



**PHASE I ARCHAEOLOGICAL AND CULTURAL HERITAGE IMPACT  
ASSESSMENT SPECIALIST REPORT FOR THE PROPOSED GAMOHAAN  
NTATELANG 22KV POWERLINE ON KURUMAN 690 IN GASEGONYANE  
LOCAL MUNICIPALITY OF JOHN TAOLO GAETSEWE DISTRICT  
MUNICIPALITY, NORTHERN CAPE PROVINCE.**

**January, 2022**

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## DECLARATION

### ABILITY TO CONDUCT THE PROJECT

Munyadziwa Magoma is a professional archaeologist, having obtained his BA degree in Archaeology and Anthropology at University of South Africa (UNISA), an Honours degree at the University of Venda (UNIVEN), and a Master's degree at the University of Pretoria (UP). He is an accredited Cultural Resource Management (CRM) member of the Association for southern African Professional Archaeologists (ASAPA) and Amafa aKwaZulu-Natali. Munyadziwa is further affiliated to the South African Archaeological Society (SAAS), the Society of Africanist Archaeologists (SAfA), Historical Association of South Africa (HESA); Anthropology Southern Africa (ASnA); International Association for Impact Assessment (IAIAsa); International Council on Monuments and Sites (ICOMOS) and the International Council of Archaeozoology (ICAZ). He has more than fifteen years' experience in heritage management, having worked for different CRM organisations and government heritage authorities. As a CRM specialist, Munyadziwa has completed well over 1000 hundred Archaeological Impact Assessments (AIA) for developmental projects situated in several provinces of the Republic of South Africa. The AIAs projects he has been involved with are diverse, and include the establishment of major substation, upgrade and establishment of roads, establishment and extension of mines. In addition, he has also conducted Heritage Impact Assessments (HIAs) for the alteration to heritage buildings and the relocation of graves. His detailed CV is available on request.

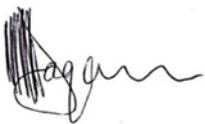
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We declare that this report has been prepared independently of any influence as may be specified by all relevant departments, institutions and organisations. We act as the independent specialists in this application, and will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant. We declare that there are no circumstances that may compromise our objectivity in performing such work. We vow to comply with all relevant Acts, Regulations and applicable legislation.

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## Acknowledgements

The author and the team of Vhubvo Consultancy Cc would like to acknowledge community members who participated in the oral interviews, and Eskom officials for their assistance in relation to the conduction of this project, also Google earth.



## EXECUTIVE SUMMARY

### **Introduction and Rationale**

Vhubvo Consultancy Cc has been appointed by Eskom Holdings SOC Limited to conduct a Phase I Cultural Heritage Impact Assessment Study for the proposed Gamohaam Ntatelang 22kV Powerline. The proposed project is located near Kuruman in Gasegonyane Local Municipality of John Taolo Gaetsewe District Municipality, Northern Cape Province. The study was conducted with the main objective of investigating the availability of archaeological sites, cultural resources, sites associated with oral histories, graves, cultural landscapes, and any structures of historical significance that may be affected by the proposed development. Furthermore, the study aims to advise on mitigation measures should any sites be impacted, these mitigations will, in turn, assist the developer in making decisions on the most appropriate option (s) in line with the National Heritage Resources Act, 1999 (Act 25 of 1999).

The proposed project is located in the Kuruman area of Northern Cape which is known for the wealth of archaeological sites (Beaumont & Morris 1990; Morris 2005; Morris & Beaumont 2004). Archaeological resources in the proposed area stretch into deep time starting with australopithecines. These hominin species were gradually displaced by *Homo habilis* who in turn were replaced by the *Homo erectus* around 1.8 million years ago. The remnants of these hominins are not very widespread in the area around Kuruman. There are however vast occurrences of the Middle Stone Age (MSA) industries associated with modern humans in the wider area of study. The consequent replacement of the MSA by the Later Stone Age (LSA) occurred about 20 000 years ago. The LSA marked a series of technological innovations and social transformations that included the advent of rock art (painting and engravings). Rock engraving sites are common in the wider area of the proposed construction and are well represented (Morris 2005). Later-on, Iron Age farmers arrived in the area, and displaced the Stone Age people, their arrival is recognized to be around the early 1600s as represented archaeologically by the evidence of stone walling (Humphreys & Thackeray 1983, Webley & Halkett 2008). The first colonists arrived in the area around 1800 and found the Tswana speaking - Iron Age – people occupying the area (Webley & Halkett 2008). These colonists were missionaries, explorers, hunters and traders. In 1816, the Kuruman Mission was established by the London Missionary Society (LMS), this mission was led by Robert Moffat (1795-1887) who will later engage with Chief Mothibi to relocate the Mission to the present position at *Seodin* in the valley of the Kuruman River, and it is known today as the Moffat Mission.

### **Background and Need of the Project**

Eskom is intending to erect a 22 kV powerline that is approximately 17,563 km long. The powerline will begin at Gamohaam substation and supply electricity to the people of the Gantatelang community. The proposed development will take place near Kuruman in the Gasegonyane local Municipality. There is a need for electricity in the area as the energy is required for lighting, heating, cooling and refrigeration, and for electronic appliances.



## Methodology and Approach

The study method refers to the SAHRA Policy Guidelines for impact assessment, 2012. As part of this impact assessment; the following processes were followed:

- Literature Review: To understand the background archaeology of the area, a background study was undertaken and relevant institutions were consulted. These studies entail the view of archaeological and heritage impact assessment studies that have been conducted around the proposed area thorough SAHRIS. In addition, E-journal platforms such as J-stor, Google scholars and History Resource Centre were searched. The University of Pretoria's Library collection was also pursued;
- The field study was conducted on the **24th of January 2022**. One archaeologist from Vhubvo surveyed the area.
- The final step involved the recording and documentation of relevant archaeological resources, as well as the assessment of resources in terms of the heritage impact assessment criteria and report writing, as well as mapping and useful recommendations.

The applicable maps, tables, and figures, are included as stipulated in the NHRA (no 25 of 1999), the National Environmental Management Act (NEMA) (no 107 of 1998) and the Minerals and Petroleum Resources Development Act (MPRDA) (28 of 2002).

## Restrictions and Assumptions

The proposed powerline will be constructed within areas disturbed by gravel and tarred roads, existing power lines and residential development. Only a small section of the line will run through an undisturbed area. However, due to the subsurface nature of archaeological material and unmarked graves, the possibility of the occurrence of such finds cannot be excluded, and more so, as with any survey, archaeological materials may be under the surface and therefore unidentifiable to the surveyor until they are exposed once construction resumes. As a result, if any archaeological/ or gravesite is observed during construction, a heritage specialist must be notified immediately.

## Impact Assessment

The impact of the proposed development on archaeological and cultural heritage remains is rated as being low. The probability of locating any important archaeological remains dating to the Stone or Iron Age during construction of the project is rated as low. This account is supported by other studies completed in the wider area of study (Magoma 2013; Morris 2010; Pelser, 2012a, b; van der Walt, 2012, 2013).

