

Phase 1 Cultural Heritage Impact Assessment:

**THE PROPOSED FIRNHAM-PLATRAN 88KV POWER LINE DEVIATION, STANDERTON
REGION, LEKWA LOCAL MUNICIPALITY, MPUMALANGA PROVINCE**

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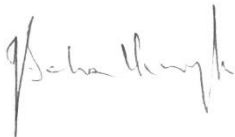
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Declaration:

I, J.A. van Schalkwyk, declare that:

- I am suitably qualified and accredited to act as independent specialist in this application.
- I do not have any financial or personal interest in the proposed development, nor its developers or any of their subsidiaries, apart from the provision of heritage assessment and management services, for which a fair numeration is charged.
- The work was conducted in an objective manner and any circumstances that might have compromised this have been reported.



J A van Schalkwyk
Heritage Consultant
November 2017



EXECUTIVE SUMMARY

Phase 1 Cultural Heritage Impact Assessment:

THE PROPOSED FIRNHAM-PLATRAN 88KV POWER LINE DEVIATION, STANDERTON REGION, LEKWA LOCAL MUNICIPALITY, MPUMALANGA PROVINCE

Eskom proposes to deviate a 1 - 2 km section of the existing Firnham-Platrand 88kV power line in the Standerton region of Mpumalanga. The power line currently crosses through a wetland and the proposal is to reroute the line in order to by-pass the wetland.

In accordance with Section 38 of the NHRA, an independent heritage consultant was appointed by Royal HaskoningDHV to conduct a cultural heritage assessment to determine if the proposed deviation of the power line would have an impact on any sites, features or objects of cultural heritage significance.

The cultural landscape qualities of the region essentially consist of a rural setup. In this the human occupation is made up of a pre-colonial element consisting of limited Stone Age as well as Iron Age occupation, as well as a much later colonial (farmer) component. A much smaller component is an urban one.

Identified heritage sites

- (8.3.3.1) The ruins of a farm labourer homestead.
 - This feature has Low local significance – Grade IV-C.
- (8.3.3.2) An informal burial place with probably more than 20 graves. Those with headstones indicate that they range between the 1960s and 1980s. However, it is expected that some of the undated graves might be much older.
 - This feature has High local significance – Grade IV-A.
- (8.3.3.3) An informal burial place with probably more than 20 graves, most with headstones.
 - This feature has High local significance – Grade IV-A.

Impact assessment

Impact analysis of cultural heritage resources under threat of the proposed development, is based on the present understanding of the development:

- **None of the identified heritage sites and features would be directly impacted on by the proposed deviation of the power line.**
- (8.3.3.1) Remains of a farm labourer homestead.
 - **Impact = Low:** the significance weighting for the impact on the identified sites is rated as **low**.
 - **Mitigation:** Avoid site, maintain buffer zone of 10m demarcated with danger tape.
- (8.3.3.2) An informal burial place containing at least 20 graves, all probably former farm labourers.
 - **Impact = Low:** the significance weighting for the impact on the identified sites is rated as **low**.
 - **Mitigation:** Avoid site, maintain buffer zone of 10m demarcated with danger tape.

- (8.3.3.3) An informal burial place containing at least 20 graves, all probably former farm labourers.
 - Impact = Low: the significance weighting for the impact on the identified sites is rated as **low**.
 - Mitigation: Avoid site, maintain buffer zone of 10m demarcated with danger tape.

Alternatives considered

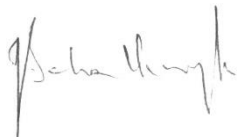
- Based on current understanding of the project, both of the alternative routes would be suitable for constructing the proposed deviation of the power line.
 - However, we would recommend Option 1 as it passes the furthest from any of the existing homesteads.
- In addition to the corridor for the deviation, a 500m wide corridor on both sides of the alternatives were also subjected to reviewed.
 - No obvious sites or features were identified.

Reasoned opinion as to whether the proposed activity should be authorised:

- From a heritage point of view it is recommended that the proposed development be allowed to continue on acceptance of the proposed mitigation measures.

Conditions for inclusion in the environmental authorisation:

- Should archaeological sites or graves be exposed during construction work, it must immediately be reported to a heritage practitioner so that an investigation and evaluation of the finds can be made.



J A van Schalkwyk
Heritage Consultant
November 2017

TECHNICAL SUMMARY

Project description	
Description	Deviation of a 88kV power line around a wetland
Project name	Firnham-Platrand Deviation

Applicant
Eskom

Environmental assessors
Royal HaskoningDHV
Ms S Gumbi

Property details						
Province	Mpumalanga					
Magisterial district	Standerton					
Local municipality	Lekwa					
Topo-cadastral map	2729AB					
Farm name	Viakspruit 42HS; Rietfontein 40HS					
Closest town	Standerton					
Coordinates	Centre point (approximate)					
	No	Latitude	Longitude	No	Latitude	Longitude
	1	-27,12881	29,43351			

Development criteria in terms of Section 38(1) of the NHR Act	Yes/No
Construction of road, wall, power line, pipeline, canal or other linear form of development or barrier exceeding 300m in length	Yes
Construction of bridge or similar structure exceeding 50m in length	No
Development exceeding 5000 sq m	No
Development involving three or more existing erven or subdivisions	No
Development involving three or more erven or divisions that have been consolidated within past five years	No
Rezoning of site exceeding 10 000 sq m	No
Any other development category, public open space, squares, parks, recreation grounds	No

Land use	
Previous land use	Farming
Current land use	Farming

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GLOSSARY OF TERMS AND ABBREVIATIONS

TERMS

Stone Age: The first and longest part of human history is the Stone Age, which began with the appearance of early humans between 3-2 million years ago. Stone Age people were hunters, gatherers and scavengers who did not live in permanently settled communities. Their stone tools preserve well and are found in most places in South Africa and elsewhere.

Early Stone Age	2 000 000 - 150 000 Before Present
Middle Stone Age	150 000 - 30 000 BP
Later Stone Age	30 000 - until c. AD 200

Iron Age: Period covering the last 1800 years, when new people brought a new way of life to southern Africa. They established settled villages, cultivated domestic crops such as sorghum, millet and beans, and they herded cattle as well as sheep and goats. As they produced their own iron tools, archaeologists call this the Iron Age.

Early Iron Age	AD 200 - AD 900
Middle Iron Age	AD 900 - AD 1300
Later Iron Age	AD 1300 - AD 1830

Historical Period: Since the arrival of the white settlers - c. AD 1840 - in this part of the country.

Cumulative impacts: "Cumulative Impact", in relation to an activity, means the past, current and reasonably foreseeable future impact of an activity, considered together with the impact of activities associated with that activity, that in itself may not be significant, but may become significant when added to existing and reasonably foreseeable impacts eventuating from similar or diverse activities.

Mitigation, means to anticipate and prevent negative impacts and risks, then to minimise them, rehabilitate or repair impacts to the extent feasible.

ABBREVIATIONS

ADRC	Archaeological Data Recording Centre
ASAPA	Association of Southern African Professional Archaeologists
CS-G	Chief Surveyor-General
EIA	Early Iron Age
ESA	Early Stone Age
LIA	Late Iron Age
LSA	Later Stone Age
HIA	Heritage Impact Assessment
MSA	Middle Stone Age
NASA	National Archives of South Africa
NHRA	National Heritage Resources Act
PHRA	Provincial Heritage Resources Agency
SAHRA	South African Heritage Resources Agency

Phase 1 Cultural Heritage Impact Assessment:**THE PROPOSED FIRNHAM-PLATRAND 88KV POWER LINE DEVIATION,
STANDERTON REGION, LEKWA LOCAL MUNICIPALITY, MPUMALANGA PROVINCE****1. INTRODUCTION**

Eskom proposes to deviate a 1 - 2 km section of the existing Firnham-Platrand 88kV power line in the Standerton region of Mpumalanga. The power line currently crosses through a wetland and the proposal is to reroute the line in order to by-pass the wetland. Royal HaskoningDHV has been appointed by Eskom to provide environmental services associated with the deviation of the power line.

