ARC • LNR

ARC-SOIL, CLIMATE AND WATER

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16th April 2021

To Whom it may Concern:

Amendment Application of the grid connection EIA for the Namas and Zonnequa Wind Energy Facilities, Western Cape Province

ARC-Soil, Climate and Water (ARC-SCW) was requested in 2018 by Savannah Environmental to carry out a soil investigation in support of the proposed Namas and Zonnequa Wind Energy Facility, near Kleinsee, Western Cape Province. Four reports on the soils and agricultural potential, combining desk-top information and a field visit to more precisely quantify the soils occurring, were compiled (one each for the EIA projects and one each for the proposed grid connections) and submitted to the client.

Subsequently, three amendments to the application were proposed. These are:

1. ***Amendment of the co-ordinates of the substation/switching station positions***: This is to be in line with the amended facility EA's;
2. ***Amendment of the grid corridor width:*** this involves increasing the width from 300 m to 600 m, in order to accommodate the possibility of aligning the 132 kV and 400 kV transmission lines in the same corridor; and
3. ***Expand footprint of the connections to the Gromis substation:*** this will allow for easier entry into the 132kV yard from the north.

The amendments are shown on the map (Appendix 1).

ARC-SCW was requested to assess what, if any, new impacts on the **soils and/or agricultural potential** would be applicable under these proposed amendments. To address this request, the following can be stated:

Amendment 1 – changing the location and/or size of the substations and/or switching stations will not have a significant impact. As defined in the original reports, the soils are sandy, with a very low prevailing rainfall so there is no agricultural potential to speak of. As long as the mitigation

measures in respect of possible disturbance of the topsoil cover are adhered to (Table 2 below), the impact/s will not change.

Amendment 2 – widening of the corridor will also not change the impacts. The nature of the infrastructure is such that the tower footprints are small and isolated. The construction and maintenance of any type of access road will be subject to the same mitigation measures as referred to above.

Amendment 3 – the expansion of the footprint of the grid connections to the Gromis substation will involve a few hectares at most. There will be no significant loss of agricultural land and the same mitigation measures regarding any excavation or surface disturbance will apply.

The potential impacts, and their severity, are addressed in the tables below.

Table 1. Loss of agricultural land

Nature: Loss of potentially productive agricultural land *(both construction and operation phase)*		
	Without mitigation	**With mitigation**
Extent	Low (1)	Low (1)
Duration	Long-term (4)	Long-term (4)
Magnitude	Low (4)	Minor (2)
Probability	Probable (3)	Improbable (2)
Significance (E+D+M)x P	**Low (27)**	**Low (14)**
Status (positive or negative)	Negative	Negative
Reversibility	Low	High
Irreplaceable loss of resources?	No, due to the low agricultural potential of the land	No, due to the low agricultural potential of the land
Can impacts be mitigated?	Yes	
Mitigation: The main mitigation measures would be: • To avoid any cultivated land (if present) • To minimise the footprint of construction as much as possible.		
Cumulative impacts: likely to be low, as all soil-related aspects will be confined to the corridor, and the prevailing agricultural potential in the area is low.		
Residual Risks: likely to be low, since the implementation of the appropriate mitigation measures will enable more or less complete rehabilitation during and after the life of the project.		

Table 2. Wind erosion hazard

Nature: Increased soil erosion hazard by wind *(construction and operation phase)*		
	Without mitigation	**With mitigation**
Extent	Medium (3)	Low (1)
Duration	Permanent (5)	Short-term (2)
Magnitude	High (8)	Minor (2)
Probability	Highly probable (4)	Improbable (2)
Significance (E+D+M) x P	**High (64)**	**Low (10)**
Status (positive or negative)	Negative	Negative
Reversibility	Low	High
Irreplaceable loss of resources?	Very possible	No
Can impacts be mitigated?	Yes	
Mitigation: The main mitigation measures would be: • To minimise the footprint of construction as much as possible. • Where soil is removed/disturbed, ensure it is stored for rehabilitation and re-vegetated as soon as possible. • Implement all appropriate soil conservation measures, including contouring, culverts etc. (for road construction), geotextiles and slope stabilisation (for all infrastructure).		
Cumulative impacts: likely to be high, as wind erosion can carry soil particles for a considerable distance, depending on wind strength and direction, as well as soil texture.		
Residual Risks: if mitigation is not carried out, long-term wind erosion is expected to occur, with results such as loss of valuable topsoil.		