## Survey Findings and Discussions

The main aim of the survey was to evaluate potential heritage resources that would occur within the boundaries of the proposed area (s), as well as to determine if there is any hamartia that may prevent the proposed construction from taking place in the proposed area. The Phase I Archaeological and Cultural Heritage Impact



Assessment for the proposed Gamohaan Ntatelang 22kV Powerline revealed no archaeological, historical or associated material in the footprint of the area of study. Despite that no archaeological resources were identified on the footprint of the proposed site; an active graveyard had been noted approximately 55m from the area proposed for construction of the powerline. This cemetery is protected by the National Heritage Resource Act (Act 25 of 1999). Burial sites and its contents are accorded the highest heritage accolades in South Africa, and elsewhere, principally by their relation with human beings. Burial sites are often the focus of emotional and ethical sentiments to people. Dealing with human remains thus requires the highest ethical standards, Section 36 of the National Heritage Resources Act (3) states that, no person may, without a permit issued by SAHRA or a provincial heritage resources authority: destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority. It has however been noted that the developer is aware of the burial ground, and is committed to ensure that such is protected. Hence, the recommendation given below must be considered with responsiveness.

### **Recommendations and Discussions**

Recommendations are given from a heritage point of view and considering the nature of the proposed project and the cultural significance of the heritage resources in the vicinity of the proposed area. The following are the recommendations based on the above findings:

- ✚ Ensuring that the descendants (community members in this instance) of the graves are sought, and notified about this proposed construction which may have an impact (directly or indirectly) on their grave. This can be done by means of placing of placard(s) in the township, or through liaising with the ward-councilor/ and or traditional leader;
- ✚ Aspects related to dumping of construction material within this buffer zone and stone robbing or removal of any material should be addressed, and discourage; and
- ✚ Labor-intensive workers should be notified about this cemetery, and the developer should avoid conveying duty during the time when the graveyard is active (that's mostly Saturday morning).

Although no archaeological objects were observed during the survey, the client is reminded that these often happen underground, as such should any archaeological material be unearthed accidentally during the course of construction (e. g. excavation), SAHRA should be alerted immediately and construction activities be stopped within a radius of at least 10m of such indicator. The area should then be demarcated by a danger tape. Accordingly, a professional archaeologist or SAHRA officer should be contacted immediately. In the meantime, it is the responsibility of the Environmental officer and the contractor to protect the site from publicity (i.e., media) until a mutual agreement is reached. It is mandatory to report any incident of human remains encountered to the South African Police Services, SAHRA staff member and professional archaeologist. Any measure to cover up the suspected archaeological material or to collect any resources is illegal and punishable by law under Section 35(4) and 36(3) of the National Heritage



Resources Act, Act 25 of 1999. The developer must induct field workers about archaeology, and steps that should be taken in the case of exposing archaeological materials.

Pre-construction education and awareness training Prior to construction, contractors should be given training on how to identify and protect archaeological remains that may be discovered during the project. The pre-construction training should include some limited site recognition training for the types of archaeological sites that may occur in the construction areas. Below are some of the indicators of archaeological site that may be found during construction:

- Flaked stone tools, bone tools and loose pieces of flaked stone;
- Ash and charcoal;
- Bones and shell fragments;
- Artefacts (e.g., beads or hearths); and
- Packed stones which might be uncounted underground, and might indicate a grave or collapse stone walling

## Conclusions

A thorough background study and survey of the proposed development was conducted and findings were recorded in line with SAHRA guidelines. It is recommended that the developer proceed with the project subject to the recommendations given above.



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## ACRONYMS AND ABBREVIATIONS

AIA	Archaeological Impact Assessment
EMP	Environmental Management Plan
HIA	Heritage Impact Assessment
LIA	Late Iron Age
MIA	Middle Iron Age
EIA	Early Iron Age
HMP	Heritage Management Plan
LSA	Late Stone Age
MSA	Middle Stone Age
ESA	Early Stone Age
NASA	National Archives of South Africa
NHRA	National Heritage Resources Act
SAHRA	South African Heritage Resources Agency



## GLOSSARY OF TERMS

The following terms used in this Archaeology are defined in the National Heritage Resources Act [NHRA], Act Nr. 25 of 1999, South African Heritage Resources Agency [SAHRA] Policies as well as the Australia ICOMOS Charter (*Burra Charter*):

**Archaeological Material:** remains resulting from human activities, which are in a state of disuse and are in, or on, land and which are older than 100 years, including artifacts, human and hominid remains, and artificial features and structures.

**Artefact:** Any movable object that has been used modified or manufactured by humans.

**Conservation:** All the processes of looking after a site/heritage place or landscape including maintenance, preservation, restoration, reconstruction and adaptation.

**Cultural Heritage Resources:** refers to physical cultural properties such as archaeological sites, palaeontological sites, historic and prehistorical places, buildings, structures and material remains, cultural sites such as places of rituals, burial sites or graves and their associated materials, geological or natural features of cultural importance or scientific significance. This include intangible resources such religion practices, ritual ceremonies, oral histories, memories indigenous knowledge.

**Cultural landscape:** “the combined works of nature and man” and demonstrate “the evolution of human society and settlement over time, under the influence of the physical constraints and/or opportunities presented by their natural environment and of successive social, economic and cultural forces, both internal and external”.

**Cultural Resources Management (CRM):** the conservation of cultural heritage resources, management, and sustainable utilization and present for present and for the future generations

**Cultural Significance:** is the aesthetic, historical, scientific and social value for past, present and future generations.

**Chance Finds:** means Archaeological artefacts, features, structures or historical cultural remains such as human burials that are found accidentally in context previously not identified during



cultural heritage scoping, screening and assessment studies. Such finds are usually found during earth moving activities such as water pipeline trench excavations.

**Compatible use:** means a use, which respects the cultural significance of a place. Such a use involves no, or minimal, impact on cultural significance.

**Conservation** means all the processes of looking after a place so as to retain its cultural significance.

**Expansion:** means the modification, extension, alteration or upgrading of a facility, structure or infrastructure at which an activity takes place in such a manner that the capacity of the facility or the footprint of the activity is increased.

**Grave:** A place of interment (variably referred to as burial), including the contents, headstone or other marker of such a place, and any other structure on or associated with such place.

**Heritage impact assessment (HIA):** Refers to the process of identifying, predicting and assessing the potential positive and negative cultural, social, economic and biophysical impacts of any proposed project, plan, programme or policy which requires authorisation of permission by law and which may significantly affect the cultural and natural heritage resources. The HIA includes recommendations for appropriate mitigation measures for minimising or avoiding negative impacts, measures enhancing the positive aspects of the proposal and heritage management and monitoring measures.

**Historic Material:** remains resulting from human activities, which are younger than 100 years, but no longer in use, including artifacts, human remains and artificial features and structures.