South Africa's heritage resources, also described as the 'national estate', comprise a wide range of sites, features, objects and beliefs. However, according to Section 27(18) of the National Heritage Resources Act (NHRA), No. 25 of 1999, no person may destroy, damage, deface, excavate, alter, remove from its original position, subdivide or change the planning status of any heritage site without a permit issued by the heritage resources authority responsible for the protection of such site.

In accordance with Section 38 of the NHRA, an independent heritage consultant was appointed by Royal HaskoningDHV to conduct a cultural heritage assessment to determine if the proposed deviation of the power line would have an impact on any sites, features or objects of cultural heritage significance.

This report forms part of the Environmental Impact Assessment (EIA) as required by the EIA Regulations in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) as amended and is intended for submission to the South African Heritage Resources Agency (SAHRA).

2. TERMS OF REFERENCE

The aim of a full HIA investigation is to provide an informed heritage-related opinion about the proposed development by an appropriate heritage specialist. The objectives are to identify heritage resources (involving site inspections, existing heritage data and additional heritage specialists if necessary); assess their significances; assess alternatives in order to promote heritage conservation issues; and to assess the acceptability of the proposed development from a heritage perspective.

The result of this investigation is a heritage impact assessment report indicating the presence/ absence of heritage resources and how to manage them in the context of the proposed development.

Depending on SAHRA's acceptance of this report, the developer will receive permission to proceed with the proposed development, on condition of successful implementation of proposed mitigation measures.

2.1 Scope of work

The aim of this study is to determine if any sites, features or objects of cultural heritage significance occur within the boundaries of the area where the power line is to be deviated. This includes:

- Conducting a desk-top investigation of the area;
- A visit to the proposed development site,

The objectives were to:

- Identify possible archaeological, cultural and historic sites within the proposed development areas;
- Evaluate the potential impacts of construction, operation and maintenance of the proposed development on archaeological, cultural and historical resources;
- Recommend mitigation measures to ameliorate any negative impacts on areas of archaeological, cultural or historical importance.

2.2 Limitations and assumptions

The investigation has been influenced by the following factors:

- It is assumed that the description of the proposed project, provided by the client, is accurate.
- No subsurface investigation (i.e. excavations or sampling) were undertaken, since a permit from SAHRA is required for such activities.
- It is assumed that the public consultation process undertaken as part of the Environmental Impact Assessment (EIA) is sufficient and that it does not have to be repeated as part of the heritage impact assessment.
- The unpredictability of buried archaeological remains.
- This report does not consider the palaeontological potential of the site.

3. LEGISLATIVE FRAMEWORK

The HIA is governed by national legislation and standards and International Best Practise. These include:

- South African Legislation
 - National Heritage Resources Act, 1999 (Act No. 25 of 1999) (NHRA) – see Appendix 4 for more detail on this Act
 - Mineral and Petroleum Resources Development Act, 2002 (Act No. 22 of 2002) (MPRDA);
 - National Environmental Management Act 1998 (Act No. 107 of 1998) (NEMA); and
 - National Water Act, 1998 (Act No. 36 of 1998) (NWA).
- Standards and Regulations
 - South African Heritage Resources Agency (SAHRA) Minimum Standards;
 - Association of Southern African Professional Archaeologists (ASAPA) Constitution and Code of Ethics;
 - Anthropological Association of Southern Africa Constitution and Code of Ethics.
- International Best Practise and Guidelines
 - ICOMOS Standards (Guidance on Heritage Impact Assessments for Cultural World Heritage Properties); and
 - The UNESCO Convention concerning the Protection of the World Cultural and Natural Heritage (1972).

4. HERITAGE RESOURCES

4.1 The National Estate

The NHRA (No. 25 of 1999) defines the heritage resources of South Africa which are of cultural significance or other special value for the present community and for future generations that must be considered part of the national estate to include:

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

4.2 Cultural significance

In the NHRA, Section 2 (vi), it is stated that “cultural significance” means aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance. This is determined in relation to a site or feature’s uniqueness, condition of preservation and research potential.

According to 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

- its importance in the community, or pattern of South Africa's history;
- its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;
- its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;
- its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;
- its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;

- its importance in demonstrating a high degree of creative or technical achievement at a particular period;
- its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;
- 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
- sites of significance relating to the history of slavery in South Africa.

A matrix was developed whereby the above criteria were applied for the determination of the significance of each identified site (see Appendix 3). This allowed some form of control over the application of similar values for similar identified sites.

5. STUDY APPROACH AND METHODOLOGY

5.1 Extent of the Study

This survey and impact assessment covers the area as presented in Section 7 below and illustrated in Figures 2 & 3.

5.2 Methodology

5.2.1 Survey of the literature

A survey of the relevant literature was conducted with the aim of reviewing the previous research done and determining the potential of the area. In this regard, various anthropological, archaeological and historical sources were consulted – see list of references in Section 11.

- Information on events, sites and features in the larger region were obtained from these sources.

5.2.2 Data bases

The *Heritage Atlas Database*, various SAHRA databases, SAHRIS, the *Environmental Potential Atlas*, the *Chief Surveyor General* and the *National Archives of South Africa* were consulted.

- Database surveys produced a number of sites located in the larger region of the proposed development, but none in the study area specifically.

5.2.3 Other sources

Aerial photographs and topocadastral and other maps were also studied - see the list of references below.

- Information of a very general nature were obtained from these sources

5.2.4 Interviews

- None possible

The results of the above investigation are summarised in Table 1 below – see list of references in Section 11.

Table 1: Pre-Feasibility Assessment

Category	Period	Probability	Reference
Early hominin	Pliocene – Lower Pleistocene		
	Early hominin	None	
Stone Age	Lower Pleistocene – Holocene		
	Early Stone Age	None	
	Middle Stone Age	None	
	Later Stone Age	Low	Heritage Database
	Rock Art	None	
Iron Age	Holocene		
	Early Iron Age	None	
	Middle Iron Age	None	
	Later Iron Age	Low	Derricourt & Evers (1973); Mason (1968); Maggs (1976)
Colonial period	Holocene		
	Contact period	Low	
	Recent history	Low	Praagh (1906)
	Industrial heritage	Low	Heritage Database

5.2.5 Field survey

The field survey was done according to generally accepted archaeological practices, and was aimed at locating all possible sites, objects and structures. The area that had to be investigated was identified by the Royal HaskoningDHV by means of maps and .kml files indicating the development area. This was loaded onto an Asus digital device and used in Google Earth during the field survey to access the areas.

The site was visited on 10 November 2017. The site was surveyed by walking transects across it – see Fig. 1 below.

