

**HERITAGE SURVEY OF THE UMSOBOMVU 400KV
LILO OHL, EASTERN CAPE**

FOR COASTAL ENVIRONMENTAL SERVICES

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TABLE OF CONTENT

INTRODUCTION	4
NATIONAL HERITAGE RESOURCES ACT OF 1999	9
METHOD	11
Defining significance	12
DESKTOP SURVEY.....	15
FIELD SURVEY	19
UMZ006.....	22
UMZ011	24
Grave.....	25
Dam Wall & Quarry.....	27
General scatter of tools	27
Wolwekloof	31
Miscellaneous Building.....	33
MANAGEMENT PLAN	33
CONCLUSION	35
REFERENCES	35
EXPERIENCE OF THE HERITAGE CONSULTANT	37
DECLARATION OF INDEPENDENCE	37

TABLE OF FIGURES

FIG. 1 GENERAL LOCATION OF THE PROPOSED TRANSMISSION LINE.....	5
FIG. 2: AERIAL OVERVIEW OF THE TRANSMISSION LINE	6
FIG. 3: TOPOGRAPHICAL MAP OF THE TRANSMISSION LINE.....	7
FIG. 4: SCENIC VIEWS OF THE STUDY AREA.....	8
FIG. 5: LOCATION OF RECORDED SITES IN THE GENERAL AREA	16
FIG. 6: AERIAL PHOTOGRAPH OF THE STUDY AREA IN 1941	17
FIG. 7: TOPOGRAPHICAL MAP OF THE STUDY AREA (1971).....	18
FIG. 8: GENERAL LOCATION OF RECORDED SITES NEAR THE TRANSMISSION LINE	20
FIG. 9: LOCATION OF FEATURES FROM THE 2022 SURVEY	21
FIG. 10: STONE TOOLS AT UMZ006	23
FIG. 11: SUPPORTING DAM WALL AT UMZ011	24
FIG. 12: POSSIBLE GRAVE	26
FIG. 13: DAM WALL.....	28
FIG. 14: QUARRY FOR DAM WALL.....	29
FIG. 15: MSA TOOLS ALONG THE TRANSMISSION LINE	30
FIG. 16: WOLWEKLOOF	32
FIG. 17: RECENT BUILDING NEAR WOLWEKLOOF	34

Abbreviations

HP	Historical Period
IIA	Indeterminate Iron Age
LIA	Late Iron Age
EIA	Early Iron Age
ISA	Indeterminate Stone Age
ESA	Early Stone Age
MSA	Middle Stone Age
LSA	Late Stone Age
HIA	Heritage Impact Assessment
PIA	Palaeontological Impact Assessment

INTRODUCTION

Umsobomvu Wind Power (Pty) Ltd. is proposing the construction of a 400kV turn-in system at the Koruson Substation (SS) (DFFE Reference: 14/12/16/3/3/2/730/2) in support of the proposed Umsobomvu WEF (DFFE Ref: 14/12/16/3/3/2/730) and Coleskop WEF (DFFE Ref: 14/12/16/3/3/2/730/1). The 400kV turn-in system will include two 400kV OHLs of up to 6km each in length. This is to ensure that electrical energy generated by the WEFs can be evacuated from the Eskom Koruson SS to the national electrical grid network via the existing Eskom 400kV distribution lines. Umsobomvu Wind Power is seeking the services from a South African-based EAP to carry out a full Scoping and EIA process, in the Northern Cape and Eastern Cape Provinces.

The proposed Umsobomvu 400kV Turn-in System will consist of the following:

- Two (2) 400kV OHLs (assessed within 600m wide corridors) which will extend from the Koruson SS to the Eskom 400kV distribution lines in a northwest and southwest direction from the SS.
- All other infrastructure, including roads, substation (Koruson), laydown areas, amongst others, have already received Environmental Authorisation (DFFE: 14/12/16/3/3/2/730/2)

Umlando was contracted by Coastal Environmental Services to undertake the HIA for this project.