**Impact:** the positive or negative effects on human well-being and / or on the environment.

**In situ material:** means material culture and surrounding deposits in their original location and context, for instance archaeological remains that have not been disturbed.



**Interested and affected parties Individuals:** communities or groups, other than the proponent or the authorities, whose interests may be positively or negatively affected by the proposal or activity and/ or who are concerned with a proposal or activity and its consequences.

**Interpretation:** means all the ways of presenting the cultural significance of a place.

**Late Iron Age:** this period is associated with the development of complex societies and state systems in southern Africa.

**Material culture** means buildings, structure, features, tools and other artefacts that constitute the remains from past societies.

**Mitigate:** The implementation of practical measures to reduce adverse impacts or enhance beneficial impacts of an action.

**Place:** means site, area, land, landscape, building or other work, group of buildings or other works, and may include components, contents, spaces and views.

**Protected area:** means those protected areas contemplated in section 9 of the NEMPAA and the core area of a biosphere reserve and shall include their buffers.

**Public participation process:** A process of involving the public in order to identify issues and concerns, and obtain feedback on options and impacts associated with a proposed project, programme or development. Public Participation Process in terms of NEMA refers to: a process in which potential interested and affected parties are given an opportunity to comment on, or raise issues relevant to specific matters.

**Setting:** means the area around a place, which may include the visual catchment.

**Significance:** can be differentiated into impact magnitude and impact significance. Impact magnitude is the measurable change (i.e., intensity, duration and likelihood). Impact significance is the value placed on the change by different affected parties (i.e., level of significance and acceptability). It is an anthropocentric concept, which makes use of value judgments and science-based criteria (i.e., biophysical, physical cultural, social and economic).



## Proposed Eskom Gamohaam Ntatelang 22kV Powerline

**Site:** a spatial cluster of artefacts, structures, and organic and environmental remains, as residues of past human activity.



## 1. Introduction

Vhubvo Consultancy Cc (Vhubvo) has been appointed by Eskom Holdings SOC Limited to conduct an Archaeological and cultural heritage impact assessment study for the proposed Gamohaam Ntatelang 22kV Powerline. The project is located near Kuruman in Gasegonyane Local Municipality of John Taolo Gaetsewe District Municipality in the Northern Cape Province. The study aims are to outline the archaeological sites, cultural resources, sites associated with oral histories, graves, cultural landscapes, and any structure of historical significance that may be affected by the proposed development, and to advise on mitigation measures should any be affected and these will in turn assist the developer to make a decision on the most appropriate options in line with the National Heritage Resource Act, 1999 (Act 25 of 1999).

## 2. Sites Location and Description

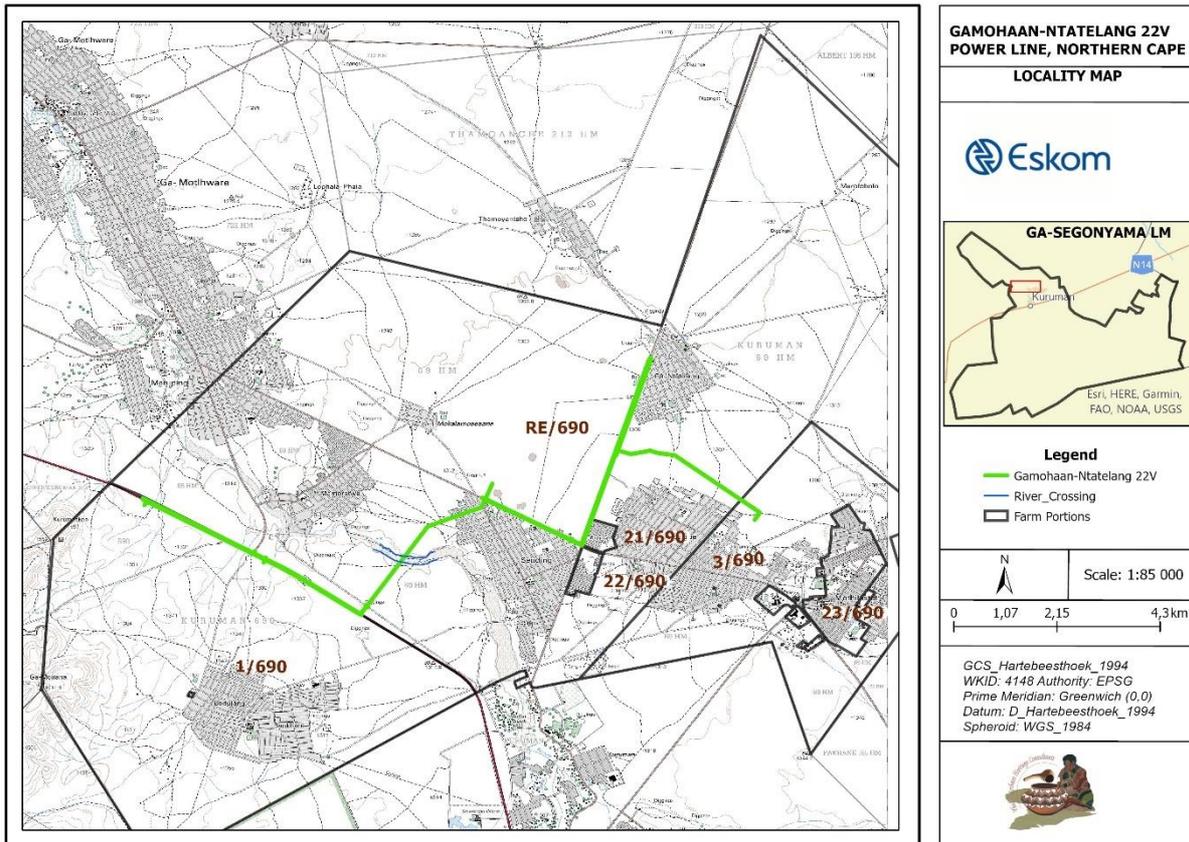
The proposed 22kV powerline is located in Gamohaam near Kuruman, Gasegonyane Local Municipality of John Taolo Gaetsewe District Municipality in the Northern Cape Province (see Figure 1 & 2). The area proposed for the 22kV powerline is mostly a residential development with some vacant areas. The powerline will begin at Gamohaam substation, run parallel to the road, cut through a vacant area, the stream and residential areas (see Figure 3 – 8). Landscape is fairly even will low to no vegetation due to past related disturbance.

