



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

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SAHRA Contact Person: **Dr Mariagrazia Galimberti**  
DEA Ref. no: **12/12/20/2012**

## REVIEW COMMENT ON ARCHAEOLOGICAL AND PALAEOLOGICAL IMPACT ASSESSMENTS

BY ARCHAEOLOGY/ PALAEOLOGY UNIT OF THE 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.
- C. AUTHOR(S) OF REPORT: **Mr David Morris**
- D. ARCHAEOLOGY CONTRACT GROUP: **McGregor Museum, Kimberley**
- E. CONTACT DETAILS: **PO Box 316, 8300 Kimberley, 053 839 2706; mmkarchaeology@yahoo.co.uk**
- F. DATE OF REPORT: **November 2010**
- G. TITLE OF REPORT: **Heritage Impact Assessment of the proposed hydropower station on the Orange River at Neus Island on the Farm Zwartbooisberg, east of Kakamas, Northern Cape**
- B. AUTHOR(S) OF REPORT: **Dr John Almond**
- C. ARCHAEOLOGY CONTRACT GROUP: **Naturaviva CC**
- D. CONTACT DETAILS:
- E. DATE OF REPORT: **June 2011**
- F. TITLE OF REPORT: **Palaeontological assessment: recommended exemption from further palaeontological studies. Proposed hydropower station on the Orange River near Kakamas, Northern Cape Province (DEA Ref. No.**

**12/12/20/2012)**

G. Please circle as relevant: archaeological and palaeontological components of EIA / EMP / HIA / CMP/ **Other** (Specify) **Draft Basic Assessment Report**.....

H. REPORT COMMISSIONED BY (**CONSULTANT** OR DEVELOPER): **Ms Louise Corbett and Mr Brett Lawson, Aurecon**

I. CONTACT DETAILS: **PO Box 494, Cape Town, 8000. Tel: 021 481 2400, Email: [louise.corbett@aurecongroup.com](mailto:louise.corbett@aurecongroup.com) and [brett.lawson@aurecongroup.co.za](mailto:brett.lawson@aurecongroup.co.za)**

J. COMMENTS: .....

*Please see comment on next page* .....

## **REVIEW COMMENT ON ARCHAEOLOGICAL AND PALAEOLOGICAL IMPACT ASSESSMENTS**

**Mr David Morris**

**Dated: November 2010, Received: June 2010**

**Heritage Impact Assessment of the proposed hydropower station on the Orange River at Neus Island on the Farm Zwartbooisberg, east of Kakamas, Northern Cape**

**Dr John Almond**

**Dated: June 2011, Received: July 2011**

**Palaeontological assessment: recommended exemption from further palaeontological studies. Proposed hydropower station on the Orange River near Kakamas, Northern Cape Province (DEA Ref. No. 12/12/20/2012)**

### **INTRODUCTION**

A 12MW hydropower station is proposed by Kakamas Hydro Electric Power on the Orange River, about 12km east of Kakamas.

Six different alternatives were considered for the establishment of the power station. Besides the power station, the project will require the construction of an abstraction point for the abstraction of water, a turbine hall or power house, a switchroom, an aquaduct between 1.3 and 2.2km according to the chosen alternative, two 22kV distribution lines up to 1.0 and 2.2km in length with poles with maximum depth of 1.8m and height of 9.2m.

### **DISCUSSION**

The palaeontologist compiled a letter of exemption from further palaeontological assessment since the proposed hydropower station is expected to be located above the Namaqua-Natal metamorphic province, which is known to be unfossiliferous. Red sands from the Kalahari Group of the Gordonia Formation and alluvial silts of Quaternary age will also be impacted by the development. Occasionally, some fossil remains have been identified in these two deposits, but, according to the specialist, it is expected that the impact of the project footprint on them will be very slight.

