



## **Final Comment**

### **In terms of section 38(8) of the National Heritage Resources Act (Act 25 of 1999)**

Attention: Mr Sean Strydom  
South African National Road Agency Limited  
PO Box 27230  
Greenacres  
6057

#### **Proposed upgrading of the N10 section 4 between Cradock and Knutsford, Eastern Cape Province.**

*van Ryneveld, K., June 2012. Phase 1 Archaeological Impact Assessment Upgrade Of The N10-4, Cradock [Km1.6] To Knutsford (sic) [Km29], Eastern Cape, South Africa*

*Gess, R., June 2012. Palaeontological impact assessment for Proposed upgrade of the N10 section 4, immediately north of Cradock.*

SAHRA received and reviewed the Basic Assessment Report and the Environmental Management Plan for the upgrade of 27.6km of the N10 section 4 and the use of two related borrow pits. The project entails the upgrade of two intersections, the establishment of an agricultural underpass and the construction of a climbing lane. Only the existing road prism will be rehabilitated.

Both an archaeological and a palaeontological impact assessments were commissioned for this project and a few resources were identified.

The palaeontologist visited the area over one day and inspected road cuttings and exposures of bedrocks. The geological formations underlying the road upgrade belong to the upper and middle Balfour Formation, intruded by Jurassic dolerite and overlain by a thick deposit of Quaternary alluvium, both of which are generally of low palaeontological sensitivity. The Balfour Formation belongs to the Adelaide Subgroup, of the Beaufort Group, of the Karoo Supergroup, which is considered of higher palaeontological sensitivity.

During his site visit the palaeontologist identified sandstones with stacked ripple cross lamination and calcium coated roundish structures in existing road cuts close to where the climbing lane is proposed. These features have been interpreted by the palaeontologist as possible remineralised sandballs created by soft sediment deformation. A few fossils of plant stems were also identified.

The first of the two borrow pits is located on a greenfield cover by alluvium, but an adjacent borrow pit, dug into greenish mudstone, revealed to be unfossiliferous.

The second borrow pit is proposed to be an extension of an existing one. Its north west corner is underlain by dolerite, whereas most of its extent is underlain by greenish mudstone of the Balfour Formation containing shallow water ripples planes and well-preserved sphenophyte stems. Weathered sandstone and alluvium





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cover part of the area where the existent borrow pit is proposed to be extended.

The archaeologist identified two Stone Age sites, five farmsteads, one farm gate and two stone walls. A look out site from the Boer War, Oukop Hill, is also located in proximity of the beginning of the upgrade, but it is expected that no impact on the site will occur from the upgrade of the road.

The farm gate is located at the entrance of either Farm Edina 207 or Rietfontein 206, the gate is older than 60 years and in disuse. The site is located about 150m from the road reserve and it is not expected to be impacted by the development.

Five farmsteads, currently in use, were identified on De Nova 123/12, Riversdale 123, Geduld 566, Elim and Burnside. It is expected that no impact will occur on any of these farmsteads, which are older than 60 years and therefore protected by s.34 of the NHRA, Act 25 of 1999.

The two stone walls were recorded by the archaeologist in close proximity to borrow pit 2 and are dated to the Colonial Period, it is possible that these were used both for agricultural purposes and as fortifications and look out points during the Boer War. The first stone wall is located about 30m from the proposed borrow pit. Since the borrow pit will be fenced off, it is expected that no impact will occur on it, however, this is not the case for the second stone wall, located between the borrow pit and the road.

One Stone Age site was recorded along the road upgrade, whereas the second one was found in proximity of the first borrow pit. Site one (N10-4.4 in the report) is mostly formed by artefacts in fine grained granite possibly dating to the middle to later Middle Stone Age with a fairly poor technological standard. The artefact ratio at the proposed area is of 2/m<sup>2</sup>, however since most of the site is located on the neighbouring property, it was not possible for the archaeologist to clearly identify its boundaries. The second Stone Age Site (N10-4/BP1.1 in the report) is quite extensive, covering about 270 x 200m. The surface of the borrow pit is characterised by surfacing gravel substrate, which is most times associated with stone artefacts dating mostly to the Middle Stone Age. The raw material used for these artefacts is baked shale or granite, which do not seem to have been sourced locally. The archaeologist defined the density of the stone tools between one and five per m<sup>2</sup> in the densest area. Because of the nature of this site, typical of the Karoo landscape, the archaeologist did not attempt to clearly define the boundaries of the site. It is expected that no sub-surface stratigraphy is present.

**Decision:**

SAHRA therefore requires that:

- Borrow pits one and two to be inspected by a palaeontologist towards the end of their exploitation before rehabilitation.
- A buffer zone of at least 30m should be ensured between the fence around the borrow pit and the stone wall south of the borrow pit. If this is not possible, then a Phase 2 Archaeological Impact Assessment must be undertaken.
- Site N10-4.4 should be clearly demarcated during construction to avoid any impact. Sign posting can



The South African Heritage Resources Agency

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be used to explain the nature of the site, its significance and why it should not be impacted.

- The Stone Age site N10-4 BP1.1 may be impacted upon provided that a destruction permit is applied for. The developer or the archaeologist on behalf of the developer should apply for a destruction permit to SAHRA for impacting and destroying part of the site in terms of s. 35 of the National Heritage Resources Act (Act 25 of 1999).
- Decisions on Built Environment (e.g. structures over 60 years) and Living Heritage (e.g. sacred sites) must be taken by the Provincial Heritage Resources Authority of the Eastern Cape (Mr. ML Zote, [mlzote@ecphra.org.za](mailto:mlzote@ecphra.org.za)) who has already received a copy of the report.

Should you have any further queries, please contact the designated official using the case number quoted above in the case header.

Yours faithfully

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Mariagrazia Galimberti  
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South African Heritage Resources Agency

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SAHRA Head Archaeologist  
South African Heritage Resources Agency

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**ADMIN:**

(DEA, Ref: 14/12/16/3/3/1/522.) (DMR, Ref: EC30/5/1/3/3/2/1/10043EM)

**Terms & Conditions:**

1. This approval does not exonerate the applicant from obtaining local authority approval or any other necessary approval for proposed work.
2. If any heritage resources, including graves or human remains, are encountered they must be reported to SAHRA immediately.
3. SAHRA reserves the right to request additional information as required.



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