

Khauta Solar PV Cluster Development Desktop Aquatic Ecological Assessment

The following preliminary desktop findings and recommendations are applicable to the proposed development areas, based on the initial swift desktop assessment conducted of the most up-to-date aquatic ecological information/data available. It must however be noted that all these findings and recommendations are solely based on desktop information/data. Final clarity on all issues discussed, will only be obtained from 'ground truthing' during the specialist site assessment.

Terrestrial Ecology

It must be noted that a significant portion of Assessment area 2 as well as scattered portions along the proposed transmission line route corridors fall within a terrestrial Critical Biodiversity Area one (CBA 1), in accordance with the Free State Provincial Spatial Biodiversity Plan 2018, which sets out biodiversity priority areas in the province (see attached PDF map). CBA 1 are areas that are deemed irreplaceable or near-irreplaceable for meeting biodiversity targets. There are no or very few other options for meeting biodiversity targets for the features associated with the site.

It is recommended that the potential development within these CBA 1 areas should firstly be discussed with the relevant representative/s from the Free State Department: Economic, Small Business Development, Tourism and Environmental Affairs (DESTEA), in order to obtain clarity regarding the acceptability/feasibility of the proposed developments within these areas.

It must also be noted that the proposed transmission line route corridor 1 (132 kV) traverses the formally protected Thabong Game Ranch (see attached PDF map). It is recommended that the potential development within this formally protected area should also be discussed with the management of the game ranch, in order to obtain clarity regarding the acceptability/feasibility of the proposed developments within this area.

These two terrestrial ecological issues however do not form part of the aquatic ecological specialist scope of work and were merely brought under your attention, for comprehensive consideration and decision-making purposes.

Aquatic Ecology

Numerous significantly sized and smaller depression wetlands as well as watercourses are scattered throughout the landscape, associated with the proposed developments (see attached PDF map). Such depression wetlands often provide locally distinct and important semi-aquatic habitat, which is likely utilised by various common and habitat-specific bird-, amphibian- and aquatic invertebrate species for breeding, foraging and/or persistence purposes. Important habitat-specific predatory bird species which are often associated with such semi-aquatic habitats, include Marsh owls (*Asio capensis*) and Grass owls (*Tyto capensis*). The latter species is nationally classified as a Vulnerable Red Data Listed bird species, due to extensive habitat degradation and loss.

The Present Ecological State (PES) and Ecological Importance and Sensitivity (EIS) of such semi-aquatic habitats and surrounding areas will determine the potential requirements for buffer zones around such wetlands. The minimum recommended sizes of such buffer zones will also be dependent on the EIS and PES values. In the event that such owl species as discussed above, or other conservationally significant faunal and floral species are found to be present, which will subsequently lead to high PES and EIS values, recommended buffer zones could range from 300 m upwards.

I have indicated potential 300 m buffer zones, which could be applicable to the proposed solar development areas (see attached PDF map and KML file). In the event of lower PES and EIS values, buffer zones could potentially be smaller or even not be applicable. I have also indicated potential 200 m buffer zones, which could be applicable to the proposed transmission line development corridors (see attached PDF map and KML file). Once again, final clarity on potential buffer zone requirements, will only be obtained from 'ground truthing' during the specialist site assessment.

Conclusion

In light of the above-discussed desktop aquatic ecological information, it is not recommended that the Additional area 2 of approximately 40.1 ha, be considered for developed, due to its close proximity to a number of potential ecologically/conservationally significant wetlands. Once again, final clarity on this preliminary recommendation, will only be obtained from 'ground truthing' during the specialist site assessment.

The small south-easterly corner of the Assessment area 3 should be adequately buffered out of the proposed development footprint area, due to its close proximity to a significantly sized ecologically/conservationally significant wetland. Once again, final clarity on this preliminary recommendation, will only be obtained from 'ground truthing' during the specialist site assessment.

I have also compiled potentially suitable alternative transmission line route options for the proposed 132 kV and 44 kV lines, which should prove to be the least ecologically intrusive options, based on the above-discussed desktop aquatic ecological information (see attached PDF map and KML file).

If these alternative route options are not found to be practicably possible/feasibly for the applicant, it is then recommended that the transmission line route option 2 for the 132 kV line should rather be considered. Either one of the two transmission line route options for the 44 kV line can then be considered, as no significant difference in conservation value or significance is evident, from the desktop assessment.

Feel free to contact me in the event of any uncertainty.

Regards



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