

**HERITAGE IMPACT SCOPING REPORT FOR THE PROPOSED NEW
MATIMBA B POWER STATION, LEPHALALE DISTRICT, LIMPOPO
PROVINCE**

For:

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SUMMARY

Heritage impact scoping report for the proposed new Matimba B power station, Lephalale District, Limpopo Province

The aim of the survey was to locate, identify, evaluate and document sites, objects and structures of cultural significance found within the boundaries of the area in which it is proposed to develop the Matimba B power station and its infrastructure.

Based on what was found and its evaluation, it is recommended that the proposed development can continue, on condition of acceptance of the following recommendations:

- The hill known as Nelson's kop is obviously a site of high significance as it had (still have?) ritual importance for both hunter-gatherers and African farmers. It is therefore classified as a no-go area and should be avoided at all costs.
- The cemeteries should be avoided. Alternatively, if that is not possible, mitigation measures can be implemented by relocating the graves.
- It is recommended that a separate heritage impact assessment is done for every facet of the development, e.g. the conveyer belt routes, railway lines, access roads, power lines, etc.
- If archaeological sites are exposed during construction work, it should immediately be reported to a museum, preferably one at which an archaeologist is available, so that an investigation and evaluation of the finds can be made.

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HERITAGE IMPACT SCOOPING REPORT FOR THE PROPOSED NEW MATIMBA B POWER STATION, LEPHALALE DISTRICT, LIMPOPO PROVINCE

1. THE SURVEY

The National Cultural History Museum was contracted by Bohlweki Environmental to survey eight farms in an area in which it is proposed to develop a new power station. The aim of the survey was to locate, identify, evaluate and document sites, objects and structures of cultural importance found within the boundaries of the area that is to be impacted by the developed.

2. TERMS OF REFERENCE

The scope of work consisted of conducting a Phase 1 archaeological survey of the site in accordance with the requirements of Section 38(3) of the National Heritage Resources Act (Act 25 of 1999).

This include:

- Conducting a desk-top investigation of the area
- A visit to the proposed development sites

The objectives were to

- Identify possible archaeological, cultural and historic sites within the proposed development areas;
- Evaluate the potential impacts of construction, operation and maintenance of the proposed development on archaeological, cultural and historical resources;
- Select a preferred site for the development
- Recommend mitigation measures to ameliorate any negative impacts on areas of archaeological, cultural or historical importance.
- Recommend further studies in the EIA, should these be required.

3. DEFINITIONS AND ASSUMPTIONS

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

- *Cultural resources* are all non-physical and physical human-made occurrences, as well as natural occurrences that are associated with human activity. These include all sites, structures and artefacts of importance, either individually or in groups, in the history, architecture and archaeology of human (cultural) development.
- The *significance* of the sites and artefacts are determined by means of their historical, social, aesthetic, technological and scientific value in relation to their uniqueness, condition of preservation and research potential. It must be

kept in mind that the various aspects are not mutually exclusive, and that the evaluation of any site is done with reference to any number of these.

- Sites regarded as having *low significance* have already been recorded in full and require no further mitigation. Sites with medium to high significance require further mitigation measures.
- The *latitude* and *longitude* of archaeological sites are to be treated as sensitive information by the developer and should not be disclosed to members of the public.

4. LEGISLATIVE REQUIREMENTS

Aspects concerning the conservation of cultural resources are mainly dealt within two acts. These are the South African Heritage Resources Act (Act No 25 of 1999) and the Environment Conservation Act (Act No 73 of 1989).

4.1 South African Heritage Resources Act (Act No 25 of 1999)

Archaeology, palaeontology and meteorites

In terms of Section 35(4) of this Act, no person may, without a permit issued by the responsible heritage resources authority destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or material or any meteorite; bring onto, or use at an archaeological or palaeontological site any excavation equipment or any equipment that assists in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.

Structures:

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

“Structure” means any building, works, device or other facility made by people and which is fixed to land, and includes any fixtures, fittings and equipment associated therewith;

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

Human remains:

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

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

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

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

Human remains that are less than 60 years old are subject to provisions of the Human Tissue Act (Act No 65 of 1983) and to local regulations.

