Heritage Management Plan for Proposed Eskom SOC 765kv Umfolozi-Thetha transmission powerline from Umfolozi Substation to the new Empangeni Substation in KwaZulu Natal Province.

April 2014

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Final Report

Heritage Management Plan for Proposed Eskom SOC 765kv Umfolozi-Thetha transmission powerline from Umfolozi Substation to the new Empangeni Substation in KwaZulu Natal Province.

April 2014

Prepared by: Dr. M Murimbika

External Review: Eskom

For and on behalf of
Nzumbululo Heritage Solutions

Signed:

Position: Principal Investigator

Date: April 2014

Document information

TITLE:	**ARCHAEOLOGICAL AND HERITAGE Phase 2 EMP WALK DOWN REPORT FOR:** **PROPOSED 765KV UMFOLOZI-THETHA POWERLINE FROM UMFOLOZI SUBSTATION TO EMPANGENI SUBSTATIONS IN KWAZULU NATAL PROVINCE**
PURPOSE OF SCOPE: **The purpose of this document is to describe the cultural values and heritage factors that may be impacted on by the proposed construction of the proposed development. The proposed electrification is located in KwaZulu Natal Province.**	
DOCUMENT VERIFICATION	
Signature:	Position:
Name:	Date:
Consulted: **Vuledzani Thanyani of Eskom Transmission to review the document. The document also went through Nzumbululo Heritage Solutions Quality Assurance Department for internal review.**	
ENDORSED **Client Project Responsible Officer to sign off.**	
Signature	Position
Name:	Date:

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Issue	Date	Reason For Issue	Responsible	Accountable
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Citation:	The proposed 765kv Umfolozi-Thetha powerline from Umfolozi Substation to the new Empangeni Substation in KwaZulu Natal Province Province: ARCHAEOLOGICAL AND HERITAGE EMP WALK DOWN REPORT.
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Caveat

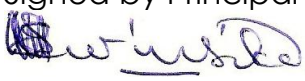
This HMP Report has been prepared for Eskom Transmission by Nzumbululo Heritage Solutions for the expressed purpose of fulfilling the requirements of the KwaZulu Natal Heritage Act 4 of 2008 and provisions of the National Heritage Resources Act, Act 25 of 1999.

Authorship: This Report has been prepared by Dr. M. Murimbika (Principal Investigator & Professional Archaeologist) assisted by Mr T Mlilo for Eskom Soc. The report is for the review of the Heritage Resources Agency (KZN PHRA).

Geographic Co-ordinate Information: Geographic co-ordinates in this report were obtained using a hand-held Garmin Global Positioning System device. The manufacturer states that these devices are accurate to within +/- 5 m.
Maps: Maps included in this report use data extracted from the NTS Map and Google Earth Pro.

Disclaimer: The Author is not responsible for omissions and inconsistencies that may result from information not available at the time this report was prepared.
The Archaeological and Heritage Impact Assessment Study was carried out within the context of tangible and intangible cultural heritage resources as defined by the SAHRA Regulations and Guidelines as to the authorisation for Powerline Project being proposed by Eskom Transmission Megawatt Park

Signed by Principal Investigator:



McEdward Murimbika (Ph.D.), April 2014.

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1. EXECUTIVE SUMMARY

Nzumbululo Heritage Solutions has been commissioned by Eskom Holdings SOC to conduct an Archaeological and Heritage Walk-down Survey for the purpose of developing a Heritage Management Plan for the Eskom SOC 765kv Umfolozi-Thetha transmission powerline from Umfolozi Substation to the new Empangeni Substation in KwaZulu Natal Province.. The recommendation for a Heritage Management Plan forms part of the powerline development approval conditions set by Amafa KwaZulu Natal (the Provincial Heritage Authority. The project entails erecting high voltage transmission powerlines running from substation located inland and traverse towards the coastal region of the KwaZulu Natal Province. The powerline will consist of a series of individual pylons or towers that will suspend the powerlines strung in and out of the substations.

This report is informed by results of a tower-to-tower walk down survey and HIA/AIA assessments.

1.1. Background

In March 2007 eThembeni Cultural Heritage conducted Phase 1 Heritage Impact Assessment for the proposed development of the Umfolozi –Thetha 765kv powerline from Umfolozi Substation to new Empangeni Substation. In line with the KwaZulu-Natal Heritage Act No.10 of 1997 (amended to Act 4 of 2008) and the National Heritage Act No. 25 of 1999 Section 38 (1). The heritage impact assessment identified several archaeological and heritage sites along the powerline route. In accordance with the recommendations of eThembeni Cultural Heritage, Eskom Transmission appointed AUROCON Ltd. archaeologists to conduct an Archaeological and Heritage Walk Down Survey as part of the overall Construction Environmental Management Plan development. Since these reports were not reviewed and commented on by the Amafa KZN authority, Nzumbululo investigators conducted additional walkdown survey of the final route and tower positions.

The Phase 1 and Phase 2 heritage and archaeological surveys identified sensitive archaeological and historical heritage sites and made recommendation to minimise the impact of the proposed powerline development. Based on the recommendations of the walk down survey Eskom re-aligned the affected tower positions to avoid the recorded archaeological and heritage sites. The reports were submitted to Amafa in 2013 wherefrom Amafa recommended that the project area was archeologically significant and detailed HMP was to be developed to the project. This HMP is an outcome of this recommended condition by Amafa.

1.1. Legislative brief

This Heritage Management Plan has been compiled in terms of:

- KwaZulu Natal Heritage Act, Act4 of 2008
- National Heritage Resources Act (Act 25 of 1999).
- Amafa KZN and SAHRA Heritage Management Guidelines and associated best practice principles.
- Applicable regulations Applicable Eskom Guidelines.
- Associated auxiliary legislation such as the National Environmental Management Act, 1998 (Act 107 of 1998).

1.2. Project Area

The approved route fall within five local municipalities: uMhlatuze Local Municipality, uMlalazi Local Municipality, Mthonjaneni Local Municipality, Ntambanana Local Municipality and Ulundi Local Municipality in the KwaZulu Natal Province. The urban areas consist of the town of City of uMhlathuze, Empangeni, Melmoth and Ulundi. Farming areas include farms (Tongaat Hullett sugar plantations in the north eastern KZN).

1.3. Cultural Heritage Environment

Archaeological structures such as stonewalls of the Late Iron Age and artifacts of the historical period were previously recorded within the powerline servitude during

Phase 1 Archaeological Impact Assessment. The subsequent walk down survey confirmed the prehistoric and historic features and sites within and in near proximity of approved tower positions. The identified sites are in line with the observation that archaeology of the project area within the KwaZulu Natal Province is very rich and an important area of study and the potential value for addressing landscape and environmental questions in archaeology of the project region must be taken cognizance of. It is therefore not surprising that the HIA Phase 1 survey recorded a number of sites within the project area. The walkdown survey recorded forty-three (43) archaeological and heritage sites within varying distances from tower positions within the final powerline route.

Based on confirmed relationship between tower positions and identified archaeological and historical features, this report provided a Heritage Management Plan (HMP) that is designed to aid Eskom's planning and construction teams on how to protect archeological heritage resources associated with the project area.

1.4. Heritage Management Plan

The recommendations herein provided are specific to tower-to-tower positions or cluster of towers. The HMP focus of:

- **Construction Phase:** impacts are focused on the development of the new proposed 765kV transmission powerlines.
- **Operational Phase:** the HMP takes into consideration that the operational phase of the powerline will not have measurable or significant impact on the physical cultural resources in the receiving area. However, the powerline will have permanent visual impact on the receiving cultural landscape.
- **The decommissioning Phase:** Should Eskom proposed to decommission and remove the powerline at the end of its life span, the recommendations made for the construction phase would equally apply for any such development.

1.5. Heritage Monitoring

The effectiveness of the HMP needs to be assessed by the Amafa KZN authority to ensure that the objectives of the HMP input are incorporated into the project's overall Environmental Management Plan (EMP) program and that the recommendations are being met during the implementation phase. As such a heritage-monitoring plan should be implemented during powerline construction as detailed in this report and in line with any other specifications that the Amafa KZN authority may attach.

1.6. Emergency Procedures

Construction work within the receiving environment has potential to encounter chance archaeological finds and previously unknown archaeological, historical or human burial sites. As such, chance finds procedures and rescue or salvage excavations may have to be conducted as part of the heritage emergency procedures. However, any chance finds or accidentally discovered or disturbed heritage resources that may be encountered during the powerline construction would have to be reported to Amafa KZN authority prior to the Heritage Monitoring Officer (HMO) taking any further action on site.

1.7. Heritage Awareness Plan

In terms of the National Heritage Resources Act (Act 25 of 1999) and the KwaZulu Natal Heritage Act, Act 4 of 2008, certain classes of heritage resources that include archeological, palaeontological, meteorites and human burial and grave sites enjoy automatic projection and may not be disturbed without prior authorisation from the heritage agency. Unauthorised interferences with these classes of heritage resources constitute a prosecutable crime under both national and provincial legislations. As such, all project team members including contractors and site workers should receive awareness training to inform them about the importance of physical cultural resources they may encounter in the project receiving area.

1.8. Responsibility

The developer's Environmental Department and Environmental Manager supported by qualified heritage expert/ HMO are responsible for implementing this HMP through the project EMP.

1.9. Financial Provision

It is a legal requirement that the developer (Eskom) make financial provision for the management of negative heritage impacts.

1.10. Conclusion

This HMP addresses potential powerline construction impacts on all relevant aspects of heritage on site and allows for monitoring during the proposed development.

The overall recommendation is that the 765kV transmission powerline servitude traverses through an archeological and cultural landscape with known archaeological and historical sites. These sites have been documented in detail during three separated surveys: Phase 1 AIA/HIA conducted by eThembeni and Phase 2 Walkdown Survey by AUROCON Ltd. and the third Tower-to-Tower survey conducted by Nzumbululo Heritage Solutions as part of the HMP study. A professional archaeologist or a HMO should be monitor the installation of individual powerline towers on this cultural landscape ensure that site protection measures and where necessary chance finds procedures are implemented during the construction phase.

2. ABBREVIATIONS

AIA	Archaeological Impact Assessment
C	Contractor
CECO	Construction Environmental Conservation Officer
EAP	Environmental Assessment Practitioner
ECO	Environmental Conservation Officer
EIA	Environmental Impact Assessment
EM	Environmental Manager
EMP	Environmental Management Plan
HIA	Heritage Impact Assessment
LIA	Late Iron Age
NHRA	Nation Heritage Resources Act, Act 25 of 1999
PM	Project Manager
SM	Site Manager
SAHRA	South African Heritage Resources Agency

3. DEFINITIONS

The following terms used in this A/HIA 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 Materials means 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 artefacts, human and hominid remains, and artificial features and structures.

Chance Finds refers to 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.

Cultural Heritage Resources same as Heritage Resources as defined and used in the National Heritage Resources Act (Act No. 25 of 1999). Refer to physical cultural properties such as archaeological and palaeolontological sites; historic and prehistoric places, buildings, structures and material remains; cultural sites such as places of ritual or religious importance and their associated materials; burial sites or graves and their associated materials; geological or natural features of cultural importance or scientific significance. Cultural Heritage Resources also include intangible resources such as religion practices, ritual ceremonies, oral histories, memories and indigenous knowledge.

Cultural Significance means the complexities of what makes a place, materials or intangible resources of value to society or part of, customarily assessed in terms of aesthetic, historical, scientific/research and social values.

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. A grave may occur in isolation or in association with others where upon it is referred to as being situated in a cemetery.

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

In Situ material means material culture and surrounding deposits in their original location and context, for example an archaeological site that has not been disturbed by farming.

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

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

Site means a distinct spatial cluster of artifacts, structures, organic and environmental remains, as residues of past human activity

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

Cultural significance means aesthetic, historic, scientific, social or spiritual value for past, present or future generations.

Fabric means all the physical material of the place including components, fixtures, contents and objects.

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

Use means the functions of a place, as well as the activities and practices that may occur at the place.

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

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

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

4. INTRODUCTION AND PURPOSE

4.1. The Umfolozi-Theta 765kv powerline in KwaZulu Natal Province

This HMP document outlines the specific heritage management measures that would required as part of the proposed Eskom Umfolozi-Theta 765kv powerline development Environmental Management Plan procedures. The development is located in KwaZulu Natal Province. The proposed route fall within five local municipalities: uMhlatuze, uMlalazi, Mthonjaneni, Ntambanana and Ulundi Local Municipality in KwaZulu Natal Province. The urban areas consist of the town of Empangeni, Melmoth, Ulundi, and Umhlatuze.

The relevant environmental ROD approvals have been granted along the associated development plans. In addition, Amafa KZN has issued its comments and recommendations as the associated conditions that the developer is expected to adhere to. This HMP is part of the conditions set by Amafa KZN and it will form part of the project construction EMP developed for Eskom by the project Environmental Consultants. Therefore, the purpose of this study is to inform on management of development impacts on heritage resources in the project-receiving environment. The study involved surveying the 3km servitude for proposed construction of loop in and loop out powerlines in order to investigate each proposed tower-to-tower position within the approved servitude.

4.2. Project Description

APPROVED DEVELOPMENT

Eskom SOC Limited proposes to construct 234 towers which will be strung above by 765kv Powerlines traversing along the servitude that will T-off from Umfolozi Substation to new Empangeni Substation site near Empangeni (Fig. 1). The proposed development is meant to cater for electricity requirements of the Empangeni,

Melmoth and Ulundi areas and proposed new developments within the farming agro-business communities along the servitude.

PROJECT LOCATION

The approved route fall within five local municipalities: uMhlatuze Local Municipality, uMlalazi Local Municipality, Mthonjaneni Local Municipality, Ntambanana Local Municipality and Ulundi Local Municipality in the KwaZulu Natal Province. The urban areas consist of the town of City of uMhlathuze, Empangeni, Melmoth and Ulundi. Farming areas include farms (Tongaat Hullett sugar plantations in the north eastern KZN). The farming areas are characterised by extensive cultivated lands, irrigation schemes and associated infrastructure, commercial animal husbandry grazing areas, game farms, farm and agro-factories and farm settlements. Sections of the powerline traverse through built up rural settlements and periphery of urban settlements such as Ulundi town. In most sections, the powerline runs parallel to existing transmission powerlines.

The project area is accessed from the N17, N2, and R34 R66 Empangeni to Ulundi. The powerline will T-off from Umfolozi Substation to the west and traverse eastwards along the district and local access roads to new Empangeni Substation site (Refer to Fig. 1 – Google Route Map).

THE CONSTRUCTION PROCESS

The following is a process that will be adopted for the construction of the powerline. Each activity will follow the previous one, such that at any one point an observer will see a chain of events, with different teams involved over time. At any one time some or all of the different teams may be working at different points along the line. There may be days of no activity in the process. Table 1 provides generic description of activities associated with the powerline development.

Table 1: Activity scheduled associated with the powerline development.

