

Archaetnos Culture & Cultural Resource Consultants BK 98 09854/23

A REPORT ON AN ARCHAEOLOGICAL IMPACT ASSESSMENT FOR THE ESKOM MERENSKY-UCHOBA DEVIATION ROUTE, MPUMALANGA PROVINCE

For:

Landscape Dynamics

PO Box 947 Groenkloof 0027

REPORT NO.: AE02302V

By:

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17 January 2023

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SUBMISSION OF REPORT

Please note that the South African Heritage Resources Agency (SAHRA) or one of its subsidiary bodies needs to comment on this report.

It is the client's responsibility to do the submission via the SAHRIS System on the SAHRA website. Arrangements can however be made if necessary.

Clients are advised not to proceed with any action before receiving the necessary comments from SAHRA.

DISCLAIMER

Although all possible care is taken to identify all sites of cultural importance during the survey of study areas, the nature of archaeological and historical sites is as such that it always is possible that hidden or subterranean sites could be overlooked during the study. Access to certain areas is also sometimes limited. Archaetnos and its personnel will not be held liable for such oversights or for costs incurred as a result thereof. Any additional sites identified can be visited and assessed afterwards and the report amended, but only upon receiving an additional appointment.

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EXECUTIVE SUMMARY

Archaetnos cc was requested by Landscape Dynamics to conduct an Archaeological Impact Assessment (AIA) for ESKOM, related to the proposed ESKOM Merensky-Uchoba Project. The project consists of a deviation to the proposed 132 KV power line, for which a 100 m corridor is investigated. This is close to the town of Steelpoort in the Fetalgomo Tubatse Local Municipality, Sekhukhune District Municipality, Mpumalanga Province (Figure 1-3).

Note that a palaeontological desktop report was also commissioned. This is a separate report from this AIA report.

This AIA forms part of the registration of this project with the Department of Forestry, Fisheries and the Environment (DFFE) which is being done according to the stipulations as contained in *Gazette Notice Nr 2313, 27 July 2022: Standard for the Development and Expansion of Power Lines and Substations within identified Geographical Areas*, promulgated on 27 July 2022.

Since this is a deviation to the proposed route, only one alternative route option was investigated. This was indicated by the client and surveyed by a foot an off road vehicle.

A survey of literature was undertaken in order to obtain background information regarding the area. The field survey was conducted according to generally accepted HIA practices and was aimed at locating all possible objects, sites and features of cultural significance in the area of proposed development.

One site of cultural heritage importance was identified during the survey.

The following is recommended:

 Site no 1 is a cemetery and graves are always regarded as having a high cultural significance. The site receives a rating is Local Grade IIIB, meaning it should be included in the heritage register and mitigation measures must be implemented if the site is being impacted on by the development and mitigation measures must be implemented if any development activities take place in its vicinity.

In general, the following two mitigation options exist when a development impacts on graves:

- The first option would be to fence the graves in or demarcate the site and have a management plan drafted for the sustainable preservation thereof. This should be compiled by a heritage expert. This option is relevant when the graves are in no danger of being damaged or destroyed by the development (direct impacts). Secondary impact due to the development activities may still exist and must be managed.
- The second option is to exhume the mortal remains and to have it relocated. This usually is relevant when the graves will be directly affected (damaged or destroyed) by the development. In this case specific procedures should be followed which includes social consultation. Graves younger than 60 years may be exhumed only by an undertaker. For those older than 60 years, and unknown graves, an undertaker and archaeologist should be appointed. Permits must be obtained from the Burial Grounds and Graves unit of SAHRA. This procedure is quite lengthy and involves social consultation.

2. Site specific measures -

For this specific site, it is proposed that a buffer of 20 m should be implemented during the construction period. This buffer should be clearly demarcated and the construction personnel should be educated regarding the total avoidance of this site. This, together with the fact that the site is approximately 38 m from the proposed area where the powerline will be located, the construction and operation of the power line will NOT impact on the cemetery and it is NOT required to compile a site preservation management plan.

However, the developer needs to ensure that there is no direct impact to the graves. If this is the case Option 2 will be applicable.

- 3. The proposed project may continue, but only after receiving comments from SAHRA and implementing the mitigation measures (buffer and associated measures) indicated above.
- 4. It should be noted that the subterranean presence of archaeological and/or historical sites, features or artefacts is always a distinct possibility. Care should therefore be taken when development commences that if any of these are discovered, work on site cease immediately and a qualified archaeologist be called in to investigate the occurrence.
- 5. In this regard the following 'Chance find Procedure' should be followed:
 - Upon finding any archaeological or historical material all work at the affected area must cease.
 - The area should be demarcated to prevent any further work there until an investigation has been completed.
 - An archaeologist should be contacted immediately to provide advice on the matter.
 - Should it be a minor issue, the archaeologist will decide on future action.

- Depending on the nature of the find, it may include a site visit.
- SAHRA's APM Unit may also be notified.
- If needed the necessary, permit will be applied for with SAHRA. This will be done in conjunction with the appointed archaeologist.
- The removal of such archaeological material will be done by the archaeologist in lieu of the approval given by SAHRA, including any conditions stipulated by the latter.
- Work on site will only continue after the archaeologist/ SAHRA has agreed to such a matter.

It is also important to take cognizance that it is the client's responsibility to do the submission of this report via the SAHRIS System on the SAHRA website. No work on site may commence before receiving the necessary comments from SAHRA.