Exhumation of graves must conform to the standards set out in the Ordinance on Excavations (Ordinance No 12 of 1980) (replacing the old Transvaal Ordinance No 7 of 1925). Permission must also be gained from the descendants (where known), the National Department of Health, Provincial Department of Health, Premier of the Province and local police. Furthermore, permission must also be gained from the various landowners (i.e. where the graves are located and where they are to be relocated) before exhumation can take place.

4.2 Environment Conservation Act (Act No 73 of 1989)

This Act states that a survey and an evaluation of cultural resources should be undertaken in areas where development, which will change the face of the environment, is to be made. The impact of the development on the cultural resources should also be determined and proposals to mitigate this impact are to be formulated.

5. METHODOLOGY

5.1 Preliminary investigation

5.1.1 Survey of the literature

A survey of the relevant literature was conducted with the aim of reviewing the previous research done and determining the heritage potential of the area. In this regard, various anthropological, archaeological and historical sources were consulted - see the list of references below.

5.1.2 Data bases

The *Archaeological Data Recording Centre* (ADRC), housed at the National Cultural History Museum, Pretoria, was consulted. The *Environmental Potential Atlas* was also consulted.

5.1.3 Other sources

The topocadastral and other maps were also studied - see the list of references below.

5.2 Field survey

The field survey was undertaken according to generally accepted archaeological practices, and was aimed at locating all possible sites, objects and structures. The area that had to be investigated was identified by Escom by means of maps and local landowners/occupiers assisted, acting as guides to known sites during the field visit. The area was investigated by walking and driving across it. Special attention was given to topographical occurrences such as trenches, holes, outcrops and clusters of trees.

Where possible, the landowners/occupiers were interviewed in an effort to obtain information on the existence of known sites.