FIG. 1 GENERAL LOCATION OF THE PROPOSED TRANSMISSION LINE

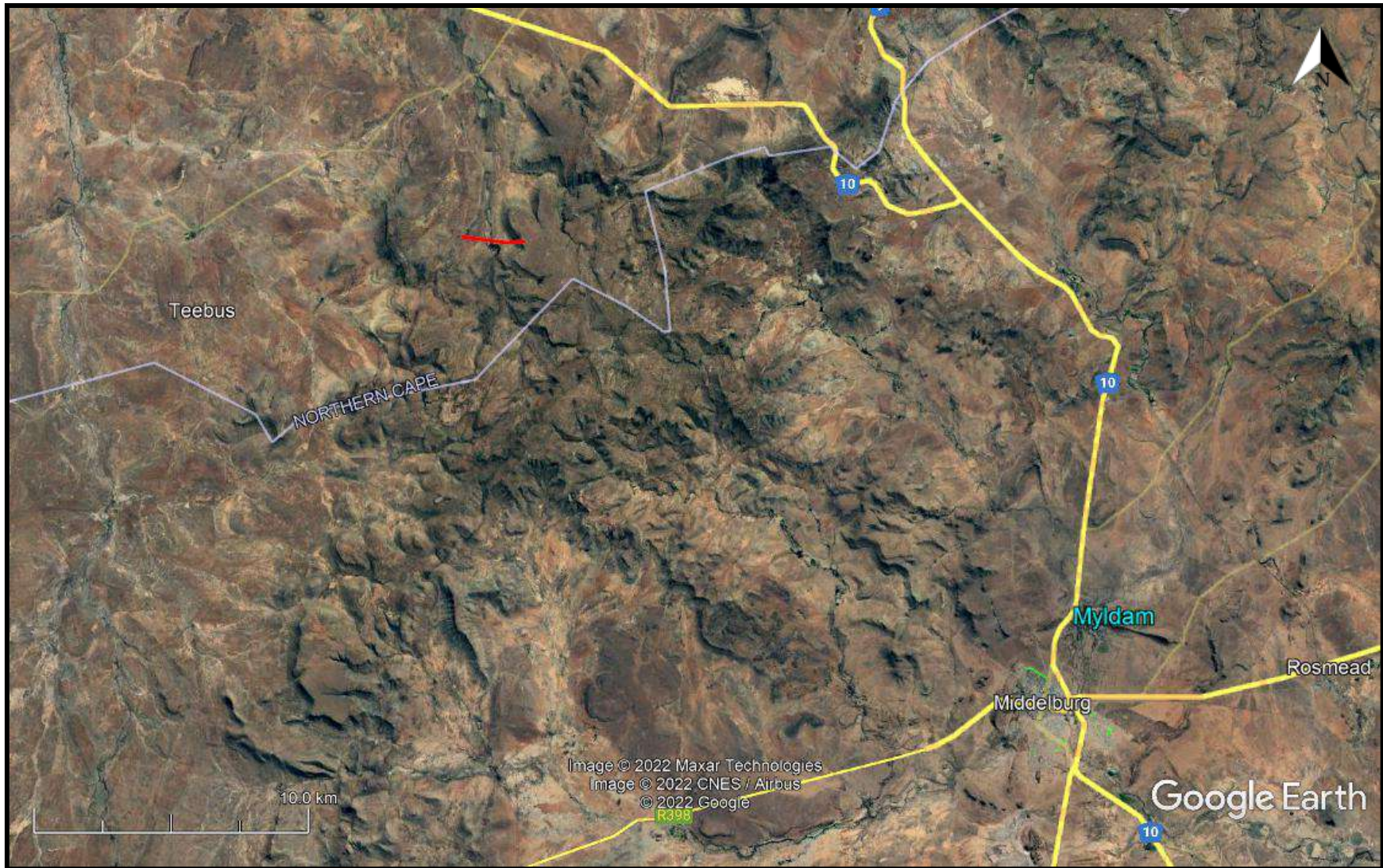
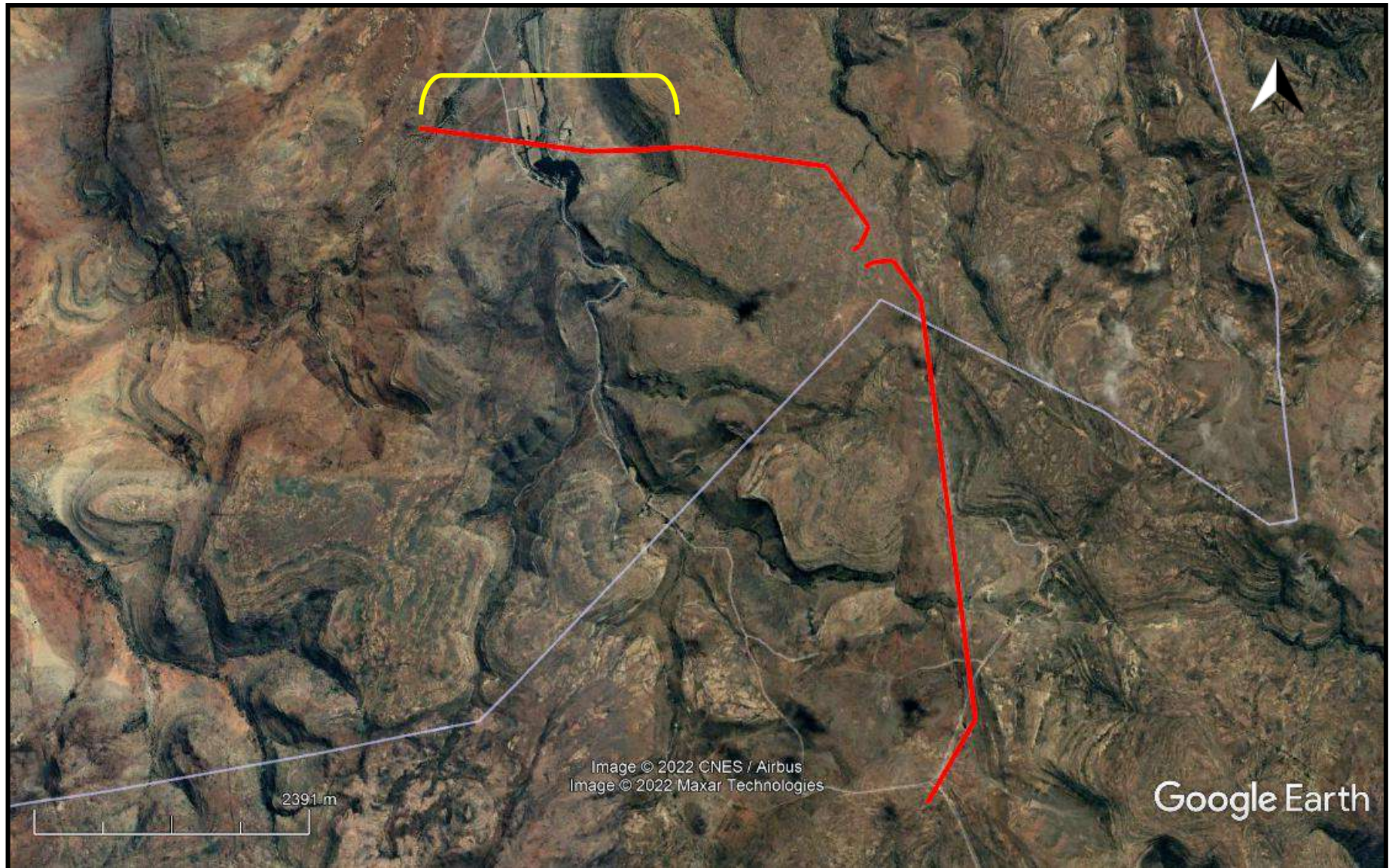