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Note that the palaeontological desktop report is a separate report and this report only deals with cultural heritage and archaeology

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Confirming Statement by Archaeology Specialist
As required in Gazette Notice Nr 2313, 27 July 2022: Standard for the Development and Expansion of Power Lines and Substations within identified Geographical Areas, promulgated on 27 July 2022

A description of the affected environment in terms of heritage resources and palaeontology, and an indication of existing heritage and palaeontological impacts within the <i>preliminary corridor</i> based on the site verification inspection and walk through.	Section 7 & 8
Identification of heritage resources and palaeontological areas	Section 9
to be avoided within the <i>preliminary corridor</i> , including buffers;	
	One no-go area (a cemetery) with a 20m demarcated buffer to protect the fenced cemetery further during the construction period.
A heritage sensitivity map overlaid with the proposed	Section 10, Figure 25
development footprint (i.e. pylon placement and power line route, as well as supporting infrastructure) based on most recently obtainable and available desktop data, such as the information on the screening tool and the South African Heritage Resources Information System, site verification inspection and walk through (where necessary);	Low to zero sensitivity, accept at grave site (high sensitivity)
Where required, a written comment or letter of no objection from the South African Heritage Resources Agency and/or applicable provincial heritage authority confirming that there is no unacceptable impact on heritage resources and palaeontology;	This report was submitted to SAHRA and their comment or letter of no objection will be included in the Final Environmental Sensitivity Report (ESR) which will be submitted to DFFE for decision making.
Confirmation that any recommendations as required by the	Recommendations made by
South African Heritage Resources Agency and/or applicable	SAHRA will be incorporated
provincial heritage authority have been incorporated and	into the Final ESR which will be
considered;	submitted to DFFE for decision
	making
A description on how the identified environmental sensitivity	One site of cultural importance
pertaining to heritage resources and palaeontology has been	was identified, namely a fenced
considered in determining the proposed route;	cemetery of 57m x 45m in size,
	consisting of 46 graves. The
	cemetery is however 38m from
	the position of the proposed
	route and the power line will
	not impact on the cemetery in
	any way. This area will be treated as a strict no-go area
	during construction. No
	further mitigation is prosed.
A description of the implementation of the mitigation hierarchy	Mitigation hierarchy includes
in order to determine the proposed route and/or substation	the following steps in the order
location;	of decreasing desirability:
	Avoid, Minimise, Rehabilitate,

and Offset. In the case of this project, the following applies: Avoid The cemetery will be avoided and the project will not impact on the cemetery or the people visiting the site. Minimise Impact to possible heritage resources is minimised by the inclusion of the "Chance Find Procedure", and other mitigation into the EMPr. Rehabilitate Rehabilitation of heritage resources is not applicable to this project Offset Offsets are not applicable to this project How the inputs of I&APs were considered when determining This AIA is being distributed the final pre-negotiated route and/or substation location; and together with the Draft **Environmental Sensitivity** Report (ESR) for public comment. Should any input from the public / SAHRA change the content / outcome of this report, amendments will be made and submitted with the Final ESR. The Final ESR will be submitted to DFFE for decision making and registration of the project. The Eskom Generic EMPr is A statement confirming that: a. impact management actions as contained in the pre-approved sufficient for the avoidance. Generic EMPr template are sufficient for the avoidance, management and mitigation of management and mitigation of impacts and risks; or impacts and risks, however site b. where required, specific impact management outcomes and specific mitigation measures actions are required and have been provided as part of the site should also be included in the specific EMPr. EMPr. These mitigation measures are included under Section 10: Conclusion and Recommendations and include a Archaeological and Cultural Heritage Chance Find Protocol as well as management actions

	for the protection of the cemetery
Specialist Details	Prof AC van Vollenhoven
	DPhil, Archaeology, UP, 2001 &
	DPhil, History, US, 2010
	P O Box 55, Groenkloof, 0027

CURRICULUM VITAE Prof. Anton Carl van Vollenhoven

PERSONAL INFORMATION

• Born: 20 January 1966, Pretoria, RSA

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• Cell phone: 083 291 6104

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TERTIARY EDUCATION

• BA 1986, University of Pretoria

- BA (HONS) Archaeology 1988 (cum laude), University of Pretoria
- MA Archaeology 1992, University of Pretoria
- Post-Graduate Diploma in Museology 1993 (cum laude), University of Pretoria
- Diploma Tertiary Education 1993, University of Pretoria
- DPhil Archaeology 2001, University of Pretoria.
- MA Cultural History 1998 (cum laude), University of Stellenbosch
- Management Diploma 2007 (cum laude), Tshwane University of Technology
- DPhil History 2010, University of Stellenbosch

EMPLOYMENT HISTORY

Current:

- August 2007 present Managing Director for Archaetnos Archaeologists.
- Since 2012: Archaeologist and heritage official, Department of Environment and Agriculture, City of Tshwane
- Since 2015: Extraordinary Professor of History at the North-West University

Previous:

- 1988-1991: Fort Klapperkop Military Museum Researcher
- 1991-1999: National Cultural History Museum. Work as Archaeologist, as well as Curator/Manager of Pioneer Museum (1994-1997)
- 1999-2002: City Council of Pretoria. Work as Curator: Fort Klapperkop Heritage Site and Acting Deputy Manager Museums and Heritage.
- 2002-2007: City of Tshwane Metropolitan Municipality. Work as Deputy Manager Museums and Heritage.
- August 2007 present Managing Director for Archaetnos Archaeologists.
- 1988-2003: Part-time lecturer in Archaeology at the University of Pretoria and a part-time lecturer on Cultural Resources Management in the Department of History at the University of Pretoria.
- 2014-2015: Part-time lecturer for the Honours degree in Museum Sciences in the Department of History and Heritage Studies at the University of Pretoria
- 2020-2022: Part-time lecturer in History at the North-West University

OTHER

- NRF C2 Research rating.
- Has published 42 peer-reviewed and 56 popular articles.
- Hs written 13 books/book contributions/conference proceedings.
- Has been the author and co-author of over 1 118 unpublished reports on cultural resources surveys and archaeological work.
- Has delivered more than 84 papers and lectures at national and international conferences.
- Member of SAHRA Council for 2003 2006.
- Member of the South African Academy for Science and Art.
- Member of Association for South African Professional Archaeologists. (Council member since 2022).
- Member of the South African Society for Cultural History (Chairperson 2006-2008; 2012-2014; 2018-2021).
- Has been editor for the SA Journal of Cultural History 2002-2004.
- Editorial member of various scientific journals.
- Member of the Provincial Heritage Resources Agency, Gauteng's Council.
- Member of Provincial Heritage Resources Agency, Gauteng's HIA adjudication committee (Chairperson 2012-2024).

A list of reports can be viewed on www.archaetnos.co.za.

