



SOUTH AFRICAN HERITAGE RESOURCES AGENCY
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FOR ATTENTION: **PHRA: Northern Cape**

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SAHRA Contact Person: **Dr Mariagrazia Galimberti**
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REVIEW COMMENT ON ARCHAEOLOGICAL AND PALAEOLOGICAL IMPACT ASSESSMENTS

BY ARCHAEOLOGY, PALAEOLOGY AND METEORITES UNIT OF THE SOUTH AFRICAN HERITAGE RESOURCES AGENCY

South Africa has a unique and non-renewable archaeological and palaeontological heritage. Archaeological and palaeontological sites are protected in terms of the National Heritage Resources Act (Act No 25 of 1999) and may not be disturbed without a permit. Archaeological Impact Assessments (AIAs) and Palaeontological Impact Assessments (PIAs) identify and assess the significance of the sites, assess the potential impact of developments upon such sites, and make recommendations concerning mitigation and management of these sites. On the basis of satisfactory specialist reports SAHRA or the relevant heritage resources agency can assess whether or not it has objection to a development and indicate the conditions upon which such development might proceed and assess whether or not to issue permission to destroy such sites.

AIAs and PIAs often form part of the heritage component of an Environmental Impact Assessment or Environmental Management Plan. They may also form part of a Heritage Impact Assessment called for in terms of section 38 of the National Heritage Resources Act, Act No. 25, 1999. They may have other origins. In any event they should comply with basic minimum standards of reporting as indicated in SAHRA Regulations and Guidelines.

This form provides review comment from the Archaeologist of the relevant heritage resources authority for use by Heritage Managers, for example, when informing authorities that have applied to SAHRA for comment and for inclusion in documentation sent to environmental authorities. It may be used in conjunction with Form B, which provides relevant peer review comment.

- A. PROVINCIAL HERITAGE RESOURCES AUTHORITY: Northern Cape
- B. AUTHOR(S) OF REPORT: **Ms Melanie Attwell**
- C. HERITAGE CONTRACT GROUP: **Melanie Attwell and Associates**
- D. CONTACT DETAILS: **2 Caxtone Close, Oaxridge, 7806, Cape Town, tel: 021 715 0330**
- E. DATE OF REPORT: **March 2011**
- F. TITLE OF REPORT: **Heritage Assessment Proposed Wind Energy Facility And Related Infrastructure, Struisbult: (Farm 103, Portions 4 And 7), Copperton, Prieska.**
- B. AUTHOR(S) OF REPORT: **Mr Jonathan Kaplan and Mr Nicholas Wiltshire**
- C. ARCHAEOLOGY CONTRACT GROUP: **Agency for Cultural Resource Management**
- D. CONTACT DETAILS: **5 Stuart Rd, Rondebosch, Tel: 021 685 7589, email: acrm@wcaccess.co.za, nicwiltshire@gmail.com**
- E. DATE OF REPORT: **October 2011**
- F. TITLE OF REPORT: **Archaeological Impact Assessment Of A Proposed Wind Energy Facility, Power Line And Landing Strip In Copperton, Siyathemba**

Municipality, Northern Cape

- B. AUTHOR(S) OF REPORT: **Dr John Almond**
 - C. PALAEOLOGY CONTRACT GROUP: **Natura Viva CC**
 - D. CONTACT DETAILS: **P.O. Box 12410, Mill Street, Cape Town, 8010, email: naturaviva@universe.co.za**
 - E. DATE OF REPORT: **August 2011**
 - F. TITLE OF REPORT: **PIA Desktop study: Proposed Plan 8 wind energy facility near Copperton, Northern Cape Province.**

 - G. Please circle as relevant: Archaeological and Palaeontological components of **EIA / EMP / HIA / CMP/ Other (Specify)**
 - H. REPORT COMMISSIONED BY (CONSULTANT OR DEVELOPER): **Aurecon, Ms Luoise Corbett**
 - I. CONTACT DETAILS: **Aurecon Centre, 1 Century City Drive, Waterford Precinct, Century City I; Tel: 021 526 6027, Fax: 086 667 3532, E-mail: Louise.Corbett@aurecongroup.com**
 - J. COMMENTS:
- Please see comment on next page*

REVIEW COMMENT ON ARCHAEOLOGICAL AND PALAEOLOGICAL IMPACT ASSESSMENTS

Ms Melanie Attwell

Dated: March 2011, Received: June 2011

Heritage Assessment Proposed Wind Energy Facility And Related Infrastructure, Struisbult: (Farm 103, Portions 4 And 7), Copperton, Prieska.

