

# PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT REPORT

**Title:** Proposed construction and operation of the Robberg-Bitou 66kV powerline

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**For:** Eskom Distribution Western Cape

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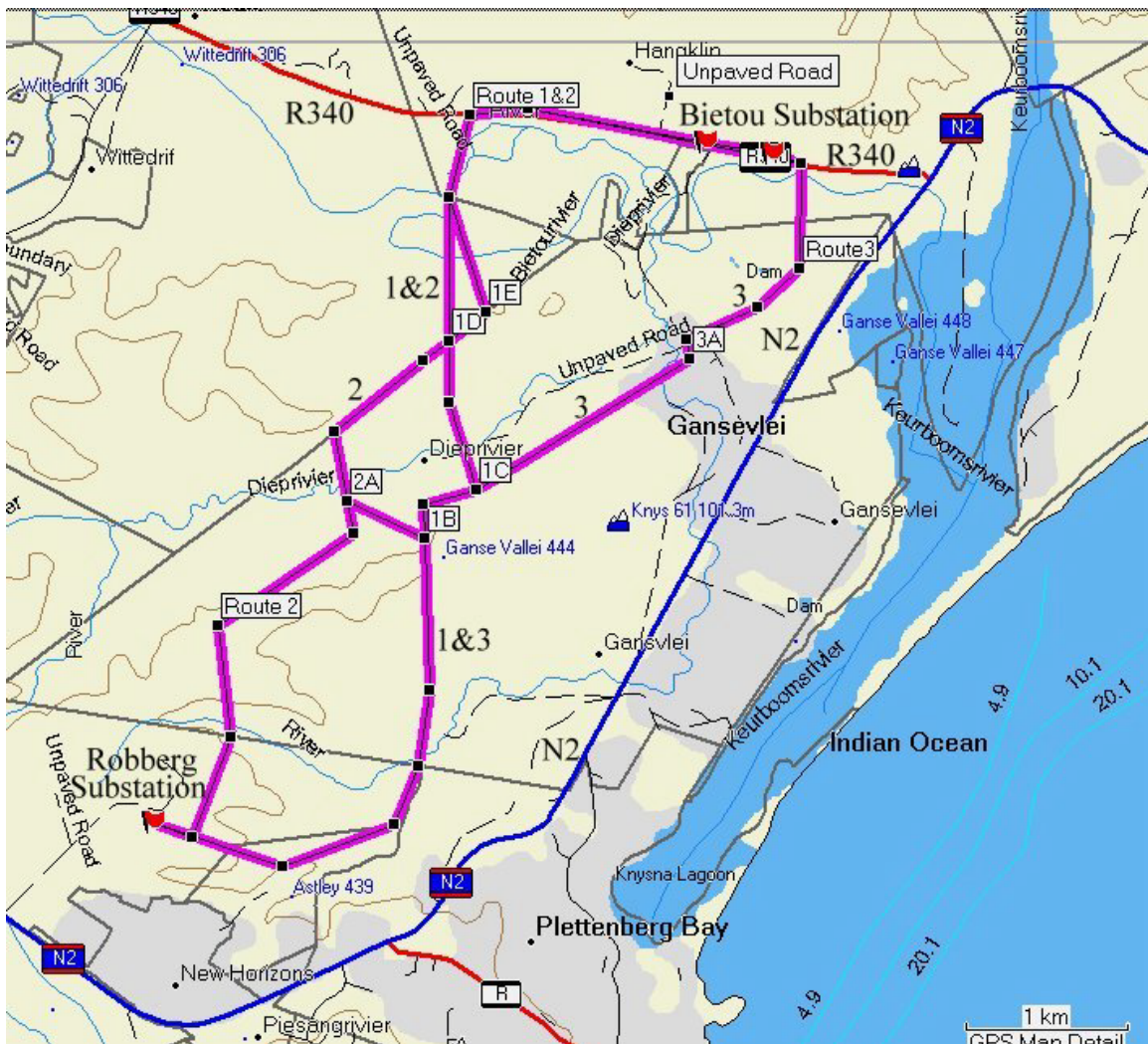


Figure 1. Possible routes 1-3 for the Robberg Bitou (Bietou) powerline

## **Executive Summary**

An assessment of the possible routes for a new 9 km, 66kV powerline between the Robberg and Bitou substations showed these will not impact on well known significant archaeological sites in the Plettenberg Bay area. No archaeological or palaeontological occurrences were recorded in the affected area and it is considered that the construction and operation of the line will not pose threats to such resources. There are no reasons for choosing one route design over another except that there will be a greater negative visual impact where the more easterly route 3 crosses the Bitou Valley.

