



Archaetnos Culture & Cultural
Resource Consultants
BK 98 09854/23

**AN ARCHAEOLOGICAL IMPACT ASSESSMENT REPORT FOR THE
MERENSKY-UCHOBA 132KV POWERLINE SECOND ROUTE DEVIATION (FINAL
ROUTE, MAY 2023), MPUMALANGA PROVINCE**

For:

Landscape Dynamics
PO Box 947
Groenkloof
0027

REPORT NO.: AE02321V

By:

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30 May 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 the Merensky-Uchoba 132kV Powerline Second Route Deviation (Final Route, May 2023). This is close to the town of Steelpoort in the Fetalgomo Tubatse Local Municipality, Sekhukhune District Municipality, Mpumalanga Province. The project consists of a deviation to the proposed 132 KV power line, for which a 100 m corridor was investigated. A second deviation was needed due to issues with land owners.

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.

Three sites of cultural heritage importance was identified during the survey. Regarding the heritage screening tool, it can be stated that it is disputed for almost the entire development and indicated as low by this survey. It is however confirmed for the sections where graves have been identified as the graves lies within the 100 m corridor and the sites are respectively 15 m and 17 m from the proposed new line. For these two sections the heritage screening tool is confirmed as being high.

The following is recommended:

1. Site no 1 are stone terraces and receives a field rating of Local Grade IIIC. The description in the phase 1 heritage report is seen as sufficient recording (low significance) and it may be granted destruction at the discretion of the relevant heritage authority without a formal permit application, subjected to the granting of Environmental Authorisation.

2. Sites no 2 and 3 (graves) are regarded as having a high cultural significance and needs to be mitigated. For these two possibilities exist.
 - The first option would be to fence the graves in. 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. A buffer zone of at least 20 m is proposed.
 - 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.
 - Option 1 is recommended. The graves needs to be fenced in. Although it is unlikely that the graves will be over spanned by any new lines it needs to be emphasised that this should not be allowed. (Note that site 3 is already over spanned by existing lines.) It also would be necessary to ensure no impact during construction of the new lines. The graves should thus be clearly demarcated and inspected during this time.
 - Should this not be possible, the graves may be relocated (Option 2) after motivating this to SAHRA.
 - It needs to be indicated that Site 2 currently is 15 m from the proposed line and Site 3 is 17 m thereof. It may therefore mean that the lines needs to shift.
3. The proposed project may continue, but only after receiving comments from SAHRA and implementing the mitigation 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.*

Heritage Table

Sensitivity Theme	Screening Tool Site Sensitivity	Specialist Site Sensitivity <i>AFTER MITIGATION</i>	Reasons why the Screening Tool Sensitivity is disputed / confirmed
Archaeological and Cultural Heritage Theme	HIGH Reason given for this rating: Grave site (Grade IIIB) within 100m of the proposed line	LOW	<p>The entire corridor is rated as having a LOW sensitivity, except two sites (graves) that is rated as having a HIGH sensitivity. These sites are between 17 and 30m from the nearest pylons and within the 100m wide corridor.</p> <p>Site specific mitigation measures have been provided to protect this graveyard from disturbance and/or destruction. These measures include :</p> <ul style="list-style-type: none"> • Fencing of the graves with a 20m buffer zone • The powerline may not span this graves and pylon placement must avoid this fenced area. <p>With the implementation of the proposed mitigation measures that focuses on avoidance, the final sensitivity can be rated as LOW.</p>

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

<p>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.</p>	<p>Refer to Sections 7 & 8 of the AIA</p> <p>The environment along the length of the route within the surveyed area is much the same and consist of areas disturbed by ongoing building activities with low vegetation and an open under footing; existing power lines with pioneer vegetation growth; an old abandoned agricultural field. The topography of the area is reasonably flat.</p> <p>Two sites of high cultural heritage significance (graves) was identified during the field survey. A third, which is of low cultural significance was also identified.</p>
<p>Identification of heritage resources and palaeontological areas to be avoided within the <i>preliminary corridor</i>, including buffers;</p>	<p>Refer to Section 9 of the AIA.</p> <p>Two no-go areas (graves) was identified and must be avoided. A 20m demarcated buffer must be demarcated around the fenced cemetery and the single grave to protect it further during the construction period. The single grave should also be fenced.</p>
<p>A heritage sensitivity map overlaid with the proposed 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);</p>	<p>Refer to Section 10, Figure 26 of the AIA.</p> <p>Low to zero sensitivity, except at the grave sites, which has a high sensitivity</p>
<p>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;</p>	<p>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.</p>
<p>Confirmation that any recommendations as required by the South African Heritage Resources Agency and/or applicable provincial heritage authority have been incorporated and considered;</p>	<p>Recommendations made by SAHRA will be incorporated into the Final ESR which will be submitted to DFFE for decision making</p>
<p>A description on how the identified environmental sensitivity pertaining to heritage resources and palaeontology has been considered in determining the proposed route;</p>	<p>Three sites of cultural heritage importance was identified:</p> <ul style="list-style-type: none"> • The first is stone walling of about 100 x 66 m in size. The site is about 33 m from the proposed development. There will be no impact and the site is of low significance in any event. No mitigation is proposed. The site coordinates are the following: 24°44'44.55"S; 30°10'45.45"E

