

**PHASE I CULTURAL HERITAGE IMPACT ASSESSMENT OF THE  
PROPOSED REPLACEMENT OF A 88KV POWERLINE BETWEEN  
VILJOENSKROON AND VIERFONTEIN IN THE FREE STATE  
PROVINCE, SOUTH AFRICA**

**Prepared by**



**Mamoluoane Seliane**

MSc (Environmental and Geographical Science)  
Hons (Archaeology)

**Strategic Environmental Focus (Pty) Ltd**

P.O. Box 227

Pavilion

Durban

3611

Tel: 031 266 1277

E-mail: [mamo@sefsa.co.za](mailto:mamo@sefsa.co.za)

**Prepared for**

Eskom Distribution NWR

P.O. Box 356

Bloemfontein

9300

**November 2011**

## TABLE OF CONTENTS

ACRONYMS AND ABBREVIATIONS .....	3
EXECUTIVE SUMMARY .....	4
1 INTRODUCTION .....	5
2 BACKGROUND INFORMATION TO THE PROJECT .....	8
2.1 Details of the study area .....	8
2.2 Locational Data .....	8
3 BACKGROUND INFORMATION OF THE SURVEY .....	10
3.1 Methodology.....	10
3.1.1 <i>Details of the site visit</i> .....	10
3.1.2 <i>Literature Review</i> .....	10
3.2 Restrictions to the survey.....	10
3.2.1 <i>Visibility</i> .....	10
3.2.2 <i>Disturbance</i> .....	11
3.3 Details of the equipment used in the survey .....	11
4 BRIEF ARCHAEOLOGICAL HISTORY OF THE FREE STATE PROVINCE .....	12
4.1 Stone Age .....	12
4.2 Iron Age .....	13
5 DESCRIPTION OF THE STUDY AREA .....	15
5.1 Description of the materials observed .....	15
5.2 Summary of the findings .....	20
6 STATEMENT OF SIGNIFICANCE .....	30
6.1 Significance of the graves.....	30
6.2 Significance of the structures older than 60 years .....	30
7 RECOMMENDATIONS.....	32
8 RISK PREVENTATIVE MEASURES ASSOCIATED WITH CONSTRUCTION.....	32
9 CONCLUSION.....	32
REFERENCES.....	33
APPENDIX 1 .....	34

## LIST OF FIGURES

<b>Figure 1:</b> Study area showing identified heritage resources.....	9
<b>Figure 2:</b> Typical vegetation found on site - poor visibility for identification of heritage resources .....	11
<b>Figure 3:</b> Schematic diagram of prehistoric and historic periods .....	14

## LIST OF TABLES

<b>Table 1:</b> Background Information .....	8
<b>Table 2:</b> <a href="#">Identified heritage resources</a> .....	16
<b>Table 3:</b> Summary of the construction constraints and mitigation measures for the proposed replacement of the 88kV distribution line from Viljoenskroon to Vierfontein .....	21
<b>Table 4:</b> Field rating and recommended grading of sites (SAHRA, 2005).....	31

**ACRONYMS AND ABBREVIATIONS**

BA	Basic Assessment
EIA	Environmental Impact Assessment
EIAge	Early Iron Age
ESA	Early Stone Age
HIA	Heritage Impact Assessment
LIA	Late Iron Age
LSA	Later Stone Age
MIA	Middle Iron Age
MSA	Middle Stone Age
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998)
NHRA	National Heritage Resources Act, 1999 (Act No. 25 of 1999)
SAHRA	South African Heritage Resources Agency
SEF	Strategic Environmental Focus (Pty) Ltd

## **EXECUTIVE SUMMARY**

The aim of the cultural heritage survey was to locate, identify and document sites of heritage and archaeological significance that may occur along the proposed study areas for the replacement of the 88kV power line between Viljoenskroon and Vierfontein, in the Free State. An assessment of the impact of the construction of the power line on such resources will be provided. Where the impact is negative, alternatives and or mitigation plans will be considered.

In accordance with the National Heritage Resources Act (Act No. 25 of 1999), the Phase I Heritage Survey investigated cultural heritage resources within a 500m servitude on either side of the suggested power line routes. The heritage investigation revealed a few buildings and structures older than 60 years and some grave sites consisting of graves of various ages.

The National Heritage Resources Act protects graves older than 60 years. However, other legislation such as the Human Tissue Act, 1983 (Act No. 65 of 1983 as amended) take precedence whenever graves are younger than 60 years.

It is recommended from a heritage point of view that the proposed replacement of the 88kV power line project proceed, with the acceptance of the conditions stated in Section 7 of this report.

In the event that any heritage and or archaeological materials (including graves) are unearthed during the construction work for the proposed power line replacement, work must cease immediately and SAHRA, and SEF be contacted on 021 462 4502 and 031 266 1277 respectively.

## 1 INTRODUCTION

The proposed replacement of the 88kV power line from Viljoenskroon to Vierfontein entails the following:

- Rebuilding a 24km Vierfontein-Viljoenskroon Munic line by building a complete new line with Chickadee conductors; and
- Dismantling the old powerline and scrapping the old copper conductors;
- The existing 24km powerline runs through maize fields and will therefore be rerouted to run parallel with the road and railway line.

