

10 November 2022

TO WHOM IT MAY CONCERN,

Dear Sir/Madam

**MULILO DE AAR 2 SOUTH WIND ENERGY FACILITY: EMPR UPDATE AND LAYOUT FINALISATION  
AQUATIC BIODIVERSITY COMMENT**

**Background**

Mulilo De Aar 2 South (Pty) Ltd is in the process of finalising the Layout Map and EMPr for the De Aar 2 South Wind Energy Facility (WEF). As input into this process, aquatic specialist comment is required with regards to the following:

- Review the draft Final Layout Plan and provide feedback regarding the acceptability of the layout in terms of your area of expertise (and areas of sensitivity/ buffer areas etc).
- Confirm that a walk-through survey of the Final Layout development footprint is not required by an aquatic specialist (as per the original freshwater impact assessment and/or Addendum report in 2015, and/or in terms of DWS requirements for the project).
- Review the mitigation measures relating to freshwater impacts in the updated EMPr and confirm that the requirement in Condition 16.10 of the Environmental Authorisation (below) has been adequately addressed, or if not, to provide the relevant measures.

*16.10. Measures to protect hydrological features such as streams, rivers, pans, wetlands, dams and their catchments, and other environmental sensitive areas from construction impacts including the direct or indirect spillage of pollutants.*

**Specialist review of the proposed Final Layout Plan**

Figure 1 shows the proposed final layout for the De Aar 2 South WEF together with the mapped aquatic features as well as the recommended setback areas. I, Antonia Belcher that undertook the initial aquatic biodiversity assessment for the proposed project, confirm that the proposed final layout for Mulilo De Aar 2 South WEF does not alter the findings of the freshwater impact assessment dated February 2012 or the amendment assessment of July 2015 i.e. the proposed layout does not result in an increased level or change in the nature of impacts. **The layout is acceptable in terms of the potential aquatic ecosystem impacts** that would largely only be associated with access road crossings over the minor watercourses in the area and can easily be mitigated. The potential aquatic ecosystem impacts for the proposed layout would thus remain to be of a low significance.