### Summary of Project Location Details

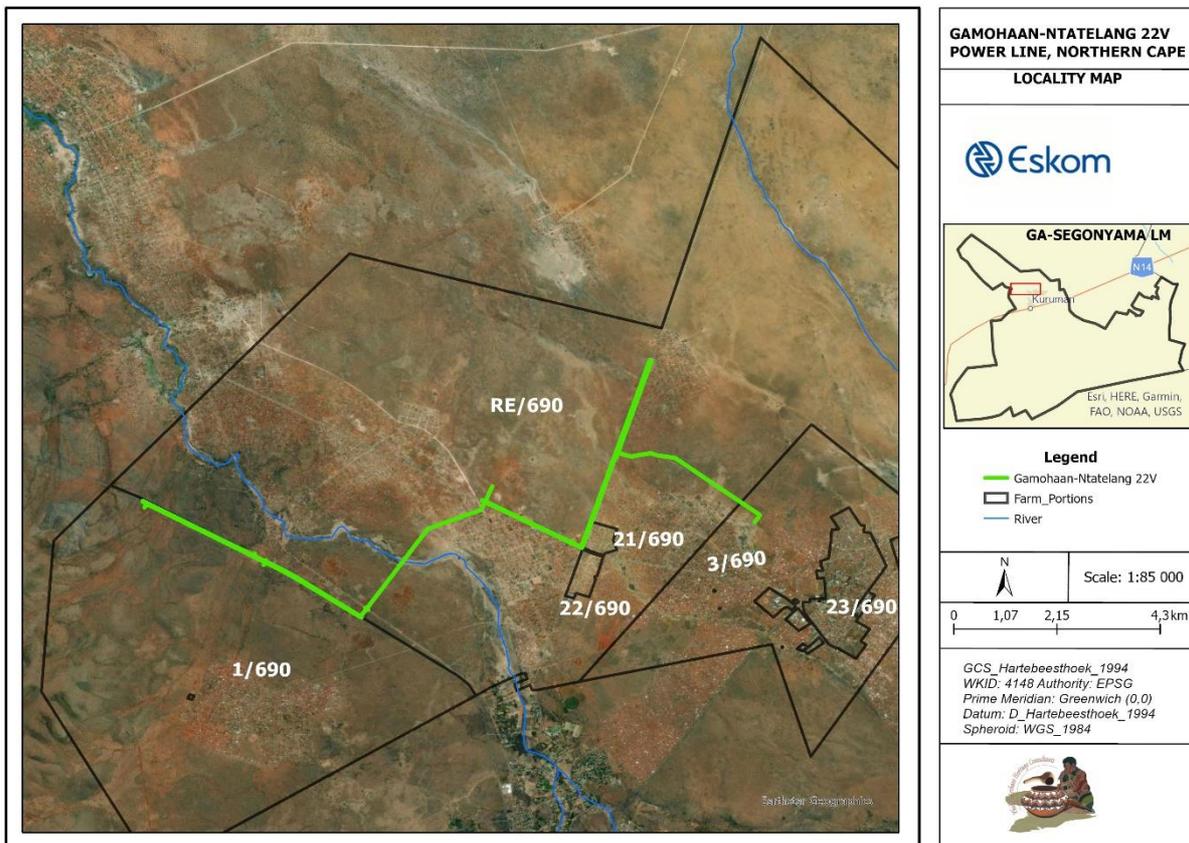
Province:	Northern Cape
Local:	Gasegonyane
District:	John Taolo Gaetsewe
Farm:	690 Kuruman
Town name(s):	Gamohaam Ntatelang near Kuruman
Proposed development:	22kV Powerline



## Proposed Eskom Gamohaam Ntatelang 22kV Powerline



**Figure 2:** Topographic map of the area proposed for construction of 22Kv powerline.



**Figure 2:** Aerial map of the area proposed for construction of 22Kv powerline.





**Figure 3:** An overview of the area proposed for powerline construction on the western section along the R31 road.



**Figure 4:** View of the eastern section of the area proposed for powerline.





**Figure 5:** View of the proposed area overlooking the township.



**Figure 6:** View of the proposed area from the eastern section.



## Proposed Eskom Gamohaan Ntatelang 22kV Powerline



**Figure 7:** View of some of the area that will be crossed by the proposed powerline.



**Figure 8:** An overview of the area where the powerline will transverse the stream.



### 3. Nature and need of the Proposed Project

Eskom is intending to erect a 22kV powerline that is approximately 17,563 km long. The powerline will begin at Gamohaam substation and supply electricity to the people of the Gantatelang community. The proposed development will take place in the Gasegonyane local Municipality, near Kuruman, Northern Cape. There is a need of electricity as the energy is required for lighting, heating, cooling and refrigeration, and for electronic appliances.

### 4. Purpose of the Cultural Heritage Study

The purpose of this Archaeological and Cultural Heritage study is to entirely identify and document archaeological sites, cultural resources, sites associated with oral histories, graves, cultural landscapes, and any structure of historical significance that may be affected by the proposed construction, these will, in turn, assist the developer in ensuring proper conservation measure in line with the National Heritage Resource Act, 1999 (Act 25 of 1999). Impact assessments highlight many issues facing sites in terms of their management, conservation, monitoring and maintenance, and the environment in and around the site. Therefore, this study involves the following:

- Identification and recording of heritage resources that may be affected by the proposed construction;
- Providing recommendations on how best to appropriately safeguard identified heritage sites. Mitigation is an important aspect of any development on areas where heritage sites have been identified.

### 5. Methodology and Approach

#### 5.1 Background study introduction

The methodological approach is informed by the 2012 SAHRA Policy Guidelines for impact assessment. As part of this study, the following tasks were conducted:

- 1) Literature review;
- 2) Consultations with community members;
- 3) Completion of a field survey; and
- 4) Documentations and analysis of the acquired data, leading to the production of this report.



### 5.1.1 Literature Review

The desktop study was undertaken through SAHRIS for previous Cultural Heritage Impact Assessments conducted in the region of the proposed development, and also for researches that have been carried out in the area over the past years, as well as historical aerial maps located in the Deeds Office. These literatures were used to screen the proposed area and to understand the baseline of heritage sensitivities.

### 5.1.2 Oral interview

Oral interview was initiated with local.

### 5.1.3 Physical survey

The field survey was undertaken on the 24th of January 2022. An archaeologist from Vhubvo conducted the survey.

### 5.1.4 Documentation

The general project area was documented. This documentation included taking photographs using cameras a 14.1 mega-pixel Sony Cybershort Digital Camera. Plotting of finds was done by a Garmin etrex Venture HC.