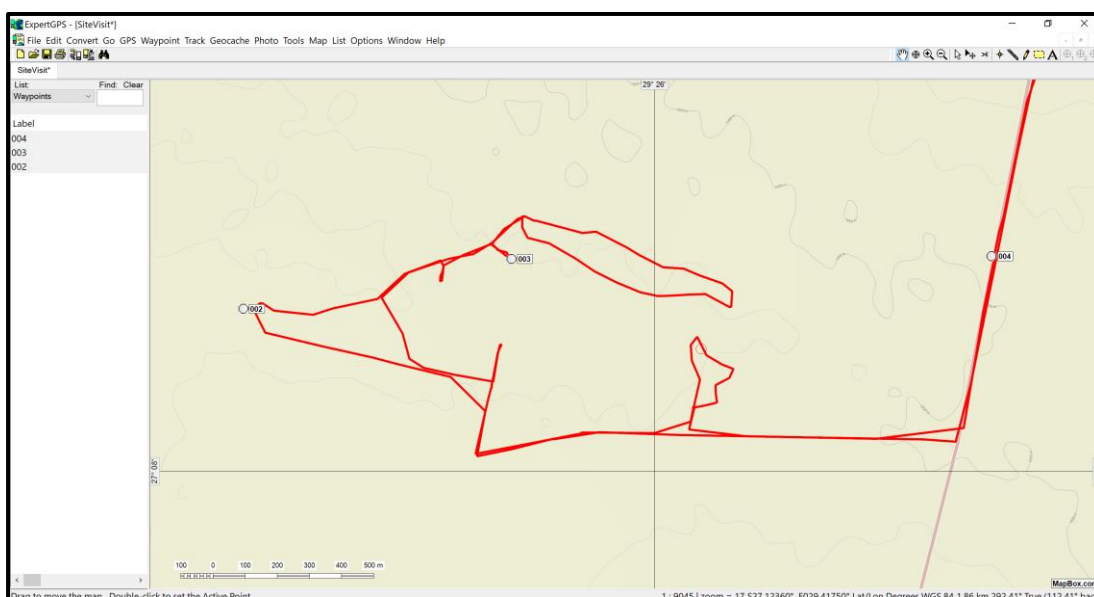


Fig. 1. Map indicating the track log of the field survey.

5.2.6 Documentation

All sites, objects and structures that are identified are documented according to the general minimum standards accepted by the archaeological profession. Coordinates of individual localities are determined by means of the *Global Positioning System* (GPS) and plotted on a map. This information is added to the description in order to facilitate the identification of each locality.

The track log and identified sites were recorded by means of a Garmin Oregon 550 handheld GPS device. Photographic recording was done by means of a Canon EOS 550D digital camera.

Map datum used: Hartebeeshoek 94 (WGS84).

6. SITE SIGNIFICANCE AND ASSESSMENT

6.1 Heritage assessment criteria and grading

The National Heritage Resources Act, Act no. 25 of 1999, stipulates the assessment criteria and grading of heritage sites. The following grading categories are distinguished in Section 7 of the Act:

Table 2: Site Grading System.

SAHRA Cultural Heritage Site Significance			
Field Rating	Grade	Significance	Recommended Mitigation
National Significance	Grade I	High significance	Conservation by SAHRA, national site nomination, mention any relevant international ranking. No alteration whatsoever without permit from SAHRA
Provincial Significance	Grade II	High significance	Conservation by provincial heritage authority, provincial site nomination. No alteration whatsoever without permit from provincial heritage authority.
Local Significance	Grade III-A	High significance	Conservation by local authority, no alteration whatsoever without permit from provincial heritage authority. Mitigation as part of development process not advised.
Local Significance	Grade III-B	High significance	Conservation by local authority, no external alteration without permit from provincial heritage authority. Could be mitigated and (part) retained as heritage register site.
Generally Protected A	Grade IV-A	High/medium significance	Conservation by local authority. Site should be mitigated before destruction. Destruction permit required from provincial heritage authority.
Generally Protected B	Grade IV-B	Medium significance	Conservation by local authority. Site should be recorded before destruction. Destruction permit required from provincial heritage authority.
Generally Protected C	Grade IV-C	Low significance	Conservation by local authority. Site has been sufficiently recorded in the Phase 1 HIA. It requires no further recording before destruction. Destruction permit required from provincial heritage authority.

The occurrence of sites with a Grade I significance will demand that the development activities be drastically altered in order to retain these sites in their original state. For Grade II, III and IV sites, the applicable of mitigation measures would allow the development activities to continue.

6.2 Methodology for the assessment of potential impacts

All impacts identified during the EIA stage of the study will be classified in terms of their significance. Issues were assessed in terms of the following criteria:

- **Nature:** A brief written statement of the environmental aspect being impacted upon by a particular action or activity;
- **Extent:** The area over which the impact will be expressed. Typically, the severity and significance of an impact have different scales. This is often useful during the detailed assessment phase of a project in terms of further defining the determined significance or intensity of an impact. For example, high at a local scale, but low at a regional scale;
- **Duration:** Indicates what the lifetime of the impact will be:
- The **status**, which is described as either positive, negative or neutral;
- **Intensity:** Describes whether an impact is destructive or benign;
- **Probability:** Describes the likelihood of the impact actually occurring; and
- **Cumulative:** In relation to an activity, means the impact of an activity that in itself may not be significant but may become significant when added to the existing and potential impacts eventuating from similar or diverse activities or undertakings in the area.

Table 3: Criteria to be used for the Rating of Impacts

Criteria	Description			
EXTENT	National (4) The whole of South Africa	Regional (3) Provincial and parts of neighbouring provinces	Local (2) Within a radius of 2 km of the construction site	Site (1) Within the construction site
DURATION	Permanent (4) Mitigation either by man or natural process will not occur in such a way or in such a time span that the impact can be considered transient	Long-term (3) The impact will continue or last for the entire operational life of the development, but will be mitigated by direct human action or by natural processes thereafter. The only class of impact which will be non-transitory	Medium-term (2) The impact will last for the period of the construction phase, where after it will be entirely negated	Short-term (1) The impact will either disappear with mitigation or will be mitigated through natural process in a span shorter than the construction phase
INTENSITY	Very High (4) Natural, cultural and social functions and processes are altered to extent that they permanently cease	High (3) Natural, cultural and social functions and processes are altered to extent that they temporarily cease.	Moderate (2) Affected environment is altered, but natural, cultural and social functions and processes continue albeit in a modified way.	Low (1) Impact affects the environment in such a way that natural, cultural and social functions and processes are not affected.
PROBABILITY OF OCCURRENCE	Definite (4) Impact will certainly occur	Highly Probable (3) Most likely that the impact will occur	Possible (2) The impact may occur	Improbable (1) Likelihood of the impact materialising is very low

Table 4: Criteria for the Rating of Classified Impacts

Class	Description
Any positive value	Any positive / beneficial 'impact', i.e. where no harm will occur due to the activity being undertaken.
Low impact (1-5 points)	A low impact has no permanent impact of significance. Mitigation measures are feasible and are readily instituted as part of a standing design, construction or operating procedure.
Medium impact (6-10 points)	Mitigation is possible with additional design and construction inputs.
Medium-High impact (11 -15 points)	The design of the site may be affected. Mitigation and possible remediation are needed during the construction and/or operational phases. The effects of the impact may affect the broader environment
High impact (16 -20 points)	The design of the site may be affected. Mitigation and possible remediation are essential during the construction and/or operational phases. The effects of the impact may affect the broader environment.
Very high impact (21 - 25 points)	Permanent and important impacts. The design of the site may be affected. Intensive remediation is needed during construction and/or operational phases. Any activity which results in a "very high impact" is likely to be a fatal flaw.
Status	Denotes the perceived effect of the impact on the affected area.
Positive (+)	Beneficial impact.
Negative (-)	Deleterious or adverse impact.
Neutral (/)	Impact is neither beneficial nor adverse.
It is important to note that the status of an impact is assigned based on the status quo – i.e. should the project not proceed. Therefore, not all negative impacts are equally significant.	

7. PROJECT DESCRIPTION

7.1 Site location

The proposed development is located approximately 30 km southeast of Standerton and west of Platrand, the local train station and west of the R33, between Standerton and Volksrust (Fig. 2). For more information, see the Technical Summary on p. iv above.