## **Background Information on the Proposed Development**

Eskom is proposing to construct and operate a 9 km, 66kV powerline from the existing Robberg Substation near the New Horizons Plettenberg Bay suburb to a new substation across the Bitou River off the R340. Three possible, partly overlapping routes are under consideration (Figure 1) as are two possible closely located options for the Bitou Substation. Proactively specialist opinions are being sought at the planning stage which is commendable.

The brief was to:

1. Assess the proposed route design in relation to any sites of archaeological importance
2. Determine the significance of identified impacts before and after mitigation
3. Provide recommendations relevant to the design, construction and operational phase

## **Archaeological Background Information**

There are a number of important archaeological sites of different ages known in the surrounds of Plettenberg Bay. These include Middle and Later Stone Age sites (Inskeep 1987), numbering more than 20, on Robberg Peninsula, a large Earlier Stone Age site at Brakkloof, the historic encampment of the survivors of the wreck of the San Gonzales and the rock shelter on the Matjes River (Dockel 1998) at Keurboomstrand. All these archaeological occurrences lie south and east of the N2 and the proposed powerline developments north and west of the N2 will not impact on these well known sites.

## **Methodology**

Apart from drawing on a familiarity with research in the area through decades of participation, a detailed study was made of aerial images of the proposed routes. This was followed by a ground survey with two days spent in the field. It was possible to examine the different terrain types the line will cross along the proposed routes and adjoining areas. This approach allows reasoned assessment of the probabilities of the development impacting on any archaeological and palaeontological resources.

## **Description of the Routes and Terrain**

The possible routes are more than 2 km from the coast and this reduces but does not exclude the possibility of sites of significance. The routes lie within the drainage of the Bitou River with tributaries the Dieprivier and the Gansevlei stream traversing the area. The Bitou and these tributaries are eroding poorly consolidated Enon-type sediments filling ancient valleys (Butzer & Helgren 1972). The margins of the Bitou expose cliffs of these pebble and cobble rich sediments. In the high ground to the south in the Robberg Substation area the Enon sediments have been stripped off and the underlying Cape Supergroup rocks are exposed (Figure 2). The substrates associated with both these geological formations are acid and are not favourable for the preservation of organic materials of cultural origin or of palaeontological interest and none were recorded.

The process of the re-excavation of the pre-Enon topography by the rivers has resulted in a very dissected landscape over which the routes run. The slopes are steep and the poorly consolidated sediments contribute drift materials. This situation is not conducive to the occurrence and preservation of scatters of durable stone artefacts and none were recorded in the survey.

The flats associated with the tidal Bitou estuary, are choked with sediment and no archaeological sites were recorded associated with this terrain type.

The three routes traverse similar terrain types. However, the most easterly route 3 where it crosses the Bitou Estuary and associated flats will have a negative visual impact on the most scenic section of the landscape (Figures 3&4). This is a heritage concern.

## **Sources of Risk**

None were identified other than the general risks in any construction works of uncovering buried materials.

## **Statement of Significance and Field Rating**

It is considered unlikely that the construction and operation of the proposed powerline will have an impact on any archaeological or palaeontological resources. The potential visual impact of the line crossing the flats and estuary of the Bitou along the route 3 has been noted and is considered significant.

## **Recommended Mitigations**

None are recommended other than that concerning route 3. Should any activities associated the development by chance uncover buried palaeontological or archaeological materials including human remains Heritage Western Cape should be notified (Mr N

Ndlovu, Senior Heritage Officer – Archaeologist, Private Bag X9067, Cape Town 8000, Tel: 021 483 9687, Fax: 021 483 9842, [mndlovu@pgwc.gov.za](mailto:mndlovu@pgwc.gov.za) ).

## Conclusions

The assessment and field survey of the three possible routes for the construction and operation of a powerline from the Robberg to the Bitou substations indicates the potential impacts on archaeological and palaeontological resources to be low. These routes are not close to the important archaeological sites in the Plettenberg Bay area and will not impact on them. Attention is drawn to visual impact the route 3 line would have crossing the Bitou Estuary and mudflats and this makes the least desirable option.

## Bibliography

- Butzer, KW & Helgren,DM. 1972. Late Cenozoic evolution of the Cape coast between Knysna and Cape St Francis, South Africa. *Quaternary Research*, 2, 143-69.
- Dockel, W. 1998. Re-investigation of the Matjes River rock shelter. MA thesis, University of Stellenbosch.
- Inskeep, RR. 1987 Nelson Bay Cave, Cape Province, South Africa: the Holocene levels. BAR International Series 357. Oxford.



Figure 2. Dissected terrain looking towards the Robberg Substation with New Horizons on the left



Figure 3. The Bitou Estuary and mudflats at the crossing point of the route 3 option – negative visual impact on scenic landscape.



Figure 4. Km3 on R340 close to the Bitou crossing of routes 1&2 with the scarp of Enon sediments in the background – lesser negative visual impact on the landscape.