## 5.2 Restrictions and Assumptions

The proposed powerline will be constructed within areas disturbed by gravel and tarred roads, existing powerlines and residential development. Only a small section of the line will run through an undisturbed area. However, due to the subsurface nature of archaeological material and unmarked graves, the possibility of the occurrence of such finds cannot be excluded, and more so, as with any survey, archaeological materials may be under the surface and therefore unidentifiable to the surveyor until they are exposed once construction resume. As a result, if any archaeological/ or gravesite is observed during construction, a heritage specialist must be notified immediately. From the oral interview that was initiated, the study area doesn't seem to possess any intangible heritage

## 6. Applicable Heritage Legislation

Several legislations provide the legal basis for the protection and preservation of both cultural and natural resources. These include the National Environment Management Act (No. 107 of 1998); Mineral Amendment Act (No 103 of 1993); Tourism Act (No. 72 of 1993); Cultural Institution Act (No. 119 of 1998), and the National Heritage Resources Act (Act 25 of 1999). Section 38 (1) of the National Heritage Resources Act requires that where relevant, an Impact Assessment is undertaken in case where a listed activity is triggered. Such activities include:



## Proposed Eskom Gamohaam Ntatelang 22kV Powerline

- (a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;
- (b) the construction of a bridge or similar structure exceeding 50 m in length; and
- (c) any development or other activity which will change the character of an area of land, or water -
  - (i) exceeding 5 000 m<sup>2</sup> in extent;
  - (ii) involving three or more existing erven or subdivisions thereof; or
  - (iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or
  - (iv) the costs of which will exceed a sum set in terms of regulations by SAHRA or a Provincial Heritage Resources Authority;
- (d) the re-zoning of a site exceeding 10 000 m<sup>2</sup> in extent; or
- (e) any other category of development provided for in regulations by SAHRA or a Provincial Heritage Resources Authority, must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.

Section 3 of the National Heritage Resources Act (25 of 1999) lists a wide range of national resources protected under the act as they are deemed to be national estate. When conducting a Heritage Impact Assessment (HIA) the following heritage resources have to be identified:

- (a) Places, buildings, structures and equipment of cultural significance
- (b) Places to which oral traditions are attached or which are associated with living heritage
- (c) Historical settlements and townscapes
- (d) Landscapes and natural features of cultural significance
- (e) Geological sites of scientific or cultural importance
- (f) Archaeological and paleontological sites
- (g) Graves and burial grounds including-
  - (i) ancestral graves
  - (ii) royal graves and graves of traditional leaders
  - (iii) graves of victims of conflict
  - (iv) graves of individuals designated by the Minister by notice in the Gazette
  - (v) historical graves and cemeteries; and
  - (vi) other human remains which are not covered by in terms of the Human Tissue Act, 1983 (Act No. 65 of 1983)
- (h) Sites of significance relating to the history of slavery in South Africa
  - (i) moveable objects, including -
    - (i) objects recovered from the soil or waters of South Africa, including archaeological and paleontological objects and material, meteorites and rare geological specimens
    - (ii) objects to which oral traditions are attached or which are associated with living heritage
    - (iii) ethnographic art and objects
    - (iv) military objects
    - (v) objects of decorative or fine art
    - (vi) objects of scientific or technological interest; and
    - (vii) books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1 of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996).

**Other sections of the Act with a direct relevance to the AIA are the following:**

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

**Section 35(4)** No person may, without a permit issued by the responsible heritage resources authority:



- *destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite*

**Section 36 (3)** *No person may, without a permit issued by SAHRA or a provincial heritage resources authority:*

- *destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside formal cemetery administered by a local authority; or*
- *bring onto or use at a burial ground or grave any excavation equipment, or any equipment which assists in detection or recovery of metals.*

## 7. Degree of Significance

This category requires a broad, but detailed knowledge of the various disciplines that might be involved. Large sites, for example, may not be very important, but a small site, on the other hand, may have great significance, as it is unique for the region. The following table is used to grade heritage resources.

**Table 1:** Grading systems for identified heritage resources in terms of National Heritage Resources Act (Act 25 of 1999)

Level	Significance	Possible action
<b>National (Grade I)</b>	Site of National Value	Nominated to be declared by SAHRA
<b>Provincial (Grade II)</b>	Site of Provincial Value	Nominated to be declared by PHRA
<b>Local Grade (IIIA)</b>	Site of High Value Locally	Retained as heritage
<b>Local Grade (IIIB)</b>	Site of High Value Locally	Mitigated and part retained as heritage
<b>General Protected Area A</b>	Site of High to Medium	Mitigation necessary before destruction
<b>General Protected Area B</b>	Medium Value	Recording before destruction
<b>General Protected Area C</b>	Low Value	No action required before destruction

### Significance rating of sites

(i) High

(ii) Medium

(iii) Low

This category relates to the actual artefact or site in terms of its actual value as it is found today, and refers more specifically to the condition that the item is in. For example, an archaeological site may be the only one of its kind in the region, thus its regional significance is high, but there is



heavy erosion of the greater part of the site, therefore its significance rating would be medium to low. Generally speaking, the following are guidelines for the nature of the mitigation that must take place as Phase 2 of the project.

### High

- This is a 'do not touch' situation, alternative must be sought for the project, examples would be natural and cultural landscapes like the Mapungubwe Cultural Landscape World Heritage Site, or the house in which John Langalibalele resided.
- Certain sites, or features may be exceptionally important, but do not warrant leaving entirely alone. In such cases, detailed mapping of the site and all its features is imperative, as is the collection of diagnostic artefactual material on the surface of the site. Extensive excavations must be done to retrieve as much information as possible before destruction. Such excavations might cover more than half the site and would be mandatory; it would also be advisable to negotiate with the client to see what mutual agreement in writing could be reached, whereby part of the site is left for future research.

### Medium

- Sites of medium significance require detailed mapping of all the features and the collection of diagnostic artefactual material from the surface of the site. A series of test trenches and test pits should be excavated to retrieve basic information before destruction.

### Low

- These sites require minimum or no mitigation. Minimum mitigation recommended could be a collection of all surface materials and/ or detailed site mapping and documentation. No excavations would be considered to be necessary.

In all the above scenarios, permits will be required from the South African Heritage Resources Agency (SAHRA) or the appropriate PHRA as per the legislation (the National Heritage Resources Act, no. 25 of 1999). Destruction of any heritage site may only take place when the appropriate heritage authority has issued a permit. The following table is used to determine rating system on the receiving environment.

**Table 2:** Rating System

NATURE
Including a brief description of the impact of the heritage parameter being assessed in the context of the project. This criterion includes a brief written statement of the heritage aspect being impacted upon by a particular action or activity.



**TOPOGRAPHICAL EXTENT**

This is defined as the area over which the impact will be expressed. Typically, the severity and significance of an impact have different scales and as such bracketing ranges are often required. This is often useful during the detailed assessment of a project in terms of further defining the determined.

1	Site	The impact will only affect site.
2	Local/district	Will affect the local area or district.
3	Province/region	Will affect the entire province or region.
4	International and National	Will affect the entire country.

**PROBABILITY**

This describes the chance of occurrence of an impact

1	Unlikely	The chance of the impact occurring is extremely low (Less than 25% chance of occurrence).
2	Possible	The impact may occur (Between a 25% to 50% chance of occurrence).
3	Probable	The impact will likely occur (Between 50% to 75% chance of occurrence).
4	Definite	Impact will certainly occur (Greater than 75% chance of occurrence).

**REVERSIBILITY**

This describes the degree to which an impact on a heritage parameter can be successfully reversed upon completion of the proposed activity.

1	Completely reversible	The impact is reversible with implementation of minor mitigation measures.
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2	Partly reversible	The impact is partly reversible but more intense mitigation measures are required.
3	Barely reversible	The impact is unlikely to be reversed even with intense mitigation measures.
4	Irreversible	The impact is irreversible and mitigation measures exist.