Fig. 2. Location of the study area (green arrow) in regional context. (Map 2628, 2728: Chief Surveyor-General)

7.2 Development proposal

Eskom proposes to deviate a 1 - 2 km section of the existing Firham-Platrand 88kV power line in the Standerton region of Mpumalanga. The power line currently crosses through a wetland and the proposal is to reroute the line in order to by-pass the wetland (see Fig. 3 below).

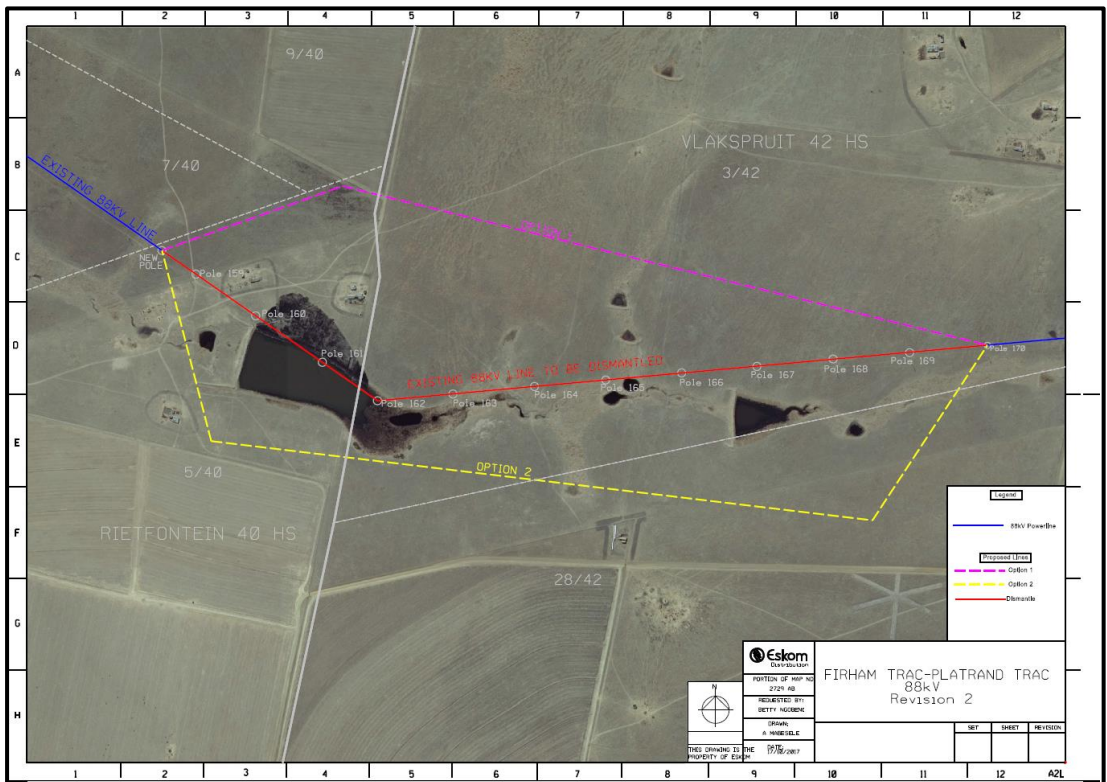


Fig. 3. Layout of the proposed development. (Map supplied by Royal HaskoningDHV).



Fig. 5. Aerial view of the study area.
(Image: Google Earth)



Fig. 6. Views over the study area.

8.2 Overview of the region

The aim of this section is to present an overview of the history of the larger region in order to eventually determine the significance of heritage sites identified in the study area, within the context of their historic, aesthetic, scientific and social value, rarity and representivity – see Section 3.2 and Appendix 3 for more information.

The cultural landscape qualities of the region essentially consist of a rural setup. In this the human occupation is made up of a pre-colonial element consisting of limited Stone Age as well as Iron Age occupation, as well as a much later colonial (farmer) component. A much smaller component is an urban one.

8.2.1 Stone Age

Very little habitation of the highveld area took place during Stone Age times. Tools dating to the Early Stone Age period are mostly found in the vicinity of larger watercourses, e.g. the Vaal River, or in sheltered areas such as the Magaliesberg. During Middle Stone Age (MSA) times (c. 150 000 – 30 000 BP), people became more mobile, occupying areas formerly avoided. The MSA is a technological stage characterized by flakes and flake-blades with faceted platforms, produced from prepared cores, as distinct from the core tool-based ESA technology. Open sites were still preferred near watercourses.

Late Stone Age (LSA) people had even more advanced technology than the MSA people and therefore succeeded in occupying even more diverse habitats. Some sites are known to occur in the region. These are small rock shelters found in the sandstone cliffs near rivers and are located to the east and north of the study area. Some of these even contain rock paintings. The region surrounding Chrissiesmeer, to the east of the study area, is well-known for the fact that some San people occupied it up to historic times.

The low density of occupation of the region during Stone Age times can probably be attributed to the cold winters that are common in the region, as well as the lack of suitable rock shelters that could be used for staying in.

8.2.2 Iron Age

Iron Age people started to settle in southern Africa c. AD 300, with one of the oldest known sites at Broederstroom south of Hartebeespoort Dam dating to AD 470. Having only had cereals (sorghum, millet) that need summer rainfall, Early Iron Age (EIA) people did not move outside this rainfall zone, and neither did they occupy the central interior highveld area. Because of their specific technology and economy, Iron Age people preferred to settle on the alluvial soils near rivers for agricultural purposes, but also for firewood and water.

The occupation of the larger geographical area (including the study area) did not start much before the 1500s. By the 16th century things changed, with the climate becoming warmer and wetter, creating condition that allowed Late Iron Age (LIA) farmers to occupy areas previously unsuitable, for example the treeless plains of the Free State and the Mpumalanga highveld.

This wet period came to a sudden end sometime between 1800 and 1820 by a major drought lasting 3 to 5 years. The drought must have caused an agricultural collapse on a large, subcontinent scale.

This was also a period of great military tension. Military pressure from Zululand spilled onto the highveld by at least 1821. Various marauding groups of displaced Sotho-Tswana moved across the plateau in the 1820s. Mzilikazi raided the plateau extensively between 1825 and 1837. The

Boers trekked into this area in the 1830s. And throughout this time settled communities of Tswana people also attacked each other.

As a result of this troubled period, Sotho-Tswana people concentrated into large towns for defensive purposes. Because of the lack of trees they built their settlements in stone. These stone-walled villages were almost always located near cultivatable soil and a source of water. Such sites are known to occur in the vicinity of the Klip River south of Standerton as well as to the west of Standerton, also on the banks of the Klip River (Derricourt & Evers 19730).

8.3.3 Historic period

White settlers moved into the area during the first half of the 19th century. They were largely self-sufficient, basing their survival on cattle/sheep farming and hunting. Few towns were established and it remained an undeveloped area until the discovered of coal and later gold. The establishment of the NZASM railway line in the 1880s, linking Pretoria with Lourenço Marques (Maputo) and the world at large, brought much infra-structural and administrative development to the area. This railway line also became the scene of many battles during the Anglo-Boer War and after the battle of Bakenlaagte (30 October 1901) the Clewer station served as hospital for the wounded British soldiers. A line of block houses was erected along what was to become the R65 road, as this was the preferred route towards the coast.

The town of Standerton was laid out in 1878 on the farm Grootverlangen by Commandant Adrian Stander, the owner of the farm. It attained municipal status in 1903. The railway line, Natal's effort to convince the ZAR to use Durban as port and not Lourenço Marques, was completed in 1895, with a branch line from Standerton to Vrede in 1912 (Van Schalkwyk 2015).

The regional urban environment is complex, not only reflecting the history of the country by a separation of black and white communities from each other, but also the importance of the economic history of the local region.