Strategic Environmental Focus (Pty) Ltd was commissioned by Eskom Distribution NWR to conduct a Phase I HIA for the replacement of the 88kV distribution line. This HIA was carried out in terms of the National Environmental Management Act 1998 (Act No. 107 of 1998) as amended, (NEMA), and it is based on the requirements of the National Heritage Resources Act, 1999 (Act No 25 of 1999) (NHRA). This HIA is a specialist study that forms part of the Basic Assessment (BA) process for the proposed power line refurbishment and investigates the possible impact of the proposed development on heritage resources within the proposed construction corridors.

According to Section 3 (2) of the NHRA, the heritage resources of South Africa include:

- 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 in terms of the Human Tissue Act, 1983 (Act No. 65 of 1983);*
- h. sites of significance relating to the history of slavery in South Africa;*
- i. 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, photographic 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)."*

In terms of Section 3 (3) of the NHRA, a place or object is to be considered part of the national estate if it has cultural significance or other special value because of:

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

The aim of the investigation was to identify, verify and analyze heritage issues and to recommend how to manage them within the context of the proposed refurbishment of the power line.

The objectives of the investigation were:

- Identifying and analyzing heritage places, objects, buildings, structures etc;
- Assessing broad cultural significance of identified sites, places, buildings, structures, objects within them 20 m buffers of the suggested alternatives;
- Surveying and mapping of significance/sensitivity issues and opportunity/constraint issues;
- Reviewing of the general compatibility of the installation of the pipeline with heritage policy planning frameworks;
- Undertaking a preliminary assessment of the acceptability of the proposed installation of the pipeline deviation from a heritage perspective;
- Identifying the need for alternatives if necessary; and
- Recommending appropriate initial management measures to conserve significant heritage elements and reduce the impact of the construction of the pipeline on heritage resources.

## 2 BACKGROUND INFORMATION TO THE PROJECT

**Table 1: Background Information**

Consultant:	Mamoluoane Seliane
Type of development:	Replacement of a 24 km 88kV distribution line
Rezoning or subdivision:	Not applicable
Terms of reference	To carry out a Phase I HIA
Legislative requirements:	The HIA was carried out in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) as amended, (NEMA), following the requirements of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) (NHRA).

### 2.1 Details of the study area

The study area extends from the sub-station near the town of Viljoenskroon and ends in Vierfontein ([Figure 1](#)).

#### **Current land-use:**

The proposed study area traverses areas of various land uses including small towns, residential areas and for the most, part crop and stock farms.

### 2.2 Locational Data

- **Province:** Free State
- **District Municipality:** Fezile Dabi;
- **Local Municipality:** Moqhaka
- **Ward Numbers:** 23 and 25