	<ul style="list-style-type: none"> • The second is a grave site which lies 30m from the nearest pylon development and 15m from the powerline and thus within the 100 m corridor. Mitigation is proposed consisting of in situ preservation with a buffer zone of at least 20 m and the site being fenced. The final placement of the pylons must avoid this area and the line may not span it either. The site coordinates are the following: 24°44'52.57"S; 30°10'42.93"E • The third is a single stone packed grave which lies 17m from the powerline and thus within the 100 m corridor. Mitigation is proposed consisting of in situ preservation with a buffer zone of at least 20 m and the site being fenced. (Note that the site is under existing power lines.) The final placement of the pylons must avoid this area and the line may not span it either. The site coordinates are the following: 24°44'52.57"S; 30°10'42.93"E
<p>A description of the implementation of the mitigation hierarchy in order to determine the proposed route and/or substation location;</p>	<p>Mitigation hierarchy includes the following steps (in the order of decreasing desirability: Avoid, Minimise, Rehabilitate, and Offset). In the case of this project, the following applies:</p> <ul style="list-style-type: none"> • Avoid The graves will be avoided and the project will not impact on these 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
<p>How the inputs of I&APs were considered when determining the <i>final pre-negotiated route</i> and/or substation location; and</p>	<p>This AIA is being distributed 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.</p>
<p>A statement confirming that:</p> <p>a. impact management actions as contained in the pre-approved Generic EMPr template are sufficient for the avoidance, management and mitigation of impacts and risks; or</p> <p>b. where required, specific impact management outcomes and actions are required and have been provided as part of the site specific EMPr.</p>	<p>a. Generic EMPr template table ii; Section 4; The Eskom Generic EMPr is sufficient for the avoidance, management and mitigation of impacts and risks, however site specific mitigation measures should also be included in the EMPr. These mitigation measures are included under Section 10: Conclusion and Recommendations and include an Archaeological and Cultural Heritage Chance Find Protocol as well as management actions for the protection of the graveyard.</p>
<p>Specialist Details</p>	<p>Prof AC van Vollenhoven DPhil, Archaeology, UP, 2001 & DPhil, History, US, 2010 P O Box 55, Groenkloof, 0027</p>

CURRICULUM VITAE
Prof. Anton Carl van Vollenhoven

PERSONAL INFORMATION

- Born: 20 January 1966, Pretoria, RSA
- Address: Archaetnos, PO Box 55, Groenkloof, 0027
- Cell phone: 083 291 6104
- Nationality: RSA
- E-mail: antonv@archaetnos.co.za

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.

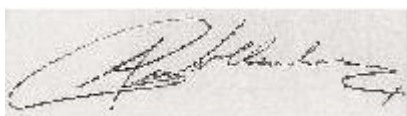
- Has published 42 peer-reviewed and 56 popular articles.
- Has written 13 books/book contributions/conference proceedings .
- Has been the author and co-author of over 1 118 unpublished reports on cultural resources surveys and archaeological work.
- Has delivered more than 84 papers and lectures at 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: 30 May 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 the Merensky-Uchoba 132kV Powerline Second Route Deviation (Final Route, May 2023). 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, and a second deviation was needed due to issues with land owners. This is close to the town of Steelpoort in the Fetalgomo Tubatse Local Municipality, Sekhukhune District Municipality, Mpumalanga Province (Figure 1-3).

The project components include the following:

- An approximately 10,6km route is applicable
- A 100m corridor width was investigated and assessed.
- The 132kv Overhead Power Line will have a capacity of 132kV and monopole steel pylons will be used.
- Existing access roads to the powerline will be used. A new approximately 6m wide access road will be developed for construction, maintenance and inspection purposes within the servitude area along the powerline, but outside the identified High and Very High Sensitive Areas).

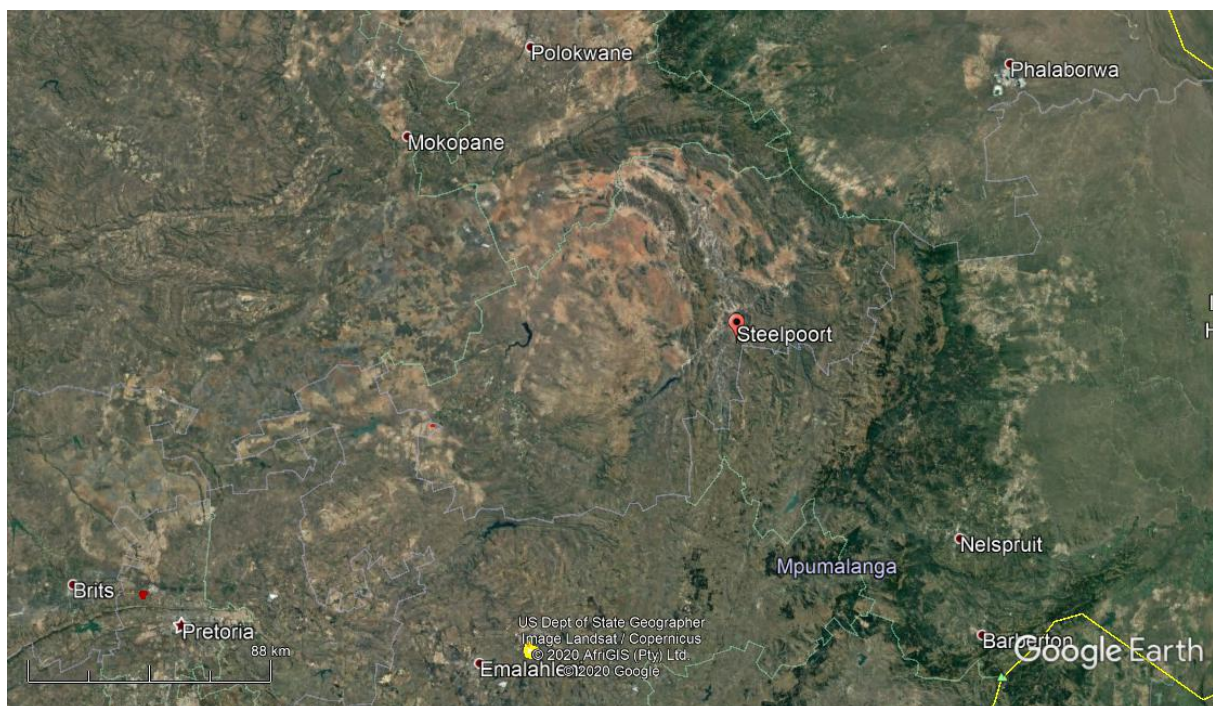


Figure 1: Location of Steelpoort in the Mpumalanga Province.