8.3 Identified sites

The following sites, features and objects of cultural significance were identified in the study area – see Appendix 6 for a discussion of each individual site.

In terms of Section 7 of the NHRA, all the sites currently known or which are expected to occur in the study area are evaluated to have a grading as identified in the table below.

Table 5. Summary of Identified Heritage Resources in the Study Area.

IDENTIFIED HERITAGE RESOURCES					
Site No.	Site type	NHRA category	Field rating	Impact rating: Before/After	Proposed mitigation (Refer to definitions below)
Firnham-Platrand Deviation					
8.3.3.1	Archaeological site	Section 35	Low significance - Grade IV-C	Low	(1) Avoid – buffer zone of 10 m
8.3.3.2	Burial place	Section 36	High significance - Grade IV-A	Low	(1) Avoid – buffer zone of 10 m
8.3.3.3	Burial place	Section 36	High significance - Grade IV-A	Low	(1) Avoid – buffer zone of 10 m

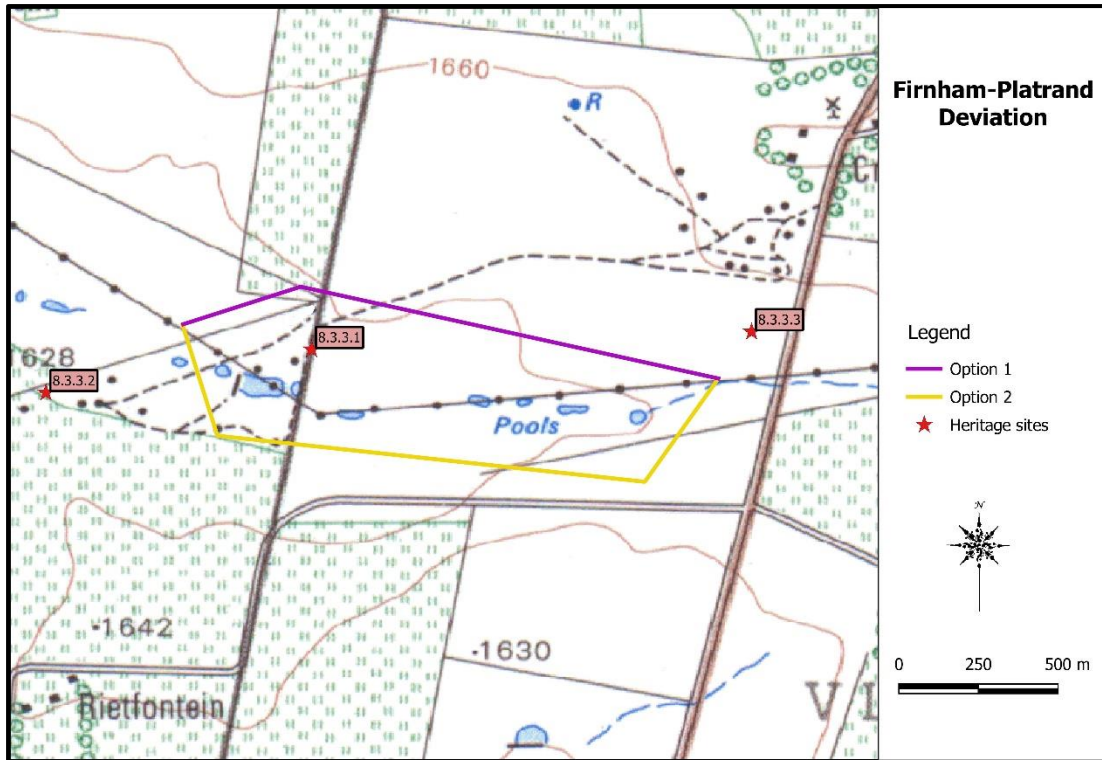


Fig. 7. Location of the identified sites.
(Map 2726DD: Chief Surveyor-General)

8.3.1 Stone Age

- No sites, features or objects dating to the Stone Age were identified in the study area.

8.3.2 Iron Age

- No sites, features or objects dating to the Iron Age were identified in the study area.

8.3.3 Historic period

- (8.3.3.1) The ruins of a farm labourer homestead.
 - This feature has Low local significance – Grade IV-C.
- (8.3.3.2) An informal burial place with probably more than 20 graves. Those with headstones indicate that they range between the 1960s and 1980s. However, it is expected that some of the undated graves might be much older.
 - This feature has High local significance – Grade IV-A.
- (8.3.3.3) An informal burial place with probably more than 20 graves, most with headstones.
 - This feature has High local significance – Grade IV-A.

8.4 Mitigation measures

- *Mitigation: means to anticipate and prevent negative impacts and risks, then to minimise them, rehabilitate or repair impacts to the extent feasible.*

Impacts can be managed through one or a combination of the following mitigation measures:

- Avoidance
- Investigation (archaeological)
- Enhancement (positive impacts)
- Rehabilitation
- Interpretation
- Memorialisation

For the current study, the following mitigation measures are proposed, to be implemented only if any of the identified sites or features are to be impacted on by the proposed mining activities:

- (1) Avoidance: This is viewed to be the primary form of mitigation. The site should be retained *in situ* and a buffer zone should be created around it, either temporary (by means of danger tape) or permanently (wire fence or built wall). Depending on the type of site, the buffer zone can vary from
 - 5 metres for a single grave, to
 - 50 metres where the boundaries are less obvious, e.g. a Late Iron Age site.
- (2) Archaeological investigation: This option can be implemented with additional design and construction inputs. Mitigation is to excavate the site by archaeological techniques, document the site (map and photograph) and analyse the recovered material to acceptable standards. This can only be done by a suitably qualified archaeologist.
 - This option should be implemented when it is impossible to avoid impacting on an identified site or feature.
 - This also applies for graves older than 60 years that are to be relocated. For graves younger than 60 years a permit from SAHRA is not required. However, all other legal requirements have to be adhered to.
 - Impacts can be beneficial – e.g. mitigation contribute to knowledge
- (3) Rehabilitation: When features, e.g. buildings or other structures, e.g. bridges, are to be re-used. Conservation measures would be to record the buildings/structures as they are (at a particular point in time). The records and recordings would then become the 'artefacts' to be preserved and managed as heritage features or (movable) objects.
 - It is recommended that detail plan drawings are made (if the originals cannot be located) and that the current situation is photographed in detail.
 - This approach automatically also leads to the enhancement of the sites or features that are re-used.
- (4) No further action required: This is applicable only where sites or features have been rated to be of such low significance that it does not warrant further documentation, as it is viewed to be fully documented after inclusion in this report.

8.5 Impact assessment

Heritage impacts are categorised as:

- Direct or physical impacts, implying alteration or destruction of heritage features within the project boundaries;
- Indirect impacts, e.g. restriction of access or visual intrusion concerning the broader environment;
- Cumulative impacts that are combinations of the above.

Sources of risk were considered with regards to development activities defined in Section 2(viii) of the NHRA that may be triggered and are summarised in Table 6 below. These issues formed the basis of the impact assessment described. The potential risks are discussed according to the various phases of the project below.

Table 6. Potential Risk Sources.

	Activity	Description	Risk
Issue 1	Removal of Vegetation	Vegetation removal for site preparation and the installation of required infrastructure, e.g. access roads and water pipelines.	The identified risk is damage or changes to resources that are generally protected in terms of Sections 27, 28, 31, 32, 34, 35, 36 and 37 of the NHRA that may occur in the proposed project area.
Issue 2	Construction of required infrastructure, e.g. access roads, water pipelines	Construction machinery and vehicles will be utilised to construct the required infrastructure, e.g. access roads and water pipelines.	The identified risk is damage or changes to resources that are generally protected in terms of Sections 27, 28, 31, 32, 34, 35, 36 and 37 of the NHRA that may occur in the proposed project area.