### IRREPLACEABLE LOSS OF RESOURCES

This describes the degree to which heritage resources will be irreplaceably lost as a result of proposed activity

1	No loss of resource	The impact will not result in the loss of any resources.
2	Marginal loss of resource	The impact will result in marginal loss of resources.
3	Significant loss of resource	The impact will result insignificant loss of resources.
4	Complete loss of resource	The impact is result in a complete loss of all resources.

### DURATION

This describes the duration of the impact on the heritage parameter. Duration indicates the lifetime of a result of the proposed activity.



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1	Short term	The impact and its effects will either disappear with mitigation or will be mitigated through natural process in span shorter than the construction phase (0-1 years), or the impact and its effects will last for the period of a relatively short construction period and a limited recovery time after construction, thereafter it will be entirely negated (0-2 years).
2	Medium term	The impact and its effects will continue or last for some time after the construction phase but will be mitigated by direct human action or by natural processes thereafter (2-10 years).
3	Long term	The impact and its effects will continue or last for entire operational life of the development, but will be mitigated by direct human action or by natural processes thereafter (10-50 years).
4	Permanent	The only class of the impact that will non-transitory. Mitigation either by man or natural process will not occur in such a way or such a time span that the impact can be considered transient (Indefinite).

### CUMULATIVE EFFECT

This describes the cumulative effect of the impacts on the heritage parameter. A cumulative effect/impact is an effect, which in itself may not be significant but may become significant if added to other existing or potential impacts emanating from similar or diverse activities as a result of the project activity in question.

1	Negligible Cumulative Impact	The impact would result in negligible to no cumulative effects.
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## Proposed Eskom Gamohaam Ntatelang 22kV Powerline

2	Low Cumulative Impact	The impact would result in insignificant cumulative effects
3	Medium Cumulative Impact	The impact would result in minor cumulative effects
4	High Cumulative Impact	The impact would result in significant cumulative effects.

### MAGNITUDE

Describes the severity of an impact.

1	Low	Impact affects the quality, use and integrity of the system/component in a way that is barely perceptible.
2	Medium	Impact alters the quality, use and integrity of the system/component but system/component still continues to function in a moderately modified way and maintains general integrity (some impact on integrity).
3	High	Impact affects the continued viability of the system/component and the quality, use, integrity and functionality of the system or component is severely impaired and may temporarily cease. High costs of rehabilitation and remediation.



4	Very High	Impact affects the continued viability of the system/component and the quality, use, integrity and functionality of the system or component permanently ceases and is irreversibly impaired (system collapsed). Rehabilitation and remediation often impossible .If possible rehabilitation and remediation often unfeasible due to extremely high costs of rehabilitation and remediation.
<b>SIGNIFICANCE</b>		
Significance is determined through a synthesis of impact characteristics. Significance is an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates the level of mitigation required. This describes the significance of the impact on heritage parameter.		

## 8. Discussion of (Pre-) History of the Area

Native speakers of Afrikaans comprise a higher percentage of the population in the Northern Cape than in any other province in South Africa. The Northern Cape's four official languages are Afrikaans, Tswana, Xhosa, and English. Minorities speak the other official languages of South Africa, and a few people speak Khoisan languages such as Nama and Khwe. The precolonial history of the Northern Cape is reflected in a rich, mainly Stone Age, archaeological heritage. Cave sites include Wonderwerk Cave near Kuruman, which has a uniquely long sequence stretching from the turn of the twentieth century at the surface to more than 1 million (and possibly nearly 2 million) years in its basal layer (where stone tools, occurring in very low density, Oldowan) (Chazan et al.2008). Many sites across the province occur mostly in open air locales or in sediments alongside rivers or pans, document Earlier, Middle and Later Stone Age habitation. From Later Stone Age times, mainly, there is a wealth of rock art sites – most of which are in the form of rock engravings such as at Wildebeest Kuil and many sites in the area known as !Xam -ka !kau, in the Karoo. They occur on hilltops, slopes, rock outcrops and occasionally (as in the case of Driekops Eiland near Kimberley) in river bed. In the north eastern part of the province, there are Iron Age sites such as Dithakong. Environmental factors have meant that the spread of Iron Age farming



westwards (from the 17th century – but dating from the early first millennium AD in the eastern part of South Africa) was constrained mainly to the area east of the Langeberg Mountains, but with evidence of influence as far as the Uppington area in the eighteenth century.

From 1800 AD the archaeological record also reflects the development of a complex colonial frontier when precolonial social formations were considerably disrupted and there is an increasing 'fabric heavy' imprint of built structures, ash-heaps, and so on. The copper mines of Namaqualand and the diamond rush to the Kimberley area resulted in industrial archaeological landscapes in those areas which herald the modern era in South African history. All archaeological traces in the Northern Cape that are greater than 100 years old are automatically protected by the South African Heritage Resources Act, while some are formally protected by declaration as either Provincial Heritage Sites (e.g., Wildebeest Kuil and Nooitgedacht) or National Heritage Sites (e.g., Wonderwerk Cave). The archaeology of the Richtersveld is part of the universal cultural value recognised in the area's listing as a World Heritage Site, while sites included on South Africa's Tentative List for World Heritage inscription include Wonderwerk Cave and the !Xam and ǀKhomani heartland.

### Stone Age

There are few Stone Age sites within the 100 kilometres radius of the proposed area of study. However, considering that the environment of the Namaqualand is more or similar to that of the Hotazel, Postmasburg, Prieska and Kuruman, it is possible that several sites may be found in the area. It would appear that few studies conducted in the area have left us knowing very little about this region, wherein most of the studies conducted are the results of research done in the neighbouring region and Phase I Archaeological Impact Assessment. However, an argument by Kussel (2009) is relevant here, it appears most of the sites in the Namaqualand are located in the further coastal areas, as compared to the inland areas. These include sites such as Spoegrivier (Webley 2002) and Groenriviermond, as well as those identified by Kussel (2009). Other sites showing the evidence of the Stone Age are Canteen Kopje and Kathu. Kathu is a town located in the Northern Cape, and several sites (Pan, Kathu Townlands and Bestwood wood) were excavated and the complex composed of layers with Acheulian and Fauresmith archaeological material. For instance, the Bestwood 1 site indicated the transition from Early to Middle Stone Age characterised by the Fauresmith industry. Fauresmith occupation is characterised by tools such as the blades, handaxes and cleavers, and it is regarded as a transitional industry between the ESA and the MSA (Morris & Henderson 2019; Richards et al. 2020). Later Stone Age sites were associated with the



Khoikhoi (pastoralists) and San people (hunter-gatherer). The two groups established short term occupation. For means of survival the Khoikhoi and San hunters relied on seasonal movement to areas rich in grazing and water sources (Rawson 2017). The Stone Age is also associated with rock art sites, however, there is no known rock art site in the vicinity of the proposed area. In addition, all the famous cave are reasonably away from the proposed farms, i.e., Koegelbeen Cave Hopefield Mine Soetfontein Cave Blinkklip Grot (the Eye of Kuruman), Wonderwerk Cave.

