Development of a Main Access Road for the Wolf Wind Farm, Eastern Cape Province

Basic Assessment Report

DFFE Reference No.: 14/12/16/3/3/1/2516

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EXECUTIVE SUMMARY

Wolf Wind Farm (RF) (Pty) Ltd proposes the development of a main access road for the Wolf Wind Farm. The project site is located within Ward 2 and Ward 7 of the Dr Beyers Naude Local Municipality and the Sundays River Valley Local Municipality respectively which falls within the jurisdiction of the Sarah Baartman District Municipality in the Eastern Cape Province. The proposed project site can be accessed via the R75 regional road located west of the project site and is located on portion 1 and the remainder of portion 2 of the Farm Salt Pans Neck 287. The proposed access road falls within the development footprint of the authorised Wolf Wind Farm. The access road is proposed to provide access to the wind farm. The proposed access road will be approximately 1.6km in length and up to 9m wide.

No environmental fatal flaws were identified in the detailed specialist studies conducted, and no impacts of unacceptable or high significance are expected to occur with the implementation of the recommended mitigation measures.

Impacts identified to be associated with the proposed project and considered within this report include:

- Impacts on ecology (including flora, fauna);
- Impacts on freshwater resources;
- Visual impacts;
- Impact on soils and agricultural potential; and
- Impact on heritage resources

Impacts on Ecology

The Study Area is situated within the Albany Thicket and the Fynbos biome. The proposed access road occurs in two vegetation types, namely the located within the Eastern Gwarrieveld and the Suurberg Quartzite Fynbos (Mucina and Rutherford, 2006). The Eastern Gwarrieveld is classified as a Least Concern (LC) and Poorly Protected (MP) vegetation unit and the Suurberg Quartzite Fynbos regarded as LC and Moderately Protected (PP) when considering their conservation status.

For the Terrestrial Biodiversity Theme (Online Web Based National Environmental Screening Tool), the Study Area is considered to have a Very High Sensitivity. The triggered sensitivity features include a Critical Biodiversity Area 2 and a Freshwater Ecosystem Priority Area (FEPA). For the Animal Species Theme the Study Area largely fall in a High Sensitivity area, which was triggered by the potential occurrence (POC) of the avifauna species Aves-*Aquila verreauxii* (Verreaxii eagle) (Vulnerable VU) and two medium sensitive species; Reptilia-Chersobius boulengeri (Boulenger's cape tortoise: Endangered EN) and 7 Sensitive Species (VU). For the Plant Species Theme, the Study Area is within a Medium Sensitivity area that were triggered by the POC of the following Species of Conservation Concern (SCC); *Adromischus bicolor* (Rare; R), *Cotyledon tomentosa* subsp. *tomentosa* (VU), Sensitive species 997 (EN), Sensitive species 234 (Critically Rare; CR) and Sensitive species 654 (VU).

The Study Area is further located in the Albany Centre of Endemism, this region is therefore associated with endemic species found within the limited extent of the Eastern Cape.

The data gathered during the site visit indicate that the Transformed Areas is of Low Sensitivity, the Eastern Gwarrieveld and the Watercourse Habitat Units were considered as, Moderately High Sensitivity, this sensitivity was attributed to the good natural condition, potential habitat for SCC and low abundance of AIP, additionally the Episodic Drainage Lines are protected under the National Water Act. The Suurberg Quartzite Fynbos are High Sensitivity area. The findings of the assessment revealed that the vegetation communities within the Escarpment Quartzte Fynbos Habitat Unit are floristically diverse, host numerous floral SCC, and sustain important ecological processes in the larger landscape. Impacts to the vegetation and species associated with the survey area can be kept to a minimum and can stay localised; however, this will require adherence to the mitigation measures and protocols as presented in this report (refer to Part B of the report series). Furthermore, of great concern if the potential for AIP spread resulting from the activities associated with the access road, as well as impacts to floral SCCs if recommended protocols and mitigation measures as presented in Part B of this report series are not adhered to.

From a faunal perspective the Transformed Areas is of Low Sensitivity. The Eastern Gwarrieveld and Suurberg Quartzite Fynbos including the watercourse were assigned an Intermediate Sensitivity. The habitat integrity and availability in these areas are compromised by disturbances such as livestock and game grazing, and barriers such as fences and small dirt roads. These habitats provides suitable potential habitat for several SCC; however, none are severely range restricted nor is their habitat considered threatened.