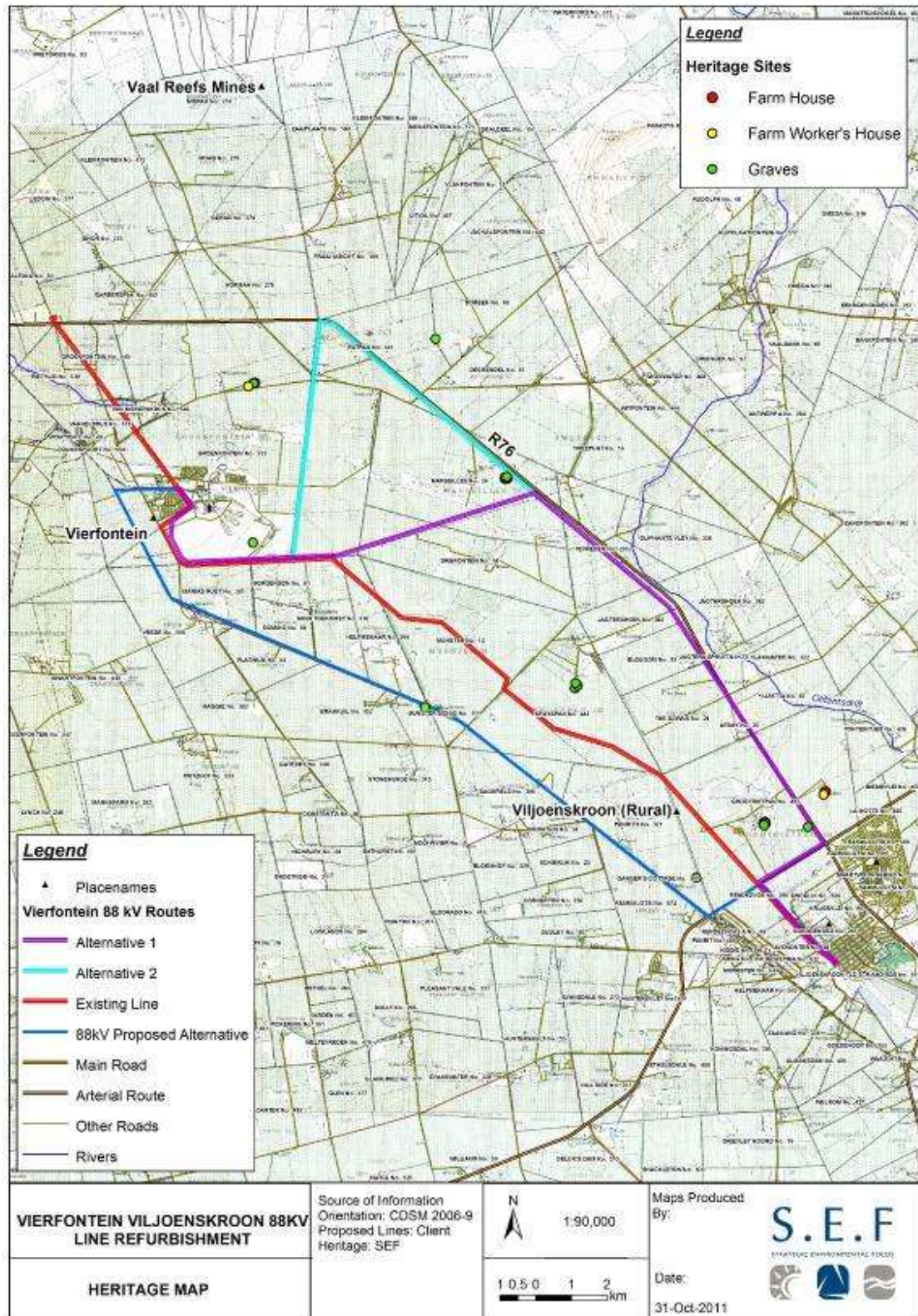


Figure 1: Study area showing identified heritage resources

### **3 BACKGROUND INFORMATION OF THE SURVEY**

#### **3.1 Methodology**

##### **3.1.1 Details of the site visit**

The site visit for the proposed replacement of the 88kV distribution line was conducted on the 19 – 22 September 2011. The survey was undertaken by means of walking and driving throughout the suggested alternative routes to:

- Search for, locate and identify objects and structures of heritage and/or archaeological significance in accordance with accepted archaeological practices; and
- Document all heritage/archaeological sites, objects and structures according to minimum standards and procedures accepted by the archaeological profession.

**Note:** Some sections of the study area were only visually inspected due to inaccessibility.

##### **3.1.2 Literature Review**

A brief literature review pertaining to the prehistory and history of the Free State Province was undertaken.

#### **3.2 Restrictions to the survey**

##### **3.2.1 Visibility**

Visibility varied across the study site but was generally very poor for the most part due to vegetation growth (Figure 2).



**Figure 2: Typical vegetation found on site - poor visibility for identification of heritage resources (120 m west of the proposed Alternative 2 on Farm Marseilles No. 24 – 1333 m above sea level)**

### **3.2.2 Disturbance**

There was no disturbance of any potential archaeological stratigraphy noted during the field investigation. However, it is possible that archaeological sites and stratigraphy have been affected over the years by the large scale farming activities within the study area.

### **3.3 Details of the equipment used in the survey**

- GPS: Garmin eTrek Camo; and
- Digital cameras: Canon Powershot A460.

All readings were taken using the GPS. Accuracy was to a margin of error of 4 m.

## 4 BRIEF ARCHAEOLOGICAL HISTORY OF THE FREE STATE PROVINCE

Like some provinces in South Africa, the Free State is poorly researched archaeologically. However, evidence from research that has been conducted on sites within the province shows that the province has a wide spectrum of sites belonging to different time periods and cultural traditions. The Free State is home for fossils that are particularly important in the body of scientific knowledge in the subject of humanity and human evolution specifically in the last 300 000 years. The discovery at Florisbad of the relatively complete hominid fossil skull and associated cultural material has made considerable contribution to the debates of origins and the late archaic phase of modern human development.

### 4.1 Stone Age

The Stone Age is comprised of three (3) industries namely, the Early Stone Age (ESA), Middle Stone Age (MSA) and the Later Stone Age (LSA) (Figure 3). The ESA dates to between approximately the last 2.5 million years to about 250 000 years ago. This is a period during which human ancestors began the usage of stone tools. The ESA tools were simple tools, which were, among other things, used to chop and butcher meat, de-skin animals and probably to smash animal bones to obtain bone marrow (Deacon & Deacon, 1999).

The ESA tool technology consists of two industries, namely the Oldowan Industry and Acheulean Industry. The Oldowan Industry is named after Olduvai George in Tanzania where these tools were first discovered. This industry dates from approximately 2.5 million years ago to around 1.7 million years. The Oldowan Industry consists of very simple, crudely made core tools from which flakes are struck a couple of times. To date, there is no consensus amongst archaeologists as to which hominid species manufactured these artifacts (Deacon & Deacon 1999).