Impact analysis of cultural heritage resources under threat of the proposed development, is based on the present understanding of the development and is presented in Appendix 7 and summarised in Table 6 below:

- (8.3.3.1) Remains of a farm labourer homestead.
 - **Impact = Low:** the significance weighting for the impact on the identified sites is rated as **low**.
 - **Mitigation:** Avoid site, maintain buffer zone of 10m demarcated with danger tape.
- (8.3.3.2) An informal burial place containing at least 20 graves, all probably former farm labourers.
 - **Impact = Low:** the significance weighting for the impact on the identified sites is rated as **low**.
 - **Mitigation:** Avoid site, maintain buffer zone of 10m demarcated with danger tape.
- (8.3.3.3) An informal burial place containing at least 20 graves, all probably former farm labourers.
 - **Impact = Low:** the significance weighting for the impact on the identified sites is rated as **low**.
 - **Mitigation:** Avoid site, maintain buffer zone of 10m demarcated with danger tape.

Table 7: Impacts on identified Heritage Sites

Nature: Destruction of sites, features or objects of cultural significance known to exist in the development area: Homestead		
	Without mitigation	With mitigation
Construction Phase		
<i>Probability</i>	Improbable (1)	Improbable (1)
<i>Duration</i>	Short term (1)	Short term (1)
<i>Extent</i>	Limited to the site (1)	Limited to site (1)
<i>Intensity</i>	Low (1)	Low (1)
Significance	4 (low)	4 (low)
<i>Status (positive or negative)</i>	Neutral	Neutral
Reversibility	Low	Moderate
<i>Irreplaceable loss of resources?</i>	Low	Low

Can impacts be mitigated?	Yes
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Nature: Destruction of sites, features or objects of cultural significance known to exist in the development area: Burial places		
	Without mitigation	With mitigation
Construction Phase		
<i>Probability</i>	Improbable (1)	Improbable (1)
<i>Duration</i>	Short term (1)	Short term (1)
<i>Extent</i>	Limited to the site (1)	Limited to site (1)
<i>Intensity</i>	Low (1)	Low (1)
Significance	4 (low)	4 (low)
<i>Status (positive or negative)</i>	Neutral	Neutral
Reversibility	Low	Moderate
<i>Irreplaceable loss of resources?</i>	Low	Low
Can impacts be mitigated?	Yes	

8.6 Alternatives considered

Based on current understanding of the project, the suitability of the two alternatives area evaluated as follows:

Table 8: Comparison of Alternatives

Not Preferred	The alternative will result in a high impact / increase the impact
Favourable	The alternative will result in low impact / reduced impact
Preferred	The impact will be relatively insignificant

Alternative	Preference	Motivation
Power line deviation		
Option 1	Preferred	No impact on heritage sites, features or objects
Option 2	Preferred	No impact on heritage sites, features or objects

9. MANAGEMENT MEASURES

Heritage sites are fixed features in the environment, occurring within specific spatial confines. Any impact upon them is permanent and non-reversible. Those resources that cannot be avoided and that are directly impacted by the proposed development can be excavated/recorded and a management plan can be developed for future action. Those sites that are not impacted on can be written into the management plan, whence they can be avoided or cared for in the future.

9.1 Objectives

- Protection of archaeological, historical and any other site or land considered being of cultural value within the project boundary against vandalism, destruction and theft.
- The preservation and appropriate management of new discoveries in accordance with the NHRA, should these be discovered during construction activities.

The following shall apply:

- Known sites should be clearly marked in order that they can be avoided during construction activities.
- The contractors and workers should be notified that archaeological sites might be exposed during the construction activities.
- Should any heritage artefacts be exposed during excavation, work on the area where the artefacts were discovered, shall cease immediately and the Environmental Control Officer shall be notified as soon as possible;
- All discoveries shall be reported immediately to a heritage practitioner so that an investigation and evaluation of the finds can be made. Acting upon advice from these specialists, the Environmental Control Officer will advise the necessary actions to be taken;
- Under no circumstances shall any artefacts be removed, destroyed or interfered with by anyone on the site; and
- Contractors and workers shall be advised of the penalties associated with the unlawful removal of cultural, historical, archaeological or palaeontological artefacts, as set out in the National Heritage Resources Act (Act No. 25 of 1999), Section 51. (1).

9.2 Control

In order to achieve this, the following should be in place:

- A person or entity, e.g. the Environmental Control Officer, should be tasked to take responsibility for the heritage sites and should be held accountable for any damage.
- Known sites should be located and isolated, e.g. by fencing them off. All construction workers should be informed that these are no-go areas, unless accompanied by the individual or persons representing the Environmental Control Officer as identified above.
- In areas where the vegetation is threatening the heritage sites, e.g. growing trees pushing walls over, it should be removed, but only after permission for the methods proposed has been granted by SAHRA. A heritage official should be part of the team executing these measures.

10. CONCLUSIONS AND RECOMMENDATIONS

Eskom proposes to deviate a 1 - 2 km section of the existing Firnham-Platrand 88kV power line in the Standerton region of Mpumalanga. The power line currently crosses through a wetland and the proposal is to reroute the line in order to by-pass the wetland.

The cultural landscape qualities of the region essentially consist of a rural setup. In this the human occupation is made up of a pre-colonial element consisting of limited Stone Age as well as Iron Age occupation, as well as a much later colonial (farmer) component. A much smaller component is an urban one.

Identified heritage sites

- (8.3.3.1) The ruins of a farm labourer homestead.
 - This feature has Low local significance – Grade IV-C.
- (8.3.3.2) An informal burial place with probably more than 20 graves. Those with headstones indicate that they range between the 1960s and 1980s. However, it is expected that some of the undated graves might be much older.
 - This feature has High local significance – Grade IV-A.
- (8.3.3.3) An informal burial place with probably more than 20 graves, most with headstones.
 - This feature has High local significance – Grade IV-A.

Impact assessment

Impact analysis of cultural heritage resources under threat of the proposed development, is based on the present understanding of the development:

- **None of the identified heritage sites and features would be directly impacted on by the proposed deviation of the power line.**
- (8.3.3.1) Remains of a farm labourer homestead.
 - Impact = Low: the significance weighting for the impact on the identified sites is rated as **low**.
 - Mitigation: Avoid site, maintain buffer zone of 10m demarcated with danger tape.
- (8.3.3.2) An informal burial place containing at least 20 graves, all probably former farm labourers.
 - Impact = Low: the significance weighting for the impact on the identified sites is rated as **low**.
 - Mitigation: Avoid site, maintain buffer zone of 10m demarcated with danger tape.
- (8.3.3.3) An informal burial place containing at least 20 graves, all probably former farm labourers.
 - Impact = Low: the significance weighting for the impact on the identified sites is rated as **low**.
 - Mitigation: Avoid site, maintain buffer zone of 10m demarcated with danger tape.

Alternatives considered

- Based on current understanding of the project, both of the alternative routes would be suitable for constructing the proposed deviation of the power line.
 - However, we would recommend Option 1 as it passes the furthest from any of the existing homesteads.
- In addition to the corridor for the deviation, a 500m wide corridor on both sides of the alternatives were also subjected to reviewed.
 - No obvious sites or features were identified.

Reasoned opinion as to whether the proposed activity should be authorised:

- From a heritage point of view it is recommended that the proposed development be allowed to continue on acceptance of the proposed mitigation measures.

Conditions for inclusion in the environmental authorisation:

- Should archaeological sites or graves be exposed during construction work, it must immediately be reported to a heritage practitioner so that an investigation and evaluation of the finds can be made.