The ecology specialist concluded that proposed access road will inevitably impact on the local biodiversity as a result of vegetation clearance and regular disturbance during the operational phase. The majority of the proposed access road is located within an area of high sensitivity from a floral perspective due to the confirmed presence of SCC and Red Listed Plant Species (SANBI 2010). With comprehensive and cogently developed, managed and executed mitigation efforts this impact can be decreased but due to the sensitivity of the vegetation and the high abundance of floral SCC the impact will still be regarded as having a significant residual impact on CBAs.

The proposed project could further impact on the floral and faunal habitat and diversity as well as SCC through fragmentation of habitat units with increased biodiversity importance and sensitivity.

AIP spread can potentially become severe if these species are not monitored and managed, especially along linear developments that typically serve as a corridor for spread. These species can potentially spread to adjacent natural areas, thus impacting on the indigenous biodiversity of the region. The abundance of *Opuntia ficus-indica, within the Suurberg Quartzite Fynbos Habitat-Unit, if not managed and controlled, will continue to spread and displace floral communities within or outside of the proposed impact area.

It is the opinion of the ecologists that this study provides the relevant information required to implement Integrated Environmental Management (IEM) and to ensure that the best long-term use of the ecological resources in the Study Area will be made in support of the principle of sustainable development.

Impact on Freshwater Resources

Several headwater episodic drainage lines (EDLs) without riparian vegetation which flow into larger ephemeral tributaries and rivers in the valley bottom position were identified. These watercourses form part of the Wolwefonteinspoortspruit and Sundays River systems. Although these EDLs cannot be classified as

riparian resources in the traditional sense, due to the lack of saturated soil and riparian vegetation, they do still function as waterways, due to the episodic conveyance of water.

One of these EDLs, located to the east of the R75, will be traversed by the proposed access road along its upper reach. The remainder of the proposed access road alignment falls outside the delineated extent of the EDLs identified in the investigation area. The EDL to be traversed by the proposed access road and EDLs in the investigation area were assessed collectively given the similar in characteristics and location of these EDLs in an upslope position where they are exposed to the same level of impacts.

The activities associated with the construction and operational phases of the proposed access road pose a low risk significance to the EDLs, with the application of the recommended mitigation measures. Due to the proposed access road traversing one of the identified EDLs, the direct impacts during the construction phase pose a Medium Negative risk significance per the impact assessment, and a Low Negative risk significance with effective mitigation. It is the opinion of the ecologist that formalising crossing(s) through EDLs with appropriate through flow structures is considered advantageous over the long-term as existing informal crossings have resulted in erosion of the EDLs which have caused interruption of hydrological connectivity between the upstream and downstream reaches. In order to reduce the impacts and in consideration of the episodic nature of EDLs (only flooding or flowing in response to extreme rainfall events) and remaining dry for most of the year due to the semi-arid climate of the local area, it is recommended:

- That the proposed activities are undertaken during the driest period of the year when no surface water is present within the EDL, impacts to the hydrological and geomorphological regime, and surface water quality of the EDL can be considered 'Low';
- All development footprint areas to remain as small as possible and vegetation clearing to be limited to what is essential; and
- Installation of appropriate through flow structures within new the crossing within the EDL is highly recommended as this is considered a positive long-term benefit for the maintenance and potential improvement of the hydrological functionality of the EDLs and associated downstream systems.

The abovementioned was considered as part of the necessary mitigation measures during the impact assessment. With implementation of all mitigation measures, the long-term impact can be considered low.

Based on the findings of the assessment, no fatal flaws from a freshwater resource management point of view were identified. With adherence to cogent, well-conceived and ecologically sensitive construction plans and the implementation of the mitigation measures provided in this report and provided that general good construction practice is adhered to, from a freshwater conservation perspective the proposed access road and associated layout is considered acceptable and should be granted Environmental Authorisation while Water Use Authorisation is not required.