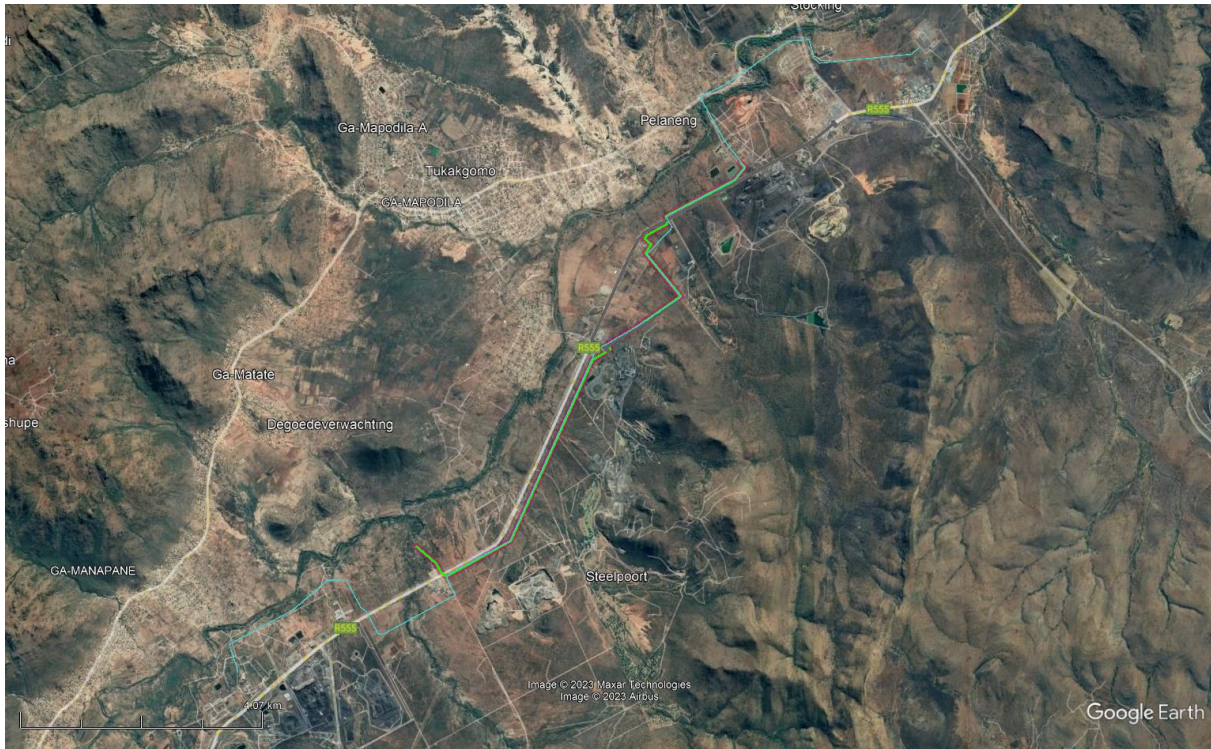


Figure 2: The proposed second deviation route (May 2023) for the Merensky-Uchoba Project.

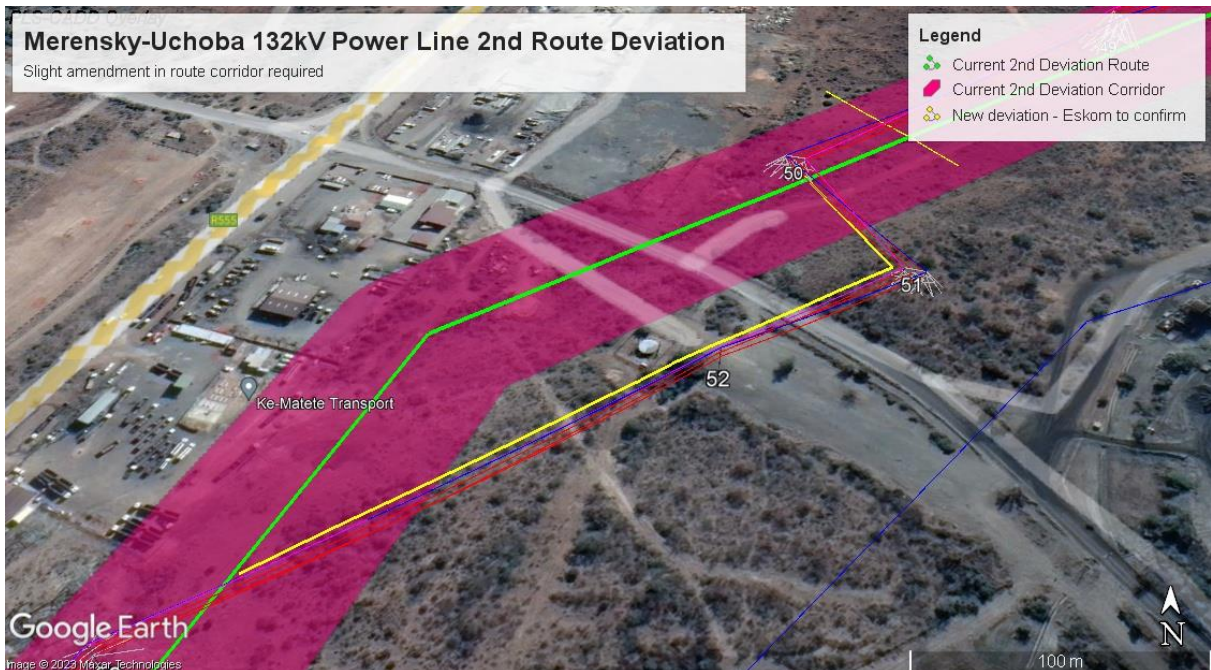


Figure 3: This image indicates the section of the route that is a change from the previous proposed route (Landscape Dynamics).