DECLARATION OF INDEPENDENCE

I, Anton Carl van Vollenhoven from Archaetnos, hereby declare that I am an independent specialist within the field of heritage management.

Signed:

Date: 17 January 2023

LIST OF ACRONYMS:

AIA – Archaeological Impact Assessment

CMP - Cultural Management Plan

EAP – Environmental Assessment Practitioner

EIA - Environmental Impact Assessment

HIA – Heritage Impact Assessment

PIA - Palaeontological Impact Assessment

SAHRA –South African Heritage Resources Agency

1. INTRODUCTION

Archaetnos cc was requested by Landscape Dynamics to conduct an Archaeological Impact Assessment (AIA) for ESKOM, related to the proposed ESKOM Merensky-Uchoba Project. A palaeontological desktop report was also commissioned and was done by Prof M. Bamford from WITS University. This however is a separate report from the AIA.

The project consists of a deviation to the proposed 132 KV power line, for which a 100 m corridor is investigated. This is close to the town of Steelpoort in the Fetalgomo Tubatse Local Municipality, Sekhukhune District Municipality, Mpumalanga Province (Figure 1-3).

This AIA forms part of the registration of this project with the Department of Forestry, Fisheries and the Environment (DFFE) which is being done according to the stipulations as contained in *Gazette Notice Nr 2313, 27 July 2022: Standard for the Development and Expansion of Power Lines and Substations within identified Geographical Areas*, promulgated on 27 July 2022.

Since this is a deviation to the proposed route, only one alternative route option was investigated. This was indicated by the client and surveyed by a foot an off road vehicle.

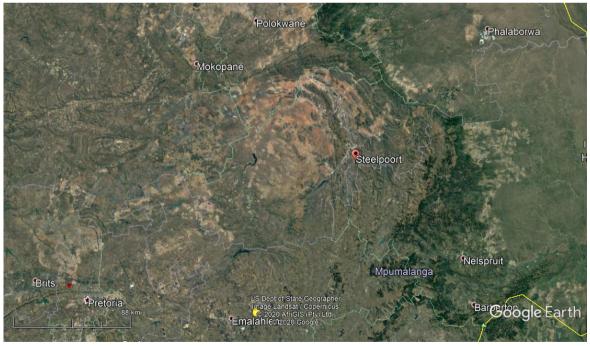


Figure 1: Location of Steelpoort in the Mpumalanga Province.

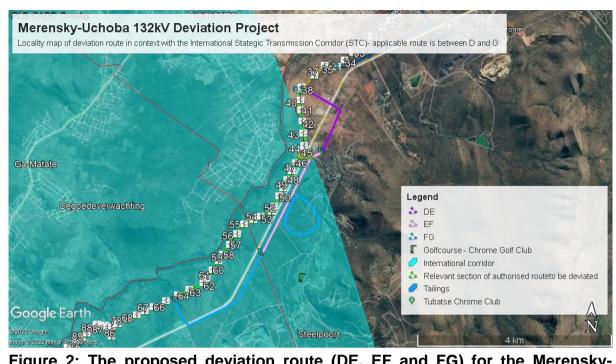


Figure 2: The proposed deviation route (DE, EF and FG) for the Merensky-Uchoba Project.



Figure 3: Google Earth image indicating the deviation route that was investigated.

2. TERMS OF REFERENCE

The Terms of Reference for the survey were to:

- 1. Identify objects, sites, occurrences and structures of an archaeological or historical nature (cultural heritage sites) located in the surveyed area (see Appendix A).
- 2. Study background information on the area to be developed.
- 3. Assess the significance of the cultural resources in terms of their archaeological, historical, scientific, social, religious, and aesthetic and tourism value (see Appendix B).
- 4. Describe the possible impact of the proposed development on these cultural remains, according to a standard set of conventions.
- 5. Recommend suitable mitigation measures to minimize possible negative impacts on the cultural resources by the proposed development.
- 6. Review applicable legislative requirements.

3. CONDITIONS & ASSUMPTIONS

The following conditions and assumptions have a direct bearing on the survey and the resulting report:

- Cultural Resources are all non-physical and physical man-made occurrences, as well as natural occurrences associated with human activity (Appendix A). These include all sites, structures and artefacts of importance, either individually or in groups, in the history, architecture and archaeology of human (cultural) development. Graves and cemeteries are included in this.
- 2. The significance of the sites, structures and artefacts is determined by means of their historical, social, aesthetic, technological and scientific value in relation to their uniqueness, condition of preservation and research potential. The various aspects are not mutually exclusive, and the evaluation of any site is done with reference to any number of these aspects.
- 3. Cultural significance is site-specific and relates to the content and context of the site. Sites regarded as having low cultural significance have already been recorded in full and require no further mitigation. Sites with medium cultural

significance may or may not require mitigation depending on other factors such as the significance of impact on the site. Sites with a high cultural significance require further mitigation (see Appendix C).

- 4. The latitude and longitude of any archaeological or historical site or feature, is to be treated as sensitive information by the developer and should not be disclosed to members of the public.
- 5. All recommendations are made with full cognizance of the relevant legislation.
- 6. It has to be mentioned that it is almost impossible to locate all the cultural resources in a given area, as it will be very time consuming. Developers should however note that this report should make it clear how to handle any other finds that might occur.
- 7. The vegetation cover at the project area is mostly low in height and had an open under footing. Therefore, both the horizontal and the vertical archaeological visibility were affected positively.
- 8. The majority of the powerline deviation area is disturbed by building activities, mining related infrastructure and existing powerline infrastructure. This made the area a low risk of containing any sites of cultural heritage significance.

4. LEGISLATIVE REQUIREMENTS

Aspects concerning the conservation of cultural resources are dealt with mainly in two acts. These are the National Heritage Resources Act (Act 25 of 1999) and the National Environmental Management Act (Act 107 of 1998).

4.1 The National Heritage Resources Act

According to the above-mentioned act the following is protected as cultural heritage resources:

- a. Archaeological artefacts, structures and sites older than 100 years
- b. Ethnographic art objects (e.g. prehistoric rock art) and ethnography
- c. Objects of decorative and visual arts
- d. Military objects, structures and sites older than 75 years
- e. Historical objects, structures and sites older than 60 years
- f. Proclaimed heritage sites
- g. Grave yards and graves older than 60 years
- h. Meteorites and fossils

i. Objects, structures and sites or scientific or technological value.