Visual Impacts

Based on the outcome from both the desktop and field assessments, it is evident that there are very limited receptors situated within the visual assessment zone as well as a 5 km radius, comprising a few farms, the R75 roadway and gravel roads. It is important to note that visual impacts are only experienced when there are receptors present to experience the impact, thus in this context there are sparse and scattered receptors present, thus there are not likely to be many visual impacts experienced. Since roads are

common linear features and a necessity in transportation and connecting people, the few sensitive receptors present are used to the presence thereof.

The proposed access road is located in a remote area with isolated farmsteads, mostly associated with the surrounding Game Farms. The proposed access road is situated on the escarpment of the Klein Winterhoek Mountain range which form part of the dominant features in the mountainous landscape. The Klein Winterhoek Mountains form part of a transition zone between two landscape types, i.e. a Karoo landscape which lies to the north of the mountain, and Valley Bushveld to the south thereof. Both landscapes are associated with unique topographical features consisting of mountain ranges, hills and koppies connected by valleys and wide flood plains, giving it a unique sense of place and providing significant topographical variety in the area, therefore the visual quality and viewing experience of the landscape is considered high.

Based on the impact assessment, it was evident that the proposed access road will have a medium visual impact during the development phases of the project, prior to mitigation measures being implemented. The main visual impact is attributed to the vegetation clearing and cut and fill during the construction phase and increased human activity and vehicles in a quiet area. Once operational, the proposed access road will not have significant visual impacts and human activity, as the proposed access road is not open to the public.

Based on the outcome of the visual assessment it is the specialist's opinion that the proposed access road may be considered for authorisation with the knowledge that the significance of risk to the receiving environment is limited.

Impacts on Soil and Agricultural Potential

One dominant soil form is expected within the assessment corridor by means of desktop data, namely the Hutton soil form. This soil form is associated with a land capability class "II" and a land potential level 6. The land capability sensitivities (DAFF, 2017) indicate land capabilities with "Moderate" sensitivities, which correlates with the findings from the baseline assessment.

Regardless of the "Moderate" potential of the soil resources in the area, it is the specialist's opinion that no segregation of farming practices nor loss of high potential land capability is expected. It is therefore recommended that the proposed activity may proceed as has been planned.

Impacts on Heritage Resources (including archaeology and palaeontology)

As per the previous heritage studies completed in the area, the proposed road development is not anticipated to impact significant built environment or palaeontological heritage resources. While the cultural landscape within which the proposed development is located has heritage value, as this road forms part of an approved WEF, it is not anticipated that this road will have a negative impact on the broader sense of place.

While no archaeological resources of heritage significance were identified during the assessment completed in 2014, the specialists noted that the impacts of the road development on archaeological heritage have not been assessed. The recommend that existing farm tracks be re-used or upgraded to minimise the amount of change to un-transformed landscape and during the detailed planning phase,

drawings of proposed road alignments, infrastructure and near-final turbine positions should be submitted to an archaeologist for review and field-proofing. Micro-adjustment of alignments is likely to be sufficient to achieve adequate mitigation. To this end, it is recommended that, prior to construction, a walkdown of the final road layout be completed by an archaeologist to ensure that no significant archaeological heritage is impacted by the proposed road development.

Assessment of Cumulative Impacts

The access road development is located within the authorised footprint of the Wolf Wind Farm, and ties into an existing authorised road network and is surrounded by similar linear developments. Based on the specialist cumulative assessments and findings regarding the development of the access road (refer to **Chapter 5** and specialist reports contained within **Appendix D - H**) and its contribution to the overall impact within the surrounding area, it can be concluded that there are no cumulative impacts or risks identified as unacceptable with the development of the access road within the surrounding area. In addition, no impacts that will result in whole-scale change are expected as a result of the access road. Considering all aspects, cumulative impacts associated with the access road have been assessed to be acceptable, with no unacceptable loss or risk are expected.