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.

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:

1. 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.
9. There is however sections with natural vegetation where archaeological visibility were influenced negatively by the plant growth.

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 of 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
- c. 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;
- b. 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 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 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)**.

4.2 The 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 15 March 2023 and followed the survey for the first and second deviations which were done on 12 January 2023 and 26 May 2023 respectively. Except for small deviations, these routes partially follows the same route. It 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 11 km, and the survey took approximately 4 hours to complete.

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.

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



Figure 4: Track route of the survey in yellow.

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 the proposed line deviations is largely disturbed by ongoing building activities and the vegetation is low with an open under footing (Figure 5). An exiting powerline, with pioneer vegetation growth is located along most of the proposed line deviations (Figure 6). The vegetation consists largely of short grasses and shrubs (Figure 7). The deviation line also passes through an old agricultural field (Figure 8) and crosses the R555 at two places (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 along the deviation.



Figure 6: View of existing powerline along the deviation.



Figure 7: View of vegetation growth along the deviation.



Figure 8: View of old agricultural field along the deviation.



Figure 9: View of R555 where the deviated powerline intersects the road on the eastern side.



Figure 10: View of R555 where the deviated powerline intersects the road on the western side.

8. HISTORICAL CONTEXT

Three sites of cultural heritage significance was located during the survey. The first falls 117 m outside of buffer zone and will not be impacted by the planned development. The second however is a mere 10 m from the proposed new line and the third 17 m thereof and will thus be impacted. 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. Three of these were previous studies on this line (Van Vollenhoven 2020; Van Vollenhoven et.al. 2022; Van Vollenhoven & Smit 2023).

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 Grootboom. 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.

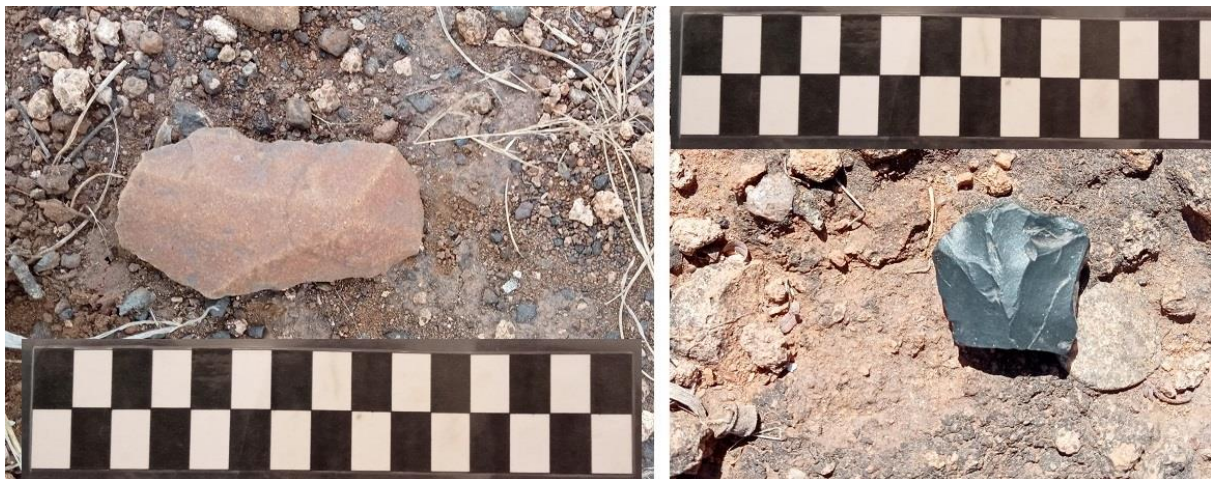


Figure 11: Stone tools found during the January 2022 survey.



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 Grootboom 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 2020 as 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 January 2022 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.

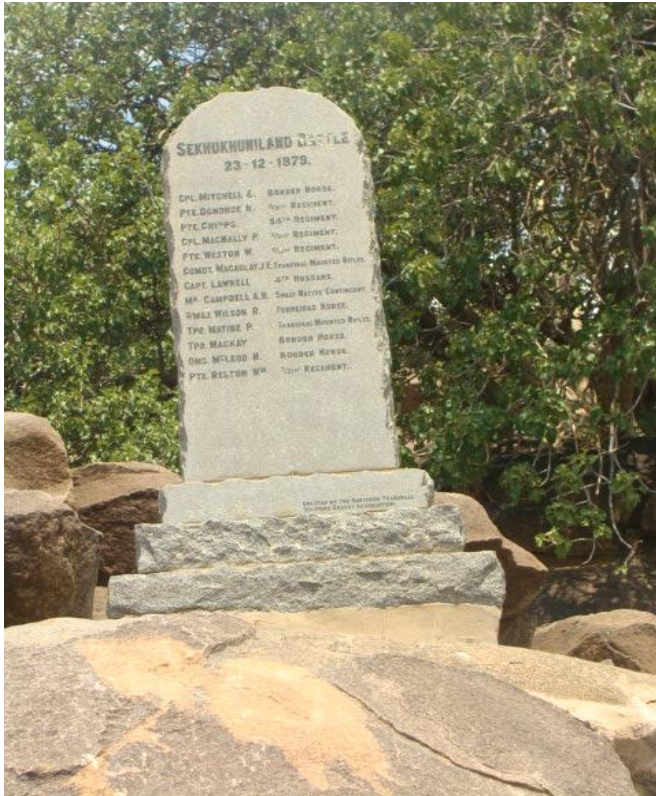


Figure 16: Commemorative stone for British soldiers who died in the war against the Pedi State.