Activity	**Approx. team size**	**Approx. duration at a point**
1. Centre line pegging and identification of *access*	N/A	N/A
2. Access Negotiations • an access plan is developed and agreed to by the landowners, Eskom and the contractor • rehabilitation measures are agreed to • photographs are taken before hand • access road will be established through recurring use (i.e. there will be no blading or scraping of a new road) *(light vehicle access)*	N/A	N/A
3. Tower Pegging • a surveyor has undertaken this work • the footing of the pylons will be set out • the contractor will report back if anything odd is found and the tower will be moved accordingly	N/A	N/A
4. New Access where required	N/A	N/A
5. Foundation nominations (for main structure and anchors) • soil types are checked to determine foundation requirements • trial pits are dug at the main foundation points – usually using mechanical back-actor/auger methods, though in a few circumstances manual labour may be used. *(heavy vehicle access)*	N/A	N/A
6. Excavation of foundation • foundation squares are excavated and depth depend on soil conditions • foundation pits then need to be covered or fenced off until foundation is poured *(heavy vehicle access)*	N/A	N/A
7. Foundation steelwork (reinforcing) • the steelwork is usually made up at the base camp and brought on to site by truck • all fitting, wiring is done on site (limited welding on site) *(heavy vehicle access)*	N/A	N/A
8. Foundation (concrete) pouring • shuttering • standard concrete truck used • if there are access problems, concrete will be mixed on site *(heavy usage of the servitude roads during this phase)*	N/A	N/A

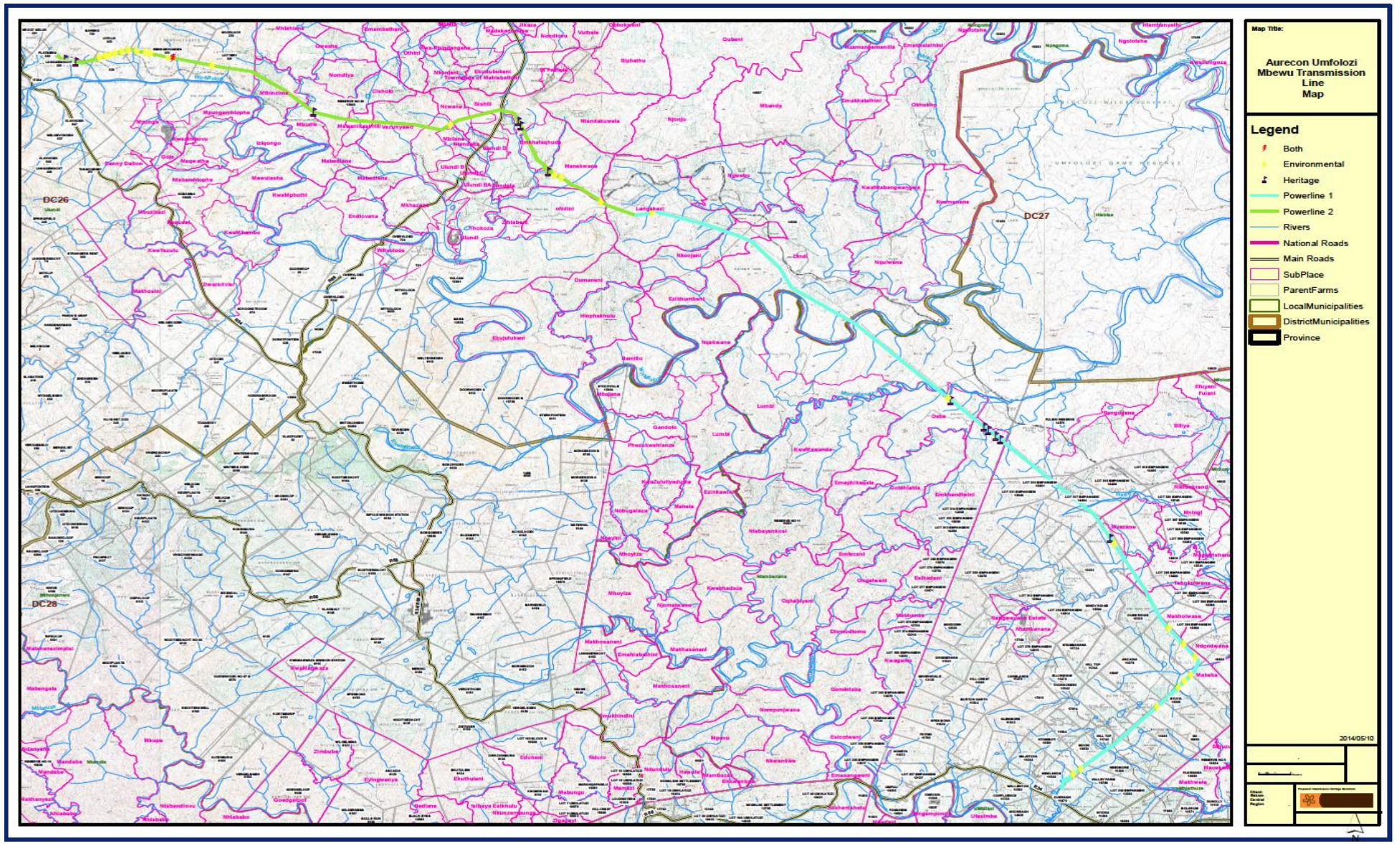
Activity	**Approx. team size**	**Approx. duration at a point**
9. Delivery of tower steelwork • steelwork is delivered in sections and assembled on site • one truck can transport one tower • transported from the factory to site (the towers are individually designed for each location) • access roads are clearly marked to ensure the correct tower is delivered *(heavy vehicle access)* *(extra long trucks will be used)*	N/A	N/A
10. Assembly team / Punching and painting • the steelwork is fitted together and assembled on the ground • nuts are punched and non-corrosive paint is placed on the nuts *(light vehicle access)*	N/A	N/A
11. Erection • Cranes pick up the towers for final assembly. *(abnormal load vehicle access)*	N/A	N/A
12. Stringing • cable drums are placed next to each other within the servitude • stringing takes place in both directions from the drum stations • the working area at each drum station will be as long as 130m, but will be confined to the servitude width. Intensive vehicle movement may take place within this working area • a pilot tractor will place the pilot cable on the ground • this cable is then pulled up through the use of a pulley • conductors are never to touch the ground • in mountainous areas, a helicopter can be used or the pilot rope can be shot across valleys *(abnormal load vehicle access)* *(intensive vehicle activity likely within the working area)*	N/A	N/A
13. Sag and tension The line is tensioned from each cable station to ensure minimum ground clearance heights are achieved *(heavy vehicle access)*	N/A	N/A
14. Rehabilitation • rehabilitation is a continuous process during the construction phase • rehabilitation will typically only commence after the towers have been strung *(heavy and light vehicle access)*	N/A	N/A

CONSTRUCTION CAMPS

The construction workforce is usually stationed at 'construction camps' that will be situated at various points along the powerline route. The location is selected by the contractor who will take into account such aspects as access to the construction site, access to services, access to materials, etc. The contractor will enter into an agreement with a landowner for the establishment of the construction camp. The various teams will travel from the camp to the construction site each day. The site moves continuously with the progression of the line, so the teams will perhaps travel a different distance to the site each time. All materials are stored at the construction camp with the exception of those materials that may come direct from the factory and concrete unless the site is very remote, when concrete may be mixed on site.

As such, the monitoring heritage officer will clear all auxiliary sites of any possible archaeological or heritage sites.

Figure 1: Map showing the study area.



4.3. Study Terms Of Reference

Phase 1 Archaeological and heritage Impact Assessments were conducted as part of the project EIA. Subsequent tower-to-tower walk down survey was conducted when the final proposed powerline route was approved. As part of the proposed heritage mitigation process, Eskom commissioned a second walk-down survey following re-positioning of some tower positions that were identified to have higher impact on environment and heritage resources. All heritage Reports we evaluated by Amafa KwaZulu Natal (the Provincial Heritage Agency). Amafa KZN issued comments directing that a detailed heritage management plan be developed before construction work begins. This HMP is designed to full fill this directive.

4.4. Method Statement

This Heritage Management Plan was compiled in line with the stipulated guidelines of Amafa KZN (Amafa Act no.4 of 2008) SAHRA(NHRA no 25 of 1999) as was requested by Amafa. The HMP development process consisted of three steps:

- Step I – Literature Review: The background information to the field survey leans greatly on the HIA Phase 1 and archaeological desktop surveys completed for the EIA report as well as the subsequent AIA walk-down survey of the final approved powerline servitude.

- Step II – Physical Survey: A physical survey and verification was conducted on foot based on the results of the Aurecon's first walkdown survey and Eskom tower position final alignment (16 to 22 September 2013). The walkdown survey aimed at locating and documenting sites falling within and adjacent to the proposed development footprint.

- Step III – The final step involved the verification, recording any additional archaeological and cultural heritage sites and documentation of relevant archaeological resources along the approximately 105 kilometers, as well as the assessment of resources in terms of the archaeological impact assessment criteria and report writing, as well as mapping and construction recommendations.

The HMP is based on the data therefrom.

5. LEGAL FRAMEWORK, BEST PRACTICE GUIDELINE AND EXISTING HERITAGE MANAGEMENT SYSTEM

This heritage walk down survey and HMP report is a component of a broader EMP Study and addresses the requirements of the NHRA Act 25 of 1999 and EMP Terms of Reference in relation to the assessment of impacts of the proposed development on the cultural and heritage resources associated with the receiving environment.

5.1. Legal Framework

Relevant HIA studies and approvals were conducted and granted respectively. The statutory mandate of heritage management plan (HMP) studies is to encourage and facilitate the protection and conservation of archaeological and cultural heritage sites, in accordance with the provisions of the National Heritage Resources Act, Act 25 of 1999 and auxiliary regulations. The National Heritage Resources Act (NHRA) No. 25 of 1999 protects all defined heritage resources including archaeological, palaeontological, prehistoric and historical material (including ruins) more than 100 years old (under Section 35), human remains older than 60 years and located outside of a formal cemetery administered by a local authority (under Section 36) and non-ruined structures older than 60 years (under Section 34). A broader protection is also offered to Landscapes with cultural significance, which are also protected under the definition of the National Estate (Section 3 (3.2d)).

The heritage legislation is implemented through the provincial heritage agency and the SAHRA. Permits must be acquired from the South African Heritage Resources Agency (SAHRA) before a heritage site (including graves and cemeteries) can be affected or destroyed during development activities.

Additional legal requirements are covered in the associated EMP guided by applicable National Environmental Management Act, 1998 (Act No. 107 of 1998) and the National Environmental Management Amendment Act, 2008 (Act No. 62 of 2008) (NEMA).

5.2. Best Practice Guidelines and existing Heritage Management Systems

The best practice guidelines for heritage management in South Africa are provide by the SAHRA Guidelines. Other applicable international best practice include the Burra Charter (Australia), the World Bank Operational Policies (Protection of Physical Cultural Properties) as well as ICOMOS Guidelines (UNESCO WHC).

Eskom SOC Limited (the developer) subscribes to ISO14001 Certified EMS and has developed and implements an Environmental Management Systems (EMS) that are certified to the ISO14001 International Environmental Management Standard. This International Standard, as per SANAS ISO14001:

> *2004 Edition 2, Environmental Management Systems - Requirements with guidance for use, states that the Standard "specifies requirements for an environmental management system to enable an organisation to develop and implement a policy and objectives which take into account legal requirements and other requirements to which the organisation subscribes, and information about significant environmental aspects. It applies to those environmental aspects that the organisation identifies as those which it can control and those which it can influence. The system enables an organisation to develop an environmental policy, establish objectives and processes to achieve the policy commitments, take action as needed to improve its performance and demonstrate the conformity of the system to the requirements of the ISO14001 International Standard".*

Following international best practice, heritage resources are considered part of the environment and as such are also covered under this EMS. Therefore, all Eskom policies that protects or guide environmental management are taken to also project cultural and physical heritage resources in the context of Eskom projects.

DESCRIPTION OF THE UMFOLOZI-THETA POWERLINE SERVITUDE

Phase 1 AIA and HIA studies conducted in 2007 highlighted the potential for the affected landscape between Umfolozi Substation and new Empangeni Substation site to yield archaeological and cultural heritage resources. The study also identified contemporary cultural sites such as the remains of historic homesteads and farmsteads that were associated with different sections of the route that was presented. This potential to affect such sites triggered the necessity of conducting a detailed Walk-down survey once the final route was approved. This route having been approved, a detailed walk-down survey covering especially the affected specific pylon locations was conducted (see Figure 1).

LOCATIONS STRUCTURE 1 TO STRUCTURE 20

Plate 1: View of Umfolozi Substation where the proposed powerline will T-off.

Plate 2: The approved powerline will cut through previously cleared agricultural landscape with secondary vegetation currently used for livestock grazing.

Structures 1 to 20 shown in Figure 2 are all situated on previously degraded and disturbed land portions where high voltage powerlines, railway line, minor reticulation powerlines and railway servitude roads and boundary fence lines already traverses along the powerline route. During the survey and verification exercise, the surveyed Pylon Structures positions 1 to 20 yielded an archaeological site on the direct path and vicinity of the tower positions 5 and 6. The preliminary walk down survey reported one grave at tower 5, but the verification exercise revealed that the entire section from tower 5 to 6 is an archaeological site. The archaeological site was initially not mentioned during the phase 1 HIA and preliminary walk down surveys. The archaeological site is marked by remains of an abandoned homestead that include three circular house foundations, foundation of rectangular stone structure, cattle kraal, characterised by circular stone structures and remains of house foundations and a solitary grave (see Plate 2 images). The centre of the site is located at GPS Coordinates S28° 13´ 12.1" and E031° 12´ 10.1". Another archaeological site occurs about 50 m from the main site. The site is marked by remains of 4 circular stone structures. The centre of the site is located at GPS Coordinates S28° 13´ 11.9" E031° 12´ 15.5". The archaeological site between Towers 5 and 6 will be impacted upon during stringing and movement of construction equipment along the powerline route. The team went on to recorded nine graves in the vicinity of tower 10. (The burial ground is part of a broader archaeological settlement site marked with stone enclosures and stone foundation remains (see Plate 4-5). This site has previously been disturbed by Eskom Contractors who used it as either a temporary storage site or construction camp as evidenced by recent remains of cable drums and other litter on site. The new final tower position alignment avoided the site. The archaeological site and associated burial site now fall outside the direct tower development impact zone. However, the area is still prone to disturbance during all stages of the tower development. The survey also recorded a circular stone structure about 40m in diameter and 35cm high and a possible grave near tower 15. There is also a homestead located about 100m from the site. The final tower position alignment moved the tower further away from the stone structure. All the new tower positions were assessed during the survey (See table 2). The survey did not record any new findings on the new tower position within the approved servitude.

Figure 2: Location of Historic archaeology sites associated with Tower 5 and 6. (Red marks the outer boundary; Blue marks the core of the sites).

Impact	Impact Significance	Heritage Significance	Certainty	Duration
High	High	Medium	Unsure	Long term

Recommended Mitigation

Monitoring is required during all stages of construction from excavation for tower foundations, erection of towers and stringing for Towers 5 and 6. Tower 5 is also associated with a grave. The grave should be marked and protected in situ during all construction activities on site. The rubble, litter and cable drum remains recorded in stone walls on the archaeological site near tower 10 should be cleaned up. The site should be protected from any future abuse by contractors when working in the project area. An archaeologist should monitor installation of Tower 10 during foundation excavations, erection and stringing. Although the archaeological stone structure and possible grave on tower 15 is now out of the tower construction impact zone, the site should be clearly marked and should be monitored during stringing. There is a high possibility of the site being interfered with during stringing because heavy construction machinery requires large space to operate. However, in the unlikely event that chance archaeological materials are disturbed at any of the

remaining tower positions in this section, salvage and chance finds procedures should be implemented in line with the project HMP.