The national estate (see Appendix D) includes the following:

- 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 features of cultural significance
- e. Geological sites of scientific or cultural importance
- f. Archaeological and paleontological importance
- g. Graves and burial grounds
- h. Sites of significance relating to the history of slavery
- i. Movable objects (e.g. archaeological, paleontological, meteorites, geological specimens, military, ethnographic, books etc.)

A Heritage Impact Assessment (HIA) is the process to be followed in order to determine whether any heritage resources are located within the area to be developed as well as the possible impact of the proposed development thereon. An Archaeological Impact Assessment (AIA) only looks at archaeological resources. The different phases during the HIA process are described in Appendix E.

An HIA must be done under the following circumstances:

- a. The construction of a linear development (road, wall, power line canal etc.) exceeding 300m in length
- b. The construction of a bridge or similar structure exceeding 50m in length
- Any development or other activity that will change the character of a site and exceed 5 000m² or involve three or more existing erven or subdivisions thereof
- d. Re-zoning of a site exceeding 10 000 m²
- e. Any other category provided for in the regulations of SAHRA or a provincial heritage authority

Structures

Section 34 (1) of the mentioned act states that no person may demolish any structure or part thereof which is older than 60 years without a permit issued by the relevant provincial heritage resources authority.

A structure means any building, works, device or other facility made by people and which is fixed to land, and includes any fixtures, fittings and equipment associated therewith.

Alter means any action affecting the structure, appearance or physical properties of a place or object, whether by way of structural or other works, by painting, plastering or the decoration or any other means.

Archaeology, palaeontology and meteorites

Section 35(4) of this act deals with archaeology, palaeontology and meteorites. The act states that no person may, without a permit issued by the responsible heritage resources authority (national or provincial):

- a. destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or paleontological site or any meteorite;
- destroy, damage, excavate, remove from its original position, collect or own any archaeological or paleontological 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 paleontological material or object, or any meteorite;
- d. bring onto or use at an archaeological or paleontological site any excavation equipment or any equipment that assists in the detection or recovery of metals or archaeological and paleontological material or objects, or use such equipment for the recovery of meteorites, or
- e. alter or demolish any structure or part of a structure which is older than 60 years as protected.

The above mentioned may only be disturbed or moved by an archaeologist, after receiving a permit from the South African Heritage Resources Agency (SAHRA). In order to demolish such a site or structure, a destruction permit from SAHRA will also be needed.

Human remains

Graves and burial grounds are divided into the following:

- a. ancestral graves
- b. royal graves and graves of traditional leaders
- c. graves of victims of conflict
- d. graves designated by the Minister
- e. historical graves and cemeteries
- f. human remains

In terms of Section 36(3) of the National Heritage Resources Act, no person may, without a permit issued by the relevant heritage resources authority:

- a. destroy, damage, alter, exhume or remove from its original position of otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;
- destroy, damage, alter, exhume or 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, or any equipment which assists in the detection or recovery of metals.

Unidentified/unknown graves are also handled as older than 60 until proven otherwise.

Human remains that are less than 60 years old are subject to provisions of the **National Health Act (Act 61 of 2003)** and to local regulations. Exhumation of graves must conform to the standards set out in the **Ordinance on Exhumations (Ordinance no. 12 of 1980)** (replacing the old Transvaal Ordinance no. 7 of 1925).

Permission must also be gained from the descendants (where known), the National Department of Health, Provincial Department of Health, Premier of the Province and local police. Furthermore, permission must also be gained from the various landowners (i.e. where the graves are located and where they are to be relocated) before exhumation can take place. Human remains can only be handled by a registered undertaker or an institution declared under the **National Health Act** (**Act 61 of 2003**).

4.2The National Environmental Management Act

This act (Act 107 of 1998) states that a survey and evaluation of cultural resources must be done in areas where development projects that will change the face of the environment will be undertaken. The impact of the development on these resources should be determined and proposals for the mitigation thereof are made.

Environmental management should also take the cultural and social needs of people into account. Any disturbance of landscapes and sites that constitute the nation's cultural heritage should be avoided as far as possible and where this is not possible the disturbance should be minimized and remedied.

5. THE INTERNATIONAL FINANCE CORPORATIONS' PERFORMANCE STANDARD FOR CULTURAL HERITAGE

This standard recognizes the importance of cultural heritage for current and future generations. It aims to ensure that clients protect the cultural heritage in the course of their project activities. This is done by clients abiding to the law and having heritage surveys done in order to identify and protect cultural heritage resources via field studies and the documentation of such resources. These need to be done by competent professionals (e.g. archaeologists and cultural historians). Possible chance finds, encountered during the project development, also needs to be managed by not disturbing it and by having it assessed by professionals.

Impacts on the cultural heritage should be minimized. This include the possible maintenance of such sites in situ, or when impossible, the restoration of the functionality of the cultural heritage in a different location. When cultural historical and archaeological artefacts and structures need to be removed it should be done by professionals and by abiding to the applicable legislation. The removal of cultural heritage resources may however only be considered if there are not technically or financially feasible alternatives. In considering the removal of cultural resources, it should be outweighed by the benefits of the overall project to the effected communities. Again professionals should carry out the work and adhere to the best available techniques.

Consultation with affected communities should be engaged in. This means that access to such communities should be granted to their cultural heritage if this is applicable. Compensation for the loss of cultural heritage should only be given in extraordinary circumstances.

Critical cultural heritage may not be impacted on. Professionals should be used to advise on the assessment and protection thereof. Utilization of cultural heritage resources should always be done in consultation with the effected communities in order to be consistent with their customs and traditions and to come to agreements with relation to possible equitable sharing of benefits from commercialization.

6. METHODOLOGY

6.1 Survey of literature

A survey of literature was undertaken in order to obtain background information regarding the area. This includes reports identified on the SAHRIS Database. Sources consulted in this regard are indicated in the bibliography. Two other studies in the

adjacent area was noted with various others having been done in the Steelpoort Valley (SAHRIS database; Archaetnos database).