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 high to very 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.

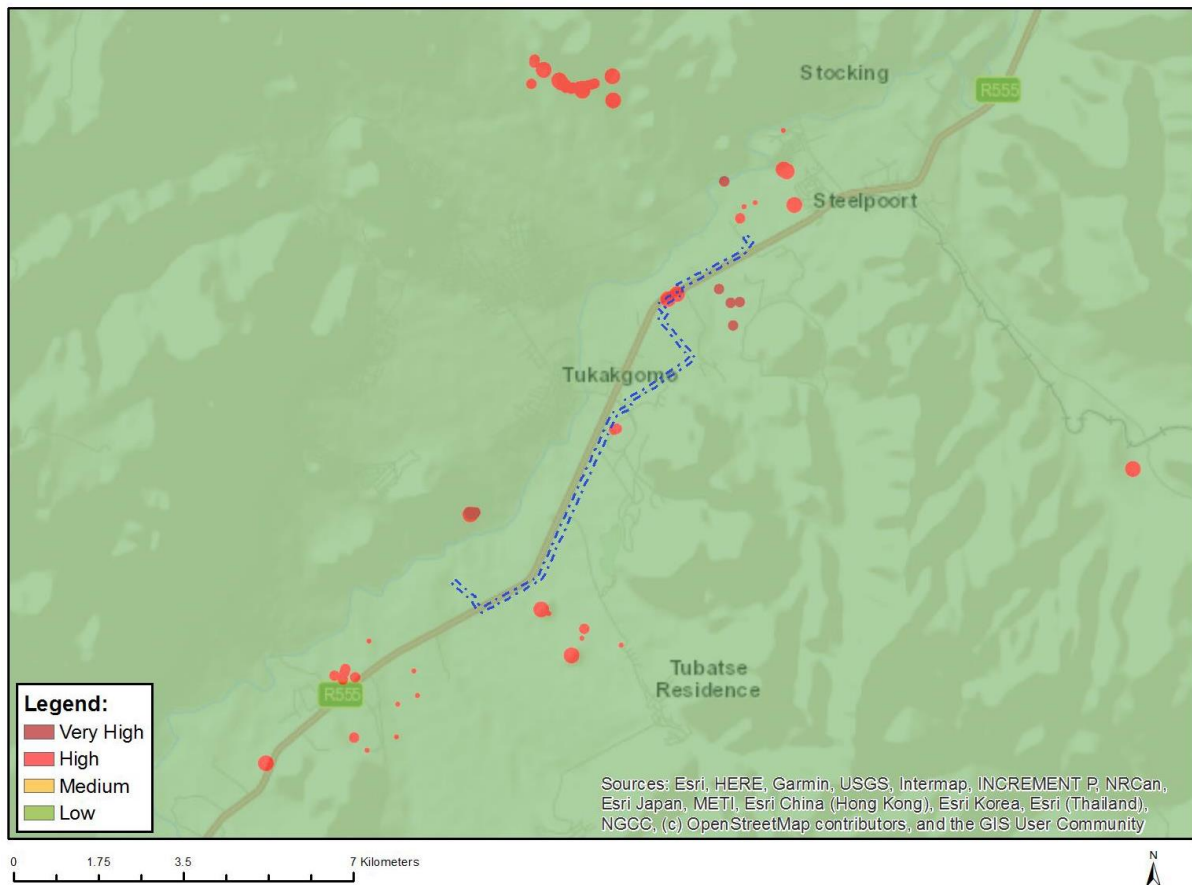


Figure 18: Map from Environmental Screening Tool indicating heritage sensitivity in the area.

During the current survey, one additional sites of cultural heritage significance was identified. The two sites identified earlier (Van Vollenhoven & Smit 2023a) are included in this report. Four other sites were identified during the 2020 (Van Vollenhoven), 2022 (Van Vollenhoven et.al.) and January 2023 (Van Vollenhoven & Smit 2023b) surveys (Figure 19). Regarding the heritage screening tool, it can be stated that it is disputed for almost the entire development and indicated as low by this survey. It is however confirmed for the two sections where graves have been identified as the graves lies within the 100 m corridor and close to the proposed new line. For these sections the heritage screening tool is confirmed as being high.

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.