Furthermore in the unlikely event that chance archaeological materials are disturbed at any of the tower position, salvage and chance finds procedures should be implemented as would be stipulated in the project HMP.

Plate 3: Top Left - Grave situated close to tower 5 position within the historic archaeology site. Top Right – Stone wall remains on site. Bottom Left - Housing remains spread over the site. Bottom Left – artefact remains recorded on site.

Plate 4: Left - Stone wall feature on Archaeology site 2 situated between Tower 5 and 6. Right – Grinding stone recorded on site 2.

Plate 5: Top L&R – Graves on site associated with Tower 21. Nine graves were recorded on this site. Bottom L&R – Stonewall structure recorded on site. The site is associated with the gravesite previously described.

Plate 6: Top & Bottom - rubble and cable drum remains left on archaeological site by previous Eskom Contractors. This site should be cleaned and all rubble and litter removed from area.

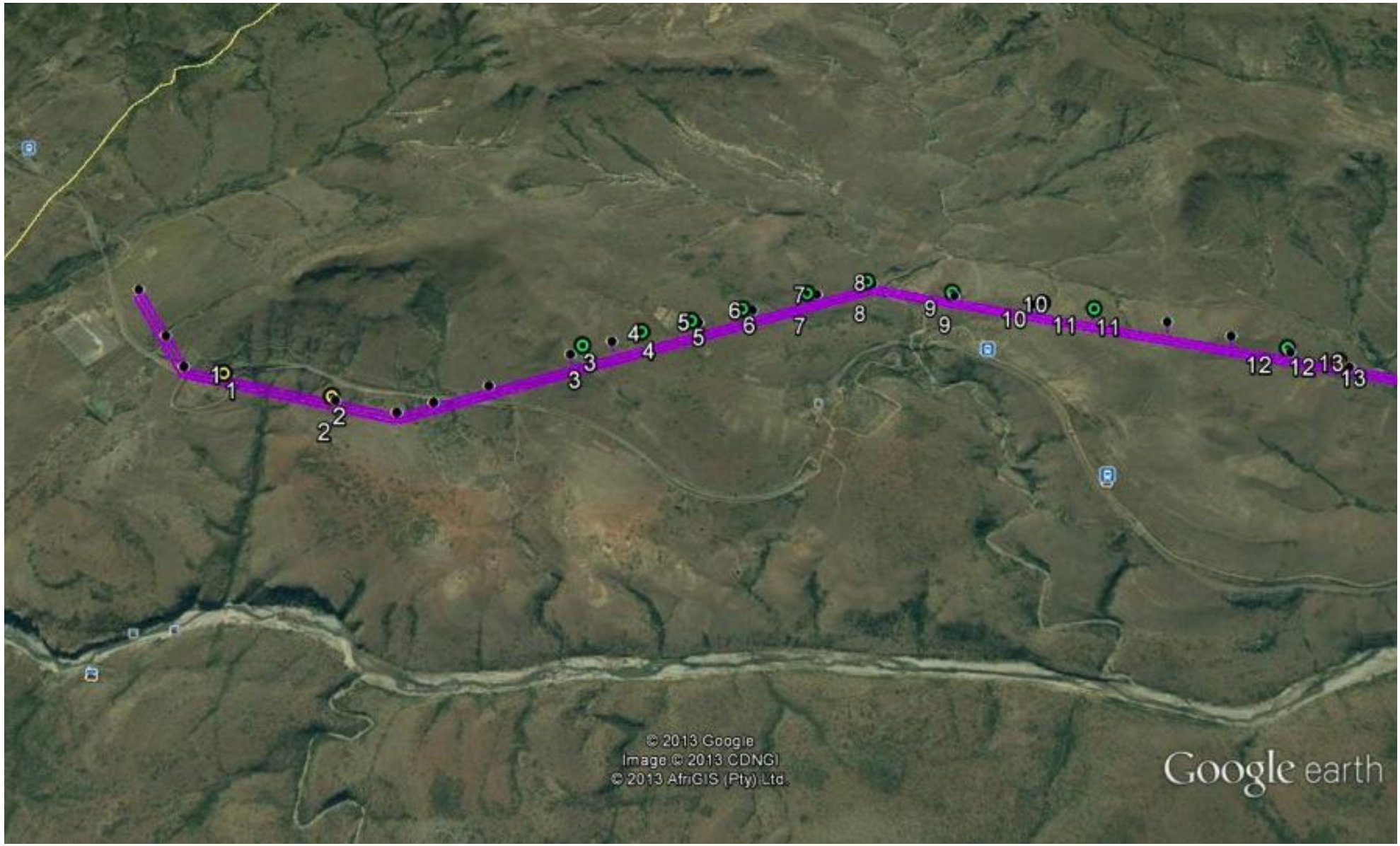


Figure 3: The powerline pylon positions follow the servitude that runs parallel to an existing high voltage powerline and railway line.

LOCATIONS STRUCTURE 21 TO STRUCTURE 40

Structures 21 to 40 are located within similar contemporary and historic landscape characterised by existing powerlines, railway lines and service and access roads, rail staging stations and isolated settlements. The area is significantly disturbed from previous and current agricultural land use activities (see Figure 3). The proposed powerline servitude runs parallel to an existing high voltage powerline and it crosses the railway line and regional roads. Nine burials were recorded in the vicinity of tower 21. The burial site now falls outside the direct tower development impact zone. The team further inspected the Early Stone Age scatter recorded on tower 36. Although the tower position was shifted to avoid the site, the area around tower 36 is still prone to disturbance during development. The team went on to verify the position of a grave recorded near Ntombi Mabaso's homestead on tower position 38, the burial site is now located out of the impact zone. Tower position 40 was shifted to avoid a Middle/ Late Stone Age Site that stretches over an area about 40m x 25m. The survey recorded a significant number of stone artefacts that are visible on the surface. Although the tower position was shifted to avoid the site the area around tower 40 is prone to disturbance during the development. There is a high possibility of encountering discernable Stone Age artefacts during excavation for tower foundation. New tower positions were surveyed during the walk down and verification exercise. No new findings were recorded on structures 21 to 40. They are all located within the approved servitude.

Plate 7: A scatter of Middle Stone Age tools recorded in the vicinity of the powerline route. Such site should not be disturbed during the construction phase since they may are protected by the NHRA, Act 25 of 1999.

Impact	Impact Significance	Heritage Significance	Certainty	Duration
medium	Mediu	High	Unsure	Long term

Recommended Mitigation

An archaeologist should monitor installation of Tower 21, 36, 38 and 40 during foundation excavations, erection and stringing. Special emphasis should be placed on tower 40 where an extensive Middle/ Later Stone Age site was recorded in the preliminary walk down survey and confirmed by Nzumbululo Specialists. Although it may be time consuming, the construction team should allow the monitoring archaeologist to conduct extensive search for stone artefacts during excavation for tower foundation. The findings if any should be well documented, classified and tagged. Provision for storage of possible finds should be made with the nearest museum prior to commencement of work. If the excavation yields significant Stone Age tools, further research should be commissioned to salvage the entire site. However, in the unlikely event that chance archaeological materials are disturbed at any of the remaining tower positions in this section, salvage and chance finds procedures should be implemented in line with the project HMP.

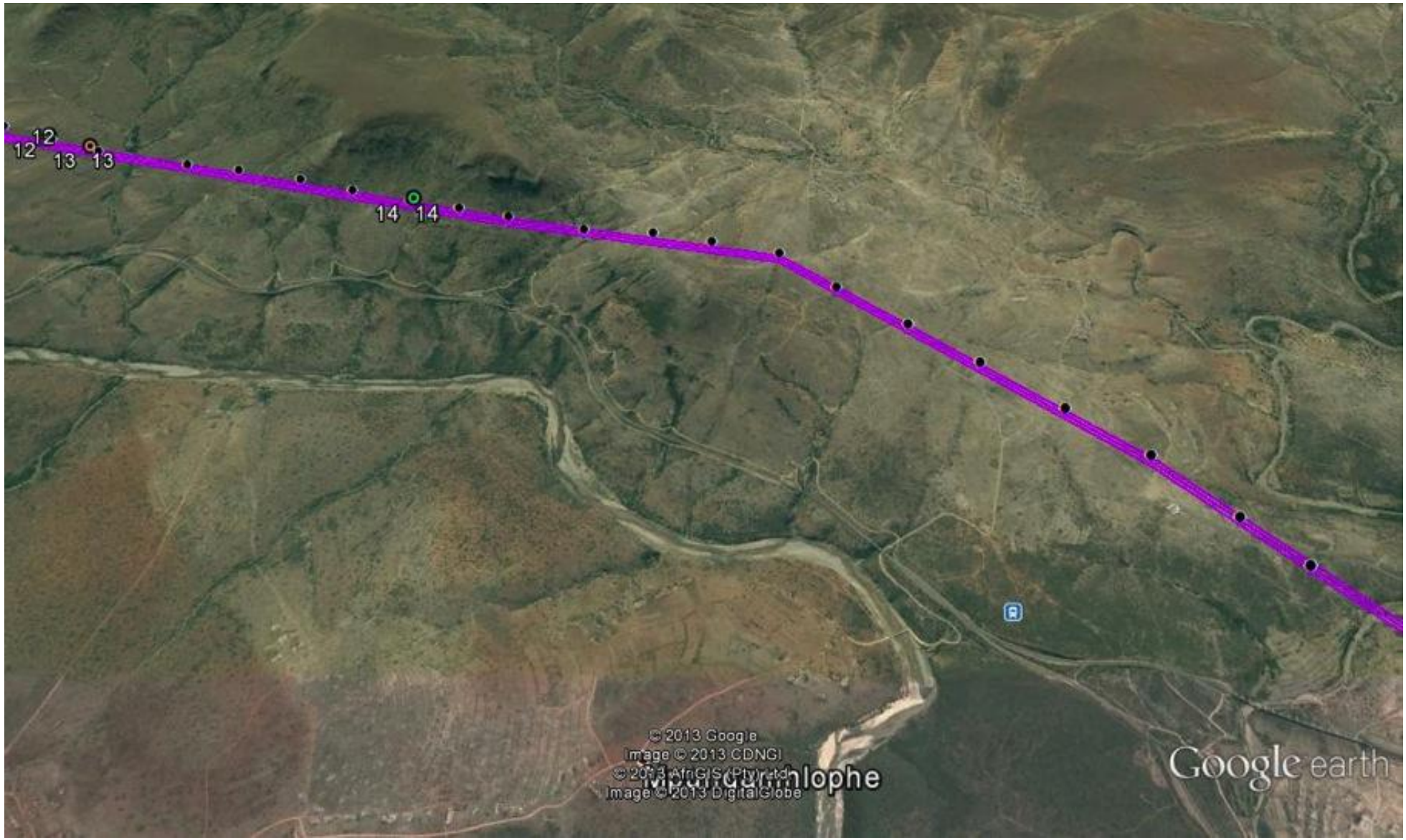


Figure 4: Powerline Pylon Structures 21 to 40 are also located in communal grazing area, and runs along an existing high voltage line, railway and regional roads.

LOCATIONS STRUCTURE 41 TO STRUCTURE 60

Structures 41 to 60 are located in an area characterised by existing high and medium voltage powerlines, railway lines, regional, district and access roads and rural settlements. The walkdown survey and verification exercise recorded and confirmed existence of previously recorded burial ground site. The site is on the direct path of Tower 42. The burial ground has nine graves on the direct path of tower 42. The initial walk down survey had recorded five burials only. The burial ground site is located at GPS Coordinates S28° 26´ 42.7" E031° 41´ 47.48" between Mbudle and Eqwasha Villages in rural Nongoma region. The burials are marked by oval shaped stone piles and probably associated with the nearby homesteads and remains of historic homestead that are outside the impact zone. The burial site associated with Mbatha's homestead. The remains of a historic homestead were also inspected during the walk down exercise. All the new tower positions were inspected to verify if they are located within the approved servitude and to check for occurrence of any archaeological signatures. No new archaeological and heritage sites were recorded on the new tower positions 41, and 43 to 60. The new tower alignment placed all the towers within the approved powerline servitude.

Figure 5: Historic site with a burial ground with nine graves. The site on direct path of Tower 42. The graves therefore should be relocated before construction work begins at Tower 42.

Plate 8: View of nine graves recorded on the direct path of tower 42 Note that the site.

Plate 9: View of burials at tower 42.Note the trees and vegetation growing on the graves, the custodians may have left the area long back.

Figure 10: Figure 5: Burial site at tower 42 trees and shrubs have been growing on top of the graves which may suggest that the custodians may be difficult to trace. Note that from a technical point of view the burial cannot be avoided therefore should be relocated.

Impact	Impact Significance	Heritage Significance	Certainty	Duration
High	High	High	Certain	Permanent

Recommended Mitigation

Eskom final tower position could not avoid the burial ground site at tower 42 because it will alter the alignment of the powerline route and it is surrounded by eroded and an existing local road nearby. From a technical point of view the tower position cannot be shifted. As such the nine burials on the direct path of tower 42 should be relocated in accordance with the relevant legislations. An archaeologist should monitor installation of Towers 42 during foundation excavations, erection and stringing to ensure that the solitary burial sites associated with the Mbatha homestead and remains of a historic homestead are not affected during construction and movement of heavy construction machinery. Subject to relocation of the burials, no further mitigation is required prior to construction phase. However, in the unlikely event that chance archaeological materials are disturbed at any of the remaining tower positions in this section, salvage and chance finds procedures should be implemented.

