open field, pasture	Convergence point	Low	Convergence point
2	Corridor 2-A	Open field, pasture, evidence past cultivation	2	Low	Within corridor
3	Corridor 2-B	Sugar cane plantation	2	Low	Within corridor
4	Corridor 2-C	Sugar plantation, riverside woodland	2	Low	Within corridor
5	Corridor 1-A	Sugarcane plantation	1	Low	Within corridor
6	Corridor 1-B Somopho	Open land, rural area	1	Low	Within corridor
7	Corridor 1-C	Open land, rural homesteads	1	Low	Within corridor
8	Convergence Point	Eucalyptus plantations	1	Low	Within corridor
9	Corridor 2-D	Eucalyptus plantation	2	Low	Within corridor
10	Corridor 3-E	Eucalyptus plantation	3	Low	Within corridor
11	Corridor 2-F	Sugarcane plantation	2	Low	Within corridor
12	Corridor 1-D	Sugarcane plantation	1	Low	Within corridor

Table 3. Sites visited during the random survey in July 2009.

[8] The grading system used here is a comparative analysis of the above sites only. It has no application outside this report.

Site No	Site name	Description	Corridor	Signif. grading[9]	Proximity to corridor
13	Shembe Church	Congregation site and building	1	High	± 800m
14	Shembe priest homestead	Priest homestead with Shembe white painted perimeter markers	1	High	± 400m
15	Public meeting place	Place for communal prayers presided over by the Chief	1	Medium	± 700m
16	Gezuyise's Grave	Mthembu chiefly burial	1	High	± 200m
17	Mshiyane & Mandlakayise Graves	Mthembu chiefly burials	1	High	± 100m
18	Rainmaking site	Communal rainmaking site presided over by Nkwishiza	1	High	± 500m
19	Madoda's grave	Mthembu chiefly burial	1	High	< 100m
20	Somopho's grave	Mthembu chiefly burial	1	High	±3km

Table 4. Confirmed heritage sites

[9] The grading system used here is a comparative analysis of the above sites only. It has no application outside this report.

7.3.4. **Profile of Land Claims**

The area under study is the subject of a number of claims for restitution of land arising from growing public awareness with respect to opportunities to reverse forced removals. Forced removals feature prominently in collective memory in the area. There are political sensitivities around the issue. The heritage perspective is that these issues are inscribed on the landscape and they must be memorialised. Some of the claims are currently being researched with a view to lodge applications to effect restitution or compensation, and such cases may be considered to be *sub judice*. It suffices therefore here to give a historical overview.

7.3.4.1. The 1904 Zululand Delimitation Commission paved way for the expropriation of land and the creation of reserves. In 1928 the Cebekulu clan under Chief Mkhonto were moved from their traditional lands north of Empangeni and resettled in Ntambanana in what is said to have been land swop (with financial compensation) negotiated by Armstrong and Higgs on behalf of the government. The Cebekulu now argue that the transaction was fraudulent and they are demanding restitution.

7.3.4.2. In 1975 the Bantu Affairs Department appropriated land from the Chief Bejane Cebekulu clan to develop Nseleni Township to accommodate migrant labourers who had been engaged on the development Richards Bay and labourers from the plantations.[10]

7.3.4.3. In the same year the Mandlazini people were relocated to Heatonville to pave way for the development of Richards Bay Harbour. At the destination the government expropriated land from WWII war veterans to accommodate the Mandlazini people.