FIG. 2: AERIAL OVERVIEW OF THE TRANSMISSION LINE¹



¹ Yellow line indicates the area surveyed in April 2002

FIG. 3: TOPOGRAPHICAL MAP OF THE TRANSMISSION LINE

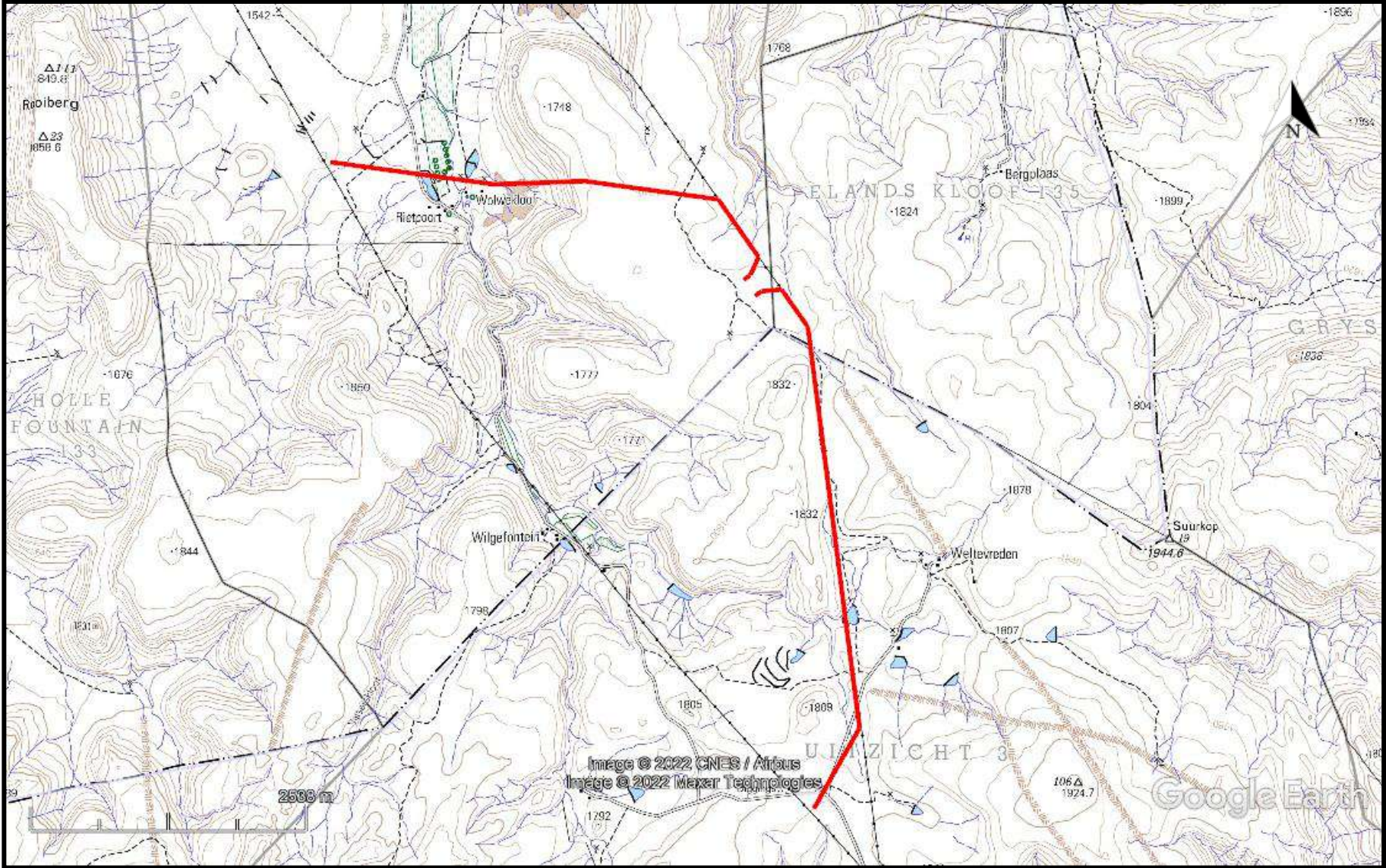


FIG. 4: SCENIC VIEWS OF THE STUDY AREA



NATIONAL HERITAGE RESOURCES ACT OF 1999

The National Heritage Resources Act of 1999 (pp 12-14) protects a variety of heritage resources. These resources are defined as follows:

