EARES
Enviro Acoustic Research

Name: Morné de Jager
Cell: 082 565 4059
E-mail: morne@menco.co.za
Date: 22 June 2021
Ref: Komsberg East WEF

Savannah Environmental (Pty) Ltd
PO Box 148
SUNNINGHILL
2157

Attention: Ms. Tebogo Mapinga

Dear Madam

SPECIALIST OPINION: PROPOSED KOMSBERG EAST WIND ENERGY FACILITY PART II AMENDMENT

The above-mentioned issue as well as reports AC-KWF/ENIA/201510-Rev 0 (original report) and AC-KWF/A-ENIA/201603-Rev 0 (report evaluating an updated preferred layout) is of relevance.

I conducted an Environmental Noise Impact Assessment (ENIA) during 2015 and 2016 for the proposed Komsberg Wind Energy Facilities (WEF). This WEF was divided into the Komsberg West and Komsberg East wind farms. This letter specifically focuses on the changes to the Komsberg East wind farm.

With the input data as used, the 2016 assessment (report AC-KWF/A-ENIA/201603-Rev 0) indicated that the proposed wind farm will have a noise impact of a ***low significance*** on all the identified noise-sensitive developments (NSDs), with the projected noise levels less than 42 dBA (at all NSD). The projected noise level at NSD05 and 06 was ±41 and 40 dBA respectively, with the closest wind turbine generator (WTG) around 780 m, with the noise level the cumulative effect of five WTGs located within 1,500 m from this NSD. The noise propagation model used the noise emission characteristics of the Acciona AW125 3000 wind turbine with a maximum sound power emission level of 108.4 dBA.

The wind energy market is fast changing and adapting to new technologies and site specific constraints. Optimizing the technical specifications can add value through, for example, minimizing environmental impact and maximizing energy yield. As such the developer has been evaluating several turbine models, however the selection will only be finalized at a later stage once a most optimal wind turbine are identified (factors such as meteorological data, price and financing options, guarantees and maintenance costs, etc. must be considered). As such the developer cannot commit to a specific wind turbine model, but, it should be noted that the previous noise impact assessments did consider a worst-case scenario, using a wind turbine that have a very high noise emission level.

The developer of the Komsberg East Wind Farm has since optimized the layout (See also **Figure 1** for the new layout) of the wind farm, locating the wind turbines at optimal locations and changing the WTG specifications.

The updated layout locates:

- Five (5) WTGs within 2,000 m from NSD04, though no WTG are closer than 1,000 m from this receptor;

- Four (4) WTGs within 2,000 m from NSD05 and 06, with one WTG just closer than 1,000 m (± 920 m) from NSD05 and one WTG just closer than 1,000 m (± 950 m) from NSD06.

The layout will increase the noise level at NSD04, though the level should be less than 42 dBA. The layout will decrease the noise level at NSD05 and 06, with the noise level less than the noise level previously calculated these receptors (less than 42 dBA).

Considering the location of the wind turbines and the potential noise impact, it is my opinion that:

- in terms of statement 1 (section 7.3.2 of the Addendum Report, AC-KWF/A-ENIA/201603-Rev 0), the proposed changes do not introduce new wind turbines closer than 1,000 m from an identified NSD (the new layout reduce the WTGs).
- the change will not increase the significance of the noise impact at NSD04 (while the noise level will increase, the noise level will be low and less than 42 dBA), subject that a wind turbine with a maximum sound power emission level of 108.4 dBA are used by the developer;
- the change will not increase the significance of the noise impact at NSD05 and 06 (the noise level will reduce), subject that a wind turbine with a maximum sound power emission level of 108.4 dBA are used by the developer;
- a full noise impact assessment with new modeling will not be required and the recommendations as contained in the previous document will still be valid;
- the cumulative noise impact will not change, as there are no new or proposed wind turbines (from a different WEF), located within 2,000m from identified NSD to cumulatively increase the noise levels;
- there are no new limitations or assumptions.

If the developer selects a wind turbine generator with a sound power emission level exceeding 108.4 dBA, the noise impact assessment must be reviewed in detail. Should you require any further details, or have any additional questions, please do not hesitate to call me on the above numbers.

