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12 April 2021

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PART 2 ENVIRONMENTAL AMENDMENT APPLICATION: PROPOSED GENERATOR SETS AND NEW EA HOLDER FOR THE BADENHORST DAM SOLAR PV3 FACILITY

Dear Annelize

Thank you for providing the information concerning the proposed amendments to the already approved Badenhorst Dam Solar PV3 facility located on Portion 1 of the Farm De Aar No 180. The facility has an authorisation with reference number 14/12/16/3/3/2/483. An amendment has also been applied for and granted since the original issue. The location of the facility relative to the town of De Aar is shown in Figure 1.

The proposed amendments are as follows:

- Change the holder of the EA from Badenhorst Dam Solar PV3 (Pty) Ltd to Mulilo Total Hydra Storage (Pty) Ltd; and
- Add an Auxiliary Generator Set (GenSet) with a maximum output of 9.99MW to the already authorised PV facility.

It is noted that amendment of the holder of the EA is an administrative change that is of zero relevance to heritage. It thus requires no further consideration. The proposed GenSet, however, is a physical intervention that could potentially affect heritage resources. This will be explored below.

The proposed GenSet will be housed within shipping containers measuring 6.06 m long, 2.44 m wide and 2.60 m high. The low voltage-medium voltage switchgear and medium voltage transformer will also be containerised. No containers would be stacked on top of each other. The generators would be powered by either diesel or gas with liquid natural gas and liquid petroleum gas both being options. Fuel storage of less than 80 m³ would be constructed within the authorised laydown area. A single double length container is needed for supporting services. In total the GenSet will result in a maximum of 16 containers being introduced to the site in a footprint area of 2500 m². The GenSet would be located within the footprint of the already authorised laydown area to the southwest of the PV facility.

Heritage considerations

The present writer carried out the original impact assessment for the PV facility as well as another on the same farm. These reports provide the data on which the conclusions of the present letter are based and are as follows:

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Orton, J. 2012. Heritage Impact Assessment for three Solar Energy Facilities at De Aar, Western Cape. Unpublished report prepared for Aurecon South Africa (Pty) Ltd. St James: ACO Associates cc.

Orton, J. & Webley, L. 2013. Heritage Impact Assessment for multiple proposed Solar Energy Facilities on De Aar 180/1 (Badenhorst Dam Farm), De Aar, Northern Cape. Unpublished report prepared for Savannah Environmental (Pty) Ltd. Diep River: ACO Associates cc.

Archaeology

The survey revealed that the distribution of archaeological resources was strongly associated with dolerite outcrops. These outcrops occurred in two areas: one is a long dyke extending from northwest to southeast and passing by well to the southwest of the authorised facility, while the other is a low rise located within the authorised area of the PV facility (the specific area, however, is a no-go area for development and the archaeology will be protected within the facility area) (Figure 2). The only archaeological materials seen on the flat, intervening plains were occasional isolated background scatter artefacts that were generally weathered and can be attributed to the MSA. These are thus the only archaeological materials that might possibly be impacted during construction of the proposed GenSet. Such materials are of very low to no cultural significance and require no further action.

Graves

No graves were recorded during the original survey. The chances of graves being present are extremely low, but not zero. Nevertheless, the locations of unmarked precolonial graves cannot be predicted and thus they cannot be meaningfully assessed. They can only be dealt with at the time of accidental discovery should this happen. This aspect of heritage thus requires no further consideration.

Built heritage

There are no built heritage resources in close proximity of the study area and no structures of any sort within the broader PV area. This aspect of heritage requires no further attention.

Cultural landscape

The area around De Aar, especially to the east where this project is located, is dominated by electrical infrastructure. The very large Hydra Substation occurs 4 km south-southeast of the proposed GenSet location and a large number of high voltage powerlines cross the landscape and connect to this substation. A few other PV facilities have also been developed in the area, further reinforcing the 'electrical landscape'. Given that the GenSet will be added to an already authorised facility that is about to commence construction, there will not be any new impacts to the cultural landscape. This aspect of heritage thus needs no further consideration.

Conclusion

The study area was already assessed in the past for the PV facility. Based on the above analysis, there will not be any new, increased or unexpected impacts to heritage resources as a result of construction of the GenSet. No changes to impact assessment ratings are needed and, given the relatively small size of the

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GenSet, its specific impact on heritage will be extremely low. As such, no additional heritage work is required and the proposed amendment is fully supported.