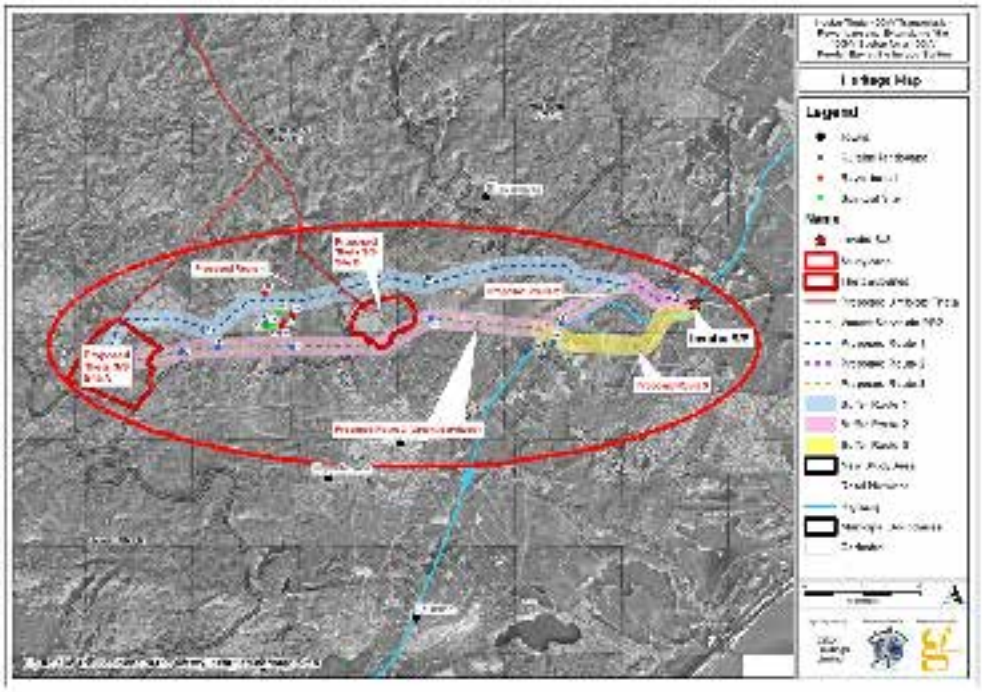
7.3.4.4. The Mthembu also suffered land expropriations notably after the two World Wars, i.e. post-1918 and 1945 as the government had a scheme to reward ex-soldiers with land.

[10] Debbie Whelan, pers. com. August 2009.

8. IMPACT ASSESSMENT

8.1. Impact assessment methodology

The heritage sensitivity map (below) and the catalogue of heritage sites (attached) are the basis on which the comparative impact assessment table which follows has been prepared. Clearly the concentration of heritage resources is high along Corridor 1 as compared to Corridor 2. It is important to state that a full scale heritage impact assessment has not been carried out, but a scoping report has been submitted to Provincial Heritage Authority (Amafa). The National Heritage Resources Act (No 25, 1999) places the onus on the Heritage Authority to call for an HIA if there is a reason to believe that the proposed development was going to impact on existing heritage.



Heritage sensitivity map

Determination of possible impacts on heritage resources that will be occasioned by the proposed development was done in terms of the KwaZulu Natal Heritage Act (No 4, 2008), Clauses 33 and 35. Furthermore, for purposes of this EIA, and informed by our findings of likely impacts, qualitative assessment criteria used in the EIA framework have been applied, which examine impacts in terms of the following:

(i) Nature

The nature of the impact should be classified as positive or negative, and direct or indirect.

(ii) Extent and location

Magnitude of the impact and is classified as:

Local: the impacted area is only at the site – the actual extent of the activity

Regional: the impacted area extends to the surrounding, the immediate and the neighbouring properties.

National: the impact can be considered to be of national importance.

(iii) Duration of impact

This measures the lifetime of the impact, and is classified as:

Short term: the impact will be for 0 – 3 years, or only last for the period of construction.

Medium term: three to ten years.

Long term: longer than 10 years or the impact will continue for the entire operational lifetime of the project.

Permanent: this applies to the impact that will remain after the operational lifetime of the project.

(iv)Intensity of impact

This is the degree to which the project affects or changes the environment, and is classified as:

Low: the change is slight and often not noticeable, and the natural functioning of the environment is not affected.

Medium: The environment is remarkably altered, but still functions in a modified way.

High: Functioning of the affected environment is disturbed and can cease.

(iv) Probability of impact occurring

This is the likelihood or the chances that the impact will occur, and is classified as:

Low: during the normal operation of the project, no impacts are expected.

Medium: the impact is likely to occur if extra care is not taken to mitigate them.

High: the environment will be affected irrespectively; in some cases such impact can be reduced.

(v) Confidence rating

This is the level knowledge/information, the environmental impact practitioner or a specialist had in his/her judgement, and is rated as:

Low: the judgement is based on intuition and not on knowledge or information.

Medium: common sense and general knowledge informs the decision.

High: Scientific and or proven information has been used to give such a judgement.

(vi) Significance

Based on the above criteria the significance of issues will be determined. This is the importance of the impact in terms of physical extent and time scale, and is rated as:

Low: the impacts are less important, but may require some mitigation action.

Medium: the impacts are important and require attention; mitigation is required to reduce the negative impacts

High: the impacts are of great importance. Mitigation is therefore crucial.

(vii) Cumulative Impacts

The possible cumulative impacts will also be considered.