11. REFERENCES

11.1 Data bases

Chief Surveyor General
Environmental Potential Atlas, Department of Environmental Affairs and Tourism.
Heritage Atlas Database, Pretoria
National Archives of South Africa
SAHRA Archaeology and Palaeontology Report Mapping Project (2009)
SAHRIS Database

11.2 Literature

Acocks, J.P.H. 1975. *Veld Types of South Africa*. Memoirs of the Botanical Survey of South Africa, No. 40. Pretoria: Botanical Research Institute.

Derricourt, R.M. & Evers, T.M. 1973. Robertsdrift, an Iron Age site and settlement on the Banks of the Vaal and Klip rivers near Standerton, South-Eastern Transvaal. *African Studies*32(3):183-193.

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Praagh, L.V. (ed.) 1906. *The Transvaal and its mines*. London: Praagh & Lloyd.

Raper, P.E. 2004. *South African place names*. Johannesburg: Jonathan Ball Publishers.

Van Schalkwyk, J.A. 2015. Bridging the Country: a brief history bridge is South African. *South African Archaeological Bulletin* 70(202):193–200.

11.3 Maps and aerial photographs

Google Earth

1: 50 000 Topocadastral maps

APPENDIX 1. INDEMNITY AND TERMS OF USE OF THIS REPORT

The findings, results, conclusions and recommendations given in this report are based on the author's best scientific and professional knowledge as well as available information. The report is based on survey and assessment techniques which are limited by time and budgetary constraints relevant to the type and level of investigation undertaken and the author reserve the right to modify aspects of the report including the recommendations if and when new information may become available from ongoing research or further work in this field, or pertaining to this investigation.

Although all possible care is taken to identify all sites of cultural importance during the investigation of study areas, it is always possible that hidden or sub-surface sites could be overlooked during the study. The author of this report will not be held liable for such oversights or for costs incurred as a result of such oversights.

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APPENDIX 2. SPECIALIST COMPETENCYJohan (Johnny) van Schalkwyk

J A van Schalkwyk, D Litt et Phil, heritage consultant, has been working in the field of heritage management for more than 40 years. Originally based at the National Museum of Cultural History, Pretoria, he has actively done research in the fields of anthropology, archaeology, museology, tourism and impact assessment. This work was done in Limpopo Province, Gauteng, Mpumalanga, North West Province, Eastern Cape, Northern Cape, Botswana, Zimbabwe, Malawi, Lesotho and Swaziland. Based on this work, he has curated various exhibitions at different museums and has published more than 70 papers, most in scientifically accredited journals. During this period he has done more than 2000 impact assessments (archaeological, anthropological, historical and social) for various government departments and developers. Projects include environmental management frameworks, roads, pipeline-, and power line developments, dams, mining, water purification works, historical landscapes, refuse dumps and urban developments.

A complete *curriculum vitae* can be supplied on request.

APPENDIX 3. CONVENTIONS USED TO ASSESS THE SIGNIFICANCE OF HERITAGE RESOURCES

A system for site grading was established by the NHRA and further developed by the South African Heritage Resources Agency (SAHRA 2007) and has been approved by ASAPA for use in southern Africa and was utilised during this assessment.

Significance

According to the NHRA, Section 2(vi) the **significance** of a heritage sites and artefacts is determined by it aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technical value in relation to the uniqueness, condition of preservation and research potential. It must be kept in mind that the various aspects are not mutually exclusive, and that the evaluation of any site is done with reference to any number of these.

Matrix used for assessing the significance of each identified site/feature

1. SITE EVALUATION				
1.1 Historic value				
Is it important in the community, or pattern of history				
Does it have strong or special association with the life or work of a person, group or organisation of importance in history				
Does it have significance relating to the history of slavery				
1.2 Aesthetic value				
It is important in exhibiting particular aesthetic characteristics valued by a community or cultural group				
1.3 Scientific value				
Does it have potential to yield information that will contribute to an understanding of natural or cultural heritage				
Is it important in demonstrating a high degree of creative or technical achievement at a particular period				
1.4 Social value				
Does it have strong or special association with a particular community or cultural group for social, cultural or spiritual reasons				
1.5 Rarity				
Does it possess uncommon, rare or endangered aspects of natural or cultural heritage				
1.6 Representivity				
Is it important in demonstrating the principal characteristics of a particular class of natural or cultural places or objects				
Importance in demonstrating the principal characteristics of a range of landscapes or environments, the attributes of which identify it as being characteristic of its class				
Importance in demonstrating the principal characteristics of human activities (including way of life, philosophy, custom, process, land-use, function, design or technique) in the environment of the nation, province, region or locality.				
2. Sphere of Significance		High	Medium	Low
International				
National				
Provincial				
Regional				
Local				
Specific community				
3. Field Register Rating				
1.	National/Grade 1: High significance - No alteration whatsoever without permit from SAHRA			
2.	Provincial/Grade 2: High significance - No alteration whatsoever without			

	permit from provincial heritage authority.	
3.	Local/Grade 3A: High significance - Mitigation as part of development process not advised.	
4.	Local/Grade 3B: High significance - Could be mitigated and (part) retained as heritage register site	
5.	Generally protected A: High/medium significance - Should be mitigated before destruction	
6.	Generally protected B: Medium significance - Should be recorded before destruction	
7.	Generally protected C: Low significance - Requires no further recording before destruction	

APPENDIX 4. RELEVANT LEGISLATION

All archaeological and palaeontological sites, and meteorites are protected by the National Heritage Resources Act (Act no 25 of 1999) as stated in Section 35:

(1) Subject to the provisions of section 8, the protection of archaeological and palaeontological sites and material and meteorites is the responsibility of a provincial heritage resources authority: Provided that the protection of any wreck in the territorial waters and the maritime cultural zone shall be the responsibility of SAHRA.

(2) Subject to the provisions of subsection (8)(a), all archaeological objects, palaeontological material and meteorites are the property of the State. The responsible heritage authority must, on behalf of the State, at its discretion ensure that such objects are lodged with a museum or other public institution that has a collection policy acceptable to the heritage resources authority and may in so doing establish such terms and conditions as it sees fit for the conservation of such objects.

(3) Any person who discovers archaeological or palaeontological objects or material or a meteorite in the course of development or agricultural activity must immediately report the find to the responsible heritage resources authority, or to the nearest local authority offices or museum, which must immediately notify such heritage resources authority.

(4) No person may, without a permit issued by the responsible heritage resources authority-

- (a) destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;
- (b) destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;
- (c) trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or palaeontological material or object, or any meteorite; or
- (d) bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment which assist in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.

In terms of cemeteries and graves the following (Section 36):

(1) Where it is not the responsibility of any other authority, SAHRA must conserve and generally care for burial grounds and graves protected in terms of this section, and it may make such arrangements for their conservation as it sees fit.

(2) SAHRA must identify and record the graves of victims of conflict and any other graves which it deems to be of cultural significance and may erect memorials associated with the grave referred to in subsection (1), and must maintain such memorials.

(3) No person may, without a permit issued by SAHRA or a provincial heritage resources authority-

- (a) destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;
- (b) destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or
- (c) bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation equipment, or any equipment which assists in the detection or recovery of metals.

(4) SAHRA or a provincial heritage resources authority may not issue a permit for the destruction or damage of any burial ground or grave referred to in subsection (3)(a) unless it is satisfied that the applicant has made satisfactory arrangements for the exhumation and re-interment of the contents of such graves, at the cost of the applicant and in accordance with any regulations made by the responsible heritage resources authority.