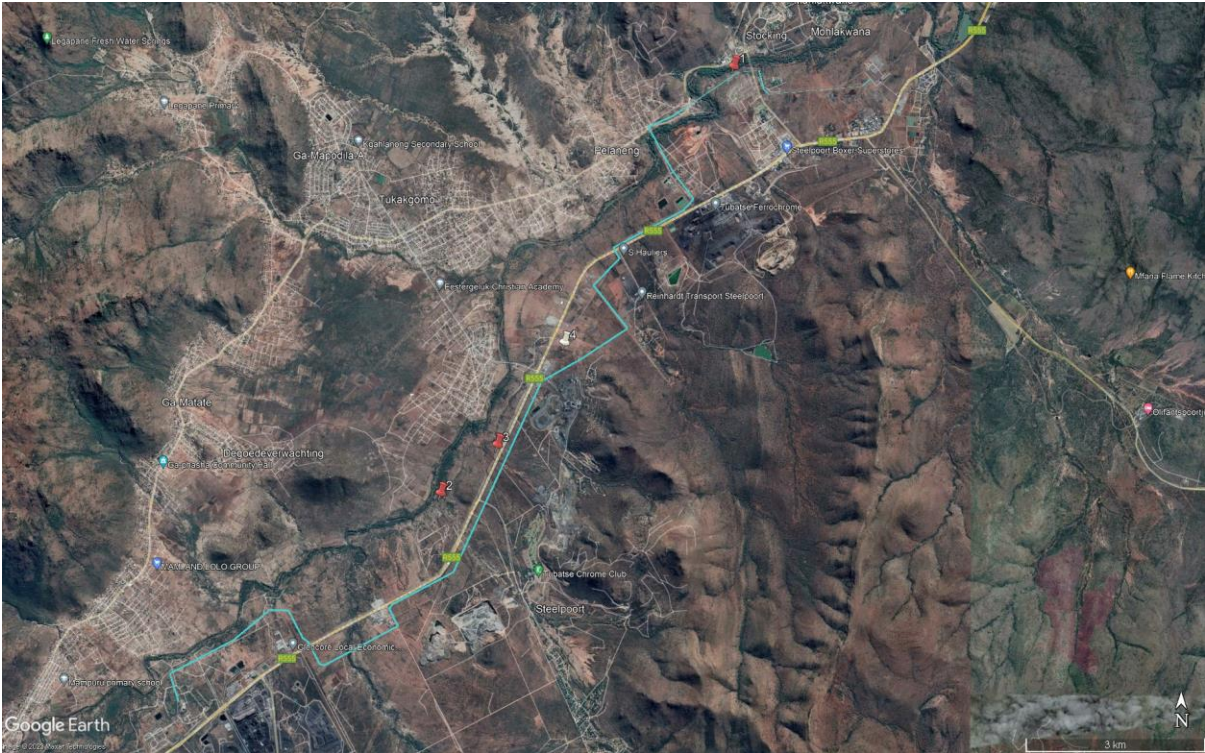


Figure 19: Location of the sites identified during the 2020, 2022 and January 2023 survey (Red: historical structures; White: graves).



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).

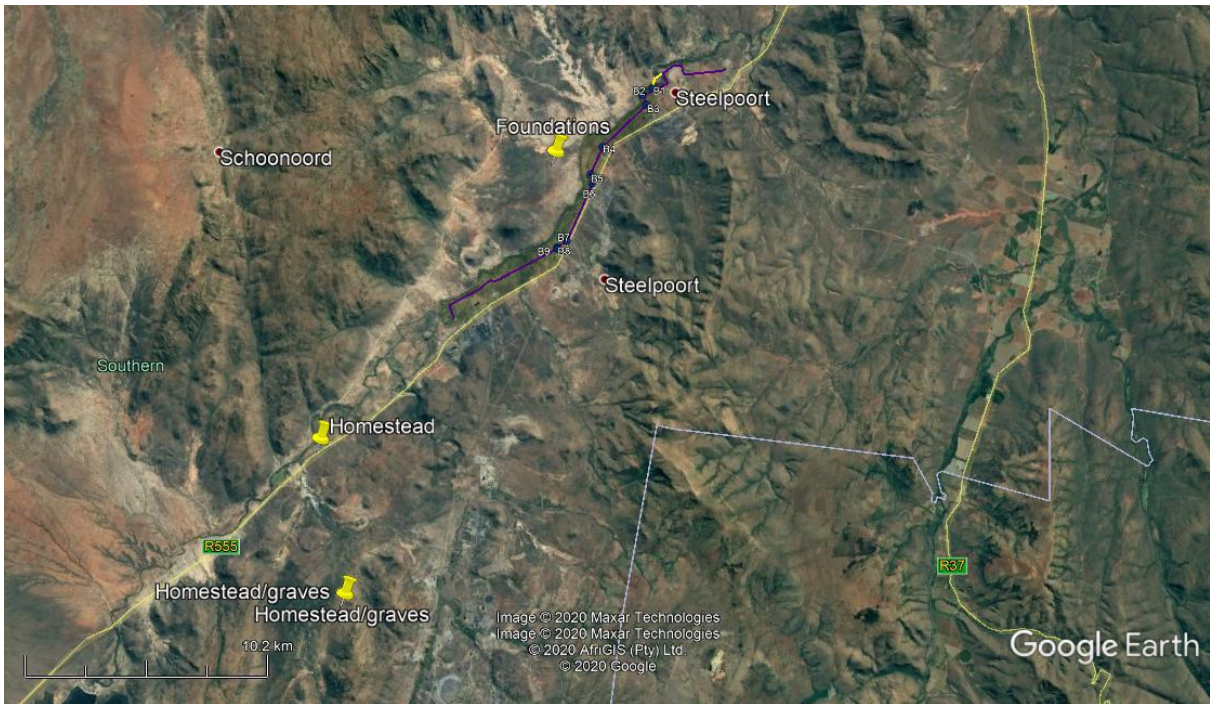


Figure 21: Location of heritage sites identified by Mathoho (2012).



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

9.1 Site 1 – Stone terraces

This site is about 100 x 66 m in size and consists of the remains of stone walling associated with agricultural activities (Figure 23-24). All the terrace walling comprises of a single stone layer. No artefacts were seen on site. The site is about 33 m from the proposed development.

GPS: 24°44'44.55"S; 30°10'45.45"E

The site likely is older than 60 years, but without artefactual evidence this is difficult to tell. It is in a poor state and not very unique.



Figure 23: View of remains of a terrace wall.