Recommendations

It is recommended that the proposed amendment be authorised and that all existing conditions related to heritage must continue to apply. Specifically, the SAHRA requirement to report any chance finds made during construction must be adhered to.

Yours sincerely



Jayson Orton

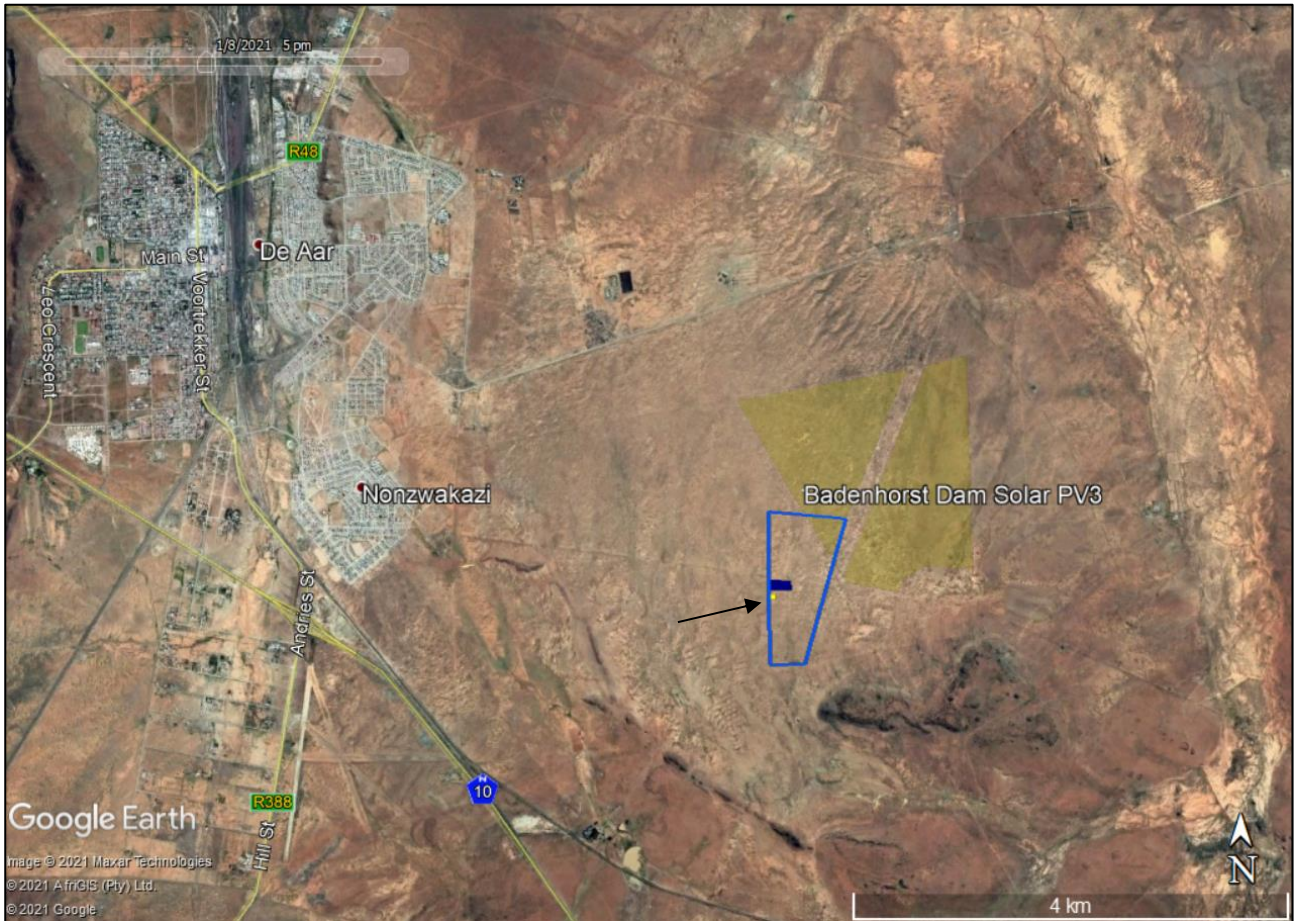


Figure 1: Aerial view showing the location of the authorised PV facility (yellow shading), the area authorised for laydown, battery storage, and related facilities (blue outline), the central substation (blue rectangle) and the proposed GenSet (small yellow rectangle, arrowed).