At around 1.7 million years ago, it is thought that another hominid appeared on the landscape and is believed to have been responsible for manufacturing Acheulean tools. The Acheulean Industry lasted until about 250 000 years ago. Acheulean tools were more specialized tools than those of the earlier industry. They were shaped intentionally to carry out specific tasks, such as hacking and bashing to remove limbs from animals and marrow from bone. These duties were performed using the large sharp pointed artifacts known as handaxes. Cleavers, with their sharp, flat cutting edges were used to carry out more heavy duty butchering activities (Deacon & Deacon, 1999).

The MSA dates back to about 250 000 years ending around 25 000 years ago. In general, the MSA stone tools are smaller than those of the ESA. A variety of MSA tools include blades,

flakes, scrapers and pointed tools that may have been hafted onto shafts or handles and used as spearheads. Between 70 000 and 60 000 years ago, new tool types appeared in South Africa known as segments and trapezoids. These tool types are referred to as backed tools from the method of preparation. Residue analyses on the backed tools from South African MSA sites indicate that these tools were certainly used as spear heads (Mitchell, 2002).

Stone tool technology in the LSA is observed to display rapid stylistic change compared to the slower pace of stylistic change in the MSA (Deacon & Deacon, 1999). The rapidity is more evident during the last 10 000 years. The LSA sequence includes informal small blade tradition from about 22 000 – 12 000 years ago, a scraper and adze-rich industry between 12 000 – 8 000 years ago, a backed tool and small scraper industry between 8 000 – 4 000 years and ending with a variable set of other industries thereafter

Along with the marked social transformation and technological innovation of the LSA people is the associated Rock Art panels that occur on cave walls or rock faces. The Free State forms part of southern Africa's mountain complex which is one of the world's premier Rock Art regions. Rock Art can be in the form of rock paintings or rock engravings, depending on the geology of a region. In the Free State Province, hunter gathering communities painted the walls of the sandstone rock shelters transforming them from 'spaces' into cultural places. However, no Rock Art has been found on the properties investigated.

## **4.2 Iron Age**

A farming way of life was introduced to southern Africa about 2 000 years ago by Bantu-speaking people from the north. They brought with them crops such as sorghum, millet, ground beans and cow peas to be cultivated for the first time in this part of the world. Domestic animals such as cattle, sheep and goats were also part of the newly introduced farming way of life. Unlike the hunter-gatherers and herders who lived in temporary camps and led a nomadic way of life, farming necessitated sedentary life styles. Some features of the permanent settlements of these early mixed farming communities are houses, raised grain bins, underground storage pits and stock enclosures. An important feature of this time period was that they also made their own iron implements, hence the name Iron Age. The Iron Age has been divided into three periods, namely the Early Iron Age (EIAge) (AD 200 – 900), the Middle Iron Age (MIA) (AD 900 – 1300) and the Late Iron Age (LIA) (AD 1300 – 1820) (Huffman, 2007; see Figure 3). The investigation did not reveal any Iron Age features or artifacts in the study area.

