

**APPLICATION FOR EXEMPTION FOR UNDERTAKING
PHASE 1 HIA FOR
BATTERY ENERGY STORAGE SYSTEM
PONGOLO SUBSTATION, UPHONGOLA LOCAL
MUNICIPALITY, KWAZULU-NATAL**

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SPECIALIST DETAILS

Name	Qualification	Professional Registration
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1. INTRODUCTION

Eskom Holdings SOC Limited has identified distributed storage as an alternative to support renewable energy expansion in South Africa. Electricity generation from renewable sources is limited by the intermittency and variability of wind and solar resources. Energy storage allows for the storing of electricity for later use even when the renewable resource is unavailable. The process involves the conversion of electrical energy into another form of energy such as chemical or kinetic energy, the storage of it temporarily and then its conversion back to electrical energy, therefore giving the utility considerable flexibility and control. Distribution's Battery Energy Storage System (BESS) project will directly contribute towards the following three Eskom's strategic objectives:

- Ensuring reliable supply of electricity to all South Africans;
- Securing adequate future electricity supply at the optimal cost of renewable energy for South Africa; and
- Directly and indirectly supporting the socio-economic development objectives of the country (1 World Consultants 2019:5).

2. LOCATION OF THE SITE

The proposed BESS facility is located within Ward 1 of the uPhongolo Local Municipality and will be constructed within the existing substation site. The site is currently used for a 132/22kV distribution substation and the proposed BESS facility will be situated immediately south-east of the existing substation. The BESS facility will be located at 27° 26' 54.08" S 31° 38' 20.52" E. The existing substation and BESS facility abut the R66 road and are located about 8 km south of the town of Pongola.

3. LEGISLATIVE CONTEXT

The construction footprint of the proposed BESS facility is 9, 436m² (1World Consultants 2019:5). The construction of the facility therefore triggers section 41(1) of the KwaZulu-Natal Amafa and Research Institute Act, 2018 (Act No 5 of 2018) which lists developments or activities that may require an HIA. The relevant sub-section of the above Act is subsection 41 (1)(c)(i) that refers to *any development or other activity which will change the character of a site exceeding 5 000m².*