1. “For the purposes of this Act, those heritage resources of South Africa which are of cultural significance or other special value for the present community and for future generations must be considered part of the national estate and fall within the sphere of operations of heritage resources authorities.
2. Without limiting the generality of subsection (1), the national estate may include—
 - 2.1. Places, buildings, structures and equipment of cultural significance;
 - 2.2. Places to which oral traditions are attached or which are associated with living heritage;
 - 2.3. Historical settlements and townscapes;
 - 2.4. Landscapes and natural features of cultural significance;
 - 2.5. Geological sites of scientific or cultural importance;
 - 2.6. Archaeological and palaeontological sites;
 - 2.7. Graves and burial grounds, including—
 - 2.7.1. Ancestral graves;
 - 2.7.2. Royal graves and graves of traditional leaders;
 - 2.7.3. Graves of victims of conflict;
 - 2.7.4. Graves of individuals designated by the Minister by notice in the Gazette;
 - 2.7.5. Historical graves and cemeteries; and
 - 2.7.6. Other human remains which are not covered in terms of the Human Tissue Act, 1983 (Act No. 65 of 1983);
3. Sites of significance relating to the history of slavery in South Africa;
 - 3.1. Movable objects, including—

4. Objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens;
 - 4.1. Objects to which oral traditions are attached or which are associated with living heritage;
 - 4.2. Ethnographic art and objects;
 - 4.3. Military objects;
 - 4.4. objects of decorative or fine art;
 - 4.5. Objects of scientific or technological interest; and
 - 4.6. books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1(xiv) of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996).
5. Without limiting the generality of subsections (1) and (2), a place or object is to be considered part of the national estate if it has cultural significance or other special value because of—
 - 5.1. Its importance in the community, or pattern of South Africa's history;
 - 5.2. Its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;
 - 5.3. Its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;
 - 5.4. Its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;
 - 5.5. Its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;
 - 5.6. Its importance in demonstrating a high degree of creative or technical achievement at a particular period;
 - 5.7. Its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;
 - 5.8. Its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa; and

5.9. sites of significance relating to the history of slavery in South Africa”

METHOD

The method for Heritage assessment consists of several steps.

The first step forms part of the desktop assessment. Here we would consult the database that has been collated by Umlando. These database contain archaeological site locations and basic information from several provinces (information from Umlando surveys and some colleagues), most of the national and provincial monuments and battlefields in Southern Africa (<http://www.vuvuzela.com/googleearth/monuments.html>) and cemeteries in southern Africa (information supplied by the Genealogical Society of Southern Africa). We use 1st and 2nd edition 1:50 000 topographical and 1937 aerial photographs where available, to assist in general location and dating of buildings and/or graves. The database is in Google Earth format and thus used as a quick reference when undertaking desktop studies. Where required we would consult with a local data recording centre, however these tend to be fragmented between different institutions and areas and thus difficult to access at times. We also consult with an historical architect, palaeontologist, and an historian where necessary.

The survey results will define the significance of each recorded site, as well as a management plan.

All sites are grouped according to low, medium, and high significance for the purpose of this report. Sites of low significance have no diagnostic artefacts or features. Sites of medium significance have diagnostic artefacts or features and these sites tend to be sampled. Sampling includes the collection of artefacts for future analysis. All diagnostic pottery, such as rims, lips, and decorated sherds are sampled, while bone, stone, and shell are mostly noted. Sampling usually

occurs on most sites. Sites of high significance are excavated and/or extensively sampled. Those sites that are extensively sampled have high research potential, yet poor preservation of features.

Defining significance

Heritage sites vary according to significance and several different criteria relate to each type of site. However, there are several criteria that allow for a general significance rating of archaeological sites.

These criteria are:

1. State of preservation of:

- 1.1. Organic remains:
 - 1.1.1. Faunal
 - 1.1.2. Botanical
- 1.2. Rock art
- 1.3. Walling
- 1.4. Presence of a cultural deposit
- 1.5. Features:
 - 1.5.1. Ash Features
 - 1.5.2. Graves
 - 1.5.3. Middens
 - 1.5.4. Cattle byres
 - 1.5.5. Bedding and ash complexes

2. Spatial arrangements:

- 2.1. Internal housing arrangements
- 2.2. Intra-site settlement patterns
- 2.3. Inter-site settlement patterns

3. Features of the site:

- 3.1. Are there any unusual, unique or rare artefacts or images at the site?

3.2. Is it a type site?

3.3. Does the site have a very good example of a specific time period, feature, or artefact?

4. Research:

4.1. Providing information on current research projects

4.2. Salvaging information for potential future research projects

5. Inter- and intra-site variability

5.1. Can this particular site yield information regarding intra-site variability, i.e. spatial relationships between various features and artefacts?