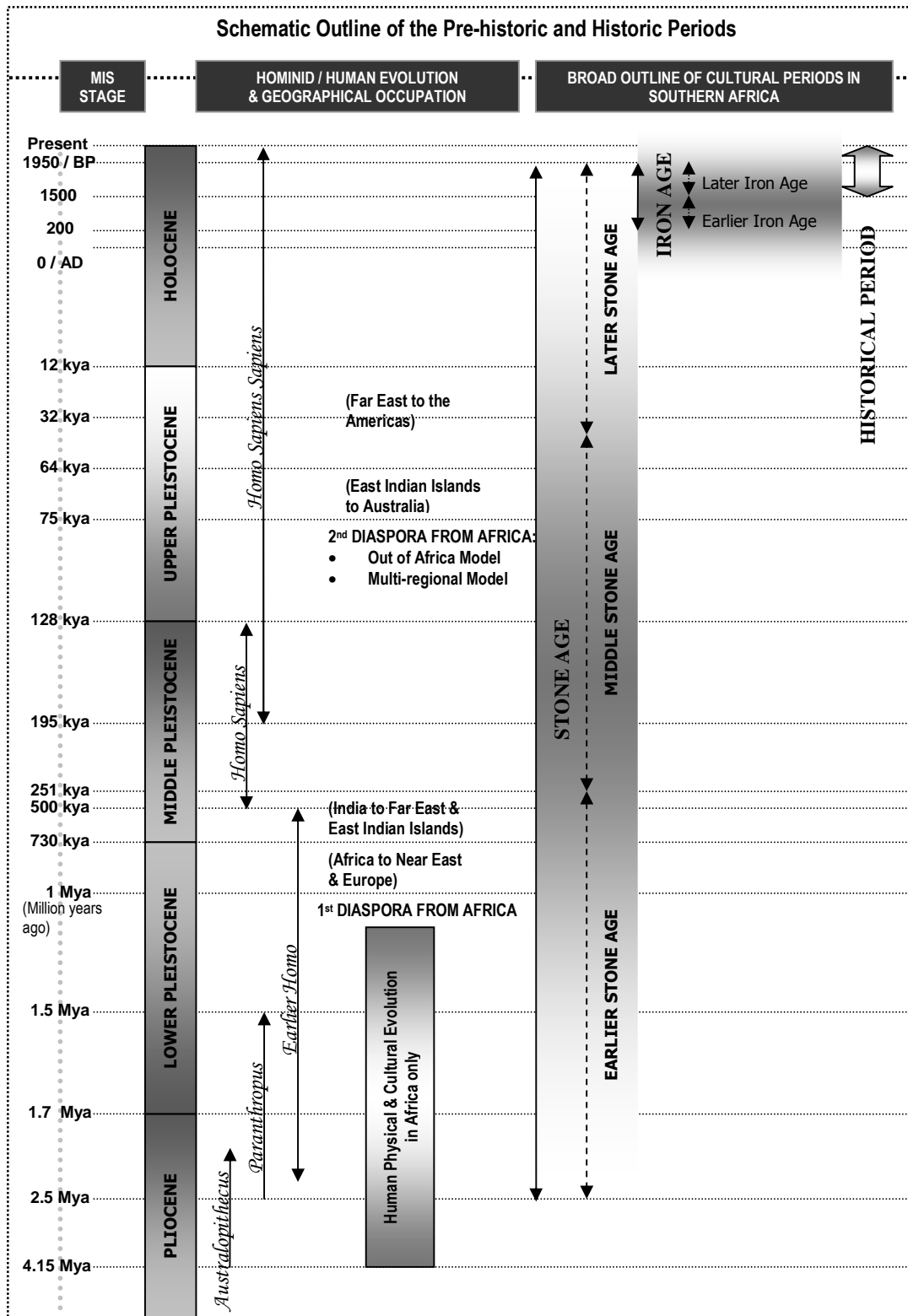




Figure 3: Schematic diagram of prehistoric and historic periods

## **5 DESCRIPTION OF THE STUDY AREA**




### **5.1 Description of the materials observed**

This section details the heritage resources that were identified on site and categorises them according to the NHRA (Table 2). Table 2 must be read in conjunction with Figure 1 and Table 3 in order to link the location of the different heritage resources in relation to the proposed study area.

#### **Table 2: Identified heritage resources**

<b>Identified heritage resources</b>	
<i>Category, according to NHRA</i>	<i>Identification/Description</i>
<b>Formal protections (NHRA)</b>	
National heritage site (Section 27)	None
Provincial heritage site (Section 27)	None
Provisional protection (Section 29)	None
Place listed in heritage register (Section 30)	None
<b>General protections (NHRA)</b>	
Structures older than 60 years (Section 34)	<ul style="list-style-type: none"> <li>• An old farm house identified on the Farm Grootrietpan No. 451 (see photo below) and was located at 27°10'10.2"S; 26°56'24.8"E. This house is protected by the NHRA because it is older than 60 years.</li> </ul>  <ul style="list-style-type: none"> <li>▪ Farm workers' houses and ruins identified on Farm Grootrietpan No. 451 (see photo below) and located at 27°10'12.6"S; 26°56'21.1"E.</li> </ul>  <p>Farm workers' house and ruins identified on Farm Groenfontein No. 313 (see photo below) and located at 27°04'00.3"S; 26°47'39.5"E.</p>



	
<p>Archaeological site or material (Section 35)</p>	
<p>Palaeontological site or material (Section 35)</p>	<p>None</p>
<p>Graves or burial grounds (Section 36)</p>	<ul style="list-style-type: none"> <li>• Grave site identified on Farm Grootrietpan No. 451 and located at 27°10'40.8"S; 26°56'09.6"E, consisting of 1 grave (see photo below).                     <div data-bbox="651 976 895 1301">  </div> </li>   <li>▪ Grave site identified on Farm Grootrietpan No. 451 and located at 27°10'37.5"S; 26°55'30.0"E (see photo below).                     <div data-bbox="651 1413 1241 1839">  </div> </li> </ul>

- Grave site identified on Farm Kruyspan No. 442 and located at 27°08'36.4"S; 26°52'36.6"E (see photo below).



- Grave site identified on Farm Marseilles No. 24 and located at 27°05'23.1"S; 26°51'34.9"E (see photo below).



- Grave site identified on Farm Ganger's Cottage No. 390 and located at 27°05'23.1"S; 26°51'34.9"E (see photo below).



- Grave site identified on Farm Brakkuil No. 432 located at 27°08'53.2"S; 26°50'20.6"E (see photo below).



- Grave site identified on Farm Groenfontein No. 313 located at 27°06'23.1"S; 26°47'43.8"E (see photo below):



- Grave site identified on Farm Groenfontein No. 313 located at 27°03'57.9"S; 26°47'44.4"E (see photo below):



	<ul style="list-style-type: none"> <li>Grave site identified on Farm Doreen No. 60 and located at 27°03'17.6"S; 26°50'30.1"E (see photo below).</li> </ul> 
Public monuments or memorials (Section 37)	None
<b>Other</b>	
Any other heritage resources (describe)	None

## 5.2 Summary of the findings

A total of 12 heritage sites were identified within the proposed study area for the replacement of the 88 kV distribution line from Viljoenskroon to Vierfontein. Of these sites, three (3) constitute buildings older than 60 years. The rest are grave sites containing graves of varying ages and those of undetermined age.