On the contrary, the impact of the project on the archaeology of the area will be high, unless mitigation is undertaken. After compiling a background study, Mr Morris surveyed on foot the six proposed options and identified three types of archaeological resources which will be impacted by the development. These are Stone Age traces, evidence of the north canal (Noordvoor) from the colonial period and ruins from a three-room dwelling with associated ash and hip middens from the early 20<sup>th</sup> century.

Stone Age artefacts scatters were identified on the North bank of the river, but no evidence from the Stone Age were recovered in Neus Island itself. Several of the scatters had a high concentration of stone tools, equal to about 10-20/1m<sup>2</sup>, they are mostly made of banded ironstone and date to the Middle Stone Age. Alternatives 5 and 6 will impact on these sites.

The old North Canal is clearly visible also on Google Earth maps. The construction of the canal started in 1908 to transport water from the Island to Kakamas. Later, a new canal was built upslope from the old one, which is still visible and, in many sections, still well preserved with some remaining of cement and packed stone strengthening. Alternatives 1 and 2 will impact on it.

The three-room dwelling ruins from the beginning of the 20<sup>th</sup> century, linked to an ash midden and a series of other smaller middens are located on the island itself. The dwelling will be impacted by Alternatives 3, 4 and 5.

**SAHRA RECOMMENDATIONS**

SAHRA supports the recommendations of the author and requires that:

- If alternatives 5 or 6 are chosen as preferred, mitigation of the Stone Age sites to be impacted will be requested. Mitigation in the form of systematic recording and sampling must be undertaken before trenching and any other earth-moving activity resulting from this proposed project. A photographic record must be established immediately before, during and after mitigation. The archaeologist will require a collection permit from SAHRA in terms of s. 35 of the National Heritage Resources Act (Act 25 of 1999). On receipt of a satisfactory mitigation (Phase 2) permit report from the archaeologist, SAHRA will make further recommendations in terms of the sites such as their final destruction or additional sampling.
- The old canal should not be impacted upon. Before construction starts a detailed documentation of the canal, including archival work should be undertaken.
- The ruin dwellings and related middens will be directly impacted by Alternatives 1 and 2 and indirectly by 3, 4 and 5. Therefore, it is recommended that mitigation in the form of recording of the building, archival research and sample excavation of the middens must be undertaken before trenching and any other earth-moving activity resulting from this proposed project. A photographic record must be established immediately before, during and after mitigation. 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 mitigation (Phase 2) permit report from the archaeologist, SAHRA will make further recommendations in terms of the sites such as their final destruction or additional sampling.
- It is suggested that, should mitigation be considered an option, the findings of the excavations and collection may be exhibited in a museum-type display in Kakamas and/or Upington.

**CONCLUSION**

If the recommendations made in the specialist report and in this comment are adhered to, the SAHRA Archaeology, Palaeontology and Meteorite Unit has no objection to the development (in terms of the archaeological and palaeontological components of the heritage resources). If any new evidence of archaeological sites or artefacts, palaeontological fossils, graves or other heritage resources are found during development, construction or mining, SAHRA and a professional archaeologist must be alerted immediately.

SAHRA will further advise on any mitigation measures required once the reports from the Phase 2 (excavations) process are received.

Decisions on Built Environment (e.g. structures over 60 years) and Cultural Landscapes and associated Living Heritage (e.g. sacred sites) must be made Provincial Heritage Resources Authority of the Northern Cape (Mr. Joas Sinthumule [jsinthumule@ncpg.gov.za](mailto:jsinthumule@ncpg.gov.za)) to whom this Archaeological Review Comment will be

SIGNATURE OF ARCHAEOLOGIST PROCESSING REPORT: .....

EMAIL: mgalimberti@sahra.org.za .....

SIGNATURE OF SAHRA HEAD ARCHAEOLOGIST: .....

EMAIL: nndobochani@sahra.org.za .....

NAME OF HERITAGE RESOURCES AGENCY: SAHRA.....

**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.**