### Iron Age

Sites containing Iron Age tools were discovered in the Northern Cape. The Later Stone Age in Namaqualand shows the alteration of iron tools. These iron tools were used to grill holes in the ostrich eggshell beads (Orton 2007). It is well known that Iron Age tool makers were the Bantu farming group who established semi-permanent settlements (Whitelaw 1994; Steele 2001) and settled in tropical forested environments (Huffman 2001). Orton (2008) stated that the iron grilling tool was bought from the Europeans. In addition, copper was also utilised by the Khoikhoi. Moreover, the presence of the Iron Age tools suggests interaction between the Stone Age and Iron Age groups. This is for example the work done in Maiphetswane and Taukome Iron Age sites in the Kalahari comprising Stone Age tools (Mosothwane 2010, see Denbow 1984b, 1986a, 1999; Denbow & Willsem 1986; Yellen 1986; Headland & Reid 1989; Hitchcock 1999; Guenther 2002; Mitchell 2009; Ikeya et al. 2009). It can be argued that Iron Age people did not reside in the Northern Cape region, and whenever they did, such occupation was nomadic. Hence, no Iron Age sites have been identified in the proposed area or in the vicinity.

### Historical era

The historical period is associated with the arrival of the white settlers in the area. It appears the first white settlers to explore the region were early missionaries and early mine explorers. From as early as 1685 copper had been discovered, however, alluvial diamonds will have to wait until 1926. The first missionary was established in 1816 by the Methodist. The magisterial district of Namaqualand is located in the North Western Cape. The 'Namaqua' is the plural form of Nama, adopted from the name of the Khoi group who were first encountered by the white settlers in the area. The arrival of the Dutch, as led by Jan van Riebeeck, is significant in the history of the region. They entered the region in 1652. By 1653 the Dutch who would later be referred to as Afrikaners had reached the Namaqua area. In 1720 the Khoikhoi population in Namaqua was badly affected by the small pox pandemic. After the group survived the pandemic, they realised that most of the cattle were stolen by the Dutch. Majority of the individual left the area; some of the Khoi occupied



the Kamiesberg Mountains which was later on loaned by the Europeans settlers (Rawson 2017). Conflict broke out in 1750 and the Nama were conquered. However, between 1770 and towards the beginning of the 19th century, the Nama and other San reclaimed their lands and temporarily reversed the expansion of the Dutch colony. This period was -Nonetheless, it was the British system that was introduced in 1806 which made the Nama people to surrender. Consequently, the San were enslaved; those who retreated to the system were killed. The introduction of a loan farm system by the Dutch in 1708 across the Cape Colony enabled Afrikaners to graze their livestock on unoccupied plots of land. By 1878 under British rule, white farmers could buy their own land; as a result, the whole land of the Namaqualand was bought. This prompted farmers to erect fences in their property and also began practicing a rotational grazing system. The Namaqua region like many regions in South Africa was affected by the Anglo-Boer War (1899-1902). As such, there is a memorial set close to the Springbok town. The memorial is now part of the provincial heritage site. There is no declared site of historic value in the area proposed for development.

## 9. Findings and Discussions

The main aim of the survey was to evaluate potential heritage resources that would occur within the boundaries of the proposed area (s), as well as to determine if there is any hamartia that may prevent the proposed construction from taking place in the proposed area. The Phase I Archaeological and Cultural Heritage Impact Assessment for the proposed Gamohaam Ntatelang 22kV Powerline revealed no archaeological, historical or associated material in the footprint of the area of study. Despite that no archaeological resources were identified on the footprint of the proposed site; a cemetery of historical importance (see Figure 9 and 10) had been noted approximately 55m from the area proposed for powerline. This cemetery is protected by the National Heritage Resource Act (Act 25 of 1999). Burial sites and its contents are accorded the highest heritage accolades in South Africa, and elsewhere, principally by their relation with human being. Burial sites are often the focus of emotional and ethical sentiments to people. Dealing with human remains thus requires the highest ethical standards, Section 36 of the National Heritage Resources Act (3) states that, no person may, without a permit issued by SAHRA or a provincial heritage resources authority: destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority. It has however been noted that the developer is aware of the burial ground, and is committed to ensure that such is protected. Hence, the recommendation given below must be considered with responsiveness.



**Table 3:** Site findings

Recorded Number	GPS	Description
Dr1	S 27°23'09.00" E 23°26'19.09"	An active burial ground with approximately 50 grave stands have been noted in that area of study (see Fig. 9).
Significance: High		

**Impact Assessment**

Below is a description of the proposed residential project as well as related impact ratings. These ratings are for archaeological and cultural heritage sites known to exist in the proposed area, and include Stone and Iron Age, as well as Historical era materials. Note that these impacts are assessed as per Table 2 above:



**Figure 9:** View of the graveyard which is approximately 55m from the proposed powerline.

**Table 4:** Anticipated impact rating

Alternatives	Ratings
Nature	Negative
Topographical Extent	The impact will only affect site.
Duration	Short term
Magnitude	Low
Probability	Possible