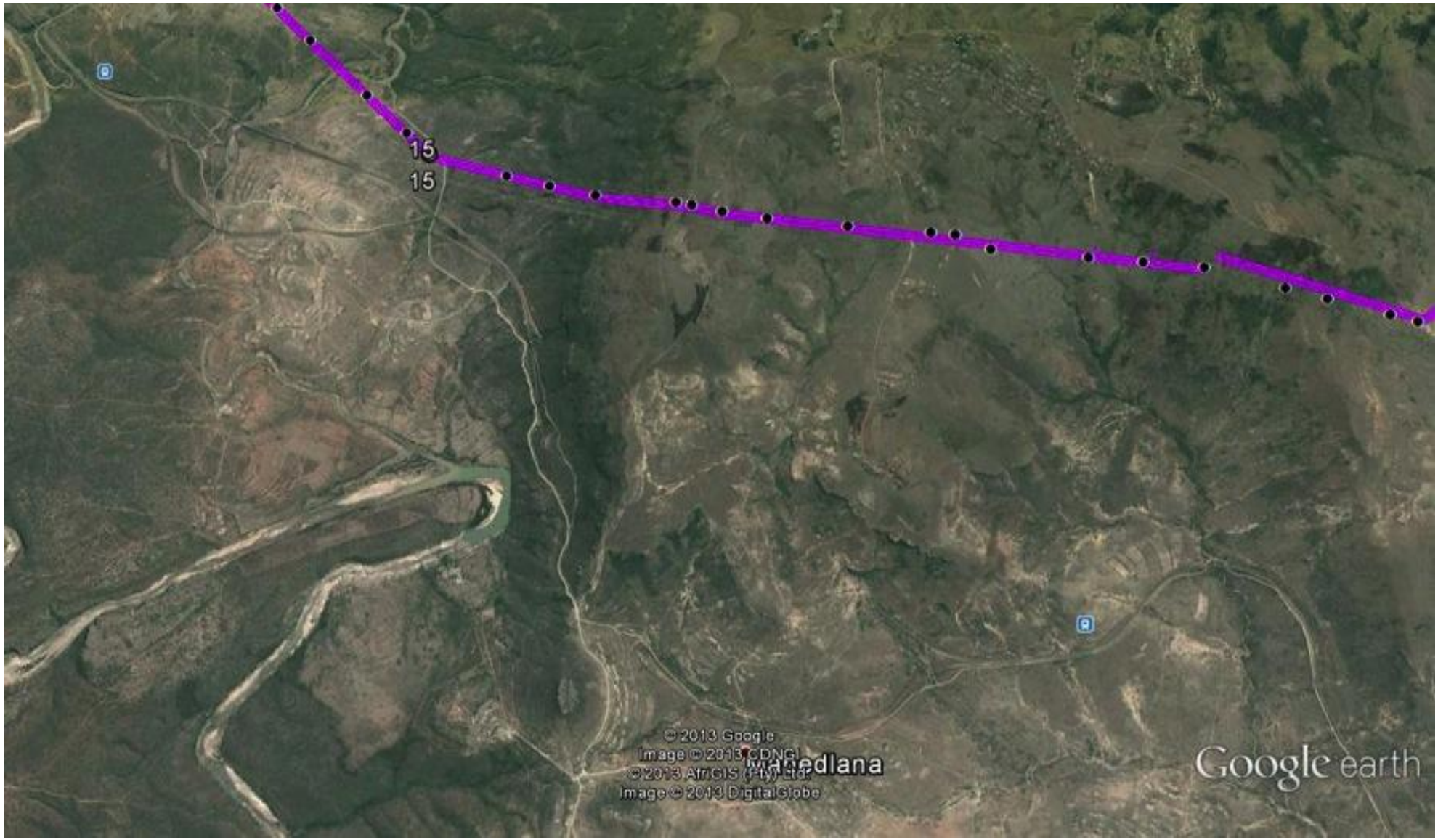


Figure 6: Figure 3: Structures 41 to 60 are situated along communal grazing and agriculture area. Note some farm dwellings in the vicinity of tower 41 to tower 45

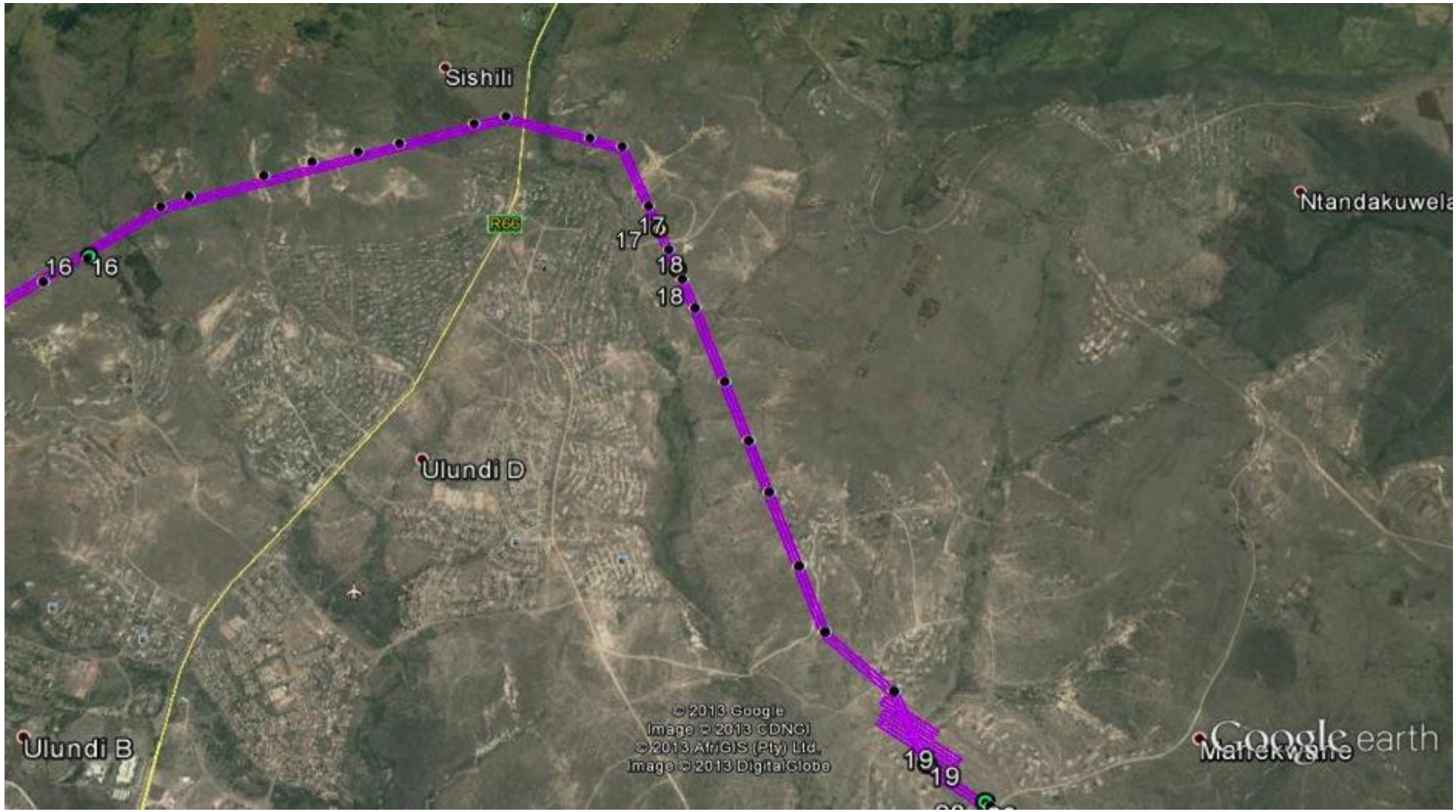


Figure 7: Figure 4: TWR 61 to 80 located in the vicinity of Ulundi section D residential area. Note the archaeological and heritage sites 17 and located in the vicinity of tower 73, 74 and 75.

LOCATIONS STRUCTURE 61 TO STRUCTURE 80

Tower Structures 61 to 80 shown in Figure 9 are all situated on portion of previously degraded and disturbed land portions where two existing high voltage powerlines already traverses across the farms characterised by farm tracks, boundary fence lines. Pylon Structures positions 61 to 80 were surveyed to verify the positions and status of recorded archaeological and heritage sites. This section of the powerline runs on periphery of densely built up areas through the boundary of Ulundi Town residential areas.

The areas adjacent to Tower positions 66 to 68 are in vicinity of a contemporary burial ground (cemetery) with 20 graves. The final tower alignment for the powerline shifted the tower positions away from impact zone and as such the burial ground will not be affected by tower installation. Eskom final tower position alignment also shifted tower 72 to avoid a contemporary graveyard that was initially recorded within the impact zone of the tower. Tower 73 final positions were shifted further east to avoid this contemporary cemetery in the eastern outskirts of Ulundi B residential area. Tower 74 was shifted to avoid remains of a historic homestead. The site is now located out of the construction impact zone. New tower positions were inspected during the walk down survey. The study confirmed that the new tower positions were all placed within the 110m approved servitude. No new archaeological findings were identified on the new tower positions.

Impact	Impact Significance	Heritage Significance	Certainty	Duration
None	Low	None	Unsure	Short term

Plate 11: A contemporary cemetery near tower 73 located in the outskirts of Ulundi D .The burial site is significantly away from the impact zone, however the construction team must exercise caution when working near the burial site.

Recommended Mitigation

The sites must be monitored during installation of tower 66-67, 72, 73, 74 and 75 to avoid any interference with the contemporary cemetery and burial grounds recorded in the area. The construction team should avoid working near the contemporary cemetery during burial ceremonies. Heavy machinery should not be driven near the contemporary cemetery because they cause vibration, which may disturb the stability of burials and graves especially those with newly installed tombstones.

Plate 12: Plate 13: Remains of a historical homestead near the tower 74.

Plate 14 Remains of a historical homestead in the vicinity of tower 75 near Ulundi section D

Plate 15: View of remains of a historical homestead located near tower 75. Note that the site is significantly far from the impact zone.

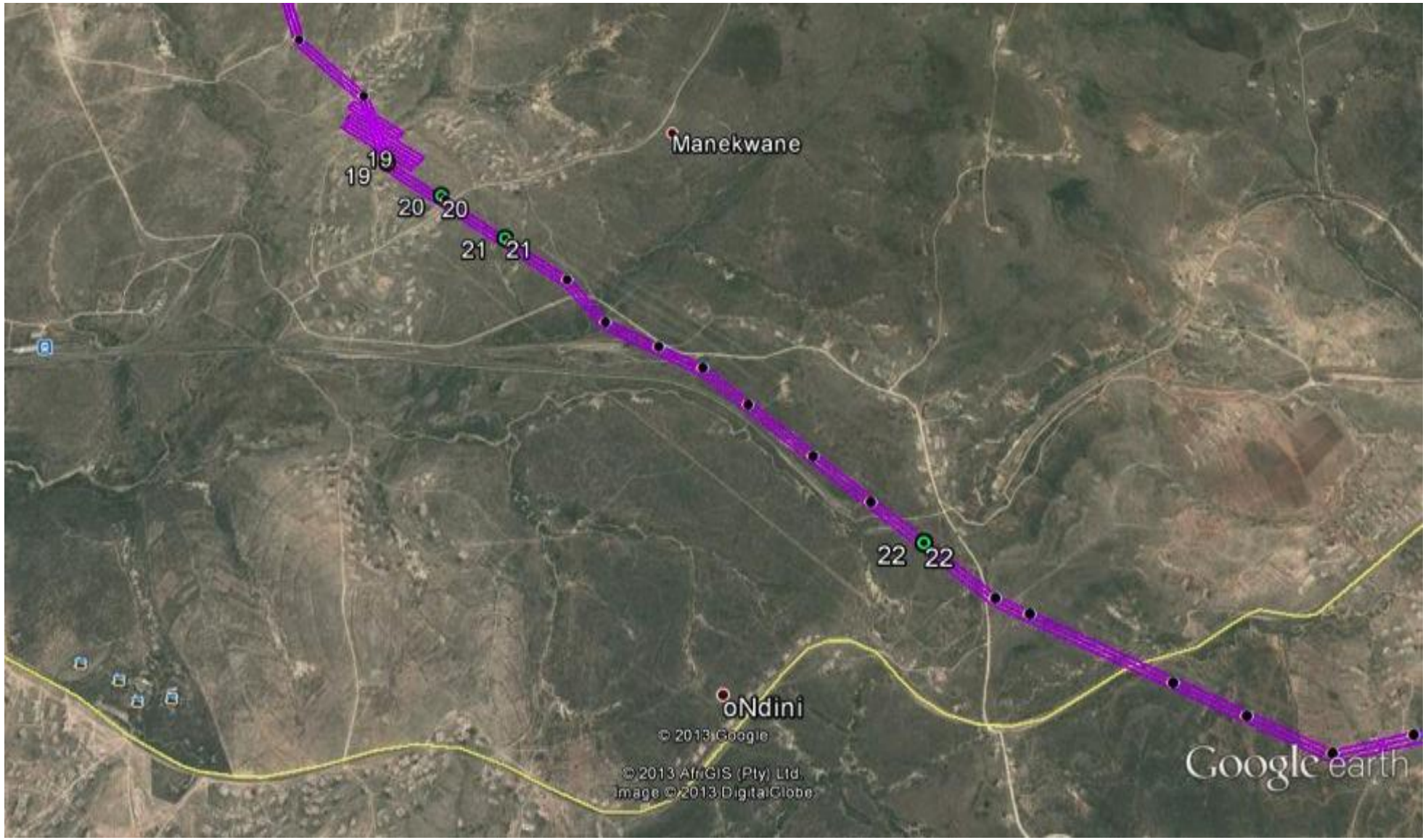


Figure 8: TWR 81 to 100 running along. TWR 81 to 100 are located within mixture of disturbed agricultural land, main and access roads, railway line, river valley and ravines.

LOCATIONS STRUCTURE 81 TO STRUCTURE 100

Structures 81 to 100 shown in Figure 10 are all situated on portions of land consisting of main road servitude, farm dwellings, high and low voltage powerlines, streams villages and associated grazing lands. Most of the receiving land portions were previously degraded and disturbed with existing powerline, access roads, rural homesteads and agricultural fields. Two high voltage powerlines run parallel to the proposed powerline servitude. Two sites were initially recorded on this stretch of the powerline route. The remains of a historic homestead between tower 84 and 87 were inspected using information on the preliminary walk down report and Eskom's final tower alignment. The final tower alignment avoided the site by shifting the tower positions and the site is now significantly off the impact zone. Tower 87 was also shifted to avoid the Middle Stone Age scatter that was recorded during the preliminary walk down survey. During current walk down and site verification exercise the new tower position was inspected and no archaeological heritage was identified within the impact zone of tower 87. Based on the final tower alignment and what the survey team observed, Pylon Structures positions 81 to 100 will have no identified impact on any archaeological or heritage sites in their vicinity. The previously recorded archaeological sites are now significantly far from the impact zone. The new tower positions were placed within the 110m approved powerline servitude.

Impact	Impact Significance	Heritage Significance	Certainty	Duration
None	Low	None	Unsure	Short term

Recommended Mitigation

Monitoring is however, required during excavations for tower position 84, 85 and 87. In the unlikely event that chance archaeological materials are disturbed at any of the tower position, salvage and change finds procedures should be implemented. No further mitigation is required prior to construction phase.

Plate 16: The proposed powerline cuts through sloppy and thickly vegetated areas.

LOCATIONS STRUCTURE 101 TO STRUCTURE 120

Tower Structures 101 to 120 shown in Figure 10 are all situated on portions of land consisting of mainly farm track servitude, high and low voltage powerlines, infrastructure, streams and grazing lands. Most of the receiving land portions were previously degraded and disturbed with existing powerline, access roads, farm dwellings and agricultural fields. A high voltage powerline run parallel to the proposed powerline servitude. The positions of tower 105 and 106 were inspected in relation to a burial site that was recorded during the preliminary walk down survey. The site comprises of 37 graves marked by oval shaped stone piles and three graves which are marked by tombstones with inscribed headstones. The burial site is located more than 150m from the construction impact zone. The burial site recorded near tower 113 was confirmed to be located far from the powerline impact zone. The Shembe Church, which was recorded near tower 107, was inspected during the survey. According to Eskom final tower alignment, the site will not be impacted by the installation of tower 107.

Impact	Impact Significance	Heritage Significance	Certainty	Duration
None	Low	Medium to high	Unsure	Short term

Recommended Mitigation

An archaeologist should monitor installation of Towers 105, 106 and 107 and 113 during foundation excavations, installation and stringing. The contractor must ensure that

construction activities especially movement of heavy construction machinery and workers do not interfere with places of worship such as Shembe Church and burial sites.