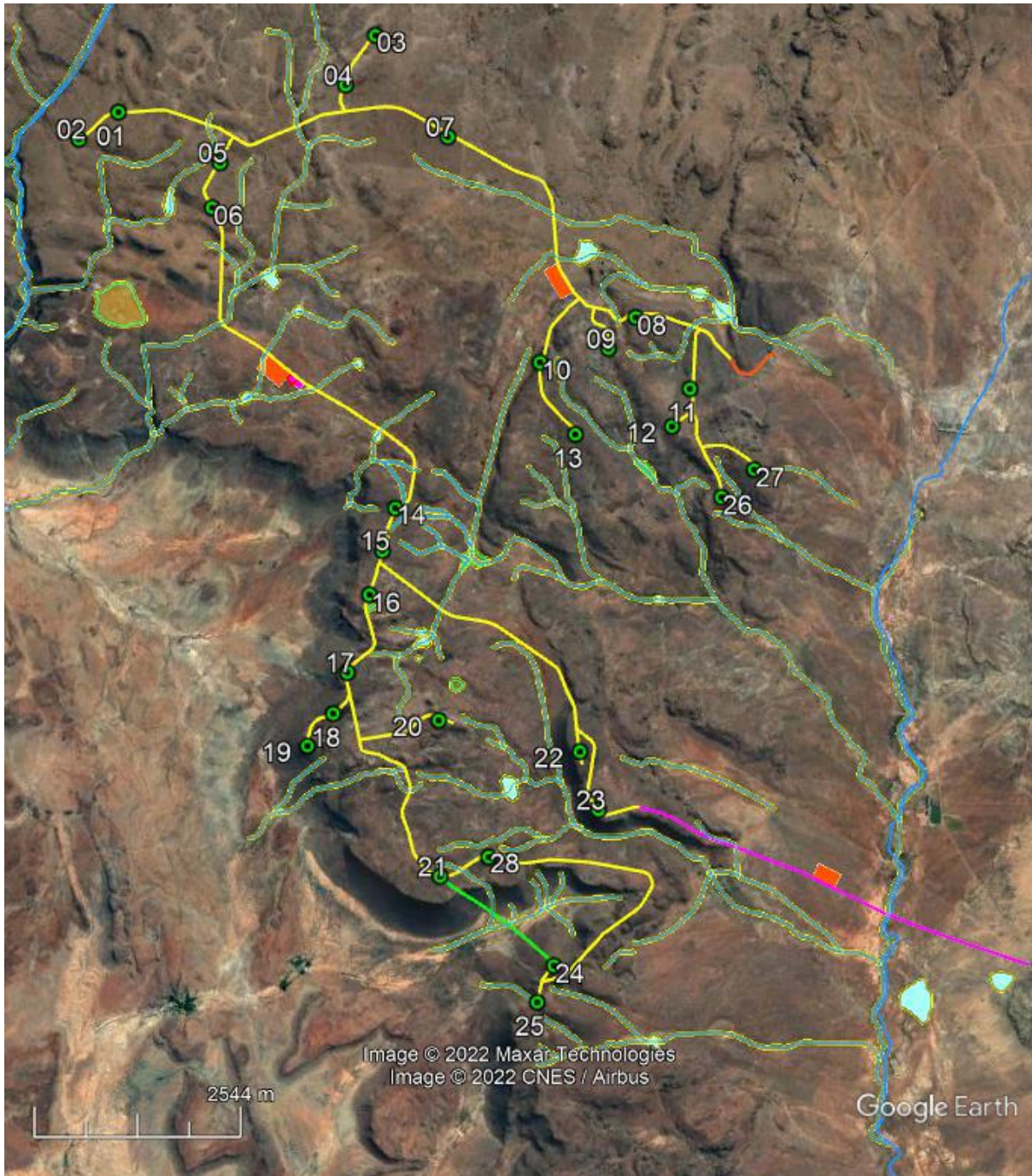


Figure 1. Google Earth image with the final proposed layout for De Aar 2 South WEF (dated 9 November 2022), shown together with the mapped aquatic features and the recommended setback areas

**Comment on any requirement for a walk through survey within the site**

The proposed project is located on the eastern plateau near De Aar. Land use on the plateau is relatively undeveloped and only utilised for grazing of sheep, cattle, goats, ostriches or game such as springbok. The aquatic features within the project area comprise mostly of minor tributaries that are in a largely natural to moderately modified and of moderate to low ecological importance and sensitivity. The only significant series of pans within the study area is located at Slingshoek and have been identified as FEPA wetlands. The layout plan for the WEF has been altered within areas of aquatic ecological sensitivity to ensure that no turbines will be placed within sensitive aquatic ecosystems.

The need for an on-site walkdown of the Final Layout development footprint by an aquatic specialist is thus not deemed to be required, and a detailed desk based analysis of the final layout by the specialist (as has been done in this report) is more than sufficient

#### **Review the mitigation measures relating to freshwater impacts in the updated EMPr**

The mitigation measures stated in the freshwater impact study dated January 2012 and repeated in the assessment of July 2015 (and listed again below in this letter, for ease of reference) remain the same, with **no additional mitigation measures being required**.