5.2. Can this particular site yield information about a community's social relationships within itself, or between other communities?

6. Archaeological Experience:

6.1. The personal experience and expertise of the CRM practitioner should not be ignored. Experience can indicate sites that have potentially significant aspects, but need to be tested prior to any conclusions.

7. Educational:

7.1. Does the site have the potential to be used as an educational instrument?

7.2. Does the site have the potential to become a tourist attraction?

7.3. The educational value of a site can only be fully determined after initial test-pit excavations and/or full excavations.

8. Other Heritage Significance:

8.1. Palaeontological sites

8.2. Historical buildings

8.3. Battlefields and general Anglo-Zulu and Anglo-Boer sites

8.4. Graves and/or community cemeteries

8.5. Living Heritage Sites

8.6. Cultural Landscapes, that includes old trees, hills, mountains, rivers, etc related to cultural or historical experiences.

The more a site can fulfill the above criteria, the more significant it becomes. Test-pit excavations are used to test the full potential of an archaeological deposit. This occurs in Phase 2. These test-pit excavations may require further excavations if the site is of significance (Phase 3). Sites may also be mapped and/or have artefacts sampled as a form of mitigation. Sampling normally occurs when the artefacts may be good examples of their type, but are not in a primary archaeological context. Mapping records the spatial relationship between features and artefacts.

The above significance ratings allow one to grade the site according to SAHRA's grading scale. This is summarised in Table 1.

TABLE 1: SAHRA GRADINGS FOR HERITAGE SITES

SITE SIGNIFICANCE	FIELD RATING	GRADE	RECOMMENDED MITIGATION
High Significance	National Significance	Grade 1	Site conservation / Site development
High Significance	Provincial Significance	Grade 2	Site conservation / Site development
High Significance	Local Significance	Grade 3A / 3B	
High / Medium Significance	Generally Protected A		Site conservation or mitigation prior to development / destruction
Medium Significance	Generally Protected B		Site conservation or mitigation / test excavation / systematic sampling / monitoring prior to or during development / destruction
Low Significance	Generally Protected C		On-site sampling monitoring or no archaeological mitigation required prior to or during development / destruction

DESKTOP SURVEY

The desktop study consisted of analysing various maps for evidence of prior habitation in the study area, as well as for previous archaeological surveys. Many archaeological sites occur in the general area (Anderson 2014, 2021; Binneman 2012; Booth. 2012; Prins 2011). The archaeological sites tend to be open Stone Age scatters of varying significance while a few shelters and quarries occur. Some historical buildings occur in the general area. These sites have been recorded through systematic surveys (fig. 5).

No known heritage sites occur within the study area; however, it has high archaeological sensitivity.

This desktop study only deals with the western half of the transmission line as the eastern half was covered by Anderson (2014, 2021). Two sites were noted as occurring within 100m of the transmission line and will be dealt with below.

The 1941 aerial photograph indicates that there are buildings within 100m of the transmission line (fig. 6). The 1st edition (1971) topographical map indicates that these buildings are part of Wolwekloof (fig. 7). The Farm Winterhoek 118 dates to 1842 on the Surveyor General Map. The Farm Uitzicht 3, which includes Wolwekloof, thus predates 1842 (probably by a year or two - the government's Surveyor General online office has been offline since January 2022). Wolwekloof was probably a subdivision in the late 19th century, possibly coinciding with the adjacent Rietpoort. Rietpoort occurs on the 1941 aerial photograph.

Rietpoort and Wolwekloof are thus older than 60 years in age, and any structures and associated features would be protected by the NHRA. The rubbish dumps associated with these buildings would be considered historical and thus also protected.