LOCATIONS STRUCTURE 121 TO STRUCTURE 140

The survey verified archaeological and heritage sites that were recorded near tower 125, 129, 131, 132, 133, 134 and 138 (see details on the preliminary walk down). Eskom realigned the tower positions and all the sites recorded near these tower positions now fall out of the construction impact zone. None of the mentioned heritage sites will be impacted by the installation of Structures 125 to 138. The walk down survey conducted by Nzumbululo Specialists confirmed that all the new tower positions were placed within the 110m approved powerline servitude and none of them yielded any new archaeological or heritage sites.

Impact	Impact Significance	Heritage Significance	Certainty	Duration
None	Low	None	Unsure	Short term

Mitigation

Monitoring is required for tower 129,133, 134 and 138; the area around these towers is prone to destruction during construction of the powerline. Although all the archaeological and heritage sites have been avoided, the sites need to clearly marked to avoid interference especially during delivery of material and stringing where heavy construction machinery will be used. However, in the unlikely event that chance archaeological materials are disturbed at any of the tower position, salvage and change finds procedures should be implemented. Although the burial site is located far off the powerline servitude the construction team must exercise extreme caution when working near burial sites because they are highly sensitive.

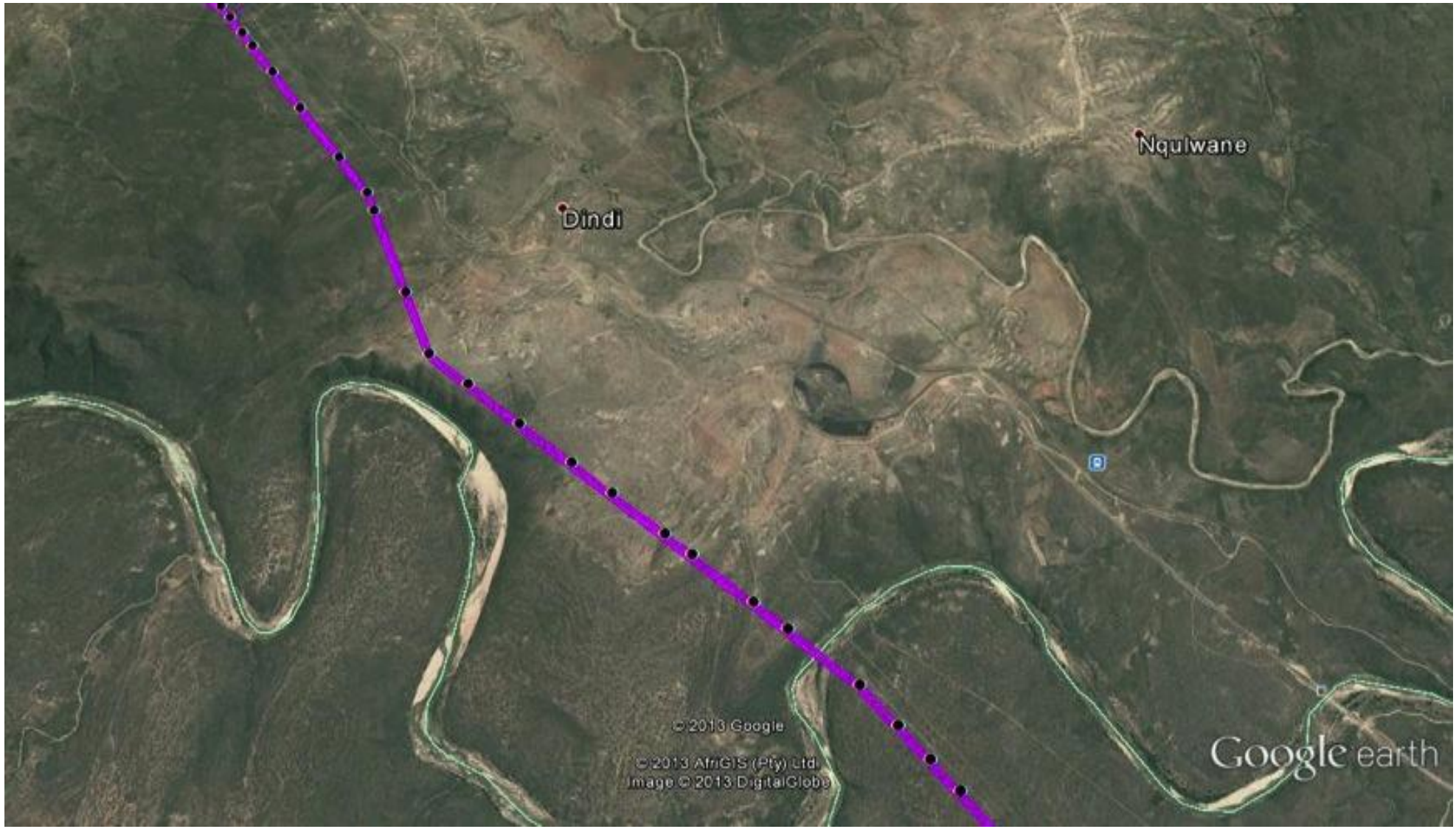


Figure 9: Powerline will cut through disturbed communal areas. There are two existing powerline that cuts across the mountainous area.

LOCATIONS STRUCTURE 141 TO STRUCTURE 160

The preliminary survey recorded burial sites near tower 151, 152, 154, a Shembe Church near tower 157 and low density scatters of Stone Age material near tower 154 and 159 (See preliminary report). Eskom realigned the affected tower positions to avoid heritage sites and archaeological scatters recorded during the preliminary walk down survey. The walk down and verification exercise conducted by Nzumbululo specialists confirmed that the recorded archaeological and heritage sites now fall out of the impact zone due to realignment of affected tower positions (See attached comments on the new tower positions). The new tower positions are now within a buffer of 60m from affected sites. The new tower positions were inspected and none of the tower positions 141 to 160 yielded new archaeological or heritage sites. The new tower positions were placed within the 110m approved powerline servitude.

Plate 17: Shembe Church site located in vicinity of powerline development

Impact	Impact Significance	Heritage Significance	Certainty	Duration
None	Low	None	Unsure	Short term

Recommended Mitigation

An archaeologist should monitor installation of Towers 154, 157 and 159 during foundation excavations. These towers locations are associated with archaeological signatures which indicates potential to yield subsurface discernable archaeological remains that may require to be recorded. No further mitigation is required prior to construction phase on other tower positions. However, should chance archaeological materials are disturbed at any of the remaining tower positions in this section, salvage and chance finds procedures should be implemented. The construction team must exercise extreme caution when working near active burial sites and open-air places of worship such as the Shembe Church.

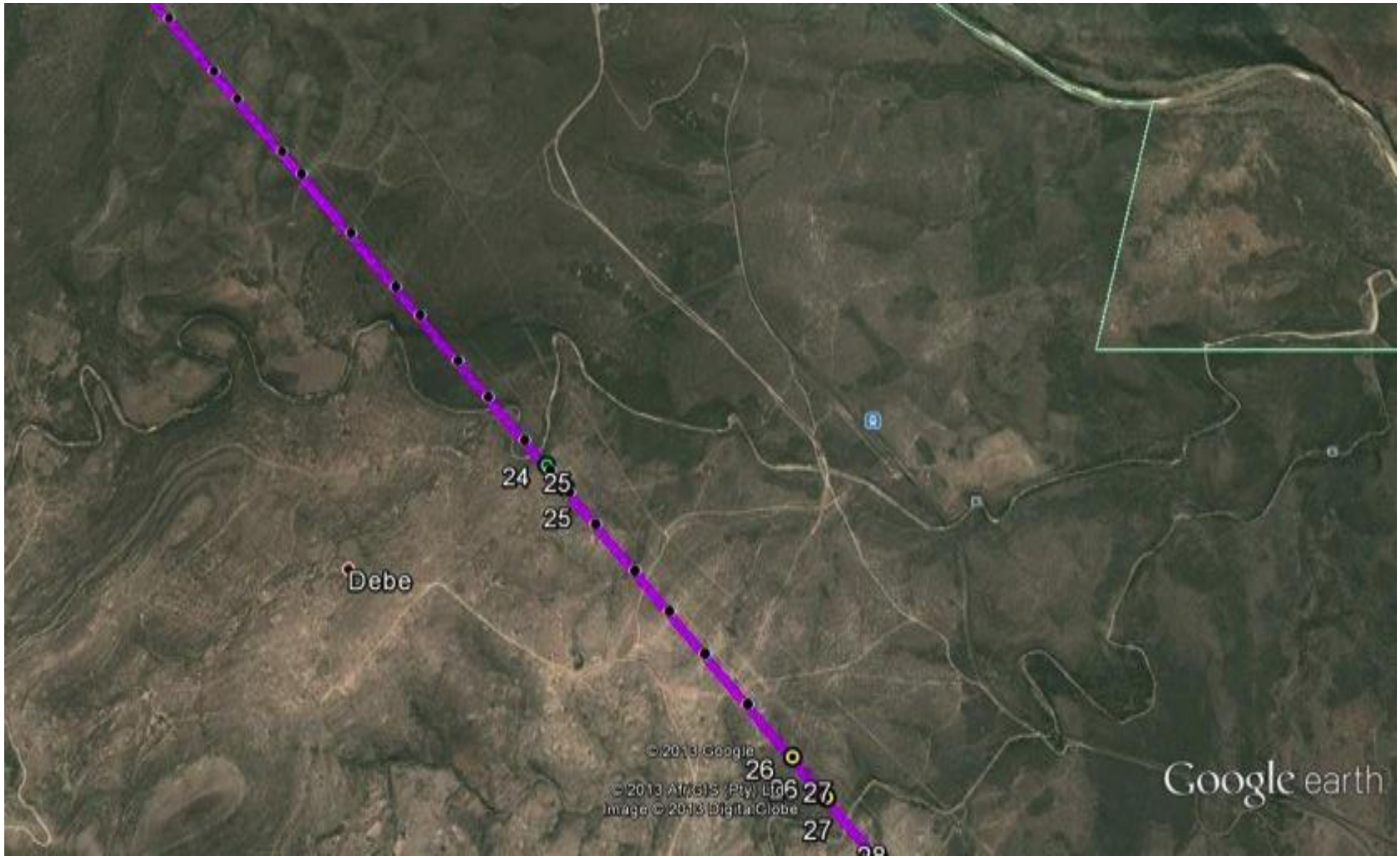


Figure 10: Figure 8: Powerline will run along existing high voltage powerline servitude characterised by rural settlements and communal grazing areas.

LOCATIONS STRUCTURE 161 TO STRUCTURE 180

Tower Structures 161 to 180 shown in Figure 13 are all situated on portions of land consisting of road servitude, farm boundary fence lines, and farm dwellings, high and low voltage powerlines, irrigation agricultural land, streams, grazing lands and heavily eroded sections. The survey of Pylon Structures positions 161 to 180 yielded a burial site near Tower 161, irregular stone concentration near tower 175 and undecorated potsherd near tower 177. The realignment of tower positions shifted tower position 161, 175 and 177 to avoid the recorded sites. Although tower 161 was shifted the recorded burial sites still falls 40m from the tower position. However the site can be avoided under strict supervision. All the new tower positions were inspected during the walk down survey. Nzumbululo specialists confirmed that all the new tower positions were placed within the 110m approved servitude. No new archaeological or heritage sites were recorded on the new tower positions.

Impact	Impact Significance	Heritage Significance	Certainty	Duration
None	Low	None	Unsure	Short term

Recommended Mitigation

Monitoring is required during installation of tower 161. The construction team must exercise extreme caution when working at tower 161 because the burial site is still located in the fringes of the construction impact zone. In the unlikely event that chance archaeological materials are disturbed at any of the tower position, salvage and change finds procedures should be implemented. Abandoned homesteads should be avoided since they may yield burial sites.

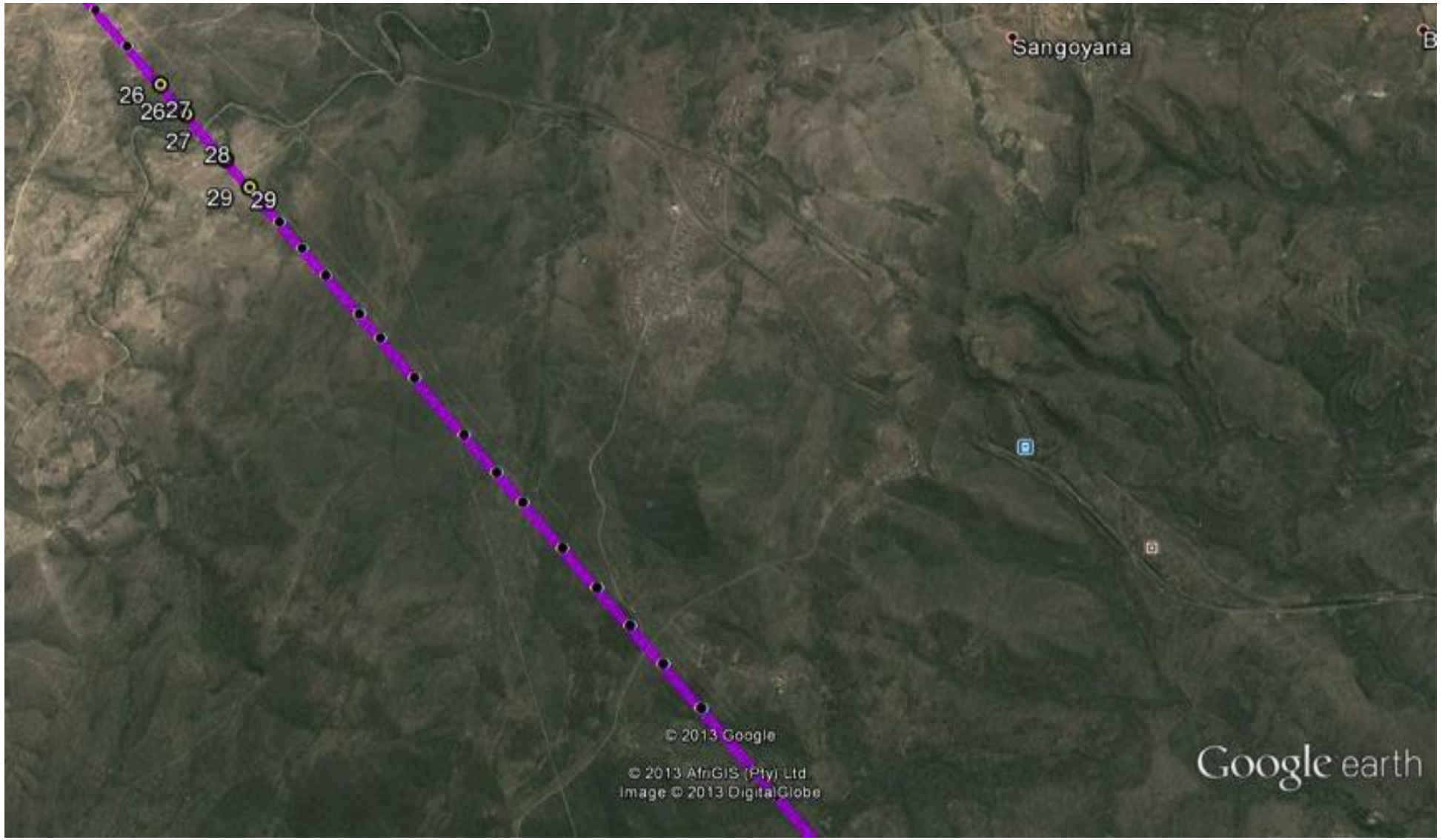


Figure 11: Figure 9: Tower 160 to 180 also cuts through some disturbed landscape; there are settlements, main and access roads cultivated fields and patches of grazing areas.