6.2 Field survey

The survey was conducted on 12 January 2023 and was done according to generally accepted HIA practices and was aimed at locating possible objects, sites and features of cultural significance in the area of proposed development. Since one sometimes looks a bit wider than the demarcated area, as the surrounding context needs to be taken into consideration, it was determined that an additional field survey was not needed as the changes was covered by the initial field study.

Where required, the location/position of any site was determined by means of a Global Positioning System (GPS)¹, while photographs were also taken where needed. The survey was undertaken by doing a physical survey via off-road vehicle and on foot and covered as much as possible of the area to be studied (Figure 4). Certain factors, such as accessibility, density of vegetation, etc. may however influence the coverage. The length of the proposed linear development is approximately 7,7 km, and the survey took approximately 4 hours to complete.



Figure 4: Track route of the survey (in Red).

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¹ A Garmin Oregon 550 with an accuracy factor of a few meters.

6.3 Oral histories and social consultation

People from local communities are interviewed in order to obtain information relating to the surveyed area. It needs to be stated that this is not applicable under all circumstances. When applicable, the information is included in the text and referred to in the bibliography.

6.4 Documentation

All sites, objects, features, and structures identified were documented according to the general minimum standards accepted by the archaeological profession. Co-ordinates of individual localities were determined by means of the Global Positioning System (GPS). The information was added to the description in order to facilitate the identification of each locality.

6.5 Evaluation of Heritage sites

The evaluation of heritage sites is done by giving a field rating of each (see Appendix C) using the following criteria:

- The unique nature of a site
- The integrity of the archaeological deposit
- The wider historic, archaeological and geographic context of the site
- The location of the site in relation to other similar sites or features
- The depth of the archaeological deposit (when it can be determined or is known)
- The preservation condition of the site
- Uniqueness of the site and
- Potential to answer present research questions.

7. DESCRIPTION OF THE ENVIRONMENT

The environment along the length of the route within the surveyed area is much the same. The area between proposed deviation line points D and E is largely disturbed by ongoing building activities and the vegetation is low with an open under footing (Figure 5). The area between proposed deviation line points E and G follows an exiting powerline, with pioneer vegetation growth on the eastern side of this powerline (Figure 6). The vegetation consists largely of short grasses and shrubs (Figure 7). The area between proposed deviation line points F and G passes through an old agricultural field (Figure 8). The deviation crosses the R555 at two places, between D and E, and between F and G (Figure 9-10).

The topography of the area is reasonably flat. A few hills are also found outside of the surveyed areas.



Figure 5: View of building activities in the area between points D and E of the deviation.



Figure 6: View of existing powerline between points E and G of the deviation.



Figure 7: View of vegetation growth between points E and G of the deviation.



Figure 8: View of old agricultural field between points F and G of the deviation.



Figure 9: View of road where the deviated powerline crosses, between points D and E.



Figure 10: View of road where the deviated powerline crosses, between points F and G.

8. HISTORICAL CONTEXT

One site of cultural heritage significance was located during the survey. Some background information is given in order to place the surveyed area in a broad

historical and geographical context and to contextualize possible finds that could be unearthed during construction activities.

A large number of heritage reports were completed around the towns of Steelpoort and Burgersfort previously (SAHRA's SAHRIS database; Archaetnos database). These are included in the discussion below. Two of these were previous studies on this line (Van Vollenhoven 2020; Van Vollenhoven et.al. 2022).

8.1 Stone Age

The Stone Age is the period in human history when lithic material was mainly used to produce tools (Coertze & Coertze 1996: 293). In South Africa the Stone Age can be divided in three periods. It is, however, important to note that dates are relative and only provide a broad framework for interpretation. The division for the Stone Age according to Korsman & Meyer (1999: 93-94) is as follows:

Early Stone Age (ESA) 2 million – 150 000 years ago Middle Stone Age (MSA) 150 000 – 30 000 years ago Late Stone Age (LSA) 40 000 years ago – 1850 - A.D.

No Stone Age sites are indicated in a historical atlas of this area. However one needs to take note that this may only indicate a lack of research in the area. The closest Stone Age sites indicated in the atlas is Middle and Late Stone Age sites close to Ohrigstad (Bergh 1999: 5).

Stone Age material was however found during various surveys in and around Burgersfort and Steelpoort. This includes rock paintings at the Two Rivers Mine (Archaetnos database). Higgitt et.al. (2015: 21-22) did identify MSA tools on the farm De Grooteboom. These were however found in eroded areas, an indication that it likely were in a secondary context. It also was located towards the south of the current surveyed area.

The environment definitely would be supportive to Stone Age activities. The nearby mountains give natural shelter and material to make stone tools from. The streams would lure animals to the area and these people would therefore have hunted here. The natural rock mostly includes shale, which is a soft stone, meaning that there are very limited resources from which to make stone tools. This would most likely be limited to the mountain tops. One should therefore be on the lookout for stone tools during construction work on the site.

In fact, some stone tools were found during previous surveys in the area (Figure 11-12). These date to the Early, Middle and Late Stone Age, but were found out of context along the river or in the eroded area.



Figure 11: Stone tools found during the 2022 survey.



Figure 12: Stone tools found during the 2020 survey in the eroded area.

8.2 Iron Age

The Iron Age is the name given to the period of human history when metal was mainly used to produce metal artifacts (Coertze & Coertze 1996: 346). In South Africa it can be divided in two separate phases according to Van der Ryst & Meyer (1999: 96-98), namely:

Early Iron Age (EIA) 200 – 1000 A.D. Late Iron Age (LIA) 1000 – 1850 A.D.

Huffman (2007: xiii) however, indicates that a Middle Iron Age should be included. His dates, which now seem to be widely accepted in archaeological circles, are:

Early Iron Age (EIA) 250 – 900 A.D. Middle Iron Age (MIA) 900 – 1300 A.D. Late Iron Age (LIA) 1300 – 1840 A.D.

