EnviroSci (Pty) Ltd
Reg No 2018/462716 /07

Dr Brian Colloty
Ecologist (Pr Sci Nat 400268/07)
Member of the South African Wetland Society

Contact Details
brianc@envirosci.co.za
083 498 3299

Address
1 Rossini Rd
Pari Park
Gqeberha
6070

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To whom it may concern

AQUATIC ASSESSMENT OPINION OF THE PROPOSED LAYOUT AMENDMENT FOR THE WIND GARDEN WIND FARM

EnviroSci (Pty) Ltd was appointed to review the proposed amendments to the project layout against that which was assessed in the aquatic impact assessment submitted in 2021. Figure 1 indicates the result of the aquatic assessment, where various sensitivities were indicated to the applicant, and where possible / feasible these aquatic habitats have been avoided (Figure 2).

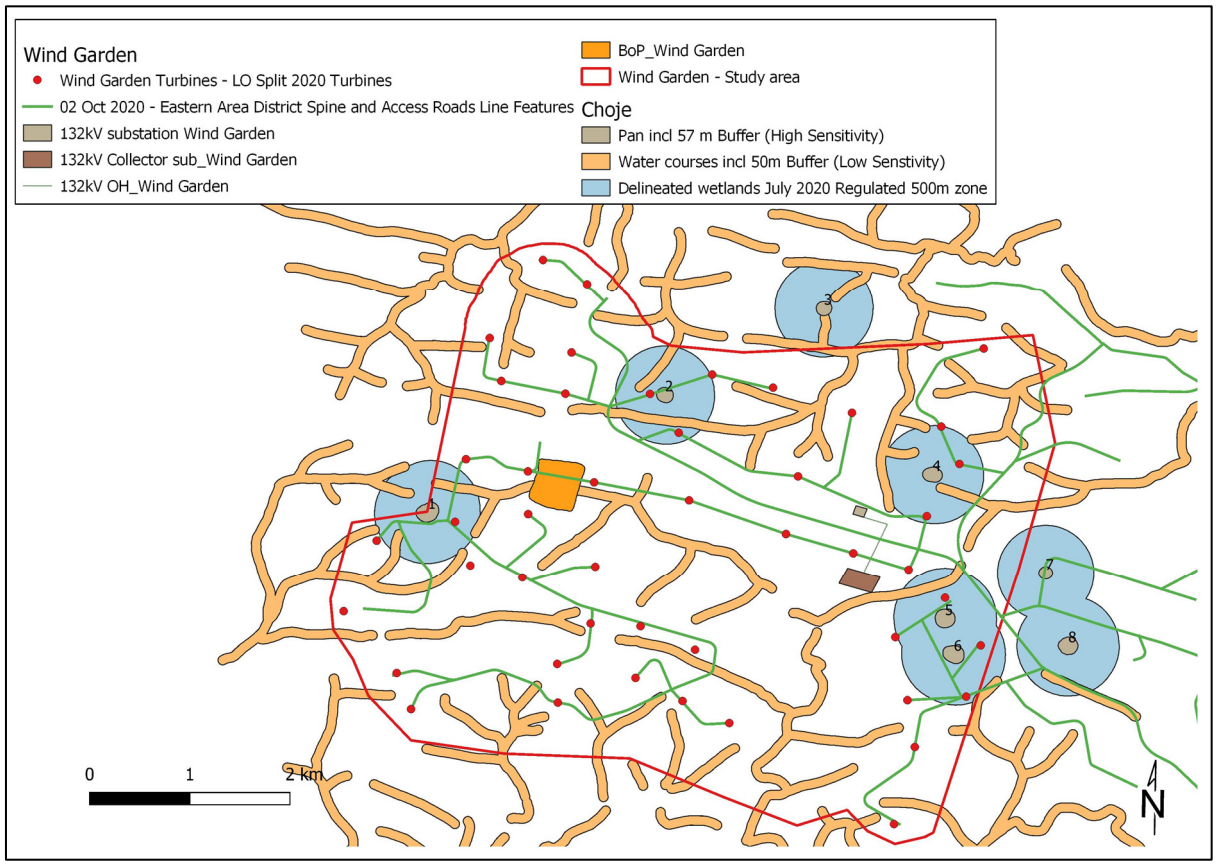


Figure 1: The results of the aquatic habitat delineation against the initial development layout

In order to address the outstanding concerns raised by I&APs the applicant has now optimised the wind farm layout, which includes a reduction in the number of wind turbines and a consolidation of the access road network (Figure 2). Furthermore, current best available technology is a turbine with a lower hub height than initially applied for (i.e. reduced from 120m to 115m). Given that the change in hub height does not impact on the turbine footprint, this change does not affect the aquatic environment impacts.