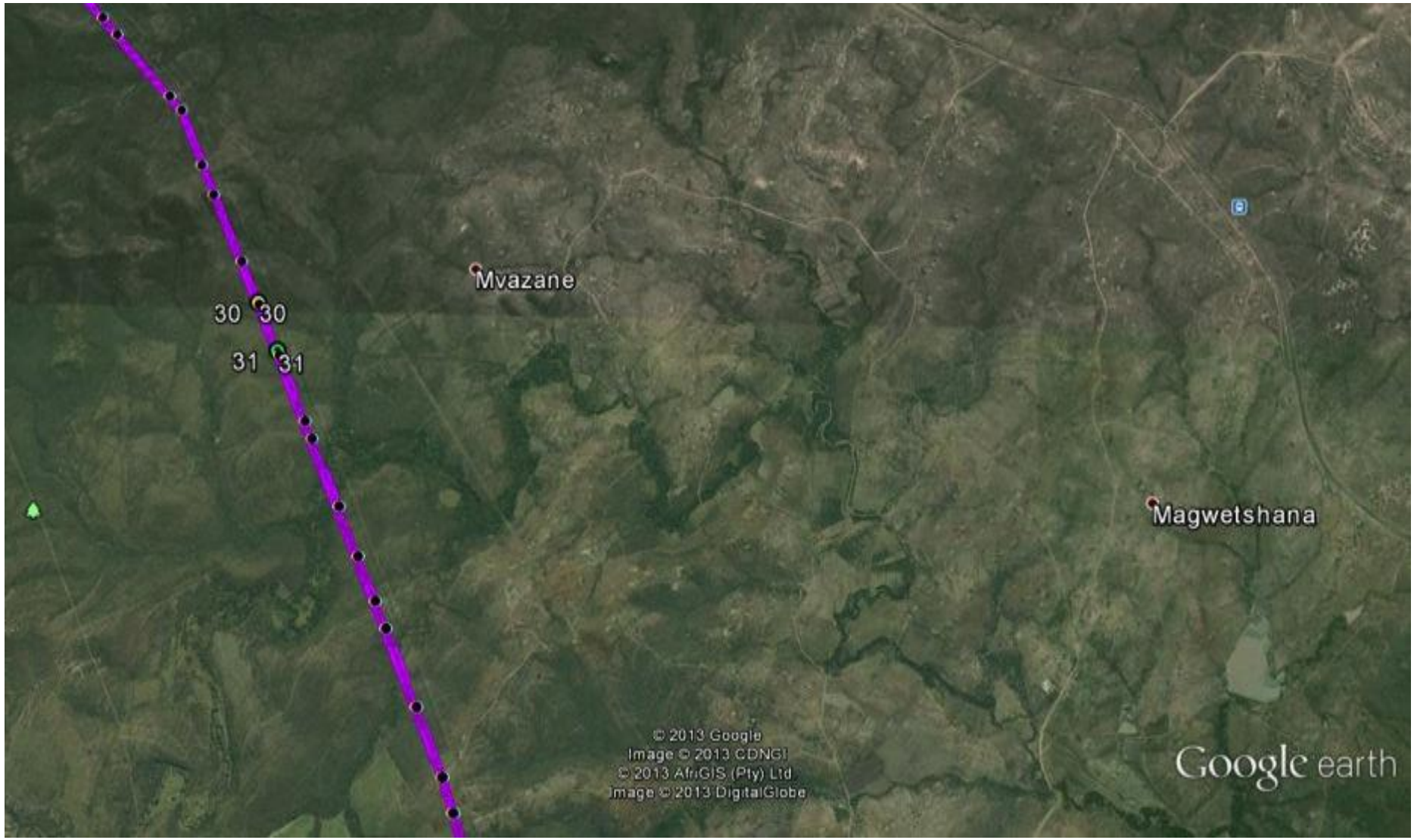


Figure 12: Tower 180 to 200 also cuts through heavily disturbed landscape; there are cultivated fields and patches of grazing areas.

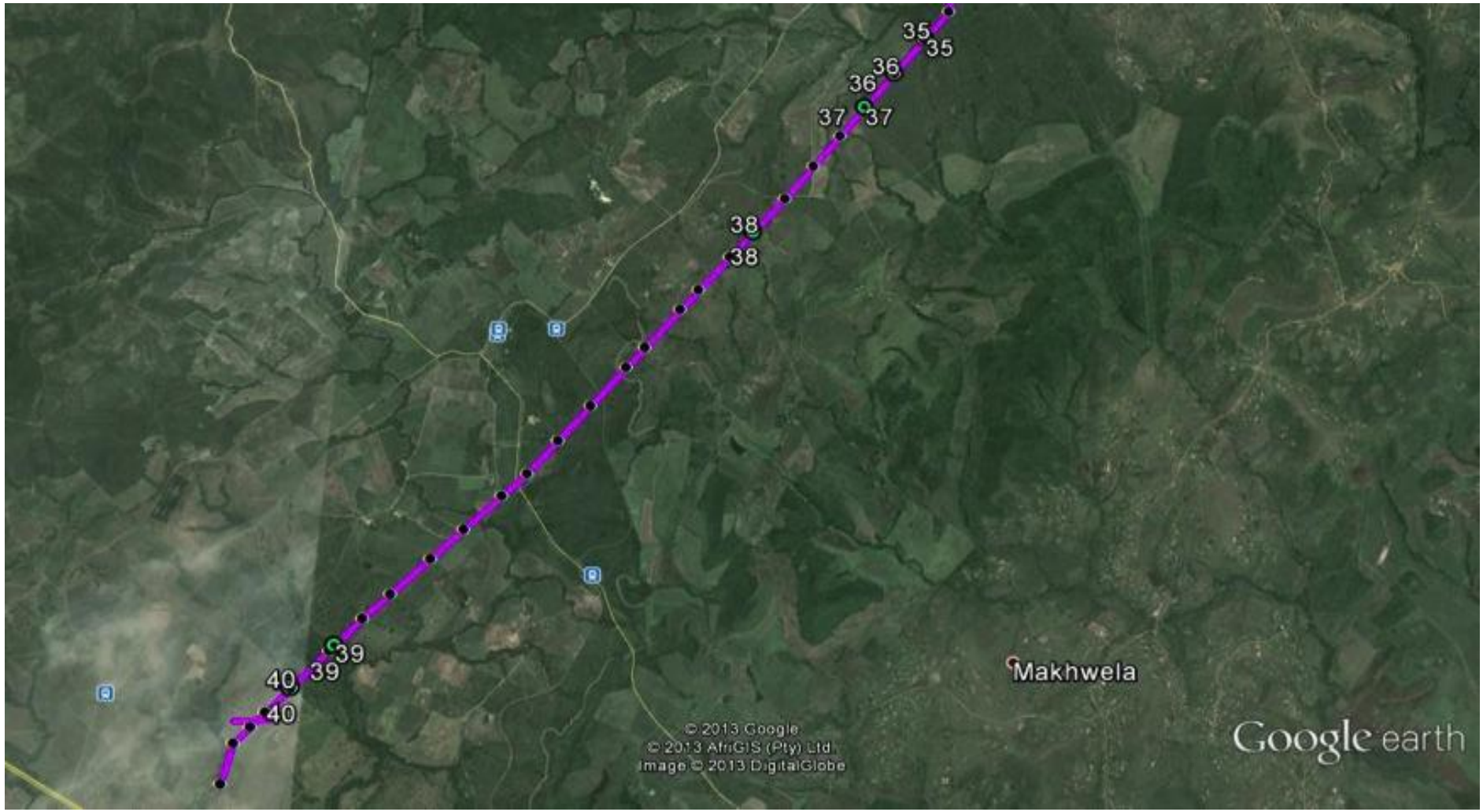


Figure 13: Tower 201 to 234 also cuts through heavily disturbed landscape; there are cultivated fields and patches of grazing areas.

LOCATIONS STRUCTURE 181 TO STRUCTURE 200

The powerline tower positions 181 to 234 are situated mainly in commercial agricultural landscape dominated by sugar plantations and associated agro-business facilities. The final tower alignment and results of the verification exercise conducted by Nzumbululo Heritage Solutions confirmed that all towers have been placed in heritage neutral locations within the 110m approved servitude. Sites such as the burial site originally recorded near tower 192 now fall out of the impact zone.

Impact	Impact Significance	Heritage Significance	Certainty	Duration
None-low	Low-medium	None to low	Unsure	Short term

Recommended Mitigation

The construction workers must exercise caution especially during stringing of all towers in this section. Other than generic monitoring, no further mitigation is required prior to construction phase. However, should chance archaeological materials be disturbed at any of the unmonitored tower positions in this section, salvage and chance finds procedures should be implemented.

Plate 18. Typical landscape through which the powerline will traverse in section after Ulundi region. The powerline cuts through sloppy area with isolated farm or village settlements, agriculture fields and patches of grazing land.

LOCATIONS STRUCTURE 201 TO STRUCTURE 234

As a result of new tower alignment the Early Stone Age scatter recorded near tower 214 now falls out of the impact zone. Tower 214 was shifted to avoid the site. As such, no tower in this section will impact on known archaeological or heritage site in this section. All new towers or final tower positions were surveyed during this study, and they all do not pose any threat to heritage sites. They were placed within the 110m approved servitude.

Impact	Impact Significance	Heritage Significance	Certainty	Duration
None-low	Low-medium	None to low	Unsure	Short term

Recommended Mitigation

An archaeologist should monitor installation of Towers 214 during foundation excavations. This tower location has potential to yield subsurface discernable archaeological remains that may require to be recorded during construction work. Furthermore, should chance archaeological materials be disturbed at any of the unmonitored tower positions in this section, salvage and chance finds procedures should be implemented.

Plate 19: The powerline cuts through sloppy area with isolated farm settlements, agriculture fields and patches of grazing land.

SUMMARY OF FINDINGS

Tower	Coordinates	Description	Significance	Relation to line	Mitigation
5	S28° 13´ 12.7" E031° 12´ 08.5" S28° 13´ 12.1" E031° 12´ 10.1" S28° 13´ 11.2" E031° 12´ 11.0" S28° 13´ 11.1" E031° 12 11.0" S28° 13´ 11.7" E031° 12´ 11.3" S28° 13´ 11.1" E031° 12´ 12.2"	Remains of a historical homestead.	High	The site is located between tower 5 and 6.	Eskom should consider shifting the affected tower positions. Monitoring is required during construction.
6	S28° 13´ 11.9" E031° 12´ 15.5" S28° 13´ 20.8" E031° 13´ 06.5"	Remains of historical structures	high	The site is located between tower 5 and 6	Monitoring is required during construction.
10 &11	S28° 12´ 47.6" E031° 14´ 10.8"	Circular stone structure with a diameter of 40m and 50cm high. Suspected grave and a burial site with 9 burials	Medium to high	The towers are located more than 150m from the impact zone	Monitoring required during excavation for foundations
42	S28° 15´ 13.2" E 031° 20´ 11.4" S28° 15´ 12 8" E031° 20´ 11.4" S28° 15´ 13.6" E031° 20´ 11.3" S28° 15´ 12.8" E031° 20´ 10.6"	A burial site marked by nine (9) graves on the direct path of tower 42	High	Towers cannot be shift to any position. The tower position is restricted technically.	The burial site should be relocated in accordance with the relevant legislations.
73	S28° 15´ 35.67" E031° 27 07´.73"	Contemporary burial site near in the eastern periphery of Ulundi Unit D	High	Tower was moved to avoid the site but the there is high visibility between the burial site and the tower position	The construction team should stop working at the tower if it coincides with a funeral.
74	S28° 15´ 46.04" E031° 27´ 12.34"	Remains of historical homestead	medium	Position of the site is out of the impact zone	Monitoring required

Tower	Coordinates	Description	Significance	Relation to line	Mitigation
75	S28° 17´ 32.35" E031° 28´ 07.98"	Remains of historical homestead	medium	Position of the site is out of the impact zone	Monitoring
151	S28° 26´ 38.8"E 031° 41´ 43.4" S28° 26´ 41.7" E031° 41´ 41.4"	Burial site with 8 graves marked by oval stone piles and soil heaps on top	High	The position of the burial sites out of impact zone	Monitoring required at the new position
152	S28° 26´ 42.8" E031° 41´ 46.8"	Burial site with three graves	High	The burial site is significantly out of the impact zone	Monitoring required
157	S28° 27´ 32.8" E031° 42´ 41.3"	Open air Shembe Church	High	The site is now off the impact zone	Monitoring required
159	S28° 28´ 16.9" E031° 43´ 27.9"	A low density surface scatter of stone Age material is located	low	Tower position has been shifted	Monitoring required
161	S28° 28´ 16.9" E031° 43´ 27.9"	A burial site with 3 graves	high	Tower position has been shifted 40m away from impact zone	Monitoring

6. CONSTRUCTION MANAGEMENT PLAN FOR UMFOLOZI-THETA TRANSMISSION POWERLINE DEVELOPMENT

6.1. Heritage Management Objectives

Eskom's vision is to leave a positive environmental and heritage legacy once the powerline is in operation and maintenance phases. To achieve this legacy it is necessary to set certain objectives during the various phases of the life cycle of the Umfolozi-Theta Transmission Powerline and to ensure that these objectives are met and management measures are progressively assessed to ensure effectiveness.

HMP Objective	
	• Protection of archaeological sites identified in project area and land considered to be of cultural value; • Protection of known physical cultural property sites against vandalism, destruction and theft; and • The preservation and appropriate management of new archaeological finds should these be discovered during construction of the powerlines in the project area.

Objectives related to Cultural-Heritage Resources:

- To ensure that all construction personnel are educated or conscientised about measures required should any cultural-historic heritage resources be uncovered; and
- To ensure that all known cultural heritage resources within the vicinity of the project construction areas are adequately protected.

Objectives related to Cultural Landscape Aesthetic Appearance:

- To leave behind a rehabilitated powerline servitude site that, in general, is not only neat and tidy, giving an acceptable overall aesthetic appearance that does not compromise the existing heritage and cultural landscape and the planned end land use:

- Tiding-up the rehabilitated construction area from construction waste and rubble;
- Landscaping the disturbed areas as directed by the visual assessment to blend in with the surrounding landscape, as far as possible;
- Shaping and leveling general surface rehabilitated areas to create landforms that emulate the surroundings; and
- Ensuring that the rehabilitated construction area is suitably vegetated, where feasible.

Objectives related to the Contractors Camp:

- Measures to confine activities to the actual contactors' camp will be put in place to ensure that they should not interfere with any heritage resources in the identified cultural area; and
- Pollution and contamination prevention methods will be put in place at the camp to protect the receiving cultural landscape.

Heritage monitoring is key in this project during the construction phase. As such a detailed Heritage Management Plan should be developed in line with identified potential impacts and monitoring regime. The following table presents a generic heritage management principle that should be expanded to apply during construction and operational phases of the project.

Table 1: Construction Heritage Management Plan.