Below is a summary of construction constraints and mitigation measures associated with the identified graves in view of the proposed pipeline installation.

**Table 3 Summary of the construction constraints and mitigation measures for the proposed replacement of the 88kV distribution line from Viljoenskroon to Vierfontein**

Heritage Site Reference	Location	Description	Potential Impacts	Permit SAHRA from BGG required?	Risk level before mitigation	Proposed mitigation measures	Risk level after mitigation
Site 1	110 m west of the proposed Alternative 1 on Farm Grootrietpan No. 451  27° 10'40.8"S 26° 56'09.6"E  Located inside the proposed corridor	Site consists of 1 grave less than 60 years	The grave site is located inside the construction corridor (500m) and hence will be negatively impacted upon	Follow provisions of the Human Tissue Act, 1983 (Act No. 65 of 1983 as amended) if the intention is to relocate the grave	High due to risk associated with construction	Clearly demarcate the grave at a 2 m radius; Construction crew should be denied access to the grave site; No construction material should be placed within 20 m from the grave; No construction activities should take place within 20m of the grave; and Use existing access routes and ensure that no new access routes are created within 20m from the grave.	Low
Site 2	770 m East of proposed Alternative 1 on Farm Grootrietpan No. 451  27° 10'10.2"S 26° 56'24.8"E	This site consists of a farm house older than 60 years	The farm house is located outside the proposed construction corridor and hence the proposed development will not have any negative impact on it.	N/A	None	No mitigation required with regard to the current suggested alternatives. However, should more alternatives be proposed, the potential impact of the development upon this site should be taken into consideration	Low

Heritage Site Reference	Location	Description	Potential Impacts	Permit SAHRA required?	Risk level before mitigation	Proposed mitigation measures	Risk level after mitigation
Site 3	690 m east of the proposed Alternative 1 on Farm Grootrietpan No. 451  27°10'12.6"S 26°56'23.1"E	The site consists of farm workers' houses believed to be older than 60 years	The farm workers' houses are located outside of the proposed construction corridor (500m) and hence the proposed development will not have any negative impact on them.	NA	None	No mitigation required with regard to the current suggested routes and alternatives. However, should more alternatives be proposed, the potential impact of the development upon this site should be taken into consideration	Low

Heritage Site Reference	Location	Description	Potential Impacts	Permit SAHRA from BGG required?	Risk level before mitigation	Proposed mitigation measures	Risk level after mitigation
Site 4	960 m west of proposed Alternative 1 on Farm Grootrietpan No. 451  27°10'37.5"S 26°55'30.0"E	Difficult to determine total number of graves due to vegetation growth, some graves >60 years and others <60 years	Grave site located outside of the proposed construction corridor of 500m, hence there will be low negative impact.	None required as there is no need to disturb the graves.	None.	No mitigation required with regard to the current suggested routes and alternatives. However, should more alternatives be proposed, the potential impact of the development upon this site should be taken into consideration	Low
Site 5	1220 m east of the existing line on Farm Kruyspan No. 442  27°08'36.4"S 26°52'36.6"E	This cemetery contains graves >60 years, as well as those < 60 years. Total number of graves unknown	Grave Site located outside of the proposed construction corridor of 500 m, hence there will be low negative impact.	None required as there is no need to disturb the graves	None	No mitigation required with regard to the current suggested routes and alternatives. However, should more alternatives be proposed, the potential impact of the development upon this site should be taken into consideration	Low

Heritage Site Reference	Location	Description	Potential Impacts	Permit SAHRA from BGG required?	Risk level before mitigation	Proposed mitigation measures	Risk level after mitigation
6	120 m west of the proposed Alternative 2 on Farm Marseilles No. 24  27°05'23.1"S 26°51'34.9"E	This cemetery contains graves >60 years, as well as those < 60 years. Total number of graves unknown due to vegetation growth,	The grave site is located inside the construction corridor (500m) and hence will be negatively impacted upon	If grave(s) is/are less than 60 years no permit required. If age is unknown or if over 60 years a permit is required if the intention is to disturb the graves.	High due to risk associated with construction	Clearly demarcate the grave site at 20 m radius; Construction crew should be denied access to the grave site; No construction material should be placed within 20 m from the grave; No construction activities should take place within 20m of the outer edge of the grave site; and Use existing access routes and ensure that no new access routes are created within 20m from the outer edge of the cemetery	Low