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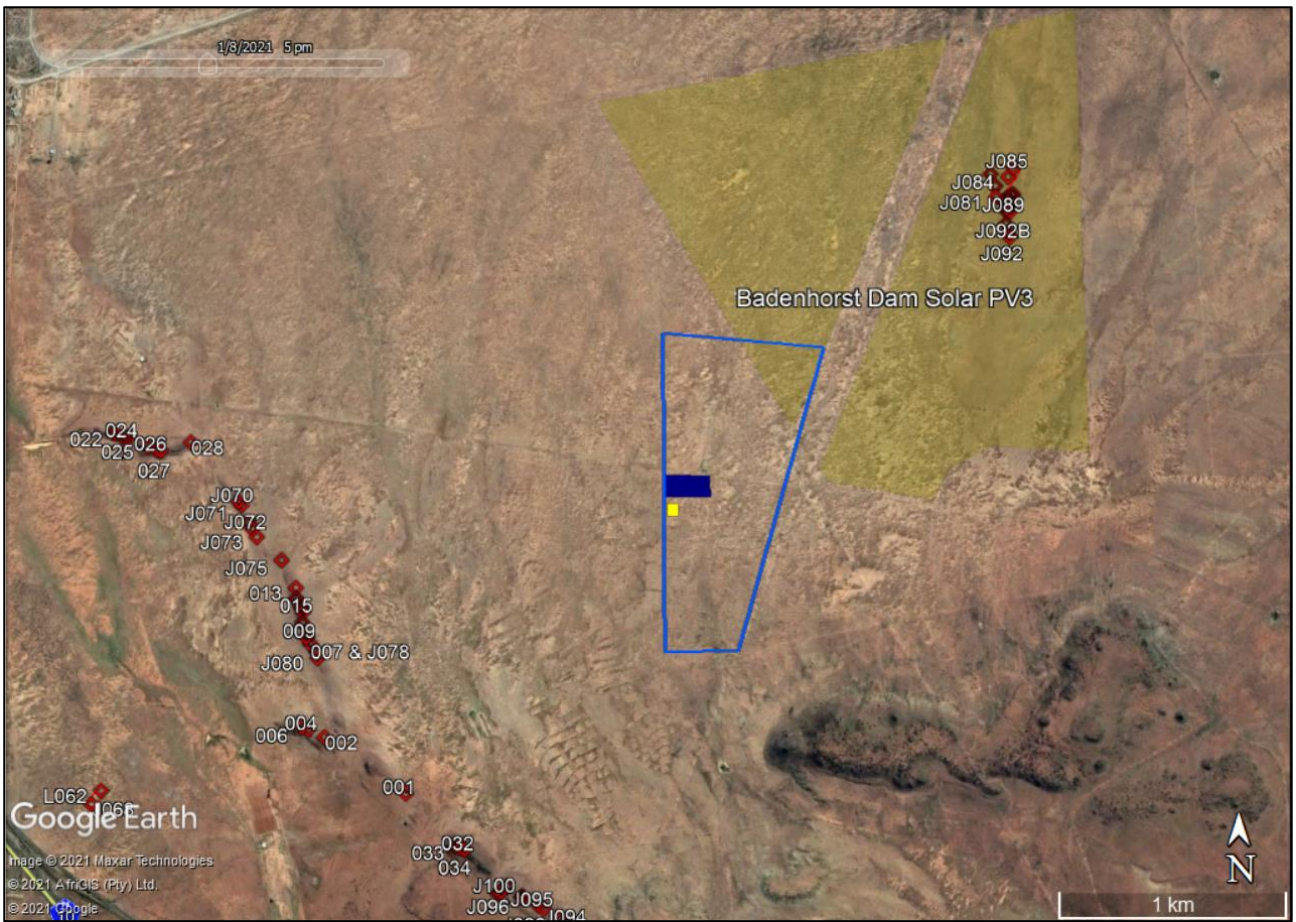


Figure 2: Aerial view showing the proposed GenSet (see Fig. 1 caption) relative to the heritage sites (numbered red symbols) recorded during the original heritage impact assessment.