Environmental Sensitivity Mapping

As part of the specialist investigations undertaken for the access road, specific environmental features and areas were identified which will be impacted by the construction of the access road. The current condition of the features identified informed the sensitivity of the environmental features and the capacity for disturbance and change associated with the proposed development. The sensitive features identified specifically relate to ecology, and freshwater resources. These are illustrated in Figure 6.1 and are detailed below:

- The proposed access road will traverse an episodic drainage line to the east of the R75.
- The entire study area is assigned a **Very High** terrestrial sensitivity by the DFFE screening tool. The very high sensitivity is attributed to the presence of a CBA 2 and Freshwater Ecosystem Priority Area (FEPA) Sub-catchments. The presence of CBAs was confirmed for all habitat units namely the Eastern Gwarrieveld, Suurberg Quartzite Fynbos and the Watercourse Habitat unit. Habitat sensitivity confirmed during the field work confirmed ecological sensitivity ranging between Low and High, depending on the habitat under consideration.
- The majority of the road alignment is of low agricultural potential, with a small section defined as medium sensitivity.

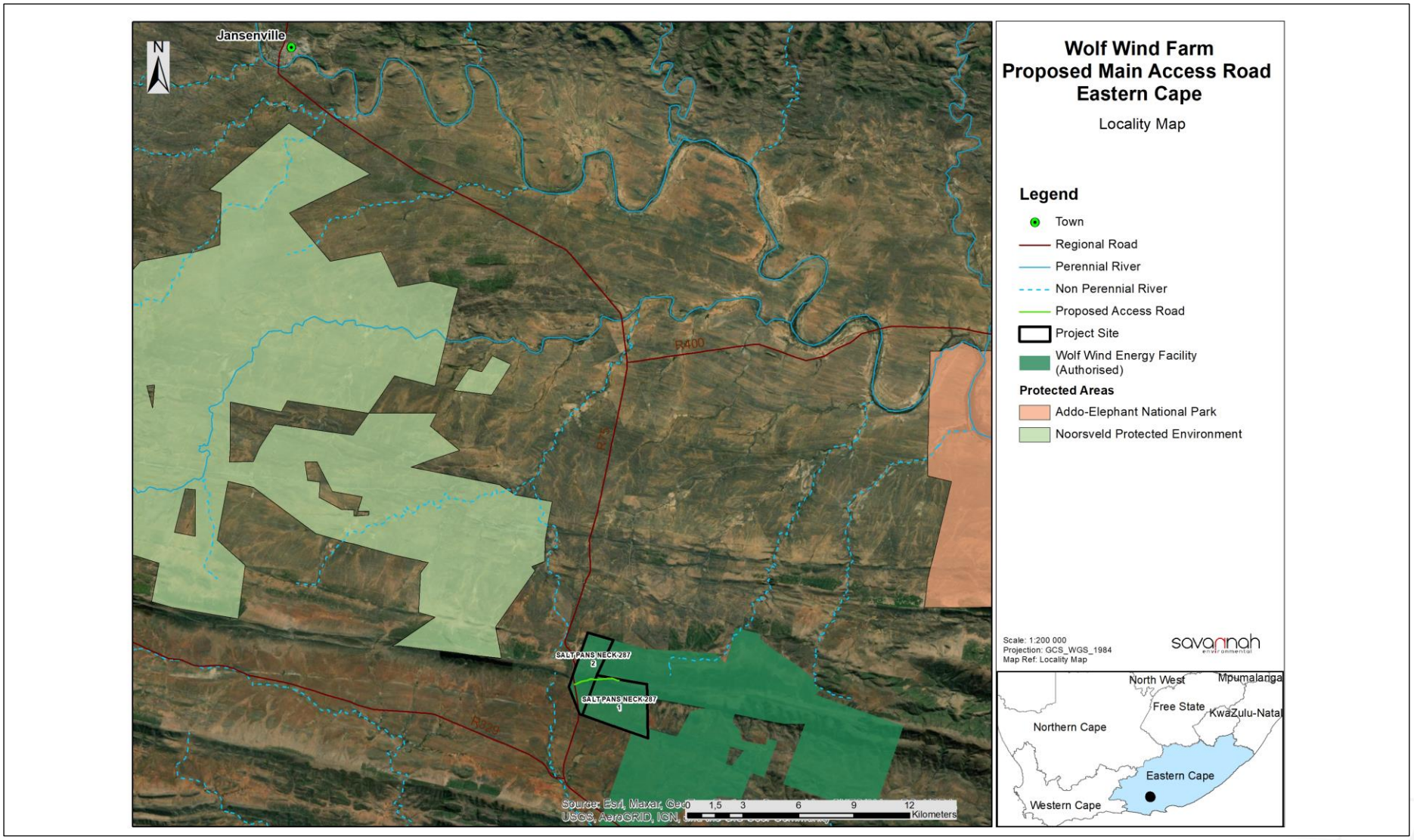

Figure 1: Locality map of proposed access road within the project site

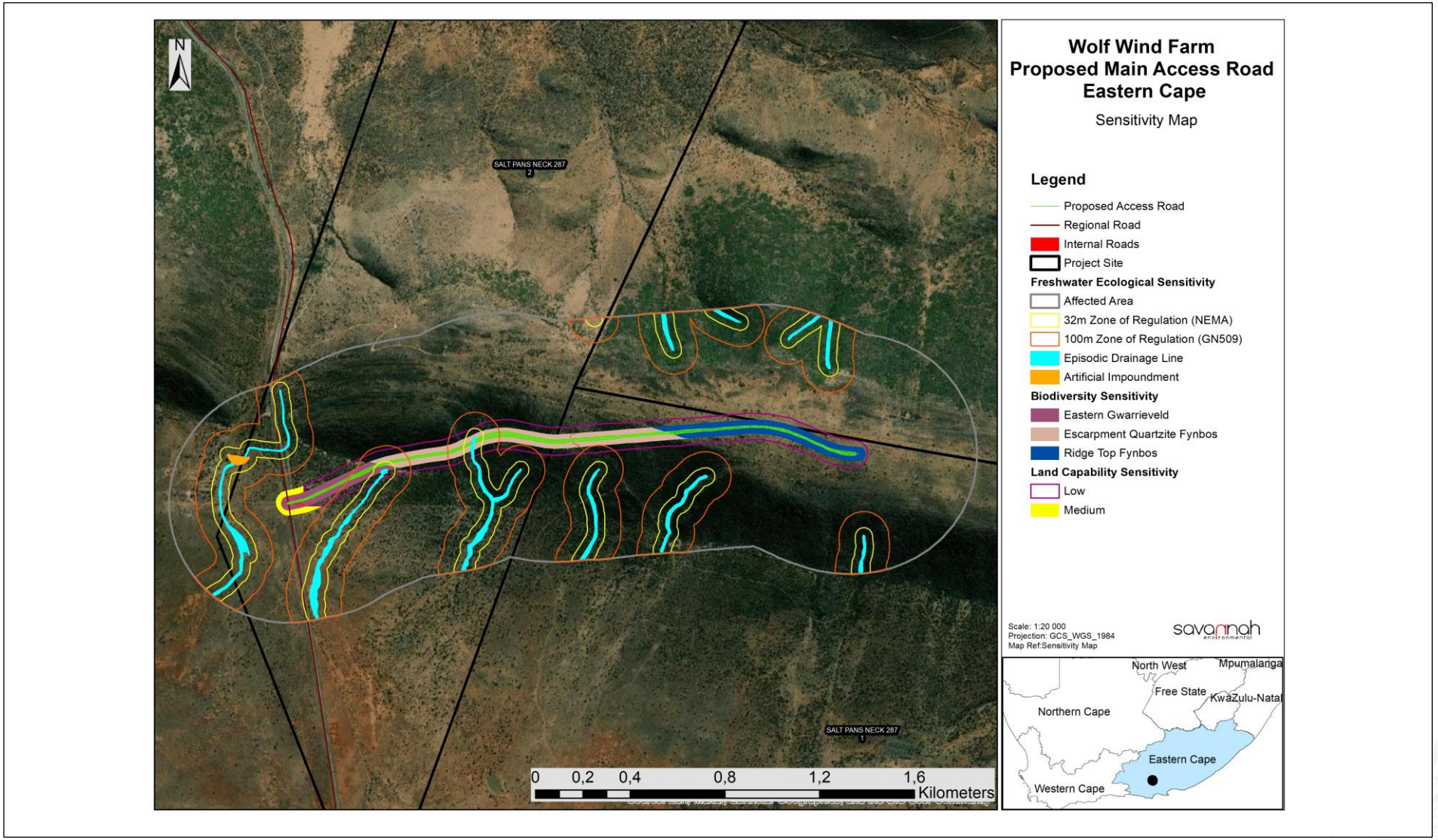

Figure 2: Sensitivity Map for the proposed Access Road