

## SITE SENSITIVITY VERIFICATION REPORT FOR THE ABERDEEN WIND FACILITY 2

Aberdeen Wind Facility 2 (Pty) Ltd, a Special Purpose Vehicle (SPV), proposes the development of a commercial wind energy facility and associated infrastructure, on a site located approximately 20km west of the town of Aberdeen in the Eastern Cape Province. The site is located within the Dr Beyers Naude Local Municipality in the greater Sarah Baartman District Municipality. The entire extent of the site falls within the Beaufort West Renewable Energy Development Zone (REDZ)<sup>1</sup>. The facility is known as Aberdeen Wind Facility 2.

The project is planned as part of a larger cluster of renewable energy projects, which includes two adjacent wind energy facilities with a capacity up to 240MW each (Aberdeen Wind Facility 1 and Aberdeen Wind Facility 3). The proposed wind energy facility is set to inject up to 240MW into the national grid. The wind energy facility will connect to the grid via a grid connection solution consisting of an Eskom switching substation and a power line, which will be subject to a separate application of Environmental Authorisation.

A project site consisting of four affected properties (refer to **Figure 1**), has been identified as the preferred area for the development of the turbines and the associated infrastructure of the Aberdeen Wind Facility 2. The project site consists of Four (4) affected properties:

- » Remainder of the Farm Doorn Poort 93
- » Portion 1 of Farm Doorn Poort 93
- » Farm Kraanvogel Kuil 155
- » Portion 4 of Farm Sambokdoorns 92.

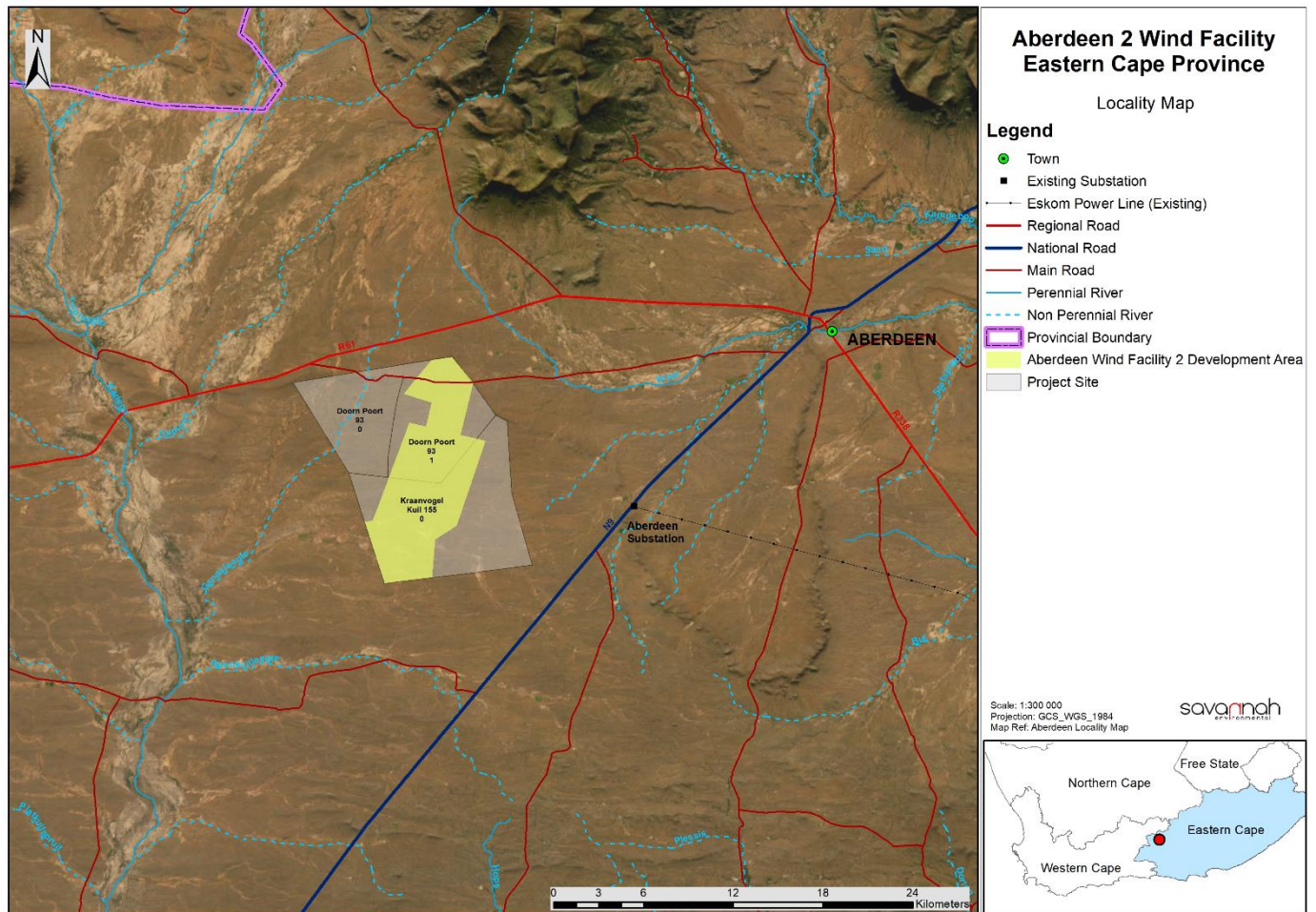
A main access road up to 5.7km in length and up to 10m in width will provide access to the facility, and ultimately to all three planned wind farm sites (that is, a shared access route). The access to the facility/ies will be via an existing (unnamed) gravel road off the R61 between Beaufort West and Aberdeen. The gravel road is well established (~10m wide excluding road reserve), however it's likely portions of this road will require upgrading to accommodate the movement of heavy vehicles. This road traverses Portion 4 of Farm Sambokdoorns 92.