- Construction activities should as far as possible be limited to the identified sites for the proposed wind energy facilities and the structures. A buffer of at least 32m (from centre of stream for smaller drainage lines and from top of bank for larger tributaries) should be maintained adjacent to the identified freshwater features, as well as from the edge of the pans and wetland areas. It is important that any of the cleared areas that are not hardened surfaces are rehabilitated after construction is completed by revegetating the areas disturbed by the construction activities with suitable indigenous plants. Invasive alien plants that currently exist within the immediate area of the construction activities should also be removed and the sites monitored for regrowth on an ongoing basis.
- To reduce the risk of erosion, the locality of the turbines and structures should preferably not be on any steep slopes or within the wide wash areas on the plains (\*this requirement has been checked and the final layout and turbine positions meet this and are acceptable). Run-off over the exposed areas should be mitigated to reduce the rate and volume of run-off and prevent erosion occurring on the site and within the freshwater features and drainage lines. Contaminated runoff from the construction site(s) should be prevented from entering the rivers/streams. All materials on the construction sites should be properly stored and contained. Disposal of waste from the sites should also be properly managed. Construction workers should be given ablution facilities at the construction sites that are located at least 100m away from the river system and regularly serviced. These measures should be addressed, implemented and monitored in terms of the EMP for the construction phase.
- Where new roads need to be constructed the existing road infrastructure should be rationalised and any unnecessary roads decommissioned and rehabilitated to reduce the disturbance of the area and within the stream beds. For new access roads to the turbines, these should rather be along the ridges of the hills than in the drainage/stream beds. Where access routes need to be constructed through streams/drainage lines, the disturbance of the channel should be limited. Wetland and pan areas should be avoided and any road adjacent to a wetland feature should also remain outside of the 30m buffer zone as far as possible. All crossings over drainage channels or stream beds should be such that the flow within the drainage channel is not impeded, and appropriate water use licences and/or general authorisations must be obtained in line with the National Water Act (NWA) Road infrastructure, transmission lines and cable alignments should coincide as much as possible to minimize the impact.

#### Operation:

- Operational activities should as far as possible be limited to the delineated site for the proposed development and the identified infrastructure routes. Invasive alien plant growth

should be monitored on an ongoing basis to ensure that these disturbed areas do not become infested with invasive alien plants.

- Storm water run-off infrastructure must be maintained to mitigate both the flow and water quality impacts of any storm water leaving the wind energy facilities site. Should any erosion features develop, they should be stabilised as soon as possible.
- Water supply, sanitation services as well as solid waste management should preferably be provided by an off-site service provider.
- Any disturbed areas should be rehabilitated and monitored to ensure that these areas do not become subject to erosion or invasive alien plant growth.

Suggested inputs into the EMP are listed above and attached below in the table.

Please feel free to contact me should you have any questions regarding the above.

Kind regards

A handwritten signature in black ink, appearing to read 'Belcher', written in a cursive style.

Toni Belcher

Aquatic Ecologist

Impact management outcome: Potential impact on freshwater ecology as a result of the proposed WEF and associated infrastructure						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<b>Pre-Construction, Construction &amp; Decommissioning Phase</b>						
Limit the disturbance of aquatic habitat.	Project Manager/ECO	- Avoid watercourses and recommended buffers (i.e. a buffer of at least 32m (from centre of stream for smaller drainage lines and from top of bank for larger tributaries) should be maintained adjacent to the identified freshwater features, as well as from the edge of the pans and wetlands areas), as far as possible; Make use of existing disturbed areas where possible; Do not stockpile or dump rubble or waste associated with the construction works within the aquatic features or the recommended buffers;	Preconstruction phase, Construction Phase	ECO	Before commencement and during construction phase	Records of monitoring and adherence to implementation methods and mitigation measures
Minimise potential to modify surface water runoff and increase the potential for erosion.	Project Manager/ Project engineer	Water consumption requirements for the site for the construction and operation of the site if not obtained from an authorised water user within the area, must be authorised by the DWS; No liquid waste should be discharged into any of the aquatic features within the site without the approval of the DWS. Wastewater should be properly contained on-site and removed to a licensed wastewater treatment facility that is able to treat the wastewater; A stormwater management plan should be compiled for the compacted surfaces within the site. Where necessary measures to dissipate flow intensity or protect erosion should be included in the plan. The plan should also mitigate any contaminated runoff from the construction and operation activities from being discharged into any of the aquatic features; Adequate and erosion mitigation measures should be incorporated into design and implemented during construction.	Pre-construction, construction	ECO	Before commencement and during construction phase	Records of monitoring and adherence to implementations methods and mitigation measures

## APPENDIX A: DECLARATION OF INDEPENDENCE BY THE INDEPENDENT PERSON WHO COMPILED A SPECIALIST REPORT OR UNDERTOOK A SPECIALIST PROCESS

I, **Antonia Belcher**, as the appointed specialist hereby declare/affirm the correctness of the information provided or to be provided as part of the application, and that I:

- in terms of the general requirement to be independent:
  - other than fair remuneration for work performed/to be performed in terms of this application, have no business, financial, personal or other interest in the activity or application and that there are no circumstances that may compromise my objectivity; or
  - ~~am not independent, but another specialist that meets the general requirements set out in Regulation 13 of GN No. 326 have been appointed to review my work (Note: a declaration by the review specialist must be submitted);~~
- in terms of the remainder of the general requirements for a specialist, am fully aware of and meet all of the requirements and that failure to comply with any the requirements may result in disqualification;
- have disclosed/will disclose, to the Applicant, the Department and registered interested and affected parties, all material information that have or may have the potential to influence the decision of the Department or the objectivity of any report, plan or document prepared or to be prepared as part of the application;
- have ensured/will ensure that information containing all relevant facts in respect of the application was/will be distributed or was/will be made available to interested and affected parties and the public and that participation was/will be facilitated in such a manner that all interested and affected parties were/will be provided with a reasonable opportunity to participate and to provide comments;
- have ensured/will ensure that the comments of all interested and affected parties were/will be considered, recorded and submitted to the Department in respect of the application; and
- am aware that a false declaration is an offence in terms of Regulation 48 of the NEMA EIA Regulations, 2014 (as amended).

**Date:** 10 November 2022

**Name of company:** -

**Signature of the specialists:** 

## APPENDIX B: BACKGROUND AND QUALIFICATIONS OF SPECIALIST

**Name:** Antonia Belcher  
**Contact details:** 53 Dummer St, Somerset West, 7130; Phone: 082 883 8055;  
Email: toni@bluescience.co.za  
**Profession:** Aquatic Scientist (P. Sci. Nat. 400040/10)  
**Fields of Expertise:** Specialist in freshwater assessments, monitoring and reporting  
**Years in Profession:** 30+ years

Toni Belcher worked for the Department of Water Affairs and Forestry for more than 17 years. During this period she worked for the Directorate Water Quality Management, the Institute for Water Quality Studies and the Western Cape Regional Office and has built up a wide skills base on water resource management and water resource quality for rivers, estuaries and the coastal marine environment. Since leaving the Department in 2007, she has been working in her private capacity and was co-owner of BlueScience (Pty) Ltd, working in the field of water resource management and has been involved in more than 500 aquatic ecosystem assessments for environmental impact assessment and water use authorisation purposes. In 2006 she was awarded a Woman in Water award for Environmental Education and was a runner up for the Woman in Water prize for Water Research.

### Professional Qualifications:

1984 Matriculation Lawson Brown High School  
1987 B.Sc. – Mathematics, Applied Mathematics University of Port Elizabeth  
1989 B.Sc. (Hons) – Oceanography University of Port Elizabeth  
1998 M.Sc. – Environmental Management (cum laude) Potchefstroom University

**Key Skills:** Areas of specialisation: Aquatic ecosystem assessments, Monitoring and evaluation of water resources, Water resource legislation and authorisations, River classification and Resource Quality Objectives, River Reserve determination and implementation, Water Quality Assessments, Biomonitoring, River and Wetland Rehabilitation Plans, Catchment management, River maintenance management, Water education.

### Summary of Experience:

1987 – 1988	Part-time field researcher, Department of Oceanography, University of Port Elizabeth
1989 – 1990	Mathematics tutor and administrator, Master Maths, Randburg and Braamfontein Colleges, Johannesburg
1991 – 1995	Water Pollution Control Officer, Water Quality Management, Department of Water Affairs, Pretoria
1995 – 1999	Hydrologist and Assistant Director, Institute for Water Quality Studies, Department of Water Affairs and Forestry, Pretoria
1999 – 2007	Assistant and Deputy Director, Water Resource Protection, Western Cape Regional Office, Department of Water Affairs, Cape Town
2007 – 2012	Self-employed – Aquatic Specialist
2013 – 2020	Senior Aquatic Specialist and part-owner, BlueScience
2020 – present	Self-employed– Aquatic Specialist