Heritage Site Reference	Location	Description	Potential Impacts	Permit SAHRA from BGG required?	Risk level before mitigation	Proposed mitigation measures	Risk level after mitigation
Site 7	610 m east of the Proposed Alternative on Farm Ganger's Cottage No. 390  27°11'28.4"S; 26°54'27.4"E	This cemetery contains graves >60 years, as well as those < 60 years. Total number of graves unknown due to vegetation growth	The grave site is located inside the construction corridor (500m) and hence will be negatively impacted upon	None required as there is no need to disturb the graves	No risk	No mitigation required with regard to the current suggested routes and alternatives. However, should more alternatives be proposed, the potential impact of the development upon this site should be taken into consideration	No risk
Site 8	56 m west of the Proposed Alternative on Farm Brukkuil No 432  27°08'53.2"S; 26°50'20.6"E	This cemetery contains graves >60 years as well as those < 60 years. Total number of graves unknown	The grave site is located inside the construction corridor (500 m) and hence will be negatively impacted upon	If grave(s) is/are less than 60 years no permit required. If age is unknown or if over 60 years a permit is required if the intention is to disturb the	Very high due to risk associated with construction	Demarcate the grave site at 20 m radius; Construction crew should be denied access to the grave site; No construction material should be placed within 20 m from the grave; No construction activities should take place within 20m of the outer edge of the grave site; and Use existing access routes and ensure that no new access routes are created within 20 m from the outer edge of the cemetery	Low

Heritage Site Reference	Location	Description	Potential Impacts	Permit SAHRA required? from BGG	Risk level before mitigation	Proposed mitigation measures	Risk level after mitigation
		due to vegetation growth		graves.		Reroute the power line if there is no way of avoiding the disturbance of the graves as outlined above	
Site 9	430 m north of the proposed Alternative Route 1 in Farm Groenfontein No. 313  27°06'23.1"S; 26°47'43.8"E	This grave site occurs in the middle of a ploughed field and consists of graves with no inscriptions. The total number of graves not known	The grave site is located inside the construction corridor (500m) and hence will be negatively impacted upon	If grave(s) is/are less than 60 years no permit required. If age is unknown or if over 60 years a permit is required if the intention is to disturb	High	Demarcate the grave at 30 m radius; Construction crew should be denied access to the grave site; No construction material should be placed within 20 m from the grave; No construction activities should take place within 20 m of the grave; and Use existing access routes and ensure that no new access routes are created within 20 m from the grave	Low

Heritage Site Reference	Location	Description	Potential Impacts	Permit SAHRA from BGG required?	Risk level before mitigation	Proposed mitigation measures	Risk level after mitigation
Site 10	1480 m west of the proposed Alternative 2 on Farm Groenfontien No. 313  27°03'57.9"S; 26°47'44.4"E	This cemetery probably contains graves >60 years, as well as those < 60 years. The site is overgrown by vegetation and therefore it was difficult to determine the total number of graves.	None	None required as there is no need to disturb the graves	None	No mitigation required with regard to the current suggested routes and alternatives. However, should more alternatives be proposed, the potential impact of the development upon this site should be taken into consideration	No risk

Heritage Site Reference	Location	Description	Potential Impacts	Permit SAHRA from BGG required?	Risk level before mitigation	Proposed mitigation measures	Risk level after mitigation
Site 11	1600 m west of the proposed Alternative 2 on Farm Groenfontein No. 313  27°04'00.3"S; 26°47'39.5"E	This site consists of an old farm worker's house and ruins believed to be older than 60 years.	None	None required as there is no need to disturb the graves	None	No mitigation required with regard to the current suggested routes and alternatives. However, should more alternatives be proposed, the potential impact of the development upon this site should be taken into consideration	No risk

Heritage Site Reference	Location	Description	Potential Impacts	Permit SAHRA from BGG required?	Risk level before mitigation	Proposed mitigation measures	Risk level after mitigation
Site 12	1490m east of the proposed Alternative Route 2 on Farm Doreen No. 60  27°03'17.6"S; 26°50'30.1"E	This cemetery probably contains graves >60 years, as well as those < 60 years. The site is overgrown by vegetation and therefore it was difficult to determine the total number of graves.	None	None required as there is no need to disturb the graves	None	No mitigation required with regard to the current suggested routes and alternatives. However, should more alternatives be proposed, the potential impact of the development upon this site should be taken into consideration	No risk

## 6 STATEMENT OF SIGNIFICANCE

The significance of sites and heritage resources is determined using the following rating and grading (Table 3) as recommended by SAHRA, 2005.

### 6.1 Significance of the graves

Burial grounds and graves are classified as having **high significance** in terms of the NHRA. Graves belonging to the following two categories were identified:

- Graves older than 60 years; and
- Graves younger than 60 years.

NHRA protects graves older than 60 years. A permit from SAHRA Burial Grounds and Graves Unit would be required to disturb any graves older than 60 years or that of an undetermined age (see Appendix 1 for SAHRA policy on exhumation and relocation of graves).

The Human Tissue Act, 1983 (Act No. 65 of 1983 as amended) takes precedence when graves are younger than 60 years. Permitting procedures of this legislation would be applicable if the proposed powerline construction or the planned refurbishment of the existing line intend(s) to disturb any grave younger than 60 years.