Figure 24: Another view of the remains of the terrace walling

Cultural significance Table: Site 1 Stone terraces

A place is considered to be part of the national estate if it has cultural significance because of -	Applicable or not	Rating: 1 - Negligible/ 2 -Low/ 3 - Low-Medium/ 4 - Medium/ 5 - Medium-High/ 6 - High/ 7 - Very High
Its importance in the community or pattern of South Africa's history	Y	Low

Its possession of uncommon, rare, or endangered aspects of South Africa's natural or cultural history	N	
Its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage	N	
Its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects	Y	Low
Its importance in exhibiting particular aesthetic characteristics valued by a community cultural group	N	-
Its importance in demonstrating a high degree of creative or technical achievement at a particular period	N	-
Its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons	Y	Low
Its strong or special association with the life or work of a person, group or organization of importance in the history of South Africa	N	-
Sites of significance relating to the history of slavery in South Africa	N	-
Reasoned assessment of significance using appropriate indicators outlined above:		2 – Low

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

$$= 2 \text{ (Low)} \times 1$$

$$= 2$$

The field rating therefore is Local Grade IIIC. The description in the phase 1 heritage report is seen as sufficient recording (low significance) and it may be granted destruction at the discretion of the relevant heritage authority without a formal permit application, subjected to the granting of Environmental Authorisation.

9.2 Site 2 – Graves

This site contains at least four graves. The headstones are made from granite and the grave dressing of cement, but some merely have stone headstones and dressings (Figure 25-26). There are at least 11 graves, of which 6 has no legible information. Four graves are younger than 60 years of age with dates ranging between 1974 and 1981. One grave is older than 60 years of age with a date of 1949.

Surnames identified are Mdebele, Ndimande, Sekwere, Moroga and Komane. The site is fenced by a wire fence.

GPS: 24°44'52.57"S; 30°10'42.93"E



Figure 25: View of graves at site no. 2.



Figure 26: One of the graves at site no. 2.

Cultural significance Table: Site 2 Graves

A place is considered to be part of the national estate if it has cultural significance because of -	Applicable or not	Rating: 1 - Negligible/ 2 -Low/ 3 - Low-Medium/ 4 - Medium/ 5 - Medium-High/ 6 - High/ 7 - Very High
Its importance in the community or pattern of South Africa's history	Y	High
Its possession of uncommon, rare, or endangered aspects of South Africa's natural or cultural history	Y	High
Its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage	Y	Medium
Its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects	Y	High
Its importance in exhibiting particular aesthetic characteristics valued by a community cultural group	N	-
Its importance in demonstrating a high degree of creative or technical achievement at a particular period	N	-

Its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons	Y	High
Its strong or special association with the life or work of a person, group or organization of importance in the history of South Africa	N	-
Sites of significance relating to the history of slavery in South Africa	N	-
Reasoned assessment of significance using appropriate indicators outlined above:		6 – High

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

$$= 6 \text{ (High)} \times 3$$

$$= 18$$

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.

Two possibilities exist. The first option would be to fence the graves in for the sustainable preservation thereof. 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.

Option 1 is recommended. The graves needs to be fenced in. Although it is unlikely that the graves will be overs panned by any lines it needs to be emphasised that this should not be allowed. It also would be necessary to ensure no impact during construction of the new lines. The graves should thus be clearly demarcated and inspected during this time.

However, since the graves are only 15 m from the proposed line this means the line needs to shift. If not possible, option 2 is recommended.

9.3 Site 3 – Single grave

This is a single grave with a stone packed border and stone headstone (Figure 27). There is no legible information and thus the grave is categorised as being unknown, meaning it needs to be handled as a heritage grave.

GPS: 24°45'58.72"S; 30°10'8.95"E



Figure 27: View of the grave at site no. 3.

Cultural significance Table: Site 3 Single Grave

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

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

$$\begin{aligned} &= 6 \text{ (High)} \times 3 \\ &= 18 \end{aligned}$$

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.

Two possibilities exist. The first option would be to fence the graves in for the sustainable preservation thereof. 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.

Option 1 is recommended. The grave need to be fenced in. It is over spanned by the current power lines, but no new lines should be allowed to over span it. It also would be necessary to ensure no impact during construction of the new lines. The grave should thus be clearly demarcated and inspected during this time.

Although the grave is only 17 m from the proposed line, the line does not need to shift as the grave is already over spanned by current lines. If it is not possible to preserve the grave *in situ*, option 2 is recommended.

10. CONCLUSION AND RECOMMENDATIONS

The heritage survey in the indicated area was completed successfully. Three sites was identified during the survey (Figure 28-29). The first site found during the survey has a low heritage significance (see table below), but the second and third have a high heritage significance.

The screening tool indicates are heritage sensitivity of high to medium, but the sites indicated in the tool is not impacted on by the proposed development. The screening tool is disputed for almost the entire development and indicated as low by this survey. It is however confirmed for the sections where graves have been identified as these lies within the 100 m corridor and less than 20 m from the proposed new line. For these two sections the heritage screening tool is confirmed as being high. With the

implementation of the proposed mitigation measures that focuses on avoidance, the final sensitivity can be rated as LOW.



Figure 28: Sites identified during the survey.



Figure 29: Closer view of the three identified sites.

Heritage Table

Sensitivity Theme	Screening Tool Site Sensitivity	Specialist Site Sensitivity <i>AFTER MITIGATION</i>	Reasons why the Screening Tool Sensitivity is disputed / confirmed
Archaeological and Cultural Heritage Theme	<p align="center">HIGH</p> <p>Reason given for this rating: Grave site (Grade IIIB) within 100m of the proposed line</p>	<p align="center">LOW</p>	<p>The entire corridor is rated as having a LOW sensitivity, except two sites (graves) that is rated as having a HIGH sensitivity. These sites are between 17 and 30m from the nearest pylons and within the 100m wide corridor.</p> <p>Site specific mitigation measures have been provided to protect this graveyard from disturbance and/or destruction. These measures include :</p> <ul style="list-style-type: none"> • Fencing of the graves with a 20m buffer zone • The powerline may not span this graves and pylon placement must avoid this fenced area. <p>With the implementation of the proposed mitigation measures that focuses on avoidance, the final sensitivity can be rated as LOW.</p>

The following is recommended:

1. Site no 1 are stone terraces and receives a field rating of Local Grade IIIC. The description in the phase 1 heritage report is seen as sufficient recording (low significance) and it may be granted destruction at the discretion of the relevant heritage authority without a formal permit application, subjected to the granting of Environmental Authorisation.
2. Sites no 2 and 3 (graves) are regarded as having a high cultural significance and needs to be mitigated. For these two possibilities exist.
 - The first option would be to fence the graves in. 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. A buffer zone of at least 20 m is proposed.