Yours sincerely,

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DG Paterson (PhD)

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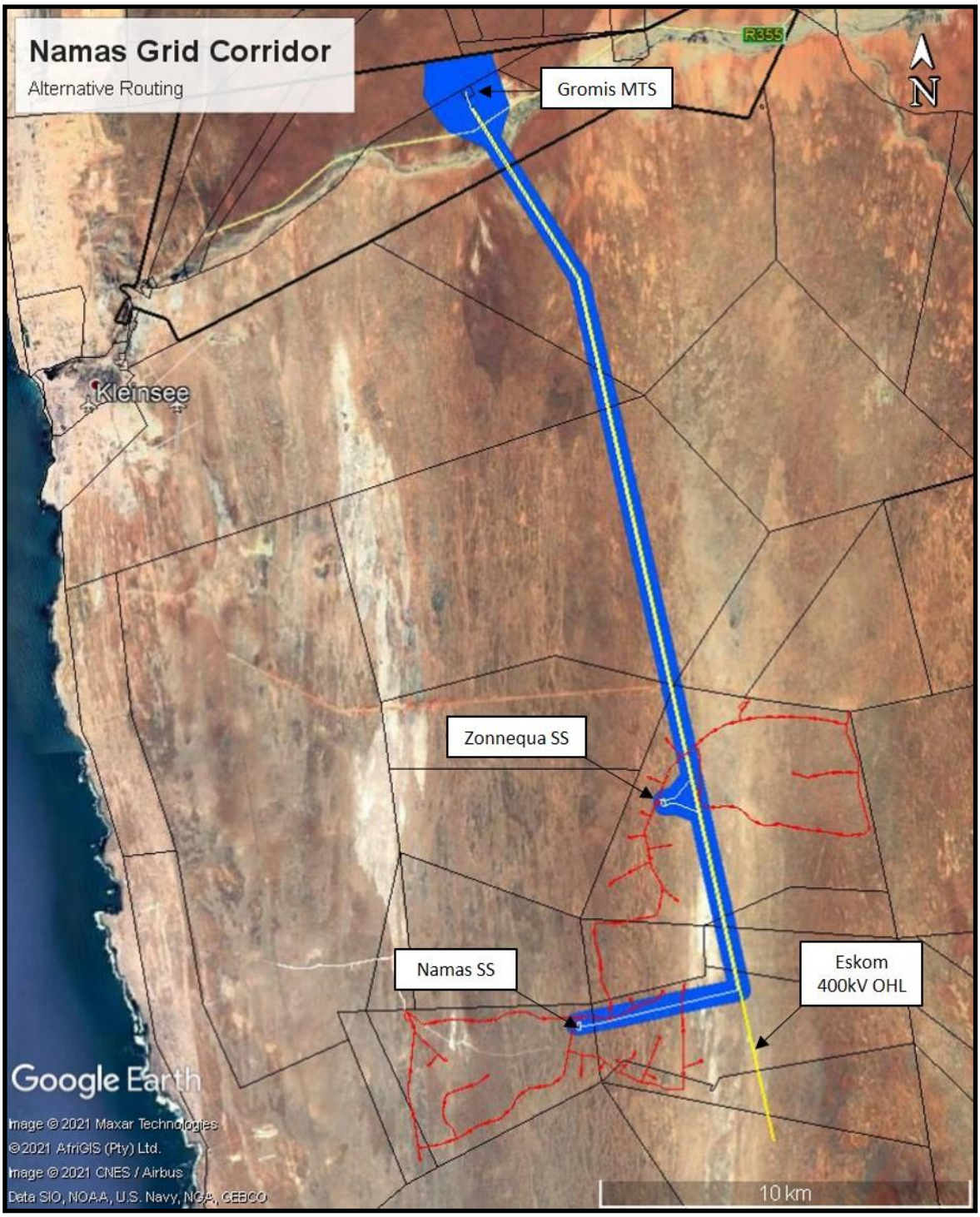
APPENDIX 1


Namas Grid Corridor
Alternative Routing
R355
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Gromis MTS
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10 km