FIG. 5: LOCATION OF RECORDED SITES IN THE GENERAL AREA

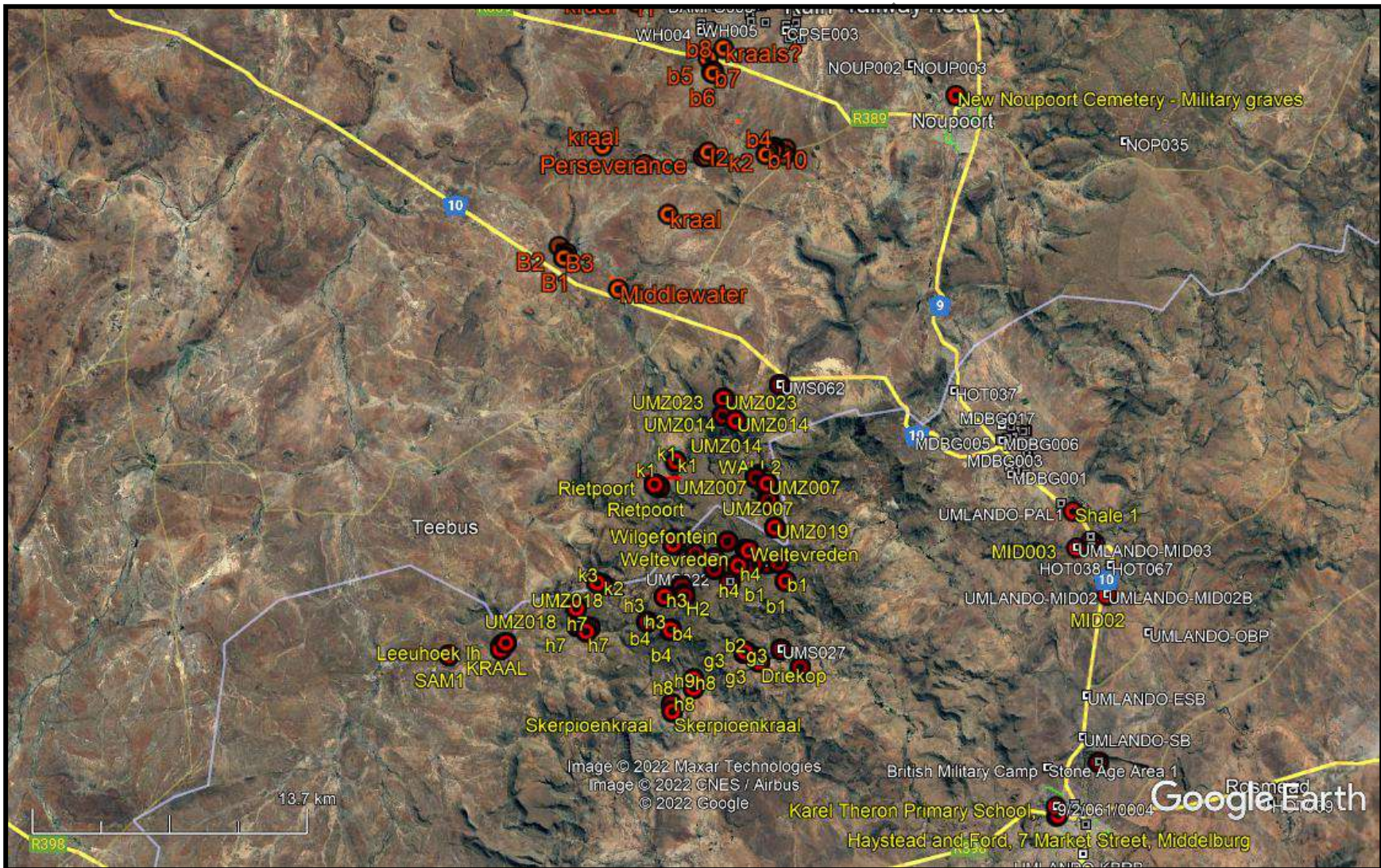
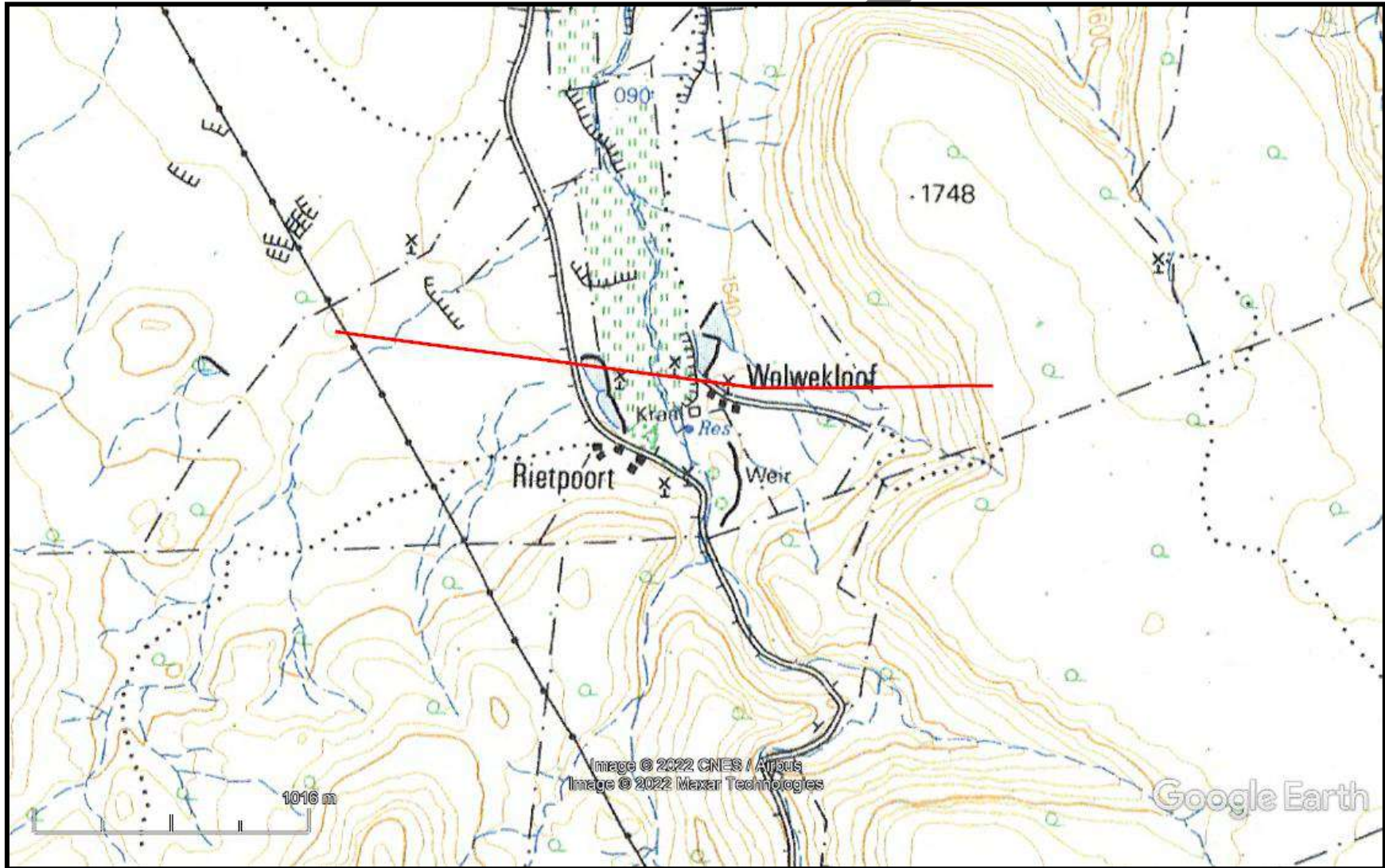