Yours Faithfully,

Morné de Jager
Enviro-Acoustic Research cc

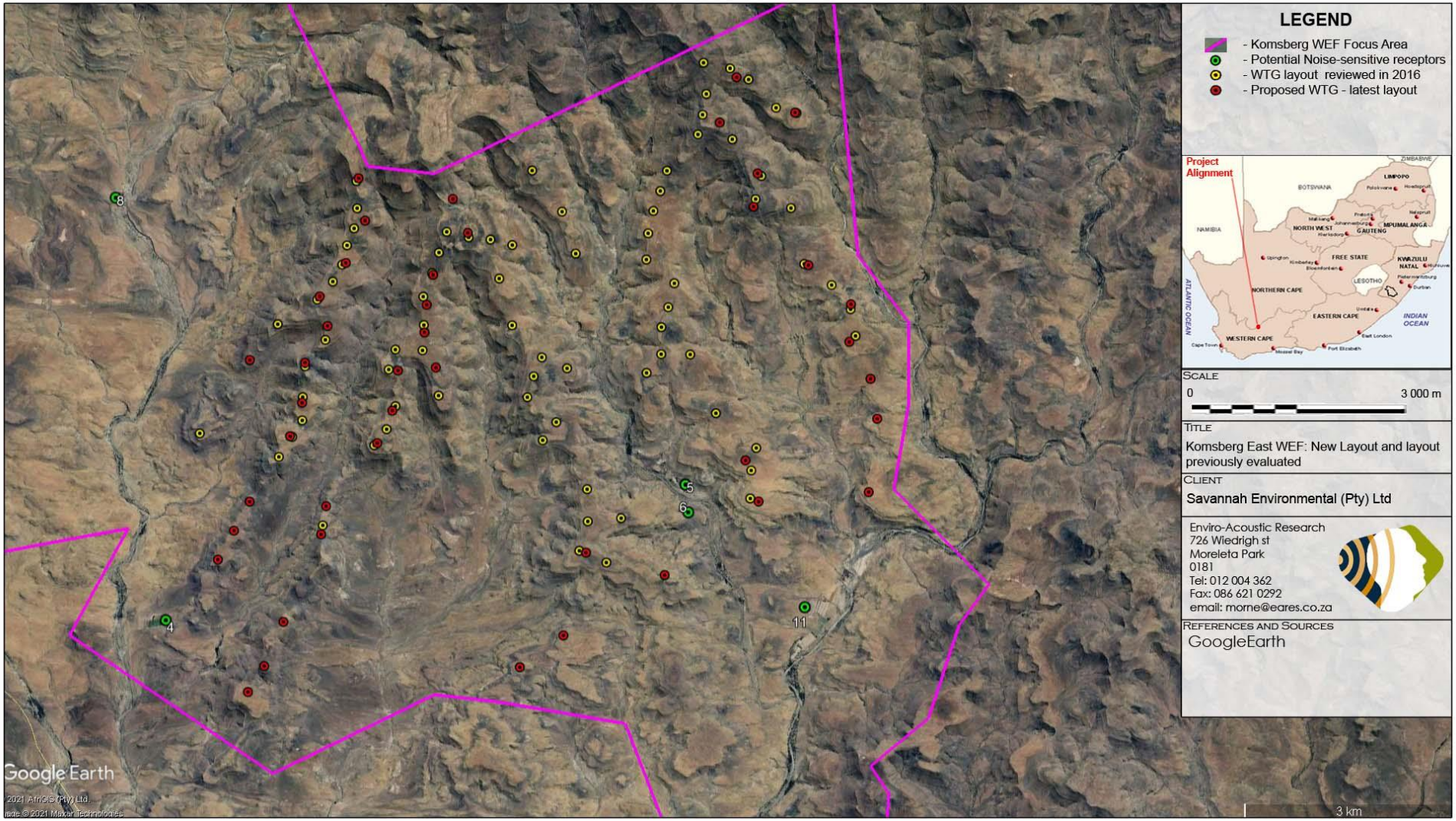

Figure 1: Locations of wind turbines as considered in this letter of opinion