The nearest Early Iron Age site to the surveyed area is the sites at Lydenburg and Klingbeil to the south-east of the surveyed area. A large number of Late Iron Age sites have previously been identified in an area roughly stretching between Lydenburg, Nelspruit and Badplaas (Bergh 1999: 6-7).

Other sites have also been identified by Archaetnos during surveys in the area (Archaetnos database). Iron Age potshards and features have been located at the farm De Grooteboom by Higgitt et.al. (2015: 22-24). These were towards the south of the current area being investigated.

During the 2020 survey a hammer stone (Figure 13) was picked up close to the river. Pottery without decoration was also found in the eroded area in 2020as well as during the current survey. These were out of context (Figure 14-15) but serves as proof that these people did utilize the area.

The general broader environment around the surveyed area is suitable for Iron Age people. The mountains would give shelter and building material and the valleys good grazing and ample water sources. One would therefore expect that Iron Age people may have utilized the area. The white settlers moved into this environment later on for the same reason.



Figure 13: Hammer stone found during the 2020 survey.



Figure 14: Pottery found during the 2020 survey in the eroded area.



Figure 15: Pottery found during the current survey.

8.3 Historical Age

The historical age started with the first recorded oral history in the area. It includes the moving into the area of people that were able to read and write. This era is sometimes called the Colonial era or the recent past.

Due to factors such as population growth and a decrease in mortality rates, more people inhabited the country during the recent historical past. Therefore and because less time has passed, much more cultural heritage resources from this era have been left on the landscape. It is important to note that all cultural resources older than 60 years are potentially regarded as part of the heritage and that detailed studies are needed in order to determine whether these indeed have cultural significance. Factors to be considered include aesthetic, scientific, cultural and religious value of such resources.

It is known that one of the early trade routes passed along the Steelpoort River (Bergh 1999: 9). At the beginning of the 19th century the area was inhabited by the Koni, Tau, Pedi and Roka who are all of Sotho origin. During the Difaquane, in ca.1822, the Ndebele of Mzilikazi entered this area from the south. In 1825 a Zulu group under Zwide attacked the Ndebele here. As a result these other groups fled to the north. They returned later on (Bergh 1999: 10-11).

None of the early travellers who visited the old Transvaal visited this area. In 1836 the Voortrekker groups of Tregardt and Van Rensburg passed to the west of the Steelpoort River (Bergh 1999: 13-14). The land around Lydenburg, including the Steelpoort River Valley was traded from the Swazi in 1846 and the first white settlers then started farming here (Bergh 1999: 16, 130-132).

Historical structures, such as farm houses and infrastructure may therefore be found in the area. Such buildings and stone structures have been identified during past surveys in the area (Archaetnos database; Mathoho 2012: 31-33). Signs of the earliest historical mining activities were also identified on adjacent farms (Archaetnos database; Stegmann & Roodt 2012). Many graves from this period are also known from other nearby farms (Archaetnos database; Mathoho 2012: 34).

One Provincial Heritage site is known from the area. About 10 km towards the south of the study area the Tšate Valley site is situated (Figure 16-17). It commemorates the rise of the Pedi Kingdom.

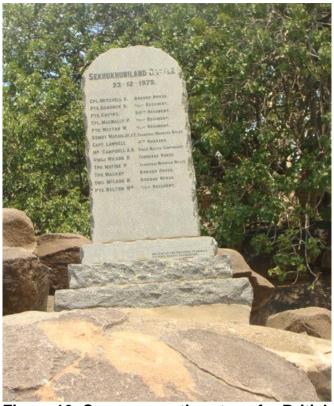


Figure 16: Commemorative stone for British soldiers who died in the war against the Pedi State.



Figure 17: Statue of Chief Sekhukhune.

9. DISCUSSION OF HERITAGE RESOURCES IDENTIFIED DURING THE SURVEY

It needs to be indicated that the environmental screening tool indicates that the area has medium to high archaeological potential (Figure 18). This roughly coincides with known information from surveys done in the area and likely are included in the figures below.

During the current survey, one site of cultural heritage significance was identified. Three sites were identified during the 2020 (Van Vollenhoven) and 2022 (Van Vollenhoven et.al.) surveys (Figure 19).

Database research showed various sites in the greater geographical area. The closest to the study area are those found by Fourie (2021), Mathoho (2012), and Pistorius (2019) discussed above. Fourie (2021) identified building remains, graves, Iron Age sites, and scattered stone tools (Figure 20). Mathoho (2012) identified building remains, farmyards and graves, but the closest one to the study area is found on the northern side of the river, approximately 2 km from the corridor that was investigated (Figure 21). It will thus not be impacted on. Pistorius (2019) identified a line of upright stone, approximately 600 m from the investigated area (Figure 22). It will thus not be impacted on.

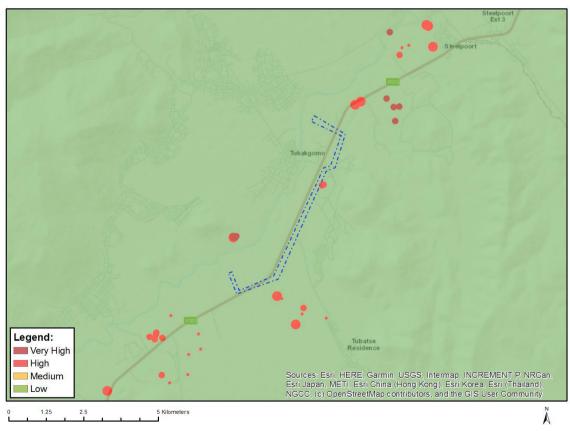


Figure 18: Map from Environmental Screening Tool indicating heritage sensitivity in the area.



Figure 19: Location of the sites identified during the 2020 (yellow) and 2022 (red) survey.



Figure 20: Location of the heritage sites identified before by Fourie (2021) in the vicinity of the line (Green: historical structures; Red: graves: Purple: Iron Age; Pink: stone tools).



Figure 21: Location of heritage sites identified by Mathoho (2012).