- 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.
 - Option 1 is recommended. The graves needs to be fenced in. Although it is unlikely that the graves will be over spanned by any new lines it needs to be emphasised that this should not be allowed. (Note that site 3 is already over spanned by existing lines.) It also would be necessary to ensure no impact during construction of the new lines. The graves should thus be clearly demarcated and inspected during this time.
 - Should this not be possible, the graves may be relocated (Option 2) after motivating this to SAHRA.
 - It needs to be indicated that Site 2 currently is 15 m from the proposed line and Site 3 is 17 m thereof. It may therefore mean that the lines needs to shift.
3. The proposed project may continue, but only after receiving comments from SAHRA and implementing the mitigation 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.*

11. REFERENCES

Archaetnos database.

Bergh, J.S. (red.). 1999. **Geskiedenisatlas van Suid-Afrika. Die vier noordelike provinsies.** Pretoria: J.L. van Schaik.

Coertze, P.J. & Coertze, R.D. 1996. **Verklarende vakwoordeboek vir Antropologie en Argeologie.** Pretoria: R.D. Coertze.

Erasmus, A. 2022. **Screening report for an environmental authorization as required by the 2014 EIA Regulations – proposed site environmental sensitivity, Project name: Merensky-Uchoba 132kv deviation.** (Unpublished report, Landscape Dynamics, Pretoria).

Fourie, W. 2021. **Proposed 60MW PV Plant at the Samancor Chrome's Tubatse Ferrochrome Smelter, Steelpoort, Limpopo.** (Unpublished report, Pretoria, PGS Heritage).

Higgitt, N., Du Piesanie, J. & Nel, J. 2015. **De Grooteboom Mining Permit Application and Associated Environmental Management Plan Heritage Impact Assessment.** (Unpublished report, Digby Wells Environmental, Randburg).

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

International Finance Corporation. 2012. **Overview of performance standards on Environmental and Social Sustainability. Performance Standard 8, Cultural Heritage.** World Bank Group.

Knudson, S.J. 1978. **Culture in retrospect.** Chicago: Rand McNally College Publishing Company.

Korsman, S.A. & Meyer, A. 1999. Die Steentydperk en rotskuns. Bergh, J.S. (red.). **Geskiedenisatlas van Suid-Afrika. Die vier noordelike provinsies.** Pretoria: J.L. van Schaik.

Mathoho, E.M. 2012. **Phase 1 Archaeological impact assessment investigations for the proposed construction of ± 30 km, 132 kv power line from Merensky substation to the proposed new Kalkfontein and Kennedy's Vale substations within the jurisdiction of Greater Tubatse Local Municipality, Sekhukhune District, Limpopo Province.** (Unpublished report, Polokwane, Vhufahashu Heritage Consultants).

Pistorius, J.C.C. 2019. **A Phase I heritage impact assessment study for Lion Smelter in the Steelpoort, Limpopo Province.** (Unpublished report, Rustenburg, Archaeologist & Heritage Consultant).

- Republic of South Africa. 1980. **Ordinance on Exhumations** (Ordinance no. 12 of 1980). The Government Printer: Pretoria.
- Republic of South Africa. 2003. **National Health Act** (No 61 of 2003). The Government Printer: Pretoria.
- Republic of South Africa. 1999. **National Heritage Resources Act** (No 25 of 1999). Pretoria: the Government Printer.
- Republic of South Africa. 1998. **National Environmental Management Act** (no 107 of 1998). Pretoria: The Government Printer.
- SAHRA database.
- Stegmann, L. & Roodt, F.E. 2012. **Phase 1 Heritage Impact Assessment report Two Rivers Platinum Mine, Limpopo**. (Unpublished report, SHASA Heritage Consultants, Polokwane).
- Van der Ryst, M.M. & Meyer, A. 1999. Die Ystertydperk. Bergh, J.S. (red.). **Geskiedenisatlas van Suid-Afrika. Die vier noordelike provinsies**. Pretoria: J.L. van Schaik.
- Van Vollenhoven, A.C. 2020. **A report on an archaeological impact assessment for the ESKOM Merensky-Uchoba Project, Mpumalanga Province**. (Unpublished report, Archaetnos, Groenkloof).
- Van Vollenhoven, A.C., Smit, J. & Viljoen, D. 2022. **A report on an archaeological walkdown impact assessment for the ESKOM Merensky-Uchoba Project, Mpumalanga Province**. (Unpublished report, Archaetnos, Groenkloof).
- Van Vollenhoven, A.C. & Smit, J. 2023a. **An archaeological impact assessment report for the Merensky-Uchoba 132kv Powerline Second Route Deviation, Mpumalanga Province** (Unpublished report, Archaetnos, Groenkloof).
- Van Vollenhoven, A.C. and Smit, J. 2023b. **A report on an archaeological impact assessment for the Eskom Merensky-Uchoba Deviation Route, Mpumalanga Province**. (Unpublished report, Archaetnos, Groenkloof).

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, land-use, 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
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)
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)

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.