Figure 1: Locality map

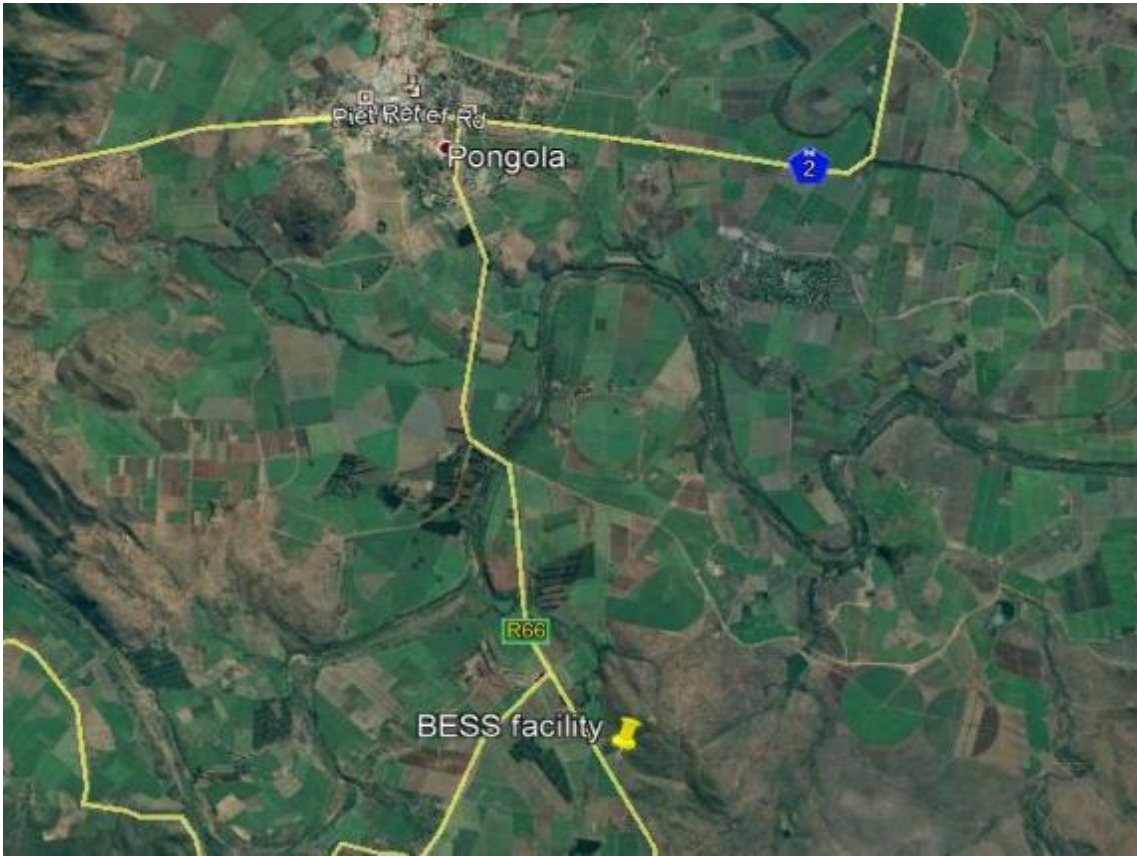


Figure 2: Wider location



Figure 3: Pongola substation with proposed BESS facility depicted in white (1World Consultants)

4. ASSOCIATED ACTIVITIES AND INFRASTRUCTURE

The activities and infrastructure associated with the construction of the BESS facility are:

- Network integration equipment such as power cables, control cables, isolators, circuit breakers, transformers, etc. will be required to connect the new BESS to existing infrastructure at the substations. Each site may also require additional fencing, security equipment, lighting, masts and/or control room upgrades.
- Construction of platforms for BESS (compacted fill, earth protection layer and stone chip) to accommodate the BESS containers. Cable trenches to connect BESS to grid.
- Temporary laydown areas and site camp will be required during construction.
- Stormwater measures on site to divert stormwater away from the BESS containers.

5. MOTIVATION FOR EXEMPTION FROM PHASE 1 HIA

Pongola substation was identified to have sufficient space to accommodate the BESS facility, without requiring further acquisition of land or rezoning. The proposed development of the Pongola BESS facility will take place within the existing substation site which indicates that the area is already disturbed by the construction and operation of the substation. As can be seen in **Figure 1** above, the area is disturbed by roads amongst the trees and the stockpiling of equipment and wooden poles and steel pipes (see **Figures 4, 5, 6, and 7** below). In addition, poles for a disused power line cross the project area.

Google Earth images going back to the 2012 indicate the same disturbance as that described above whilst the 1947 2731BC topographical map shows the project area undeveloped apart from scattered bush. Since the construction and operation of the Pongola 132 / 22kV Distribution substation, the site has therefore been significantly transformed.

The immediate area to the west of the substation and R66 road is extensively cultivated whilst the vegetation around the substation consists of a single vegetation type, namely Zululand Lowveld. The property next to the substation is used as a game farm (1World Consultants 2019:17). Not the site nor the wider area is part of any known cultural or historical landscape.



Figure 4: South-eastern side of property to be cleared for BESS facility



Figure 5: View towards substation which will be developed for BESS facility



Figure 6: Disturbed area with remains of stockpiles of poles and equipment



Figure 7: Proposed area where BESS facility is to be constructed

The South African fossil sensitivity map shows that the substation site falls into an area of moderate fossil sensitivity which is indicated by the green colour in **Figure 8** below. In terms of this category, a desktop palaeontological study is required. Due to the transformation and disturbance of the project site, it is recommended that no further studies are undertaken but that a protocol for fossil finds is necessary. A protocol is included in Chapter 6 below.