The National Heritage Resources Act (Act no 25 of 1999) stipulates the assessment criteria and grading of archaeological sites. The following categories are distinguished in Section 7 of the Act:

- **Grade I:** Heritage resources with qualities so exceptional that they are of special national significance;
- **Grade II:** Heritage resources which, although forming part of the national estate, can be considered to have special qualities which make them significant within the context of a province or a region; and
- **Grade III:** Other heritage resources worthy of conservation, and which prescribes heritage resources assessment criteria, consistent with the criteria set out in section 3(3), which must be used by a heritage resources authority or a local authority to assess the intrinsic, comparative and contextual significance of a heritage resource and the relative benefits and costs of its protection, so that the appropriate level of grading of the resource and the consequent responsibility for its management may be allocated in terms of section 8.

Presenting archaeological sites as part of tourism attraction requires, in terms 44 of the Act, a Conservation Management Plan as well as a permit from SAHRA.

(1) Heritage resources authorities and local authorities must, wherever appropriate, co-ordinate and promote the presentation and use of places of cultural significance and heritage resources which form part of the national estate and for which they are responsible in terms of section 5 for public enjoyment, education, research and tourism, including-

- (a) the erection of explanatory plaques and interpretive facilities, including interpretive centres and visitor facilities;
- (b) the training and provision of guides;
- (c) the mounting of exhibitions;
- (d) the erection of memorials; and
- (e) any other means necessary for the effective presentation of the national estate.

(2) Where a heritage resource which is formally protected in terms of Part I of this Chapter is to be presented, the person wishing to undertake such presentation must, at least 60 days prior to the institution of interpretive measures or manufacture of associated material, consult with the heritage resources authority which is responsible for the protection of such heritage resource regarding the contents of interpretive material or programmes.

(3) A person may only erect a plaque or other permanent display or structure associated with such presentation in the vicinity of a place protected in terms of this Act in consultation with the heritage resources authority responsible for the protection of the place.

APPENDIX 5. RELOCATION OF GRAVES

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.

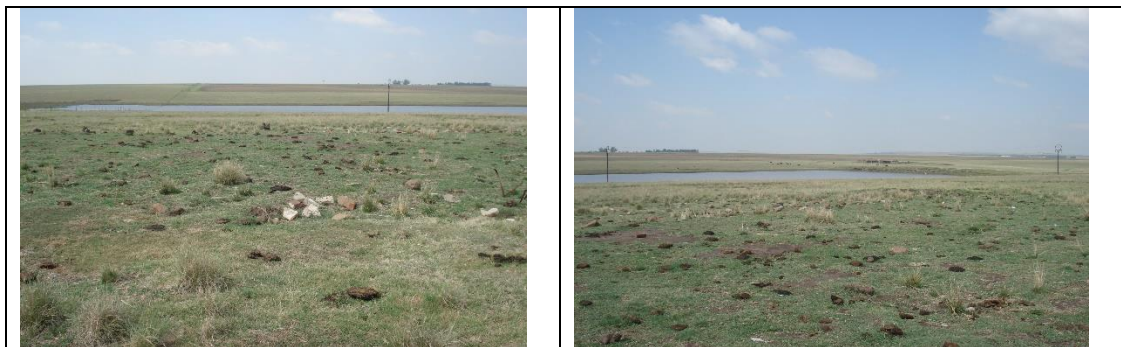
Information needed for the SAHRA permit application

- The permit application needs to be done by an archaeologist.
- A map of the area where the graves have been located.
- A survey report of the area prepared by an archaeologist.
- All the information on the families that have identified graves.
- If graves have not been identified and there are no headstones to indicate the grave, these are then unknown graves and should be handled as if they are older than 60 years. This information also needs to be given to SAHRA.
- A letter from the landowner giving permission to the developer to exhume and relocate the graves.
- A letter from the new cemetery confirming that the graves will be reburied there.
- Details of the farm name and number, magisterial district and GPS coordinates of the gravesite.

APPENDIX 6. INVENTORY OF IDENTIFIED CULTURAL HERITAGE SITES

No.: 8.3.3.1	
Name: Homestead NHRA Category: Archaeological site or material - Section 34 Farm: Rietfontein 40HS Coordinates: -27.12737, 29.42883	

Description
 What is identified as an old (farm-)labourer homestead. Only the foundations and middens remain. It is presumed that it is similar to the type of settlements that still occur in large numbers in the region.



Significance of site/feature | Low significance – Grade IV-C
Reasoned opinion: As their footprint are usually small, these are the typical features that are usually overlooked during any development.

Impact assessment
 This site is located inside the development area. However, at the nearest point it is 205m from the proposed power line deviation. Due to its sensitive nature, it is included here as an area that should be avoided.

Significance of impact: before/after mitigation

Extent	Duration	Magnitude	Probability	Significance	Weight
1	1	1	1	4	Low
1	1	1	1	4	Low

Mitigation
 It is recommended that the feature is avoided and fenced off with danger tape, leaving a buffer zone of at least 10 metres from the outer edges. If it cannot be avoided, it is recommended that the structure is investigated archeologically.

Requirements
 As the structure is probability older than 60 years, a valid permit for its destruction must be obtained from SAHRA. This will only be issued after the site has been fully documented archaeologically, for which a valid excavation permit from SAHRA is required.

References
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No.: 8.3.3.2	
Name: Burial site NHRA Category: Graves, cemeteries and burial grounds - (Section 36) Farm: Rietfontein 40HS Coordinates: -27.12874, 29.42041	

Description
An informal burial place with probably more than 20 graves. Those with headstones indicate that they range between the 1960s and 1980s. However, it is expected that some of the undated graves might be much older.



Significance of site/feature	High local significance – Grade IV-A
Reasoned opinion:	Burial sites are viewed as having high emotional and sentimental value. However, mitigation is possible if proper procedures have been followed.

Impact assessment
This site is not located inside the development area – at the nearest point it is 550m from the proposed power line deviation. However, due to its sensitive nature, it is included here as an area that should be avoided.

Significance of impact: before/after mitigation						
Extent	Duration	Magnitude	Probability	Significance	Weight	
1	1	1	1	4	Low	
1	1	1	1	4	Low	

Mitigation
It is recommended that the burial site should be avoided and fenced off with danger tape, leaving a buffer zone of at least 10 m from the outer edges of the graves. If the area cannot be avoided, it is recommended that graves are relocated after the proper procedure has been followed – see Appendix 3.

Requirements
As some of the (unmarked) graves might be older than 60 years, a valid permit for their relocation must be obtained from SAHRA. This is in addition to all other requirements – see Appendix 3.

References
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No.: 8.3.3.3	
Name: Burial site NHRA Category: Graves, cemeteries and burial grounds - (Section 36) Farm: Vlakspruit 42HS Coordinates: -27.12681, 29.44278	

Description
A large informal burial place – access was restricted due to a new fence. Most of the graves are marked with formal grave stones. It is evident that graves are still visited by descendants as they are cared for and the vegetation is cleared away.



Significance of site/feature	High local significance – Grade IV-A
Reasoned opinion:	Burial sites are viewed as having high emotional and sentimental value. However, mitigation is possible if proper procedures have been followed.

Impact assessment
This site is not located inside the development area – at the nearest point it is 200m from the proposed power line deviation. However, due to its sensitive nature, it is included here as an area that should be avoided.

Significance of impact: before/after mitigation					
Extent	Duration	Magnitude	Probability	Significance	Weight
1	1	1	1	4	Low
1	1	1	1	4	Low

Mitigation
It is recommended that the burial site should be avoided and fenced off with danger tape, leaving a buffer zone of at least 10 m from the outer edges of the graves. If the area cannot be avoided, it is recommended that graves are relocated after the proper procedure has been followed – see Appendix 3.

Requirements
As some of the graves might be older than 60 years, a valid permit for their relocation must be obtained from SAHRA. This is in addition to all other requirements – see Appendix 3.

References
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