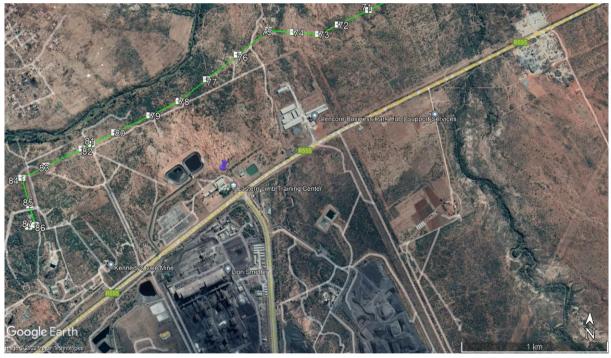


Figure 22: Location of the heritage site identified (Purple: Iron age) by Pistorius (2019).

9.1 **Site 1 – Cemetery**

This site is about 57×45 m in size and is surrounded by a fence. The site is approximately 38 m from the proposed powerline. The cemetery consists of at least

forty-six graves. The graves in the cemetery are younger than 60 years of age and some has no date of death indicated (unknown) (Figure 23-24). Unknown graves are handled similarly to heritage graves (older than 60 years of age). The headstones are made of granite and stone. The grave dressings are made of granite, stone, cement, tiles, and gravel. Several grave goods were found among the graves, including snuff boxes, mugs, and enamel bowls.

GPS: 24°45'42.98"S 30°10'13.40"E



Figure 23: View of some of the graves at site 1.



Figure 24: View of a grave at site 1.

Cultural significance Table: Site 1 Cemetery

A place is considered to be part	1	<u>, , , , , , , , , , , , , , , , , , , </u>
A place is considered to be part	Applicable	Rating:
of the national estate if it has	or not	1 - Negligible/ 2 -Low/
cultural significance because of		3 - Low-Medium/ 4 - Medium/ 5 -
-		Medium-High/ 6 - High/ 7 - Very High
Its importance in the community or	Υ	High
pattern of South Africa's history		
Its possession of uncommon, rare,	Υ	High
or endangered aspects of South		
Africa's natural or cultural history		
Its potential to yield information	Υ	High
that will contribute to an		
understanding of South Africa's		
natural or cultural heritage		
Its importance in demonstrating	Υ	High
the principal characteristics of a		
particular class of South Africa's		
natural or cultural places or		
objects		
Its importance in exhibiting	N	-
particular aesthetic characteristics		
valued by a community cultural		
group		
Its importance in demonstrating a	N	-
high degree of creative or		
technical achievement at a		
particular period		
Its strong or special association	Υ	High
with a particular community or		
cultural group for social, cultural or		
spiritual reasons		
Its strong or special association	N	-
with the life or work of a person,		
group or organization of		
importance in the history of South		
Africa		
Sites of significance relating to the	N	-
history of slavery in South Africa		
		6 – High
appropriate indicators outlined above:		

Integrity scale:

- 1 Bad state of preservation, but no contextual information
- 2 Bad state of preservation and includes contextual information
- 3 Reasonable state of preservation, but no contextual information
- 4 Reasonable state of preservation and includes contextual information
- 5 Good state of preservation, but no contextual information

- 6 Good state of preservation and includes contextual information
- 7 Excellent state of preservation, but no contextual information
- 8 Excellent state of preservation and includes contextual information

Field-rating = Cultural significance x Integrity

 $= 6 \text{ (High) } \times 4$

= 24

Graves are always regarded as having a high cultural significance. The field rating is Local Grade IIIB. It should be included in the heritage register and mitigation measures must be implemented if any development activities take place in its vicinity.

In general there are two possibilities when dealing with graves. The first option would be to fence the graves in or demarcate the site and have a management plan drafted for the sustainable preservation thereof. This should be compiled by a heritage expert. This option is relevant when the graves are in no danger of being damaged or destroyed by the development (direct impacts). Secondary impact due to the development activities may still exist and must be managed.

The second option is to exhume the mortal remains and to have it relocated. This usually is relevant when the graves will be directly affected (damaged or destroyed) by the development. In this case specific procedures should be followed which includes social consultation. Graves younger than 60 years may be exhumed only by an undertaker. For those older than 60 years, and unknown graves, an undertaker and archaeologist should be appointed. Permits must be obtained from the Burial Grounds and Graves unit of SAHRA. This procedure is quite lengthy and involves social consultation.

For this specific site, it is proposed that a buffer of 20 m should be implemented during the construction period. This buffer should be clearly demarcated and the construction personnel should be educated regarding the total avoidance of this site. This, together with the fact that the site is approximately 38 m from the proposed area where the powerline will be located, the construction and operation of the power line will NOT impact on the cemetery and it is NOT required to compile a site preservation management plan.

However, the developer needs to ensure that there is no direct impact to the graves. If this is the case Option 2 will be applicable.

10. CONCLUSION AND RECOMMENDATIONS

The heritage survey in the indicated area was completed successfully. One site was identified during the survey (Figure 25-26).



Figure 25: Site identified during the survey.

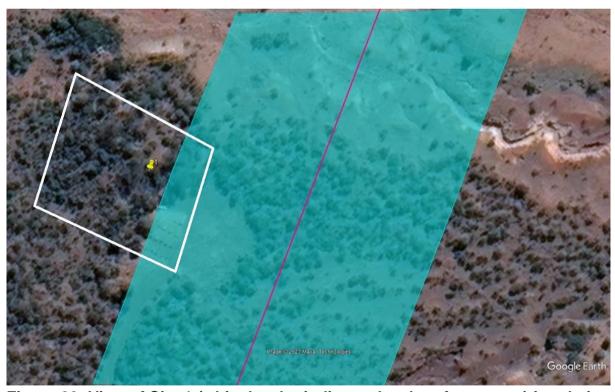


Figure 26: View of Site 1 (white border indicates border of cemetery) in relation to powerline (purple) and buffer zone (green).

The following is recommended:

 Site no 1 is a cemetery and graves are always regarded as having a high cultural significance. The site receives a rating is Local Grade IIIB, meaning it should be included in the heritage register and mitigation measures must be implemented if the site is being impacted on by the development and mitigation measures must be implemented if any development activities take place in its vicinity.