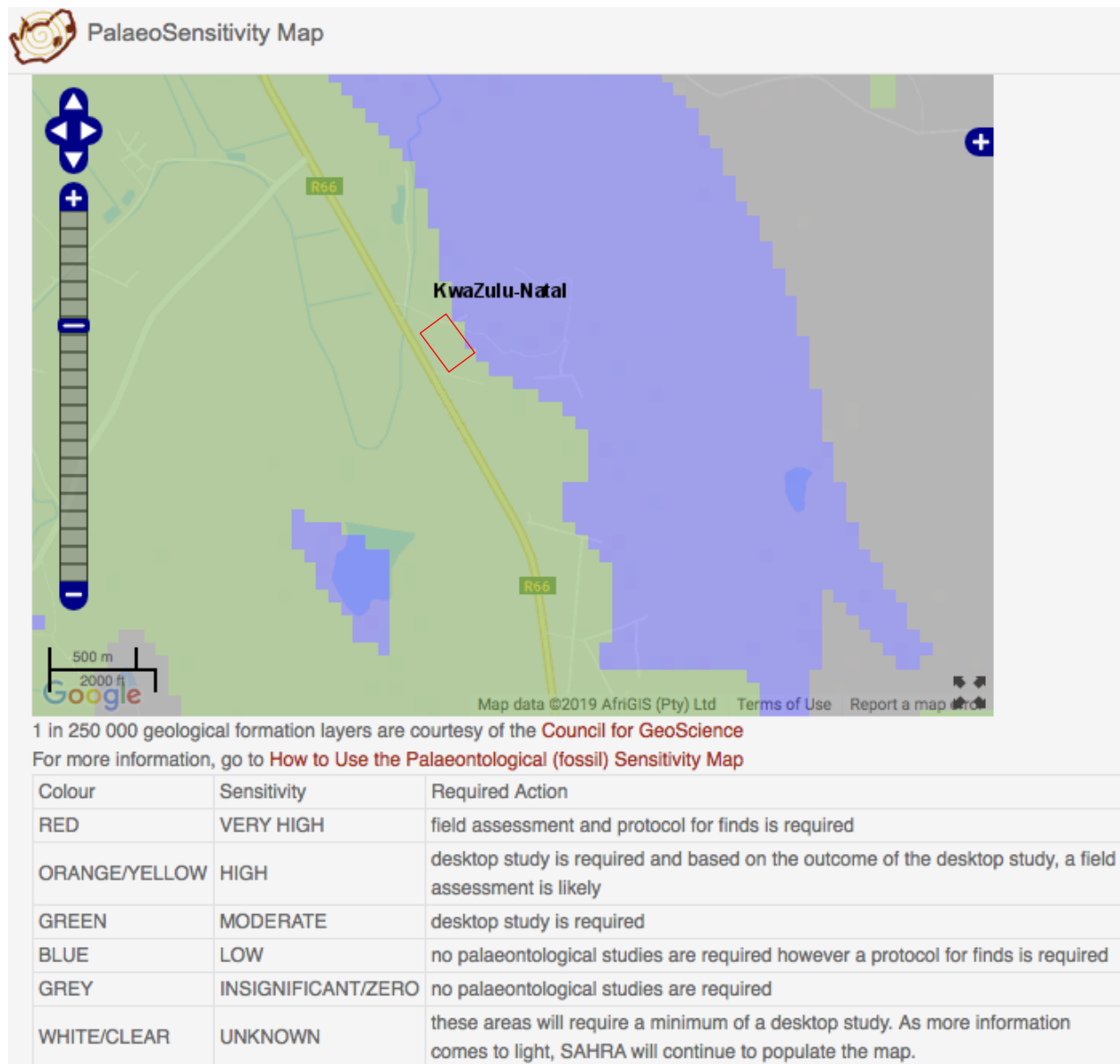


Figure 8: Fossil sensitivity of project area

6. CONDITIONS

If exemption from undertaking a Phase 1 HIA is granted, then the following conditions must be met by the Applicant:

- For any chance heritage finds, all work must cease in the area affected and the Contractor must immediately inform the Project Manager. The provincial heritage agency, the KwaZulu-Natal Amafa and Research Institute (hereafter referred to as the Institute) must also be informed.
- A heritage specialist must be called to site to assess the significance of the find.

- Permits must be obtained from the Institute if heritage resources are to be removed, destroyed or altered.
- Only once the heritage specialist gives the go-ahead can work in the area of the find recommence
- Under no circumstances may heritage material be destroyed or removed from site unless under direction of a heritage specialist.
- Should recent remains be found on site that could potentially be human remains, then the South African Police Service should also be contacted. No SAPS official may remove remains until the correct permit/s have been obtained.
- In terms of chance fossil finds, the following must be adhered to:
 - When excavation takes place for the construction of the BESS facility, any rocks disturbed during this process should be inspected by the environmental officer or designated person. Any fossiliferous material (trace fossils, plants, insects, bone, and coal) should be put aside in a suitably protected place.
 - Photographs of possible fossils should be sent to a palaeontologist for preliminary assessment.
 - If there are concerns regarding any fossil finds, then a palaeontologist must visit the site to inspect the selected material and check dumps where necessary.
 - Fossil plants or vertebrates that are deemed to be of good quality scientific interest by the palaeontologist must be removed, catalogued and housed in a suitable institution where they can be made available for further study. Before the fossils are removed from the site a permit must be obtained from the Institute. Annual reports must be submitted to the Institute as required by the relevant permits.

7. CONCLUSION

Due to the disturbed nature of the proposed site for the BESS facility, it is unlikely that intact heritage resources will be found in the project area therefore it is recommended that the exemption from undertaking a Phase 1 HIA is approved.

8. REFERENCES

1World Consultants. 2019. *Draft report BESS Pongola.*

1World Consultants. 2019. *Environmental screening report. Proposed Eskom Holdings (SOC) Battery Energy Storage System (BESS) Pongola substation, located within the uPhongola Local Municipality, Zululand District Municipality, KwaZulu-Natal*