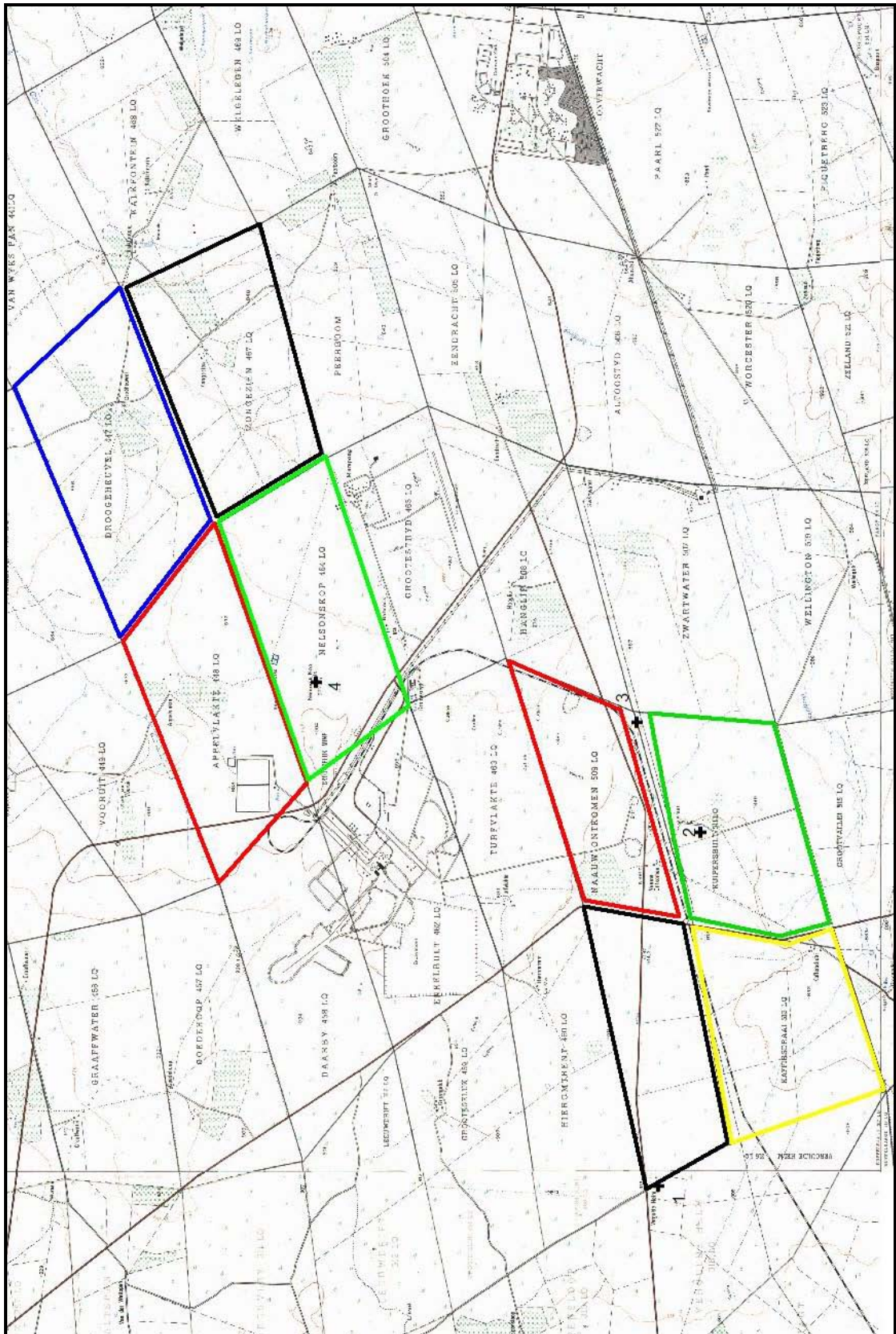


Figure 1. Location of the study areas and the identified heritage sites.

5.3 Documentation

All sites, objects and structures that are identified are documented according to the general minimum standards accepted by the archaeological profession. Coordinates of individual localities were determined by means of the *Global Positioning System* (GPS)¹ and plotted on a map (see Fig. 1). This information is added to the description in order to facilitate the identification of each locality.

Map datum used: Hartebeeshoek 94 (WGS84).

6. DESCRIPTION OF THE AREA

The areas surveyed included the following farms: Droogeheuwel, Appelvlakte, Nelsonskop, Zongezien, Naauwontkoming, Kuipersbult, Eenzaamheid and Kromdraai. All of these are located in the Lephalale (formerly Ellisras) district of Limpopo Province (see Fig. 1).

The topography of the area is very flat, with only a few small non-perennial rivers crossing it. The geology is made up of alternating bands of arenite and shale, with a basalt intrusion to the west of the study area. The original vegetation of the study areas consists of Mixed Bushveld, with a section to the north classified as Sweet Bushveld. Very few features (e.g. hills, outcrops or rock shelters) that usually drew people to settle in its vicinity, occurs in the area. The exception is Nelson's kop – see below.

7. DISCUSSION

Probably because of the somewhat inhospitable environment, being very flat and with few sources of surface water, people did not settle in large numbers in the area in the past. As a result, only a few sites of cultural significance are known to occur in the larger geographical area. In areas where there are outcrops, especially close to rivers, rock art sites and sites dating to the Late Iron Age have been documented. Further a-field, to the south, some Early and Late Iron Age sites are known to exist. In the town of Lephalale (Ellisras) there is a cemetery containing the graves of some of the earliest white settlers in the area.

With reference to the study area itself, the following sites have been identified.

7.1 Stone Age

Stone tools were recorded at a few select spots, predominantly at outcrops and the small water courses. As these artefacts were found on the surface, they are not in their original context any more and can yield very little information. As a result, they are viewed to have no significance.

¹ According to the manufacturer a certain deviation may be expected for each reading. Care was, however, taken to obtain as accurate a reading as possible, and then to correlate it with reference to the physical environment before plotting it on the map.

However, the opposite holds true for the site at Nelson's kop (see Appendix 2). Here some interesting engravings of animal spoors, cupules and cut marks were identified on the southern face of the hill. In addition, on top of the hill a number of small stone walled sites occur. A few non-diagnostic stone flakes and potsherds occur in the shelter.

From ethnographic sources it is known that hills or promontories, for example in the Karoo, are important features to the San because they offer vantage points in an otherwise remarkably flat landscape from which the springbok may be watched (Deacon 1988). The fact that there is a big panel (Fig. 2) with a variety of engravings on it indicates that this is in all probability a site of potency, for the making of rain by the San and later Sotho-Tswana speaking people in the area (see Van der Ryst *et al* 2004).

