

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

September 2019

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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. The Battery Energy Storage System (BESS) project will directly contribute towards the following three Eskom's strategic objectives:

- Ensure 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 2019:1).

2. LOCATION OF THE SITE

The proposed BESS facility is located within the existing Elandskop substation, which falls into Wards 4 and 8 of the Msunduzi Local Municipality, uMgungundlovu District Municipality, KwaZulu-Natal. The substation is situated west of the R617 (Impendle) road between Howick and Boston. The approximate centre of the BESS facility will be located at 29° 40' 18.63" S 30° 04' 36.65" E and it will be situated on the western side of the existing substation (see **Figure 3** below)

3. LEGISLATIVE CONTEXT

The construction footprint of the proposed BESS facility is 1 809m² (1World Consultants 2019:5). The construction of the facility does not trigger 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. However, it is the understanding of the specialist that the size of the proposed BESS facility may change hence the undertaking of the application for exemption from undertaking a Phase 1 Heritage Impact Assessment (HIA).



Figure 1: Locality map (1World Consultants)

4. ASSOCIATED ACTIVITIES AND INFRASTRUCTURE

The activities and infrastructure associated with the construction of the BESS facility (1World Consultants 2019:18) 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.



Figure 2: Substation and BESS site within wider environment (1World Consultants)



Figure 3: Elandskop substation with proposed BESS site depicted in white (1World Consultants)

5. MOTIVATION FOR EXEMPTION FROM PHASE 1 HIA

The existing Elandskop 88kV Distribution substation site is large enough to accommodate the BESS infrastructure. The substation was established post 1972 as the 1972 version of 2930CA topographical map does not show the substation. The substation is surrounded by forestry.

Although no agricultural activities have not been undertaken on the site, during the inspection foundations were found on site. This is an indication of previous disturbance to the site as a building may have been planned for this area or a building was built and then demolished and only the foundations left on the site of the BESS facility. In addition, due to the location of the proposed BESS facility in close proximity to the substation, it is anticipated that the area was also disturbed by the construction of the existing substation.

The surrounding environment is also transformed through forestry and the disturbance of the area between the substation and the R617 road.



Figure 4: Foundations of structure on BESS facility site



Figure 5: View of development area with substation



Figure 6: Proposed site of BESS facility

The SA fossil sensitivity map shows that the substation site falls into an area of very high fossil sensitivity which is indicated by the red colour in **Figure 7** below. In terms of this category, a field assessment is required. However, due to the presence of foundations of a structure and probable disturbance to the area during the construction of the substation, it is recommended that no further studies are undertaken; however, a protocol is included for chance fossil finds during the excavation and construction of the Elandskop BESS facility. This protocol can be found in Chapter 6 of this report.

6. CONDITIONS

If exemption from undertaking a Phase 1 HIA is granted for this project, 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.

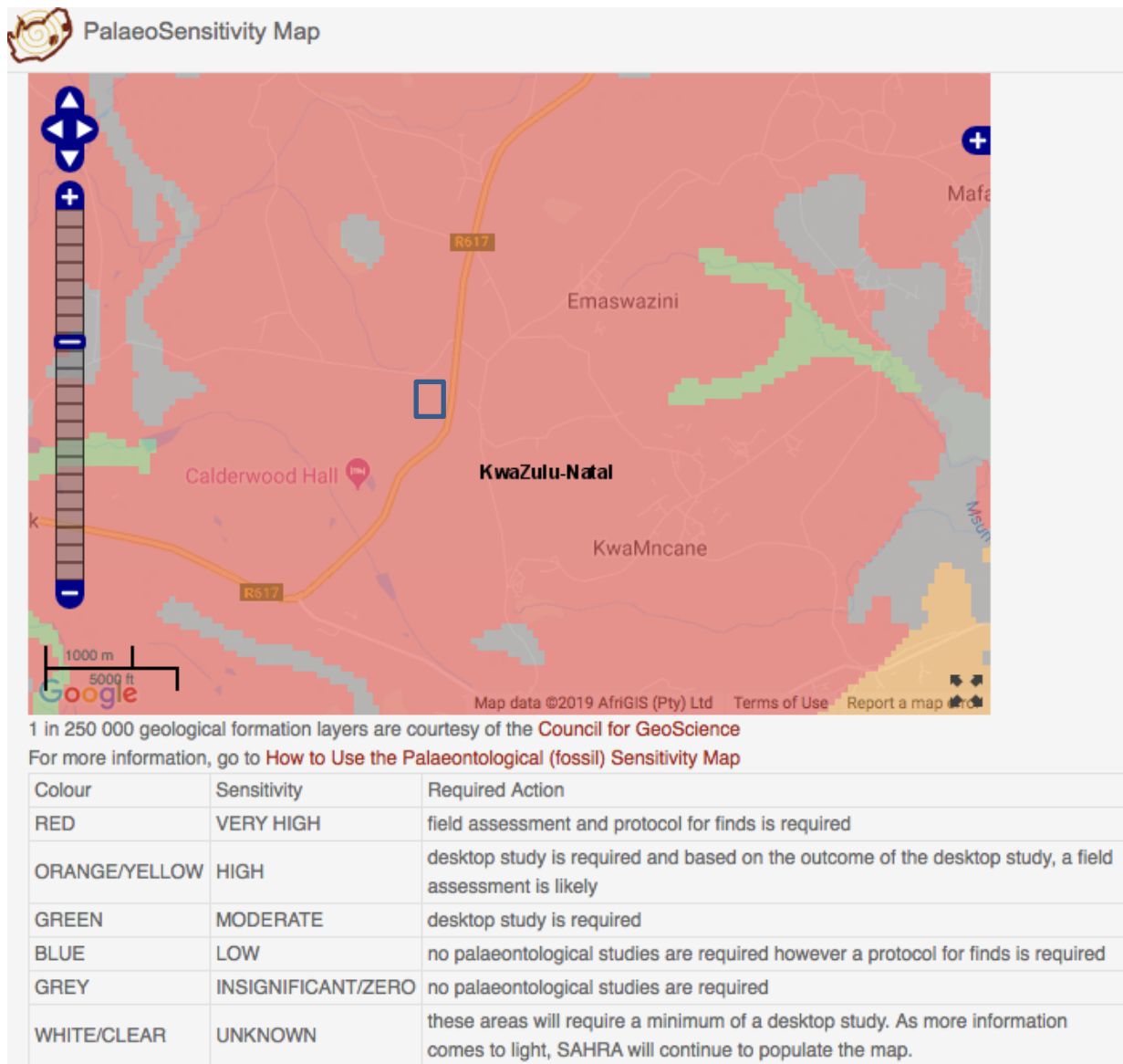


Figure 7: Fossil sensitivity of project area outlined in blue

- 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 and transformed nature of the proposed site for the Elandskop BESS facility, it is unlikely that intact heritage resources will be found on the site therefore it is recommended that the exemption from undertaking a Phase 1 HIA is approved.

8. REFERENCES

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

1World Consultants. 2019. *Environmental screening report. Proposed Eskom Holdings (SOC) Battery Energy Storage System (BESS) Elandskop substation, Msundusi Local Municipality, uMgungundlovu District Municipality, KwaZulu-Natal*