The project site has an extent of ~15 800ha, which is considered sufficient in extent (allowing sufficient space to avoid any major environmental sensitivities) and suitable from a technical perspective for the development of up to 41 wind turbines with a contracted capacity of up to 240MW. A development area<sup>2</sup> of approximately 6 475ha has been identified within the project site and assessed as part of the BA process. The much smaller

<sup>1</sup> The REDZ are zones identified by the Department of Environment, Forestry and Fisheries (DEFF) as geographical areas of strategic importance for the development of large-scale solar PV and wind energy development activities and which have been earmarked for the development of renewable energy facilities within South Africa as per GNR114 of February 2018.

<sup>2</sup> The development area is that identified area where the 240MW wind farm is planned to be located. This area has been selected as a practicable option for the facility, considering technical preference and constraints. The development area is ~6475ha in extent.

development footprint<sup>3</sup> will be sited within the development area, with an estimated disturbance area of up to 109.5ha of the development area



**Figure 1:** Locality map of the project site showing the location of the site in relation to the closest towns of the area.

<sup>3</sup> The development footprint is the defined area (located within the development area) where the wind farm and other associated infrastructure for the facility is planned to be constructed. This is the actual footprint of the facility, and the area which would be disturbed.

**SENSITIVITY VERIFICATION METHODOLOGY:**

The site sensitivity verification report was compiled by the EAP and is based on specialist desktop information and field work undertaken as part of the BA process. This report forms part of the Basic Assessment (BA) process being undertaken for the proposed Aberdeen Wind Energy Facility and associated infrastructure.

**SITE SENSITIVITY VERIFICATION:**

The table below and reference to specialist assessments serve to:

- » Verify land use and sensitivities identified in the screening report; and
- » Confirm / contest the need for the various specialist inputs called for in terms of the screening tool report.