Although such sites are not unknown, this is currently the only known one in the larger region. Furthermore, it might even be linked with the other rock painting sites in the larger region, e.g. on the outskirts of Lephalale. A negative impact on this site would then, by extension, also have a negative impact on all the other sites. Based on its uniqueness, scientific and (past?) religious value, this site is viewed as having high significance and development should not be allowed to take place on or near it.



Figure 2. Some of the cupules and cut marks on the rock face at Nelsonskop.

7.2 Iron Age

No sites dating to the Iron Age were identified. A few pieces of pottery were found at an outcrop on the farm Kuipersbult (Appendix 2). However, these did not include any diagnostic pieces and it is therefore difficult to determine its dating or identity. They are viewed as having no significance and their occurrence here would not present any problem to the proposed development taking place here.

7.3 Historical period

Although a number of old farmsteads occur in the area, none are older than 60 years, or can be related to a significant event or person. Two cemeteries were identified (see Appendix 2). One of these falls just outside the area of proposed development and would therefore not be impacted on directly. The other consists of a single grave. This feature does not present a problem for the proposed development, as it would be possible to relocate it if necessary.

8. IDENTIFICATION OF RISK SOURCES

There are few cultural heritage resources known to exist in the area. The biggest risk posed by the development would be the accidental uncovering of unknown sites.

- Road making and construction activities might expose unknown sites.
- Curious workers might remove uncovered artefacts.

9. SITE PREFERENCE

In order to determine, from a heritage point of view, which site would be the most suitable for development, a system of rating was applied:

- 1 = Not suitable for development (impact of very high significance - negative)
- 2 = not preferred (impact of high significance - negative)
- 3 = acceptable (impact of moderate significance - negative)
- 4 = preferred (impact of low or negligible significance - negative)
- 5 = Ideal site for development, or positive impact

	Power station	Ancillary infrastructure
Eenzaamheid	5	5
Kromdraai		5
Kuipersbult		3
Naauw Ontkomen	5	5
Appelvlakte	2	2
Droogeheuvel		2
Zongezien		2
Nelsonskop	1	1

From this it can be determined that Nelsonskop is the least suitable for development, with Eenzaamheid and Naauw Ontkoming as the most suitable.

10. RECOMMENDATIONS

The aim of the survey was to locate, identify, evaluate and document sites, objects and structures of cultural significance found within the boundaries of the area in which it is proposed to develop the Matimba B power station and its infrastructure.

Based on what was found and its evaluation, it is recommended that the proposed development can continue, on condition of acceptance of the following recommendations:

- The hill known as Nelson's kop is obviously a site of high significance as it had (still have?) ritual importance for both hunter-gatherers and African farmers. It is therefore classified as a no-go area and should be avoided at all costs.
- The cemeteries should be avoided. Alternatively, if that is not possible, mitigation measures can be implemented by relocating the graves.
- It is recommended that a separate heritage impact assessment is done for every facet of the development, e.g. the conveyer belt routes, railway lines, access roads, power lines, etc.
- If archaeological sites are exposed during construction work, it should immediately be reported to a museum, preferably one at which an archaeologist is available, so that an investigation and evaluation of the finds can be made.

11. REFERENCES

11.1 Data bases

Archaeological Data Recording Centre, National Cultural History Museum, Pretoria.

Environmental Potential Atlas, Department of Environmental Affairs and Tourism.

11.2 Literature

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Van Riet Lowe, C. n.d. *The distribution of Prehistoric rock engravings and paintings in South Africa*. Archaeological Survey, Archaeological Series No. 7.

Van Warmelo, N.J. 1935. *A Preliminary survey of the Bantu Tribes of South Africa*. Ethnological Publications No. 5. Pretoria: Government Printer.

Van Warmelo, N.J. 1977. *Anthropology of Southern Africa in Periodicals to 1950*. Pretoria: Government Printer.