(viii) Mitigation

Mitigation for significant issues will be incorporated into the EMP for construction.

8.2. Impact Assessment

Impact Assessment Table[11]

	CULTURAL HERITAGE RESOURCES	
Description of potential impact	Negative impacts, which range from partial to total destruction of archaeological under-surface movable/immovable relics, movable/immovable relics and features above the ground. Potential damage to the existing rural and plantation landscape which are cultural landscapes of potential heritage significance	
Nature of Impact	Negative, can be both direct or indirect	
Legal Requirements	Section 38 of National Heritage Resources Act No. 25 (1999) and Sections 33 and 35 of the KwaZulu-Natal Act No 4 (2008)	
	Study Corridor	
	Corridor 1	Corridor 2
Stage/Phase	Construction and Operation	Construction and Operation
Preferred corridor in respect of magnitude of likely impacts	Less Preferred	Preferred
Nature of Impact	Negative direct & indirect impacts	Negative direct and indirect impacts
Extent of Impact	Local: chiefly graves may be affected; excavation (foot of pylons); General: clearance of servitude and damage to cultural landscape.	Local: excavation for footings of pylons, General: clearance of servitude and damage to cultural landscape
Duration of Impact	Permanent	Permanent
Intensity	Chiefly graves may be affected	-
Probability of occurrence	Medium	Medium
Confidence of assessment	High	Medium
Level of significance of impacts before mitigation	High	Low
Mitigation measures (EMP requirements)	Avoid sacred sites and areas with chiefly graves; Monitor construction	Monitor construction
Level of significance of	Low	Low

[11] Corridor 3 is a sub-option under Corridor 2. It is not suitable because to affect the Botanic Reserve south of Nseleni.

impacts after mitigation		
Cumulative Impacts	None	None
Comments or Discussion	The above rating is based on a micro-study on a section of Corridor 1 ca 4km long	The rating is based on a scoping survey

8.3. Comparative assessment of alternatives

8.3.1. The Scoring System

Quantitative rating of impacts for each corridor and substation site was done by appointing a value range between 0 – 5 for each criteria. The values signify the impact on the corridors from being low (0) through very high impact to "no go" (5):

0 - not significant/not relevant impact
1 - Low impact
2 - Medium impact
3 - High impact
4 - Very high impact
5 - "No-go"/fatal flaw

CORRIDOR	SCORING
Corridor 1	High
Corridor 2	Low

Comparative Assessment Table

8.4. Methodical Assessment of Impacts

(i) The degree to which the impact can be reversed;

The impacts arising from the construction of overhead power lines, however minimal, are not likely to be reversible, barring their dismantling and relocation elsewhere.

(ii) The degree to which the impact may cause irreplaceable loss of resources;

Heritage sites are likely to be destroyed without the chance of renewal or replacement during excavation of the footing of the pylons.

(iii) The degree to which the impact can be mitigated.

At the present time the reasonable mitigation strategy is to keep the physical works as much as possible from the Mthembu chiefly burials. Constant monitoring by a qualified archaeologist or heritage expert will be necessary during construction.

9. FINDINGS

9.1. The results of the scoping survey demonstrate that there are heritage resources that are worthy of preservation in the study area, particularly along or near Corridor 1.

9.2. There are at least 3 chiefly burial sites and other heritage resources (possibly including archaeological sites) located along Corridor 1. These resources are not conspicuously identifiable nor are they officially documented, but their memory is preserved in the local oral traditions.

9.3. The sugarcane plantations form a cultural landscape of potential heritage significance. However given that the fields are so extensive a reasonable assumption is made the impact of clearance along the passage of overhead lines is negligible. Representative samples of can be preserved elsewhere.

9.4. The land claims are an aspect of history which is inscribed it the landscape, for instance through the contrast and juxtaposition of rural and plantation landscapes.

9.5. The heritage sites located during the scoping survey are not yet in the provincial heritage register.

10. RECOMMENDATIONS

We draw attention especially to the Mthembu chiefly burials which must be treated in accordance with Clause 35 of the KwaZulu-Natal Heritage Act No. 4 (2008) which provides for the protection of "Traditional Burial Places" and stipulates that .—(1) "No grave—

(*a*) not otherwise protected by this Act; and

(*b*) not located in a formal cemetery managed or administered by a local authority, may be damaged, altered, exhumed, removed from its original position, or otherwise disturbed without the prior written approval of the Council having been obtained on written application to the Council."

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