Mr Jonathan Kaplan and Mr Nicholas Wiltshire

Dated: October 2011, Received: January 2012

Archaeological Impact Assessment Of A Proposed Wind Energy Facility, Power Line And Landing Strip In Copperton, Siyathemba Municipality, Northern Cape

Dr John Almond

Dated: August 2011, Received: January 2012

PIA Desktop study: Proposed Plan 8 wind energy facility near Copperton, Northern Cape Province.

INTRODUCTION

Aurecon Group has undertaken on behalf of Plan 8 Infinite Energy (Pty) Ltd the Environmental Impact Assessment process for the establishment of a wind energy facility near Copperton. The facility is expected to generate 140MW of electricity, which is proposed to be then fed into the Eskom 132kV grid at the existing Cuprum substation. It is expected that about 56 turbines between 91m and 100m will be erected. Each of them will require a concrete base of 20m x 20m with an average depth from 3 to 6m. The diameter of the tower will be 6m. Because of the size of the turbines, each turbine will require a hardstanding of an impermeable material of approximately 20m x 6m.

The project will require the construction of 8.6km of power line to connect to the Eskom grid, the laying of underground cables amongst the turbines, the construction of access roads at least 6m wide for each turbines and the relocation of an airstrip of approximately 1 700m x 60 m. The entire development, excluding the power line, is proposed on the 3130ha of Portions 4 and 7 of Farm Nels Poortje 103 (also known as Struisbult), with the airstrip located on a Smous Pan 105, not adjacent to the rest of the development.

The area earmarked for the development is mostly flat, with only a few low koppies emerging from the otherwise flat landscape. The area is currently used mostly for cattle and sheep farming and it has never been ploughed before, factor which contributes to the good preservation of archaeological evidence. The vegetation on the landscape is mostly Bushmanland Arid Grassland, which allows high surface visibility. A system of natural seasonal pans is also located on the properties along with non perennial streams.

The two properties are included in the general astronomy advantage area declared by the Minister of Science and Technology in 2010. This may result in some activities proposed for the wind energy facility to be altered in order to comply with the requirements of this protected area. Plan 8 has met with Square Kilometer Array and will be undertaking modelling to determine potential impacts and solutions.

DISCUSSION

Three different assessments were undertaken for this project by three specialists, Ms Attwell, who did an overview of heritage resources, with special focus on built environment issues; Dr Almond, who undertook a desktop study for the possible presence of palaeontological resources, and Mr Wiltshire, who undertook the Archaeological Impact Assessment on behalf of the Agency for Cultural Resource Management.

No structures were identified on the section proposed for the development, Ms Attwell states that no heritage resources are identified on site, but this contradicts the outcome of the archaeological assessment.

Palaeontologically the footprint of the development is underlain by unconsolidated aeolian sand from the Gordonia Formation, which overlies the Obobogorop Formation, series of Precambrian basement rocks belonging to the Uitdraai Formation and the Spioenkoop Formation of the Dwyka Group. All these formations are considered to be of low palaeontological significance. Even though they may contain some fossil material, its significance and occurrence does not require further palaeontological studies.

The archaeologist undertaking the survey identified the area as archaeological very sensitive and recorded 127 between sites and scatters. The main characteristic of all the two properties is that, where the sand dunes overlie the calcrete, stratification of Middle and Later Stone Age events is evident, whereas in sections where deflation of the sand dunes occurred, the Later Stone Age material is located on the calcrete and quartzitic bedrock below the aeolian sand, along with the Middle Stone Age material. Evidence of Early Stone Age occupation was also recovered in both farms.

While the distribution of Stone Age material was consistent throughout the properties, clear concentration and sites were recorded mostly around the four seasonal pans, Modderpan and Saaipan, on Struisbult, and Blomsdampan and Valspan, just outside this property.

Modderpan is certainly the most interesting site that the archaeologist identified. The Stone Age artefacts identified here spans from the Early to the Later Stone Age. The raw material was non-locally sourced banded ironstones, chert and hornfels and mostly locally sourced dark blue/gray quartzite. A wide range of formal tools and flakes was recorded, amongst which radial and bipolar cores, irregular cores, a lower grindstone, blade, trapezoidal, triangular and notched flakes.

A few Stone Age quarries (VGSTR5-7 and NPRT3) of blue grain and light grey quartzite, and vein were identified near Modderpan. According to the specialist, these quarries are common enough in the neighbouring properties and it may not be worth conservation. The report recorded the quarries well enough for future reference, even their accidental destruction had to occur during the construction phase.

Saaipan is located on the footprint of the power line. This site is much smaller than Modderpan but the distribution and type of material is similar to it.

Besides Stone Age material the archaeologist also identified two stone kraals (NPRT4 and VGSTR12) most likely dating to the historical period, after the settling of the farmers.

The remaining walls of kraal NPRT4 are about 40cm high and its size is about 5x6m. According to the specialist the site is of high significance since not many remains of this type have been so far recorded in the landscape of the Northern Cape. Kraal VGSTR12, on the contrary, is not as well preserved as NPRT4, and therefore no further mitigation measures are required for it.