In general, the following two mitigation options exist when a development impacts on graves:

- The first option would be to fence the graves in or demarcate the site and have a management plan drafted for the sustainable preservation thereof. This should be compiled by a heritage expert. This option is relevant when the graves are in no danger of being damaged or destroyed by the development (direct impacts). Secondary impact due to the development activities may still exist and must be managed.
- The second option is to exhume the mortal remains and to have it relocated. This usually is relevant when the graves will be directly affected (damaged or destroyed) by the development. In this case specific procedures should be followed which includes social consultation. Graves younger than 60 years may be exhumed only by an undertaker. For those older than 60 years, and unknown graves, an undertaker and archaeologist should be appointed. Permits must be obtained from the Burial Grounds and Graves unit of SAHRA. This procedure is quite lengthy and involves social consultation.

2. Site specific measures -

For this specific site, it is proposed that a buffer of 20 m should be implemented during the construction period. This buffer should be clearly demarcated and the construction personnel should be educated regarding the total avoidance of this site. This, together with the fact that the site is approximately 38 m from the proposed area where the powerline will be located, the construction and operation of the power line will NOT impact on the cemetery and it is NOT required to compile a site preservation management plan.

However, the developer needs to ensure that there is no direct impact to the graves. If this is the case Option 2 will be applicable.

3. The proposed project may continue, but only after receiving comments from SAHRA and implementing the mitigation measures (buffer and associated measures) indicated above.

- 4. It should be noted that the subterranean presence of archaeological and/or historical sites, features or artefacts is always a distinct possibility. Care should therefore be taken when development commences that if any of these are discovered, work on site cease immediately and a qualified archaeologist be called in to investigate the occurrence.
- 5. In this regard the following 'Chance find Procedure' should be followed:
 - Upon finding any archaeological or historical material all work at the affected area must cease.
 - The area should be demarcated to prevent any further work there until an investigation has been completed.
 - An archaeologist should be contacted immediately to provide advice on the matter.
 - Should it be a minor issue, the archaeologist will decide on future action.
 Depending on the nature of the find, it may include a site visit.
 - SAHRA's APM Unit may also be notified.
 - If needed the necessary, permit will be applied for with SAHRA. This will be done in conjunction with the appointed archaeologist.
 - The removal of such archaeological material will be done by the archaeologist in lieu of the approval given by SAHRA, including any conditions stipulated by the latter.
 - Work on site will only continue after the archaeologist/ SAHRA has agreed to such a matter.

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APPENDIX A

DEFINITION OF TERMS:

Site: A large place with extensive structures and related cultural objects. It can also be a large assemblage of cultural artefacts, found in a single location.

Structure: A permanent building found in isolation, or which forms a site in conjunction with other structures.

Feature: A coincidental find of movable cultural objects.

Object: Artefact (cultural object).

(Also see Knudson 1978: 20).

APPENDIX B

DEFINITION/ STATEMENT OF HERITAGE SIGNIFICANCE:

Historic value: Important in the community or pattern of history or has an

association with the life or work of a person, group or organization

of importance in history.

Aesthetic value: Important in exhibiting particular aesthetic characteristics valued by

a community or cultural group.

Scientific value: Potential to yield information that will contribute to an understanding

of natural or cultural history or is important in demonstrating a high degree of creative or technical achievement of a particular period

Social value: Have a strong or special association with a particular community or

cultural group for social, cultural or spiritual reasons.

Rarity: Does it possess uncommon, rare or endangered aspects of natural

or cultural heritage.

Representivity: Important in demonstrating the principal characteristics of a

particular class of natural or cultural places or object or a range of landscapes or environments characteristic of its class or of human activities (including way of life, philosophy, custom, process, landuse, function, design or technique) in the environment of the nation,

province region or locality.

APPENDIX C

SIGNIFICANCE AND FIELD RATING:

Cultural significance:

- Low A cultural object being found out of context, not being part of a site or without any related feature/structure in its surroundings.

- Medium Any site, structure or feature being regarded less important due to a number of factors, such as date and frequency. Also any important object found out of context.

- High Any site, structure or feature regarded as important because of its age or uniqueness. Graves are always categorized as of high importance. Also any important object found within a specific context.

Heritage significance:

- Grade I Heritage resources with exceptional qualities to the extent that they are of national significance

- Grade II Heritage resources with qualities giving it provincial or regional importance although it may form part of the national estate

- Grade III Other heritage resources of local importance and therefore worthy of conservation

Field ratings:

National Grade I significance	should be managed as part of the national estate
Provincial Grade II significance	should be managed as part of the provincial estate
	<u> </u>
Local Grade IIIA	should be included in the heritage register and not
	be mitigated (high significance)
General protection A (IV A)	site should be mitigated before destruction (high/
()	medium significance)
Compared protection D (IV/D)	,
General protection B (IV B)	site should be recorded before destruction (medium
	significance)
General protection C (IV C)	phase 1 is seen as sufficient recording and it may be
,	demolished (low significance)
	defined and significance

APPENDIX D

PROTECTION OF HERITAGE RESOURCES:

Formal protection:

National heritage sites and Provincial heritage sites – grade I and II

Protected areas - an area surrounding a heritage site

Provisional protection – for a maximum period of two years

Heritage registers – listing grades II and III

Heritage areas – areas with more than one heritage site included

Heritage objects – e.g. archaeological, palaeontological, meteorites, geological specimens, visual art, military, numismatic, books, etc.

General protection:

Objects protected by the laws of foreign states Structures – older than 60 years Archaeology, palaeontology and meteorites Burial grounds and graves Public monuments and memorials

APPENDIX E

HERITAGE IMPACT ASSESSMENT PHASES

- 1. Pre-assessment or scoping phase establishment of the scope of the project and terms of reference.
- 2. Baseline assessment establishment of a broad framework of the potential heritage of an area.
- 3. Phase I impact assessment identifying sites, assessing their significance, making comments on the impact of the development and making recommendations for mitigation or conservation.
- 4. Letter of recommendation for exemption if there is no likelihood that any sites will be impacted.
- 5. Phase II mitigation or rescue planning for the protection of significant sites or sampling through excavation or collection (after receiving a permit) of sites that may be lost.
- 6. Phase III management plan for rare cases where sites are so important that development cannot be allowed.