Environmental Theme/Specialist Assessment	Sensitivity Rating and Specialist Input Identified in Terms of the DFFE Screening Tool	Verification of Site-Specific Sensitivity and Motivation of the Need for Specialist Investigation
Agricultural Impact Assessment	Screening tool: Medium Sensitivity  Required an agricultural impact assessment (in accordance with the protocol prescribed in GNR 320).  Verified Sensitivity by Specialist: <b>Low-Medium</b>	The development area can be classified as having areas with Low and Medium Sensitivity. Most of the infrastructure components are located well within areas with Low Sensitivity with only the southern part having five wind turbines which falls in a Medium sensitive area.  An Agricultural Compliance Statement is included as <b>Appendix L</b> of the Basic Assessment Report.
Landscape/Visual Impact Assessment	Screening tool: Very High Sensitivity  (General Assessment Protocols)  Verified Sensitivity by Specialist: <b>Moderate</b>	Based on the Site Sensitivity Verification assessment, it was found that the sensitivity of the visual environment for the proposed development is confirmed to be moderate due to: <ul style="list-style-type: none"> <li>» The avoidance of placement of turbines on any steep slopes, mountain tops or ridges</li> <li>» Location of turbines within 500m of a topographical feature (i.e. ridgeline)</li> <li>» Location of an uninhabited homestead within the 1.2km shadow flicker buffer</li> <li>» Low occurrence of homesteads within 5km</li> <li>» Low VAC of the receiving environment</li> <li>» The placement of the development within the Beaufort REDZ</li> <li>» Scenic R61 arterial road located more than 2.5km but within 2.5km</li> <li>» Limited existing built infrastructure within and surrounding the development area.</li> </ul>
Flicker and Shadow Assessment	Screening tool: Low Sensitivity  (General Assessment Protocols)  Verified Sensitivity by Specialist: <b>Moderate</b>	A Visual Impact Assessment has been undertaken for the Aberdeen Wind Facility 2 and is included in this BA Report as <b>Appendix I</b> .

<p>Archaeological and Cultural Heritage Impact Assessment</p>	<p>Screening tool: Low Sensitivity</p> <p>Verified Sensitivity by Specialist: <b>Very High</b></p>	<p>According to the DFFE Screening Tool analysis, the development area has low levels of sensitivity for impacts to archaeological and cultural heritage resources and very high levels of sensitivity for paleontology. The results of this assessment in terms of site sensitivity are summarised below:</p> <ul style="list-style-type: none"> <li>» The cultural value of the pristine Karoo Landscape is very high (Very High)</li> <li>» Some significant archaeological resources were identified within the development area (High)</li> <li>» No highly significant palaeontological resources were identified within the development area, however the geology underlying the development area is very sensitive for impacts to significant fossils (Very High)</li> </ul> <p>As per the findings of this assessment, and its supporting documentation, the outcome of the sensitivity verification confirms the results of the DFFE Screening Tool for Palaeontology and disputes the results of the screening tool for archaeology and cultural heritage - this should be considered to be Very High.</p> <p>A Heritage Impact Assessment (which covers both archaeological and cultural aspects of the development area and development footprint) has been undertaken for the Aberdeen Wind Facility 2 and is included in this Basic Assessment Report as <b>Appendix H</b>. The HIA complies with the requirements of the NHRA.</p>
<p>Paleontology Impact Assessment</p>	<p>Screening tool: Very High Sensitivity</p> <p>Verified Sensitivity by Specialist: <b>Very High</b></p>	
<p>Terrestrial Biodiversity Impact Assessment</p>	<p>Screening tool: Very high Sensitivity</p> <p>Required a terrestrial biodiversity impact assessment (Terrestrial Biodiversity Assessment Protocols)</p> <p>Verified Sensitivity by Specialist: <b>Very high</b></p>	<p>The overall combined Terrestrial Biodiversity theme indicates that the site consists entirely of Very High sensitivity areas due to the presence of ESAs and FEPA Sub catchments. Since these are anthropogenic conservation planning-based features, it is not really possible to verify these features in the field, apart from an assessment of their condition and characteristics. Based on the presence of these features within the site, a full terrestrial biodiversity assessment is required.</p> <p>A Biodiversity Assessment has been undertaken for the Aberdeen Wind Facility 2 and is included as <b>Appendix D</b> of the Basic Assessment Report.</p>
<p>Aquatic Biodiversity Impact Assessment</p>	<p>Screening tool: Very high Sensitivity</p> <p>Required an Aquatic Biodiversity impact assessment (in accordance with the protocol prescribed in GNR 320, Aquatic Biodiversity Assessment Protocols).</p>	<p>Based on the DFFE Screening Tool, the site contains areas of very high sensitivity due to the presence of CBAs and rivers. The remaining area within the development footprint is deemed to be of low sensitivity.</p> <p>Based on the above outcomes, the specialist agrees with the environmental sensitivities identified on site. Although there is some overlap with the findings on site and the Screening Tool's outcome, the development footprint will be developed with cognisance of these sensitivities.</p>