FIG. 6: AERIAL PHOTOGRAPH OF THE STUDY AREA IN 1941²



² 99_018_05245

FIG. 7: TOPOGRAPHICAL MAP OF THE STUDY AREA (1971)



FIELD SURVEY

The field survey was undertaken in April 2022 and focused only on the western half of the transmission line. The eastern half had been surveyed twice by Anderson (2014, 2021) where two sites occur within 100m of the transmission line: UMZ06 and UMZ011. Ground visibility was very good within the study area.

Fig. 8 - 9 and Table 2 show the locations of the recorded sites within 100m of the transmission line.

Name	Latitude	Longitude	Altitude (M)
UMZ006	-31.372089610	24.832105134	1790.0
UMZ011	-31.390200974	24.833171982	1797.0
Grave?	-31.343399700	24.791119000	1542.6
Ruin	-31.343160300	24.792063100	1539.4
Wolwekloof	-31.344919100	24.795721600	1541.7
Floor	-31.344254900	24.795936200	1545.8
Shed	-31.344481600	24.796302200	1545.2
Cairn	-31.344376300	24.796079800	1555.3
Cairn	-31.344645600	24.796268900	1552.7
Wall	-31.344793100	24.796065400	1543.6
Modern house	-31.344921300	24.797346900	1545.0
Midden	-31.344789600	24.797209800	1545.9
Modern midden	-31.344375100	24.797537700	1544.6
Modern midden	-31.344394100	24.797817100	1544.0
Windmill	-31.343952900	24.795047100	1539.6
Pump house	-31.344512000	24.795207400	1540.3
Dam wall	-31.344205419	24.792600507	1542.0
Quarry	-31.344198257	24.791560228	1541.0

FIG. 8: GENERAL LOCATION OF RECORDED SITES NEAR THE TRANSMISSINO LINE



FIG. 9: LOCATION OF FEATURES FROM THE 2022 SURVEY



UMZ006

The site is located at the head of a valley at ~1790m asl. The site consists of a flat area with several small overhangs just above the stone scatters. These shelters do not have any deposit and are less than 1m in width (fig. 10). The artefacts are found at the base of the hill towards the edge of the cliffs in a sandy soil. The scatters have been slightly affected by an existing Eskom transmission line.

The stone tools are all made from hornfels and have similar patination. The tools include:

- Duck billed scraper
- Medium end scrapers
- Utilised flakes
- Utilised Blade
- General flakes
- Bladelet core
- Irregular cores

The stone tools can date between the terminal Pleistocene and early Holocene. The tools are located in a secondary context.

The proposed transmission line occurs 51m to the west and is unlikely to affect UMZ06.

Significance: The site is of low significance. All of the tools are in a secondary context and have little research value.

Mitigation: No further mitigation is required, as the transmission line will not affect the site.

SAHRA Rating: 3C

FIG. 10: STONE TOOLS AT UMZ006



UMZ011

The site is located in a small valley within a riverbed. UMZ011 is a reinforced dam wall and an example of most dam walls in the area. The wall is an earthen wall that is reinforced with dry stone walling on the side (fig. 11). The age of each wall will vary but they are probably older than 60 years. The reinforced dam walls are examples of farming practices.

The feature is unlikely to be affected by the transmission line.

Significance: The site is of low significance

Mitigation: No mitigation is currently required.

SAHRA Rating: 3C

FIG. 11: SUPPORTING DAM WALL AT UMZ011



Grave

A possible grave was noted 10m to the west of the road. The feature consists of an oval cairn with a definite base outline in a north-south orientation (fig. 12). Several of the upper rocks have fallen over creating a distorted outline of the cairn. No headstone, nor footstone, was noted. The oval shape indicates that it is a not a natural feature. The feature must be treated as a grave until proven otherwise.

The grave occurs 22m north of the transmission line centre point. No other stone cairns were noted; however, subsurface features may occur.

Significance: The site is of high significance until proven otherwise.

Mitigation: The cairn needs to be demarcated before construction begins with a 5m buffer between the cairn and the demarcation. In case there are more subsurface graves, the pylons should not occur within 50m of the grave.