No.	Activity	Mitigation Measures	Duration	Frequency	Responsibility	Accountable	Contacted	Informed
Pre-Construction Phase – Phase 1 HIA Study of Alternative routes & Walk-down Survey of Final Approved Route								
1	**Planning**	Ensure all known sites of cultural, archaeological, and historical significance are demarcated on the site layout plan, and marked as no-go areas.	Throughout Project	Weekly Inspection	Contractor [C] CECO	SM	ECO	EA EM PM
Construction Phase								
1	**Emergency Response**	Should any archaeological or physical cultural property heritage resources be exposed during excavation for the purpose of construction, construction in the vicinity of the finding must be stopped until heritage authority has cleared the development to continue.	N/A	Throughout	C CECO	SM	ECO	EA EM PM
		Should any archaeological, cultural property heritage resources be exposed during excavation or be found on development site, a registered heritage specialist or SAHRA official must be called to site for inspection.		Throughout	C CECO	SM	ECO	EA EM PM
		Under no circumstances may any archaeological, historical or any		Throughout	C CECO	SM	ECO	EA EM PM

		physical cultural property heritage material be destroyed or removed form site;						
		Should remains and/or artefacts be discovered on the development site during earthworks, all work will cease in the area affected and the Contractor will immediately inform the Construction Manager who in turn will inform AMAFA/SAHRA.		When necessary	C CECO	SM	ECO	EA EM PM
		Should any remains be found on site that is potentially human remains, the SAHRA/SAHRA and South African Police Service should be contacted.		When necessary	C CECO	SM	ECO	EA EM PM
Rehabilitation Phase								
		Same as construction phase.						
Operational Phase								
		Same as construction phase.						

Table 2: Roles and responsibilities of archaeological and heritage management.

ROLE	RESPONSIBILITY	IMPLEMENTATION
A responsible specialist needs to be allocated and should sit in at all relevant meetings, especially when changes in design are discussed, and liaise with SAHRA.	The client	Archaeologist and a competent archaeology supportive team
If chance finds and/or graves or burial grounds are identified during construction or operational phases, a specialist must be contacted in due course for evaluation.	The client	Archaeologist and a competent archaeology supportive team

ROLE	RESPONSIBILITY	IMPLEMENTATION
Comply with defined national and local cultural heritage regulations on management plans for identified sites.	The client	Environmental Consultancy and the Archaeologist
Consult the managers, local communities and other key stakeholders on mitigation of archaeological sites.	The client	Environmental Consultancy and the Archaeologist
Implement additional programs, as appropriate, to promote the safeguarding of our cultural heritage. (i.e. integrate the archaeological components into employee induction course).	The client	Environmental Consultancy and the Archaeologist,
If required, conservation or relocation of burial grounds and/or graves according to the applicable regulations and legislation.	The client	Archaeologist, and/or competent authority for relocation services
Ensure that recommendations made in the Heritage Report are adhered to.	The client	The client
After the specialist/archaeologist has been appointed, comprehensive feedback reports should be submitted to relevant authorities during each phase of development.	Client and Archaeologist	Archaeologist

IMPACT MANAGEMENT.

PRE-CONSTRUCTION PHASE

Based on the findings of the AWD, all on site construction personnel should undergo an archaeological and heritage induction course before they begin working in the field.

Induction courses generally form part of the contractor employees' overall training and the archaeological component can easily be integrated into these training sessions aimed at highlighting the value of this exercise and the appropriate communication channels that should be followed after chance finds, and the second targeting the actual workers and getting them to recognize artefacts, features and significant sites. Posters reminding operators of the possibility of finding archaeological sites should reinforce this course.

CONSTRUCTION PHASE

The project will encompass a range of activities during the construction phase, including ground clearance, excavation, erection, stringing, establishment of construction camps area and small-scale infrastructure development associated with the project.

It is possible that cultural material will be exposed during construction operations and may be recoverable, but this is the high-cost front of the operation, and so any delays should be minimised. Development surrounding infrastructure and construction of facilities results in significant disturbance, but construction trenches do offer a window into the past and it thus may be possible to rescue some of the data and materials. It is also possible that substantial alterations will be implemented during this phase of the project and these must be catered for. Temporary infrastructure is often changed or added to the subsequent history of the project. In general these are low impact developments as they are superficial, resulting in little alteration of the land surface, but still need to be catered for.

An archaeologist should monitor all tower positions flagged as possible sites for chance finds by location or association during construction. During the construction phase, it is important to recognize any significant chance material being unearthed, making the correct judgment on which actions should be taken. A responsible archaeologist may be appointed for this commission. The archaeologist would inspect the flagged site and any development recurrently, with more frequent visits to the actual workface and operational areas. In addition, feedback reports can be submitted by the archaeologist to the client and SAHRA /AMAFA KZN ensure effective monitoring of all accidental discovery sites. This archaeological monitoring and feedback strategy should be incorporated into the Environmental Management Plan (EMP) of the project.

Should an archaeological site or cultural material be discovered during construction (or operation), such as burials or grave sites, the project needs to be able to call on a qualified

expert to make a decision on what is required and if it is necessary to carry out emergency recovery. Amafa KZN would need to be informed and may give advice on procedure. The developers therefore should have some sort of contingency plan so that operations could move elsewhere temporarily while the material and data are recovered. The project thus needs to have an archaeologist available to do such work.

The purpose of an archaeological monitoring programme is to provide general information to the developer with regards to management recommendations and cost estimates for the chance archaeological component, a specialist sub-section of the Environmental Impact Assessment (EIA) process, for the project.

Such a monitoring programme is planned for observation and investigation during any operation carried out for non-archaeological reasons. This will be within a specified area or site on land where there is a possibility that archaeological deposit may be disturbed or destroyed. Its main purpose is:

- To allow, within the resources available, the preservation by record of archaeological deposits, the presence and nature of which could not be established (or established with sufficient accuracy) in advance of development or other potentially disruptive works;
- To provide an opportunity, if needed, for the monitoring archaeologist to signal to all interested parties, before the destruction of the material in question, that an archaeological find has been made for which the resources allocated to the monitoring programme itself are not sufficient to support treatment to a satisfactory and proper standard; and
- A monitoring programme is not intended to reduce the requirement for excavation or preservation of known or inferred deposits, and it is intended to guide, not replace, any requirement for contingent excavation or preservation of possible deposits.

In essence, the objective of a monitoring programme is to establish and make available information about the archaeological resource existing on a site.

Table 3: HMP Components for proposed powerline development.

SITE REF	HERITAGE ASPECT	POTENTIAL IMPACT	MITIGATION MEASURES	RESPONSIBLE PARTY	PENALTY	METHOD STATEMENT REQUIRED
Chance Archaeological **&** **Burial Sites**	The entire powerline servitude traverses an archaeological, historic and contemporary cultural landscape. The area is marked with archaeological, historical and contemporary land use sites. Some Towers are located in contemporary agricultural landscape with not surficial visible archaeological sites due to the surface degradation. However, there are possibilities of encountering unknown archaeological material during subsurface construction work which may disturb previously unidentified chance finds.	Possible damage to previously unidentified archaeological and burial sites during construction phase. • Unanticipated impacts on archaeological sites where project actions inadvertently uncovered significant archaeological sites. • Loss of historic cultural landscape; • Destruction of burial sites and associated graves • Loss of aesthetic value due to construction work • Loss of sense of place	In situations where unpredicted impacts occur construction activities must be stopped and the heritage authority should be notified immediately. Where remedial action is warranted, minimize disruption in construction scheduling while recovering archaeological data. Where necessary, implement emergency measures to mitigate. • Where burial sites are accidentally disturbed during construction, the affected area should be demarcated as no-go zone by use of fencing during construction, and access thereto by	• Contractor / • Project Manager • Archaeologist • Project EO	Fine and or imprisonment under the KZN PHRA Act & NHRA	Monitoring measures should be issued as instruction within the project EMP. PM/EO/Archaeologist Monitor construction work on sites where such development projects commences within the farm.

SITE REF	HERITAGE ASPECT	POTENTIAL IMPACT	MITIGATION MEASURES	RESPONSIBLE PARTY	PENALTY	METHOD STATEMENT REQUIRED
	Some towers are all situated in a mixture of built up or previously disturbed contemporary landscapes with limited potential for significant heritage resources due to levels of current and previous landuse degradation. There remains possibilities of encountering unknown archaeological material during subsurface construction work which may disturb previously unidentified chance finds	Loss of intangible heritage value due to change in land use	the construction team must be denied. • Accidentally discovered burials in development context should be salvaged and rescued to safe sites as may be directed by relevant heritage authority. The heritage officer responsible should secure relevant heritage and health authorities permits for possible relocation of affected graves accidentally encountered during construction work.			
LIA Archaeological Sites	The mid section of the Umfolozi-Theta Powerline servitude traverses an	Possible damage to identified archaeological and potential burial sites	All LIA archaeological sites associated with the Arnot servitude should be	• Contractor / • Project Manager • Archaeologist	Fine and or imprisonment under the AMAFA KZN	Professional Archaeologists & Surveyor to map and

SITE REF	HERITAGE ASPECT	POTENTIAL IMPACT	MITIGATION MEASURES	RESPONSIBLE PARTY	PENALTY	METHOD STATEMENT REQUIRED
	archaeological, historic and contemporary cultural landscape where archaeological settlement sites, historical building remains and potential burial grounds and grave sites were recorded in situ. These sites are automatically protected by the NHRA and SAHRA regulations. They may not be disturbed without a permit from SAHRA/PHRA. Towers T6-T10 and T19-T22 are located along portion of the powerline servitude that traverse through cultural landscape with surficial visible archaeological sites marked with	during construction phase. • Unanticipated impacts on archaeological sites where project actions inadvertently extend project footprint impact to areas with known sites • Loss of historic cultural landscape; • Destruction of burial sites and associated graves • Loss of aesthetic value due to construction work • Loss of sense of place Loss of intangible heritage value due to cumulative change in land use	documented in detail prior to the powerline being installed. The documentation should include detailed mapping and photo-documentation. A Heritage Documentation Report including a Site Condition Survey should be produced and submitted for archiving the SAHRA approved repository. In situations where additional unpredicted impacts occur construction activities must be stopped and the heritage authority should be notified immediately. Where remedial action is warranted, minimize disruption in	• Project EO	Act & NHRA	document the site in the vicinity of the servitude. Archaeologist Monitor construction work on sites where such development projects commences within the project area of affected Tower Positions.

SITE REF	HERITAGE ASPECT	POTENTIAL IMPACT	MITIGATION MEASURES	RESPONSIBLE PARTY	PENALTY	METHOD STATEMENT REQUIRED
	stonewalls and other isolated artefact.		construction scheduling while recovering archaeological data. Where necessary, implement emergency measures to mitigate. • Where burial sites are accidentally disturbed during construction, the affected area should be demarcated as no-go zone by use of fencing during construction, and access thereto by the construction team must be denied. • Accidentally discovered burials in development context should be salvaged and rescued to safe sites as may be directed by			

SITE REF	HERITAGE ASPECT	POTENTIAL IMPACT	MITIGATION MEASURES	RESPONSIBLE PARTY	PENALTY	METHOD STATEMENT REQUIRED
			relevant heritage authority. The heritage officer responsible should secure relevant heritage and health authorities permits for possible relocation of affected graves accidentally encountered during construction work.			

7. HERITAGE MANAGEMENT IMPLEMENTATION PLAN

Table 4: HMP Mitigation Aspects of the Powerline development.

No.	Activity	Mitigation Measures	Duration	Frequency	Responsibility	Accountable	Contacted	Informed
Pre-Construction Phase								
1	Planning	Ensure all known sites of cultural, archaeological, and historical significance are demarcated on the site layout plan, and marked as no-go areas.	Throughout Project	Weekly Inspection	Eskom Contractor [C] CECO	Site Manager (SM)	ECO	**EA** **EM** **PM** **SAHRA**
Construction Phase								

No.	Activity	Mitigation Measures	Duration	Frequency	Responsibility	Accountable	Contacted	Informed
1	Emergency Response	Should any archaeological or physical cultural property heritage resources be exposed during excavation for the purpose of construction, construction in the vicinity of the finding must be stopped until heritage authority has cleared the development to continue.	Throughout Project	Throughout	C CECO	SM	ECO	**EA** **EM** **PM** **SAHRA**
		Should any archaeological, cultural property heritage resources be exposed during excavation or be found on development site, a registered heritage specialist or AMAFA KZN official must be called to site for inspection.		Throughout	C CECO	SM	ECO	**EA** **EM** **PM**
		Under no circumstances may any archaeological, historical or any physical cultural property heritage material be destroyed or removed form site;		Throughout	C CECO	SM	ECO	**EA** **EM** **PM**
		Should remains and/or artefacts be discovered on the development site during earthworks, all work will cease in the area affected and the Contractor will immediately inform the Construction Manager who in turn will inform AMAFA KZN.		When necessary	C CECO	SM	ECO	**EA** **EM** **PM**
		Should any remains be found on site that is potentially human remains, the		When necessary	C CECO	SM	ECO	**EA** **EM**

No.	Activity	Mitigation Measures	Duration	Frequency	Responsibility	Accountable	Contacted	Informed
		AMAFA KZN and South African Police Service should be contacted.						**PM**
Rehabilitation Phase								
		Same as construction phase.						
Operational Phase								
		Same as construction phase.						

8. CONCLUSION

This HMP has been compiled in terms of the provisions of the national and provincial environmental and heritage management legislations. This document is, furthermore, compiled to comply with those conditions set out Amafa KZN recommendations conditions of approval for the proposed powerline development pertaining to protection and management of cultural heritage resources. This HMP comprehensively addresses potential powerline development impacts on all relevant aspects related to the proposed powerline construction activities on the receiving environment and allows for continuous improvement through regular monitoring and reporting to throughout the construction life cycle of the proposed development. In the unlikely event that future changes to the overall project HMP and EMP become necessary due to site-specific changes and developments will be addressed through an HMP and EMP amendment processes.

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10.APPENDIX

10.1. HUMAN REMAINS AND BURIALS IN DEVELOPMENT CONTEXT

BY Dr. Murimbika M. [2013]
murimbikam@nzumbululo.com

Developers, land use planners and professional specialist service providers often encounter difficult situations with regards to burial grounds, cemeteries and graves that may be encountered in development contexts. This may be before or during a development project. There are different procedures that need to be followed when a development is considered on an area that will impact upon or destroy existing burial grounds, cemeteries or individual graves. In contexts where human remains are accidentally found during development work such as road construction or building construction, there are different sets of intervention regulations that should be instigated. This brief is an attempt to highlight the relevant regulations with emphasis on procedures to be followed when burial grounds, cemeteries and graves are found in development planning and development work contexts. The applicable regulations operate within the national heritage and local government legislations and ordinances passed in this regard. These guidelines assist you to follow the legal pathway.

1. First, establish the context of the burial:

A. Are the remains less than 60 years old? If so, they may be subject to provisions of the Human Tissue Act, Cemeteries Ordinance(s) and to local, regional, or municipal regulations, which vary from place to place. The finding of such remains must be reported to the police but are not automatically protected by the National Heritage Resources Act (Act 25 of 1999).

B. Is this the grave of a victim of conflict? If so, it is protected by the National Heritage Resources Act (Section 36(3a)). (Relevant extracts from the Act and Regulations are included below).