### 6.2 Significance of the structures older than 60 years

The farm house identified at Farm Grootrietpan No. 451 and the farm workers' houses on Farms Grootrietpan No. 451 and Groenfontein No. 313 are older than 60 years. The NHRA protects structures older than 60 years and according to SAHRA's rating and grading of sites, these structures would be regarded as **Generally Protected A Level with a high to medium significance**. However, all the structures are situated outside of the developmental corridor of 500m and would not be negatively impacted upon by the proposed development. Should the current suggested routes in future be changed and require the demolition of the structures, a Demolition Permit will have to be obtained from the Free State Heritage Authority.

**Table 4 Field rating and recommended grading of sites (SAHRA, 2005)**

Level	Details	Action
National (Grade I)	The site is considered to be of National Significance	Nominated to be declared by SAHRA
Provincial (Grade II)	This site is considered to be of Provincial significance	Nominated to be declared by Provincial Heritage Authority
Local Grade IIIA	This site is considered to be of HIGH significance locally	The site should be retained as a heritage site
Local Grade IIIB	This site is considered to be of HIGH significance locally	The site should be mitigated, and part retained as a heritage site
Generally Protected A	High to medium significance	Mitigation necessary before destruction
Generally Protected B	Medium significance	The site needs to be recorded before destruction
Generally Protected C	Low significance	No further recording is required before destruction

## **7 RECOMMENDATIONS**

It is recommended that the proposed replacement of the 88kV distribution line from Viljoenskroon to Vierfontein proceed at any of the proposed routes and alternatives, from a heritage point of view with the acceptance of the following conditions:

- Construction activities should be limited to the proposed development corridor. If the size of the developmental corridor is increased at a later stage, a heritage specialist should be involved in order to assess how the increase in the size of the corridor will affect heritage resources.
- Should any of the proposed routes be changed as a result of other factors, the new route must be inspected by a heritage specialist before development can begin.
- Employ mitigation measures for each respective heritage site as outlined in Table 2.

## **8 RISK PREVENTATIVE MEASURES ASSOCIATED WITH CONSTRUCTION**

Archaeological material, by its very nature, occurs below ground. The developer should therefore keep in mind that archaeological sites might be exposed during the construction work. If anything is noticed, work in that area should be stopped and the occurrence should immediately be reported to SAHRA or a museum, preferably one at which an archaeologist is available. The find should then be investigated and evaluated by the archaeologist. Construction around the area of the find should cease until the archaeologist has evaluated the find and made recommendations.

## **9 CONCLUSION**

The heritage survey for the proposed replacement of the 88kV distribution line revealed three (3) sites constituting structures older than 60 years, as well as 9 grave sites consisting of graves of various ages. Although some heritage sites occur outside of the proposed developmental corridor, some sites were identified within the proposed developmental corridor. Respective mitigation measures have been suggested to minimise the potential negative impact the development could pose on such resources. It is recommended that the proposed replacement of the 88kV distribution line proceed from a heritage point of view with the acceptance of the stated conditions.



## REFERENCES

Deacon, H.J. & Deacon, J. 1999. *Human Beginnings in South Africa*. Cape Town: David Phillip.

Huffman, T. 2007. *Handbook to the Iron Age: The Archaeology of Pre-Colonial Farming Societies in Southern Africa*. University of KwaZulu-Natal Press, Pietermaritzburg.

Mitchell, P. 2002. *The Archaeology of southern Africa*. Cambridge University Press, UK.

SAHRA, 2005. *Minimum Standards for the Archaeological and the Palaeontological Components of Impact Assessment Reports*, Draft version 1.4.

## APPENDIX 1

### SAHRA POLICY ON RELOCATION OF GRAVES

Burial grounds and graves are dealt with in Article 36 of the NHRA Act, 1999 (Act No. 25 of 1999). Below follows a broad summary of how to deal with grave in the event of proposed development.

If the graves are younger than 60 years, an undertaker can be contracted to deal with the exhumation and reburial. This will include public participation, organising cemeteries, coffins, etc. They need permits and have their own requirements that must be adhered to.

If the graves are older than 60 years old or of undetermined age, an archaeologist must be in attendance to assist with the exhumation and documentation of the graves. This is a requirement by law.

Once it has been decided to relocate particular graves, the following steps should be taken:

- Notices of the intention to relocate the graves need to be put up at the burial site for a period of 60 days. This should contain information where communities and family members can contact the developer/archaeologist/public-relations officer/undertaker. All information pertaining to the identification of the graves needs to be documented for the application of a SAHRA permit. The notices need to be in at least 3 languages, English, and two other languages. This is a requirement by law.
- Notices of the intention needs to be placed in at least two local newspapers and have the same information as the above point. This is a requirement by law.
- Local radio stations can also be used to try contact family members. This is not required by law, but is helpful in trying to contact family members.
- During this time (60 days) a suitable cemetery need to be identified close to the development area or otherwise one specified by the family of the deceased.
- An open day for family members should be arranged after the period of 60 days so that they can gather to discuss the way forward, and to sort out any problems. The developer needs to take the families requirements into account. This is a requirement by law.
- Once the 60 days has passed and all the information from the family members have been received, a permit can be requested from SAHRA. This is a requirement by law.
- Once the permit has been received, the graves may be exhumed and relocated.
- All headstones must be relocated with the graves as well as any items found in the grave.