SAHRA Rating: 3A

FIG. 12: POSSIBLE GRAVE



Dam Wall & Quarry

The dam wall occurs on the 1941 aerial photograph and is thus older than 60 years in age. The wall is made up of dry stone walling that was then filled with mud (fig. 13). The wall is approx 250m in length. To the west of the wall is a quarry where the stones were broken and used for the wall (fig. 14).

Significance: the walling is of low heritage significance

Mitigation: It is unlikely that the walling and quarry will be affected by the transmission line.

SAHRA Rating: 3C

General scatter of tools

The entire length of the transmission line, on the lower plains, is over scatters of stone tools. These tools are in a secondary context and are washed down from the higher slopes. The stone tools consist mostly of Middle Stone Age flakes and cores, and a few early to middle Late Stone Age Tools. Some of these are shown in fig. 15.

Significance: the tools are of low significance since they are in a secondary context.

Mitigation: No further mitigation is required.

SAHRA Rating: 3C

FIG. 13: DAM WALL



FIG. 14: QUARRY FOR DAM WALL



FIG. 15: MSA TOOLS ALONG THE TRANSMISSION LINE



Wolwekloof

Wolwekloof occurs in the Farm Uitzicht 3 and is opposite Rietpoort. Wolwekloof predates 1941 and is probably a 19th century farmstead. The farmstead includes:

- a main house,
- a barn,
- a large rectangular kraal,
- at least three additional buildings,
- a pump house
- a wall between the main house and kraal
- several middens
- variety of 19th and 20th century artefacts on the surface
- and area of approx. 350m c 260m

All of the buildings are in various stages of ruin; however they are still protected by the heritage legislation.

The transmission line will not affect any of the buildings, however it may affect middens.

Significance: The farmstead forms part of the vernacular architecture of the area. If the main (existing) buildings are to be affected then they will need to be assessed by a Built Environment specialist.

Mitigation: The final location of any pylon structure and excavation within the farmstead will need to be accessed via desktop. Excavations within the farmstead will probably require on site monitoring for subsurface features and/or artefacts. It would be best to place each pylon outside of the farmstead, or on the eastern/western outskirts. The mitigation is also dependant on the spans.

SAHRA Rating: 3B

FIG. 16: WOLWEKLOOF



Miscellaneous Building

Approximately 40m to the east of the Wolfwekloof farmstead is a small house and three middens. These posit date 2001 as it does not occur on those aerial photographs. The bricks used and the artefacts in the middens all suggest a recent house. The only old item is the abandoned vintage vehicle. These are shown in Figure 17.

Significance: The buildings etc are of low significance.

Mitigation: no further mitigation is required.

SAHRA Rating: not rated

MANAGEMENT PLAN

The transmission line will not have a direct affect on any of the known features. The stone tools that occur on the surface are not significance and no further mitigation is required.

The dam walling and quarry should not be affected by the transmission line and the pylons can span this area.

The Wolvekloof farmstead will have at least one to two pylons. The final location of these needs to be re-assessed at a desktop level. If the pylons do not occur on the edges of the site, then any excavations will need to be monitored by an archaeologist.

The potential grave needs to be clearly demarcated before construction begins. The demarcation should be 5m from the edge of the cairn. In addition to this, there should be a 20m outer buffer that is also an exclusion zone.

FIG. 17: RECENT BUILDING NEAR WOLWEKLOOF



CONCLUSION

A Heritage survey was undertaken for the proposed Umsobomvu 400kV LILO OHL. Much of the area is on an area with alluvial deposits. Within these deposits is a variety of stone tools dating back to the Early, Middle and Late Stone Ages. These tools are all in a secondary context and have little scientific value.

The Colonial Period is represented by the Farm Wolvekloof and Rietpoort, although only parts of Wolvekloof will be affected. The transmission line avoids all the buildings but it might affect subsurface features and middens. It is for this reason I suggested that the pylons be placed on the edges of the farmstead, and dam wall/quarry, to minimise possible disturbance. On-site monitoring during excavations may be required at the pylons. A permit will be required to damage historical middens.

A potential grave was noted near the transmission line. This will require buffers at 5m and 20m from the grave. The grave remains a grave until proven otherwise.

No additional HIA mitigation is required.

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Maps

99_018_05245 1941 EC

3124BD Carlton

EXPERIENCE OF THE HERITAGE CONSULTANT

Gavin Anderson has a M. Phil (in archaeology and social psychology) degree from the University of Cape Town. Gavin has been working as a professional archaeologist and heritage impact assessor since 1995. He joined the Association of Professional Archaeologists of Southern Africa in 1998 when it was formed. Gavin is rated as a Principle Investigator with expertise status in Rock Art, Stone Age and Iron Age studies. In addition to this, he was worked on both West and East Coast shell middens, Anglo-Boer War sites, and Historical Period sites.

DECLARATION OF INDEPENDENCE

I, Gavin Anderson, declare that I am an independent specialist consultant and have no financial, personal or other interest in the proposed development, nor the developers or any of their subsidiaries, apart from fair remuneration for work performed in the delivery of heritage assessment services. There are no circumstances that compromise the objectivity of my performing such work.



Gavin Anderson
Archaeologist/Heritage Impact Assessor