On Smous Pan 105, the separate property where a new landing strip is proposed, the archaeologist identified a knapping episode (SMOUS1) located on the hard packed aeolian sand surface.

SAHRA RECOMMENDATIONS

SAHRA supports the recommendations of the author and requires that:

- Modderpan must not be impacted by the development and any of the associated activities. A buffer zone of 250m from the centre of the pan must be respected. It is required that during construction activities the pan is fenced off. The fence may be removed once the construction phase is terminated, however it must be clearly indicated on all maps of the site to make sure that no future activities planned in the area accidentally impact on it.
- The developer or the archaeologist on behalf of the developer must apply from

SAHRA for a destruction permit for quarries VGSTR 5-7 and NPRT3.

- A buffer zone of at least 30m from their perimeters must be respected around kraals NPRT4 and VGSTR12.
- It is recommended that Saaipan is fenced off during construction since it is located on the footprint of the power line. The fence should run at least 30m from the edge of the pan.
- Mitigation in the form of recording and systematic collection of a representative sample is requested for site SMOUS1. Particular attention must be paid to Early Stone Age material. The sampling and recording must be undertaken before any earth-moving activities resulting from this proposed project begins. A photographic record must be established immediately before, during and after collection. The archaeologist will require a mitigation permit from SAHRA in terms of s. 35 of the National Heritage Resources Act (Act 25 of 1999). On receipt of a satisfactory permit report from the archaeologist, SAHRA will make further recommendations in terms of the site.
- The developer must commission a Conservation Management Plan for Modderpan and the two kraals. The owner of the property must be provided with a copy of the Conservation Management Plan and this must be transferred to any new owner of the property.

CONCLUSION

If the recommendations made in the specialist report and in this comment are adhered to, the SAHRA Archaeology, Palaeontology and Meteorites Unit has no objection to the development. If any new evidence of archaeological sites or artefacts, palaeontological fossils, graves or other heritage resources are found during construction, SAHRA (Mariagrazia Galimberti/Colette Scheermeyer, Tel: 021 4624502) and a professional archaeologist or palaeontologist, according to the findings, must be alerted immediately.

Decisions on Built Environment (e.g. structures over 60 years) and associated Living Heritage (e.g. sacred sites) must be made by the Provincial Heritage Resources Authority of the Northern Cape (Mr. Joas Sinthumule, email: jsinthumule@ncpg.gov.za, tel: 053 831 2537) to whom this Archaeological Review Comment will be copied.

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PLEASE NOTE THAT THE COMMENT (ABOVE OR APPENDED) CONSTITUTES THE COMMENT OF THE HERITAGE RESOURCES AGENCY ARCHAEOLOGIST AND THAT ANY DEVELOPMENT THAT INVOLVES DESTRUCTION OF ANY ARCHAEOLOGICAL/PALAEONTOLOGICAL SITE IS STILL SUBJECT TO A PERMIT/PERMISSION FOR DESTRUCTION OF SUCH SITE GIVEN TO THE DEVELOPER BY THE RELEVANT HERITAGE RESOURCES AGENCY ARCHAEOLOGICAL AND PALAEONTOLOGICAL PERMIT COMMITTEE (THIS WILL BE SUBJECT TO APPROVAL OF THE PHASE 2 OR ARCHAEOLOGICAL/ PALAEONTOLOGICAL MITIGATION AS NECESSARY). THIS REPORT MAY BE TAKEN ONLY AS APPROVAL IN TERMS OF SECTION 35 OF THE NATIONAL HERITAGE RESOURCES ACT. THE PROVINCIAL MANAGER OF THE HERITAGE RESOURCES AUTHORITY MUST ADVISE AS TO APPROVAL IN TERMS OF HERITAGE ISSUES ENCOMPASSED BY OTHER ASPECTS OF THE LEGISLATION, SUCH AS ISSUES OF THE BUILT ENVIRONMENT (STRUCTURES (E.G. FARM HOUSES), OVER 60 YEARS), INDIGENOUS KNOWLEDGE SYSTEMS OR OF CULTURAL LANDSCAPES AS THIS IS NOT WITHIN THE SCOPE OF THE ARCHAEOLOGIST.

PLEASE NOTE THAT SAHRA IS NOW RESPONSIBLE FOR GRADE I HERITAGE RESOURCES (AND EXPORT) AND THE PROVINCIAL HERITAGE RESOURCES ARE RESPONSIBLE FOR GRADE II AND GRADE III HERITAGE RESOURCES, EXCEPT WHERE THERE IS AN AGENCY ARRANGEMENT WITH THE PROVINCIAL HERITAGE RESOURCES AUTHORITY.