C. Is it a grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority? If so, it is protected by the National Heritage Resources Act (Section 36(3b)).

D. Are the human or hominid remains older than 100 years? If so, they are protected by the National Heritage Resources Act (Section 35(4), see also definition of "archaeological" in Section 2).

2. Second, refer to the terms of the National Heritage Resources Act most appropriate to the situation, or to other Acts and Ordinances:

A. Human remains that are NOT protected in terms of the National Heritage Resources Act (i.e. less than 60 years old and not a grave of a victim of conflict or of cultural significance) are subject to provisions of the Human Tissue Act and to local and regional regulations, for example Cemeteries Ordinances applicable in different Provincial and local Authorities.

B). All finds of human remains must be reported to the nearest police station to ascertain whether or not a crime has been committed.

C). If there is no evidence for a crime having been committed, and if the person cannot be identified so that their relatives can be contacted, the remains may be kept in an institution where certain conditions are fulfilled. These conditions are laid down in the Human Tissue Act (Act No. 65 of 1983). In contexts where the local traditional authorities given their consent to the unknown remains to be re-buried in their area, such re-interment may be conducted under the same regulations as would apply for known human remains.

3. In the event that a graveyard is to be moved or developed for another purpose, it is incumbent on the local authority to publish a list of the names of all the persons buried in the graveyard if there are gravestones or simply a notification that graves in the relevant graveyard are to be disturbed. Such a list would have to be compiled from the names on the gravestones or from parish or other records. The published list would call on the relatives of the deceased to react within a certain period to claim the remains for re-interment. If the relatives do not react to the advertisement, the remains may be re-interred at the discretion of the local authority.

A. However, it is the responsibility of the developer to ensure that none of the affected graves within the cemetery are burials of victims of conflict. The applicant is also required in line with the heritage legislation to verify that the graves have no social significance to the local communities.
B. It is illegal in terms of the Human Tissue Act for individuals to keep human remains, even if they have a permit, and even if the material was found on their own land.

4. The Exhumations Ordinance (Ordinance No. 12 of 1980 and as amended) is also relevant. Its purpose is "To prohibit the desecration, destruction and damaging of graves in cemeteries and receptacles containing bodies; to regulate the exhumation, disturbance, removal and re-interment of bodies, and to provide for matters incidental thereto". This ordinance is supplemented and support by local authorities regulations, municipality by-laws and ordinances.

DEFINITIONS AND APPLICABLE REGULATIONS
1). A "Cemetery" is defined as any land, whether public or private, containing one or more graves.
2). A "grave" includes "(a) any place, whether wholly or partly above or below the level of ground and whether public or private, in which a body is permanently interred or intended to be permanently interred, whether in a coffin or other receptacle or not, and (b) any monument, tombstone, cross, inscription, rail, fence, chain, erection or other structure of whatsoever nature forming part of or appurtenant to a grave.
3). No person shall desecrate, destroy or damage any grave in a cemetery, or any coffin or urn without written approval of the Administrator.
4). No person shall exhume, disturb, remove or re-inter anybody in a cemetery, or any coffin or urn without written approval of the Administrator.
5). Application must be made for such approval in writing, together with:
a). A statement of where the body is to be re-interred.
b). Why it is to be exhumed.

c). The methods proposed for exhumation.

d). Written permission from local authorities, nearest available relatives and their religious body owning or managing the cemetery, and where all such permission cannot be obtained, the application must give reasons why not.

6). The Administrator has the power to vary any conditions and to impose additional conditions.

7). Anyone found guilty and convicted is liable for a maximum fine of R200 and maximum prison sentence of six months.

5. Human remains from the graves of victims of conflict, or any burial ground or part thereof which contains such graves and any other graves that are deemed to be of cultural significance may not be destroyed, damaged, altered, exhumed or removed from their original positions without a permit from the National Heritage Resources Agency. They are administered by the Graves of Conflict Division at the SAHRA offices in Johannesburg.

"Victims of Conflict" are:

a). Those who died in this country as a result of any war or conflict but excluding those covered by the Commonwealth War Graves Act, 1992 (Act No. 8 of 1992).

b). Members of the forces of Great Britain and the former British Empire who died in active service before 4 August 1914.

c). Those who, during the Anglo Boer War (1899-1902) were removed from South Africa as prisoners and died outside South Africa, and,

d). Those people, as defined in the regulations, who died in the "liberation struggle" both within and outside South Africa.

6. Any burial that is older than 60 years, which is outside a formal cemetery administered by a local authority, is protected in terms of Section 36(3b) of the National Heritage Resources Act. No person shall destroy damage, alter, exhume or remove from its original position, remove from its original site or export from the Republic any such grave without a permit from the SAHRA.

There are some important new considerations applicable to B & C (above).

SAHRA may, for various reasons, issue a permit to disturb a burial that is known to be a grave of conflict or older than 65 years, or to use, at a burial ground, equipment for excavation or the detection or the recovery of metals.

(Permit applications must be made on the official form Application for Permit: Burial Grounds and Graves available from SAHRA or provincial heritage resources authorities.) Before doing so, however, SAHRA must be satisfied that the applicant:

a). Has made satisfactory arrangements for the exhumation and re- interment of the contents of such a grave at the cost of the applicant.

b). Has made a concerted effort to contact and consult communities and individuals who by tradition have an interest in such a grave and,

c). Has reached an agreement with these communities and individuals regarding the future of such a grave or burial ground.

PROCEDURE FOR CONSULTATION

The regulations in the schedule describe the procedure of consultation regarding the burial grounds and graves. These apply to anyone who intends to apply for a permit to destroy damage, alter, remove from its original position or otherwise disturb any grave or burial ground older than 60 years that is situated outside a formal cemetery administered by a local authority. The applicant must make a concerted effort to identify the descendants and family members of the persons buried in and/or any other person or community by tradition concerned with such grave or burial ground by:

1). Archival and documentary research regarding the origin of the grave or burial ground;

2). Direct consultation with local community organizations and/or members;

3). The erection for at least 60 days of a notice at the grave or burial ground, displaying in all the official languages of the province concerned, information about the proposals affecting the site, the telephone number and address at which the applicant can be contacted by any interested person and the date by which contact must be made, which must be at least 7 days after the end of the period of erection of the notice; and

4). Advertising in the local press.

The applicant must keep records of the actions undertaken, including the names and contact details of all persons and organizations contacted and their response, and a copy of such records must be submitted to the provincial heritage resources authority with the application.

Unless otherwise agreed by the interested parties, the applicant is responsible for the cost of any remedial action required.

If the consultation fails to research in agreement, the applicant must submit records of the consultation and the comments of all interested parties as part of the application to the provincial heritage resources authority.

In the case of a burial discovered by accident, the regulations state that when a grave is discovered accidentally in the course of development or other activity:

a). SAHRA or the provincial heritage resources authority (or delegated representative) must, in co-operation with the Police, inspect the grave and decide whether it is likely to be older than 60 years or otherwise protected in terms of the Act; and whether any further graves exist in the vicinity.

b). If the grave is likely to be so protected, no activity may be resumed in the immediate vicinity of the grave, without due investigation approved by SAHRA or the provincial heritage resources authority; and

c). SAHRA or the provincial heritage resources authority may at its discretion modify these provisions in order to expedite the satisfactory resolution of the matter.

d. Archaeological material, which includes human and hominid remains that are older than 100 years (see definition in section 2 of the Act), is protected by the National Heritage Resources Act (Section 35(4)), which states that no person may, without a permit issued by the responsible heritage resources authority - destroy, damage, excavate, alter or remove from its original site any archaeological or palaeontological material.

The implications are that anyone who has removed human remains of this description from the original site must have a permit to do so. If they do not have a permit, and if they are convicted of an offence in terms of the National Heritage Resources Act as

a result, they must be liable to a maximum fine of R100 000 or five years imprisonment, or both.

TREAT HUMAN REMAINS WITH RESPECT

a). Every attempt should be made to conserve graves in situ. Graves should not be moved unless this is the only means of ensuring their conservation.

b). The removal of any grave or graveyard or the exhumation of any remains should be preceded by an historical and archaeological report and a complete recording of original location, layout, appearance and inscriptions by means of measured drawings and photographs. The report and recording should be placed in a permanent archive.

c). Where the site is to be re-used, it is essential that all human and other remains be properly exhumed and the site left completely clear.

d). Exhumations should be done under the supervision of an archaeologist, who would assist with the identification, classification, recording and preservation of the remains.

e). No buried artifacts should be removed from any protected grave or graveyard without the prior approval of SAHRA. All artifacts should be re-buried with the remains with which they are associated. If this is not possible, proper arrangements should be made for the storage of such relics with the approval of SAHRA.

f). The remains from each grave should be placed in individual caskets or other suitable containers, permanently marked for identification.

g). The site, layout and design of the area for re-interment should take into account the history and culture associated with, and the design of, the original grave or graveyard.

h). Re-burials in mass graves and the use of common vaults are not recommended.

i). Remains from each grave should be re-buried individually and marked with the original grave markers and surrounds.

j). Grouping of graves, e.g. in families, should be retained in the new layout.

k). Material from the original grave or graveyard such as chains, kerbstones, railing and should be re-used at the new site wherever possible.

l). A plaque recording the origin of the graves should be erected at the site of re-burial.

m). Individuals or groups related to the deceased who claim the return of human remains in museums and other institutions should be assisted to obtain documentary proof of their ancestral linkages.

10.2. LEGAL BACK GROUND AND PRINCIPLES OF HERITAGE RESOURCES MANAGEMENT IN SOUTH AFRICA

Extracts relevant to this report from the National Heritage Resources Act No. 25 of 1999, (Sections 5, 36 and 47):

General principles for heritage resources management

5. (1) All authorities, bodies and persons performing functions and exercising powers in terms of this Act for the management of heritage resources must recognise the following principles:

(a) Heritage resources have lasting value in their own right and provide evidence of the origins of South African society and as they are valuable, finite, non-renewable and irreplaceable they must be carefully managed to ensure their survival;

(b) every generation has a moral responsibility to act as trustee of the national heritage for succeeding generations and the State has an obligation to manage heritage resources in the interests of all South Africans;

(c) heritage resources have the capacity to promote reconciliation, understanding and respect, and contribute to the development of a unifying South African identity; and

(d) heritage resources management must guard against the use of heritage for sectarian purposes or political gain.

(2) To ensure that heritage resources are effectively managed—

(a) the skills and capacities of persons and communities involved in heritage resources management must be developed; and

(b) provision must be made for the ongoing education and training of existing and new heritage resources management workers.

(3) Laws, procedures and administrative practices must—

(a) be clear and generally available to those affected thereby;

(b) in addition to serving as regulatory measures, also provide guidance and information to those affected thereby; and
(c) give further content to the fundamental rights set out in the Constitution.
(4) Heritage resources form an important part of the history and beliefs of communities and must be managed in a way that acknowledges the right of affected communities to be consulted and to participate in their management.
(5) Heritage resources contribute significantly to research, education and tourism and they must be developed and presented for these purposes in a way that ensures dignity and respect for cultural values.
(6) Policy, administrative practice and legislation must promote the integration of heritage resources conservation in urban and rural planning and social and economic development.
(7) The identification, assessment and management of the heritage resources of South Africa must—
(a) take account of all relevant cultural values and indigenous knowledge systems;
(b) take account of material or cultural heritage value and involve the least possible alteration or loss of it;
(c) promote the use and enjoyment of and access to heritage resources, in a way consistent with their cultural significance and conservation needs;
(d) contribute to social and economic development;
(e) safeguard the options of present and future generations; and
(f) be fully researched, documented and recorded.

Burial grounds and graves
36. (1) Where it is not the responsibility of any other authority, SAHRA must conserve and generally care for burial grounds and graves protected in terms of this section, and it may make such arrangements for their conservation as it sees fit.
(2) SAHRA must identify and record the graves of victims of conflict and any other graves which it deems to be of cultural significance and may erect memorials associated with the grave referred to in subsection (1), and must maintain such memorials.

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

(a) destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;

(b) destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or

(c) bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation equipment, or any equipment which assists in the detection or recovery of metals.

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

authority.

(5) SAHRA or a provincial heritage resources authority may not issue a permit for any activity under subsection (3)(b) unless it is satisfied that the applicant has, in accordance with regulations made by the responsible heritage resources authority—

(a) made a concerted effort to contact and consult communities and individuals who by tradition have an interest in such grave or burial ground; and

(b) reached agreements with such communities and individuals regarding the future of such grave or burial ground.

(6) Subject to the provision of any other law, any person who in the course of development or any other activity discovers the location of a grave, the existence of which was previously unknown, must immediately cease such activity and report the discovery to the responsible heritage resources authority which must, in co-operation with the South African Police Service and in accordance with regulations of the responsible heritage resources authority—

(a) carry out an investigation for the purpose of obtaining information on whether or not such grave is protected in terms of this Act or is of significance to any community; and

(b) if such grave is protected or is of significance, assist any person who or community which is a direct descendant to make arrangements for the exhumation and re-interment of the contents of such grave or, in the absence of such person or community, make any such arrangements as it deems fit.

(7) (a) SAHRA must, over a period of five years from the commencement of this Act, submit to the Minister for his or her approval lists of graves and burial grounds of persons connected with the liberation struggle and who died in exile or as a result of the action of State security forces or agents provocateur and which, after a process of public consultation, it believes should be included among those protected under this section.

(b) The Minister must publish such lists as he or she approves in the Gazette.

(8) Subject to section 56(2), SAHRA has the power, with respect to the graves of victims of conflict outside the Republic, to perform any function of a provincial heritage resources authority in terms of this section.

(9) SAHRA must assist other State Departments in identifying graves in a foreign country of victims of conflict connected with the liberation struggle and, following negotiations with the next of kin, or relevant authorities, it may re-inter the remains of that person in a prominent place in the capital of the Republic.

General policy

47. (1) SAHRA and a provincial heritage resources authority—

(a) must, within three years after the commencement of this Act, adopt statements of general policy for the management of all heritage resources owned or controlled by it or vested in it; and

(b) may from time to time amend such statements so that they are adapted to changing circumstances or in accordance with increased knowledge; and

(c) must review any such statement within 10 years after its adoption.

(2) Each heritage resources authority must adopt for any place which is protected in terms of this Act and is owned or controlled by it or vested in it, a plan for the management of such place in accordance with the best environmental, heritage conservation, scientific and educational principles that can reasonably be applied taking into account the location, size and nature of the place and the resources of the authority concerned, and may from time to time review any such plan.

(3) A conservation management plan may at the discretion of the heritage resources authority concerned and for a period not exceeding 10 years, be operated either solely by the heritage resources authority or in conjunction with an environmental or tourism authority or under contractual arrangements, on such terms and conditions as the heritage resources authority may determine.

(4) Regulations by the heritage resources authority concerned must provide for a process whereby, prior to the adoption or amendment of any statement of general policy or any conservation management plan, the public and interested organisations are notified of the availability of a draft statement or plan for inspection, and comment is invited and considered by the heritage resources authority concerned.

(5) A heritage resources authority may not act in any manner inconsistent with any statement of general policy or conservation management plan.

(6) All current statements of general policy and conservation management plans adopted by a heritage resources authority must be available for public inspection on request.

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Tel: 27 11 021 4937 / 015 291 3661 Email: info@nzumbululo.com Web: www.nzumbululo.com