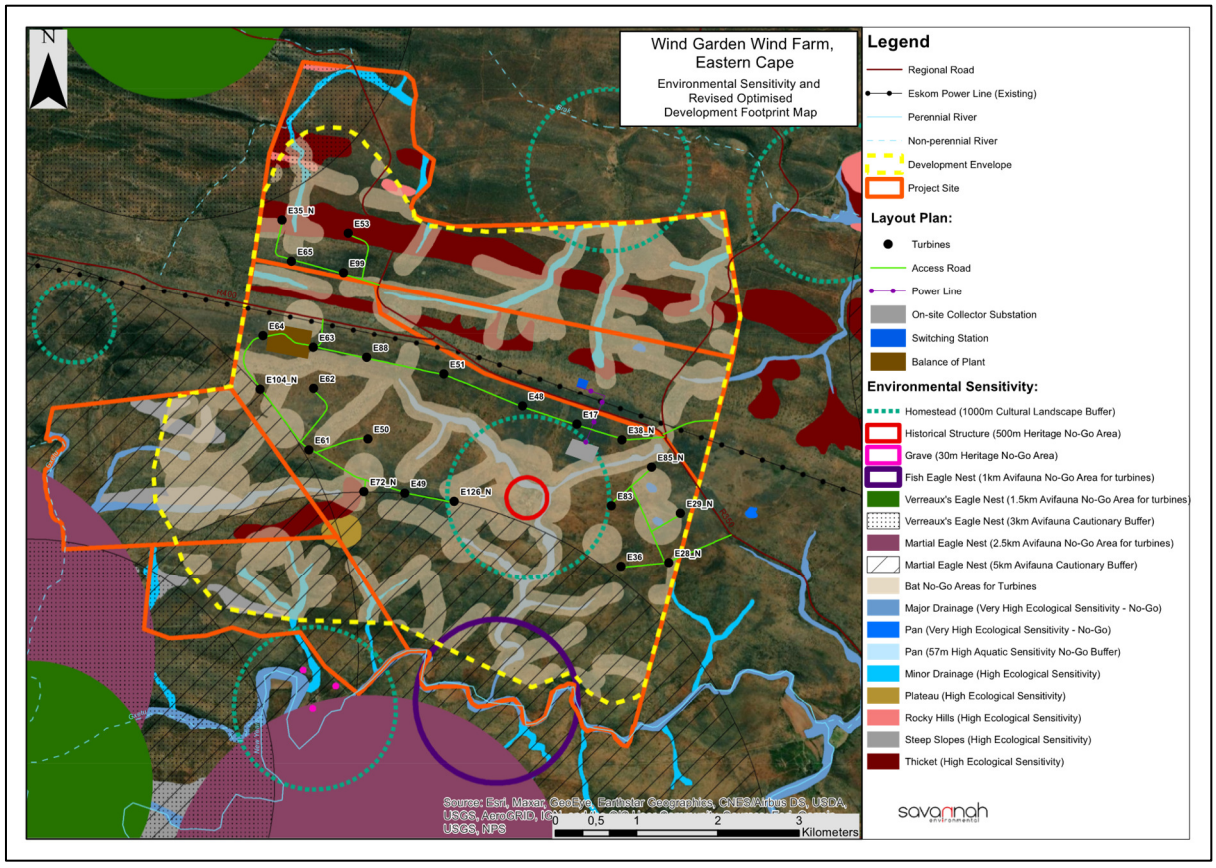


Figure 2: The various sensitivity layers against the optimised wind farm layout

Therefore, the most significant amendment would be a **decrease in the overall footprint** of the facility, which in turn has led to a reduction in the overall impact on the aquatic environment (Figure 2). Of particular importance is now the avoidance of several of the Pan buffers, as well as the reduction in the number of watercourse crossings required. The internal access roads to Turbine E29_N and between E61 and E104_N (Figure 2) is still of concern due to their proximity to pans as highlighted in the original assessment.

Table 2 summarises the findings of the impact assessment comparison between the original and optimised layout (Figure 2). As the impacts and their significance (with and without mitigation) were similar the reversibility, irreplaceability, extent, duration, severity, probability, and status also remain unchanged, thus Table 2 only indicates the overall significance.

Table 2: Impact summary table comparing original versus amended layout

Issue & Impact	Original layout impact significance rating with mitigation	Optimised Layout impact significance rating with mitigation	Comment
Loss of High Sensitivity systems, namely the pans through physical disturbance, the proposed layout will need to avoid any of these systems (Figure 1) during the construction phase	Low – Negative based on the assumption that the layout will be revised to avoid the Pans in particular	Low – Negative as all High sensitivity aquatic habitats have now been avoided	All High sensitivity aquatic habitats have now been avoided, however a micrositing exercise must be conducted for internal access roads to Turbine E29_N and between E61 and E104_N (Figure 2) to ensure that these roads (inclusive of cut / fill areas) avoid the actual aquatic habitats.
Impact on watercourses (Low Sensitivity), through physical disturbance during the construction phase.	Low - negative	Low - negative	The number of impacts on these systems have been further reduced by a reduction in the number of new watercourse crossings and making use of existing public roads as far as possible. This would also apply to the short grid connection, in that no new access tracks and or towers should be placed within the delineated aquatic zones
Impact on all watercourse and wetland systems through the possible increase in surface water runoff that could alter the aquatic state and function through hydrological changes during the operation phase	Low - negative	Low - negative	No additional mitigations required
Increase in sedimentation and erosion within the development footprint during the operation phase	Low - negative	Low - negative	No additional mitigations required
Impact on localised surface water quality	Low - negative	Low - negative	No additional mitigations required
Cumulative impacts	Low - negative	Low - negative	A reduction in additional cumulative impact on the region, through the avoidance of sensitive areas and the reduction in the number of new watercourse crossings.

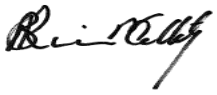
In conclusion, the potential impact of the proposed amended layout on the aquatic environment will remain unchanged from the original impact assessment as the proposed mitigations (avoidance of High Sensitivity Environments through revision of the layout have been integrated into the optimised layout (Figure 2).

Thus, based on the findings of this study, no objection to the authorisation of any of the proposed layout amendments, assuming that all remaining mitigations are carried out. Similarly, in the assessment of potential cumulative impacts, no additional impacts or changes to the previously assessed impacts would be required due to the proposed amendments. This is however based all on the assumption that the tow internal access road areas are again ground-truthed and that micrositing ensures that the delineated aquatic zones are in fact avoided by the final road footprint

No changes to the original mitigations or EMPr considerations are required.

Please don't hesitate to contact me directly should you have any further queries.

Yours Sincerely



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