11.3 Maps

1: 50 000 Topocadastral maps – 2327CB, 2327DA

12. PROJECT TEAM

J van Schalkwyk – principal investigator

APPENDIX 1: STANDARDISED SET OF CONVENTIONS USED TO ASSESS THE IMPACT OF PROJECTS ON CULTURAL RESOURCES

Significance of impact:

- low where the impact will not have an influence on or require to be significantly accommodated in the project design
- medium where the impact could have an influence which will require modification of the project design or alternative mitigation
- high where it would have a “no-go” implication on the project regardless of any mitigation

Certainty of prediction:

- Definite: More than 90% sure of a particular fact. Substantial supportive data to verify assessment
- Probable: More than 70% sure of a particular fact, or of the likelihood of that impact occurring
- Possible: Only more than 40% sure of a particular fact, or of the likelihood of an impact occurring
- Unsure: Less than 40% sure of a particular fact, or the likelihood of an impact occurring

Recommended management action:

For each impact, the recommended practically attainable mitigation actions which would result in a measurable reduction of the impact, must be identified. This is expressed according to the following:

- 1 = no further investigation/action necessary
- 2 = controlled sampling and/or mapping of the site necessary
- 3 = preserve site if possible, otherwise extensive salvage excavation and/or mapping necessary
- 4 = preserve site at all costs

Legal requirements:

Identify and list the specific legislation and permit requirements which potentially could be infringed upon by the proposed project, if mitigation is necessary.

APPENDIX 2: SURVEY RESULTS²

[Previous site numbers relate to other known sites on a particular ¼ degree sheet already documented in the ADRC, and does not necessarily refer to sites occurring on or close to the specific area of development.]

Map datum used: Hartebeeshoek 94 (WGS84).

1. Site number: 2327CB1

Location: Vergulde Helm 316LQ: S –23.71142; E 27.49734

Description: An informal cemetery with four graves. Two of these go back to the 1930s, and the other two date to within the last 10 years.

Discussion: This site falls just outside the identified areas and is only mentioned because it is very close to the border with the farm Eenzaamheid 512LQ.

Significance of impact: Low

Certainty of prediction: Definite

Recommended management action: 1 = no further investigation/action necessary

Legal requirements: If relocation is necessary, SAHRA permit; local government permits; notification of descendants.

2. Site number: 2327DA3

Location: Kuipersbult 511LQ: S –23.71889; E 27.55988

Description: Single grave. Inscription: MS Moloantoa 25/5/1848 – 24/12/1953

Discussion: If development takes place, this feature would have to be relocated.

Significance of impact: High

Certainty of prediction: Definite

Recommended management action: Relocate grave if necessary.

Legal requirements: If relocation is necessary, SAHRA permit; local government permits; notification of descendants.

3. Site number: 2327DA4

Location: Kuipersbult 511LQ: S –23.70760; E 27.57939

Description: Small outcrop. A few small pieces of non-diagnostic Iron Age pottery occur on the site. The site could have served as rainmaking site, but no engravings of other artefacts were found here.

Discussion: The site is viewed to have little significance.

Significance of impact: High

Certainty of prediction: Definite

Recommended management action: 1 = no further investigation/action necessary

Legal requirements: None

4. Site number: 2327DA5

Location: Nelsonskop 464LQ: S –23.65094; E 27.58650

Description: A small hill. Some interesting engravings of animal spoors, cupules and cut marks were identified on the southern face of the outcrop. On top of the hill, a number of small stone walled enclosures occur. The hill is in all probability a site of potency, for the making of rain, by the San and later Sotho-Tswana speaking people in the area.

² See Appendix 1 for an explanation of the conventions used in assessing the heritage remains.

Discussion: Based on its uniqueness, scientific and (past?) religious value, this site has a high significance and development should not be allowed to take place on or near it.

Significance of impact: High

Certainty of prediction: Definite

Recommended management action: 4 = preserve site at all costs

Legal requirements: SAHRA permit

APPENDIX 3: GLOSSARY AND ABBREVIATIONS

This section is included to give the reader some necessary background. It must be kept in mind, however, that these dates are all relative and serve only to give a very broad framework for interpretation.

STONE AGE

Early Stone Age (ESA)	2 000 000 - 150 000 Before Present
Middle Stone Age (MSA)	150 000 - 30 000 BP
Late Stone Age (LSA)	30 000 - until c. AD 200

IRON AGE

Early Iron Age (EIA)	AD 200 - AD 1000
Late Iron Age (LIA)	AD 1000 - AD 1830

HISTORICAL PERIOD

Since the arrival of the white settlers - c. AD 1840 in this part of the country

ADRC - Archaeological Data Recording Centre

core - a piece of stone from which flakes were removed to be used or made into tools

PHRA – Provincial Heritage Resources Agency

SAHRA - South African Heritage Resources Agency