	Verified Sensitivity by Specialist: <b>Very high</b>	An Aquatic Impact Assessment has been undertaken for the Aberdeen Wind Facility 2 and is included as <b>Appendix E</b> of the Basic Assessment Report.
Avian Impact Assessment and animal species theme (avian)	<p>Screening tool (avian): Low Sensitivity</p> <p>Screening tool (animal species): high Sensitivity</p> <p>Required an Avian Impact Assessment (in accordance with the protocol prescribed in GNR 320, Avian Biodiversity Assessment Protocols).</p> <p>Verified Sensitivity: <b>Very High</b></p>	<p>The DFFE Screening tool classifies the site as having High Sensitivity. This is based on the potential presence of the following Red Data (RD) species:</p> <ul style="list-style-type: none"> <li>» Ludwig's bustard</li> <li>» Southern black korhaan</li> <li>» Martial eagle</li> <li>» Black harrier</li> </ul> <p>Of the above list of potentially present species, all but the Martial Eagle were observed during the monitoring campaign. However, given the number of other RD species identified and high passage rates through the area, the Specialist would classify the site as having Very High sensitivity.</p> <p>According to available information consulted during this study and based on the optimised layout for the Aberdeen Wind Facility 2, and the avoidance of the high-risk areas. It is the Specialists opinion, that there are no fatal flaws from an avifaunal sensitivity perspective, which should prevent the Aberdeen Wind Facility 2 from receiving Environmental Authorisation (EA).</p> <p>An Avifauna Impact Assessment has been undertaken for the Aberdeen Wind Facility 2 and is included as <b>Appendix F</b> of the Basic Assessment Report. The assessment has been undertaken in accordance with the requirements of the BirdLife SA Best Practice Guidelines for wind Developments.</p>
Civil Aviation Assessment	<p>Screening tool: Low Sensitivity</p> <p>Verified Sensitivity: <b>Low</b></p>	<p>The South African Civil Aviation Authority (SACAA) and Air Traffic Navigation Services (ATNS) will be consulted throughout the Basic Assessment process to obtain input and details of any requirements for further studies.</p> <p>The project site is not located within close proximity of any aerodromes, landing strips or infrastructure. The low sensitivity rating is supported, and no study is required in this regard.</p>
Defence Assessment	<p>Screening tool: Low Sensitivity</p> <p>Verified Sensitivity: <b>Low</b></p>	<p>The project site is not located within close proximity of any military base or infrastructure. The South African National Defense Force will be consulted throughout the Basic Assessment process.</p>
RFI Assessment	<p>Screening tool: High Sensitivity</p> <p>Verified Sensitivity: <b>Low</b></p>	<p>The Aberdeen Wind Facility 2 is located outside of an Astronomy Advantage Area and within 1km of a telecommunication facility as classified as having high sensitivity for telecommunication.</p> <p>Communication with Openserve indicated that the proposed Aberdeen Wind Facility 2 will not have an impact</p>