Reversibility	Irreversible
Irreplaceable Loss	The impact will result in no loss

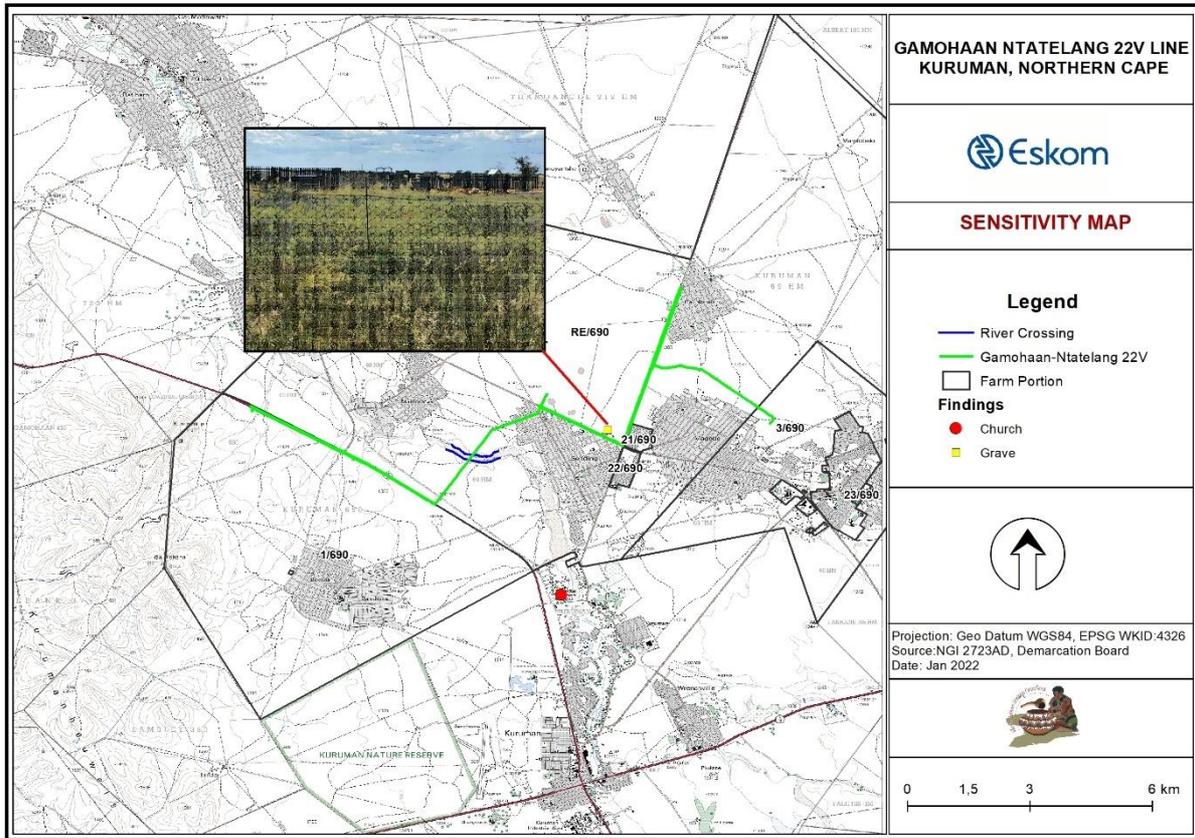


Figure 10: View of the sensitivity map of the proposed site.

## 10. Recommendations

Recommendations are given from a heritage point of view and considering the nature of the proposed project and the cultural significance of the heritage resources in the vicinity of the proposed area. The following are the recommendations based on the above findings:

- Ensuring that the descendant (community members in this instance) of the graves are sought, and notified about this proposed construction which may have an impact (directly or indirectly) on their grave. This can be done by means of placing of placard(s) in the township, or through liaising with the ward-councilor/ and or traditional leader;
- Aspects related to dumping of construction material within this buffer zone and stone robbing or removal of any material should be addressed, and discourage; and
- Labor-intensive workers should be notified about this cemetery, and the developer should avoid conveying duty during the time when the graveyard is active (that’s mostly Saturday morning).



Although no archaeological objects were observed during the survey, the client is reminded that these often happen underground, as such should any archaeological material be unearthed accidentally during the course of construction (e. g. excavation), SAHRA should be alerted immediately and construction activities be stopped within a radius of at least 10m of such indicator. The area should then be demarcated by a danger tape. Accordingly, a professional archaeologist or SAHRA officer should be contacted immediately. In the meantime, it is the responsibility of the Environmental officer and the contractor to protect the site from publicity (i.e., media) until a mutual agreement is reached. It is mandatory to report any incident of human remains encountered to the South African Police Services, SAHRA staff member and professional archaeologist. Any measure to cover up the suspected archaeological material or to collect any resources is illegal and punishable by law under Section 35(4) and 36(3) of the National Heritage Resources Act, Act 25 of 1999. The developer should induct field worker about archaeology, and steps that should be taken in the case of exposing archaeological materials.

### **Pre-construction education and awareness training**

Prior to construction, contractors should be given training on how to identify and protect archaeological remains that may be discovered during the project. The pre-construction training should include some limited site recognition training for the types of archaeological sites that may occur in the construction areas. Below are some of the indicators of archaeological site that may be found during construction:

- ✚ Flaked stone tools, bone tools and loose pieces of flaked stone;
- ✚ Ash and charcoal;
- ✚ Bones and shell fragments;
- ✚ Artefacts (e.g., beads or hearths);
- ✚ Packed stones which might be uncounted underground, and might indicate a grave or collapse stone walling.

## **11. Conclusions**

The planning of the proposed project can proceed on condition that the recommendations mentioned above are adhered to.



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## APPENDIX 1: SITE SIGNIFICANCE

The following guidelines for determining site *significance* were developed by SAHRA in 2003. It must be kept in mind that the various aspects are not mutually exclusive, and that the evaluation of any site is done with reference to any number of these.

**(a) Historic value**

- Is it important in the community, or pattern of history?
- Does it have strong or special association with the life or work of a person, group or organization of importance in history?
- Does it have significance relating to the history of slavery?

**(b) Aesthetic value**

- Is it important in exhibiting particular aesthetic characteristics valued by a community or cultural group?

**(c) Scientific value**

- Does it have potential to yield information that will contribute to an understanding of natural or cultural heritage?
- Is it important in demonstrating a high degree of creative or technical achievement at a particular period?

**(d) Social value**

- Does it have strong or special association with a particular community or cultural group for social, cultural or spiritual reasons?

**(e) Rarity**

- Does it possess uncommon, rare or endangered aspects of natural or cultural heritage?

**(f) Representivity**

- Is it important in demonstrating the principal characteristics of a particular class of natural or cultural places or objects?
- What is the importance in demonstrating the principal characteristics of a range of landscapes or environments, the attributes of which identify it as being characteristic of its class?
- Is it important in demonstrating the principal characteristics of human activities (including way of life, philosophy, custom, process, land-use, function, design or technique) in the environment of the nation, province, region or locality?



## APPENDIX II: CHANCE FIND PROCEDURE

### Purpose of ACFP

The aims of this ACFP are to protect previously unexposed heritage resources that are yet unknown although might be encountered during the project operation or construction phase. This document serves to provide best practices to manage accidental exposed heritage resource during the development. The procedures are given to the client/applicant/contracts in order to prevent and minimize negative impact on heritage resources encountered by accident. Thus, the heritage specialist(s) compiled this chance find document with a purpose to give instructions based on relevant and appropriate actions in line with the NHRA and best guidelines to protect the chance finds on the proposed site. In significant, the ACFP stand in place to promote the preservation of heritage resources and present mitigation measure to avoid disturbance on heritage resources.

### ACFP for Heritage Resources

The following procedures must be followed when heritage resources are encountered during the operational or construction phase:

- All construction/clearance activities in the vicinity of the heritage resources found by accident on site must cease immediately to avoid further damage to the chance finds
- Immediately report the chance finds to the supervisor/site manager or if they are unavailable, report to the project Environmental Control Officer (ECO) who will provide further instructions.
- Record (note taking, photograph with a scale, GPS coordinates) of all the chance find exposed during the activity.
- All remains are to be stabilised in situ.
- Secure (e.g., barricade) the area to prevent further disturbance on heritage resources.
- The ECO must contact the qualified archaeologist registered with the association for Association for Southern African Professional Archaeologist (ASAPA) or South African Heritage Resources Agency (SAHRA).
- The project archaeologist will conduct the inspection and assess the significance of the chance finds under SAHRA guidelines, give recommendation and mitigation measures.