			on their infrastructure. Therefore, a low sensitivity rating is supported, and no study is required in this regard.
Social Assessment	Impact	The screening report does not indicate a rating for this theme.	A Social Impact Assessment has been undertaken for the Aberdeen Wind Facility 2 and is included in the Basic Assessment Report as <b>Appendix K</b> .
Noise Assessment	Impact	Screening tool: Very High Sensitivity  Verified Sensitivity: <b>Medium to Low</b>	<p>The DFFE Screening tool classifies the site as having Very High Sensitivity.</p> <p>During the Noise Impact Assessment, residential areas, and potential noise-sensitive developments/receptors/communities (NSR) were identified using aerial images as well as a physical site visit. Based on the site sensitivity verification:</p> <ul style="list-style-type: none"> <li>the online screening tool identified a number of areas with a "very high" sensitivity to noise in the vicinity of the proposed development. There are however no potential noise-sensitive receptors located in these areas and the finding of the online screening tool is disputed; and</li> <li>there is a structure (NSR05) used on a temporary basis for residential purposes. This was not identified by the online screening tool.</li> </ul> <p>According to the specialist the significance of the noise impact is of medium to low sensitivity.</p> <p>A Noise Impact Assessment has been undertaken for the Aberdeen Wind Facility 2 and is included in the Basic Assessment Report as <b>Appendix J</b>.</p>
Bats Impact Assessment		Screening tool: High Sensitivity  Verified Sensitivity: <b>Medium</b>	<p>The DFFE Screening Tool identified the site as being comprised of areas of high sensitivity.</p> <p>According to the specialist without mitigation, the proposed Aberdeen Wind Facility 2 is expected to have a Medium significant potential impact on bat roosts, and bat foraging habitat, a High significant potential impact in terms of turbine bat fatalities, and a Medium significant potential impact on bat ecosystem services.</p> <p>A Bat Impact Assessment has been undertaken for the Aberdeen Wind Facility 2 and is included in the Basic Assessment Report as <b>Appendix I</b>.</p>
Traffic Assessment	Impact	The screening report does not indicate a rating for this theme.	A Traffic Impact Assessment has been undertaken for the Aberdeen Wind Facility 2 and is included in the Basic Assessment Report as <b>Appendix M</b> .
Plant Assessment	Species	Screening tool: Medium Sensitivity  Necessitating a plant species assessment	The DFFE Screening Tool indicates that there are several potential botanical sensitivities from the Aberdeen Wind Facility 2 study area, with the result that the majority of the site is mapped as High Sensitivity for the Plant Species Theme. Of these species Sensitive species 1212 is confirmed present within the site, while none of the other three plant SCC were

	(General Assessment Protocols). Verified Sensitivity by Specialist: <b>High</b>	observed within the site. As a result, the site is considered high sensitivity for Sensitive Species 1212 and as a result, a full Plant Species Assessment is required for this species. The other plant SCC are considered absent, with the result that an assessment for these species is not considered to be required.
Animal Species assessment (terrestrial)	Screening tool: High Sensitivity  Necessitating an animal species assessment (in accordance with Animal Species Assessment Protocols prescribed in GN 43855)  Verified Sensitivity by Specialist: <b>Low</b>	<p>The DFFE Screening Tool identified the entire site as having a medium and high animal sensitivity theme due to the presence of several bird species of concern. A medium sensitivity was assigned due to the possible presence of the Karoo Dwarf Tortoise, <i>Chersobius boulengeri</i>.</p> <p>The presence of the Karoo Dwarf Tortoise was not confirmed at the site. However, given the scarcity and low activity levels of this species, this does not in itself indicate that it is not present. However, the site inspection suggests that it is highly unlikely that this species is present on the site as the low gravel hills present do not contain much rock shelter for this species. In some areas it may occur within plains habitats. However, as this species was not observed, it is considered unlikely that the Karoo Dwarf Tortoise is present. As such, the site is considered low sensitivity for this species.</p> <p>In terms of other fauna of concern that may be present on the site, but which are not listed under the DFFE Screening Tool, several different species occur in the wider area and would potentially be present on the site including Mountain Reedbuck <i>Redunca fulvorufula</i> (EN) and Black-footed Cat <i>Felis nigripes</i> (VU). However, the site inspection suggests that none of these species are present within the site with the result that it is considered to be low sensitivity for these species.</p>

Based on the outcomes of the Basic Assessment Process and the outcomes of the Site Sensitivity Verification, the following studies were identified as being required:

- » Terrestrial Ecology Impact Assessment
- » Aquatic Ecology Impact Assessment
- » Avifauna Impact Assessment
- » Soils and Agricultural compliance statement
- » Heritage Impact Assessment
- » Visual Impact Assessment
- » Social Impact Assessment
- » Bats Impact Assessment
- » Noise Impact Assessment
- » Traffic Impact Assessment

The specialist studies undertaken for this project are required to comply with either the above Protocols or, alternatively, with the requirements of Appendix 6 of the NEMA EIA Regulations of 2014 (as amended 2017 & 2021).