

SITE SENSITIVITY VERIFICATION REPORT FOR THE PROPOSED MUTSHO SOLAR PV1 ON THE REMAINING EXTENT OF FARM VREINDEN 589 MS, MUSINA LOCAL MUNICIPALITY, LIMPOPO PROVINCE (DFFE REFERENCE: 14/12/16/3/3/2/2180)

Mutsho Power (Pty) Ltd is proposing the construction and operation of a commercial Photovoltaic (PV) Solar Energy Facility and associated infrastructure on the Remaining Extent of Farm Vrienden 589 MS, located approximately 8km south-west of Mopane and 39km south-west of Musina, within the Musina Local Municipality and the Vhembe District Municipality in the Limpopo Province (refer to **Figure 1**). The facility will have a contracted capacity of up to 100MW and will be known as Mutsho Solar PV1. The project is planned as part of a cluster of renewable energy projects, which include three (3) additional 100MW Solar PV Energy Facilities and grid connection infrastructure connecting the facilities to the national grid, with the point of connection being the existing Nzhelele Substation.

The full extent of the project site (i.e., ~1 237ha) was considered during the Scoping Phase of the EIA process, within which Mutsho Solar PV1 will be appropriately located from a technical and environmental sensitivity perspective. A development footprint of ~167ha has been identified within the project site and assessed for the construction of the facility and its associated infrastructure.

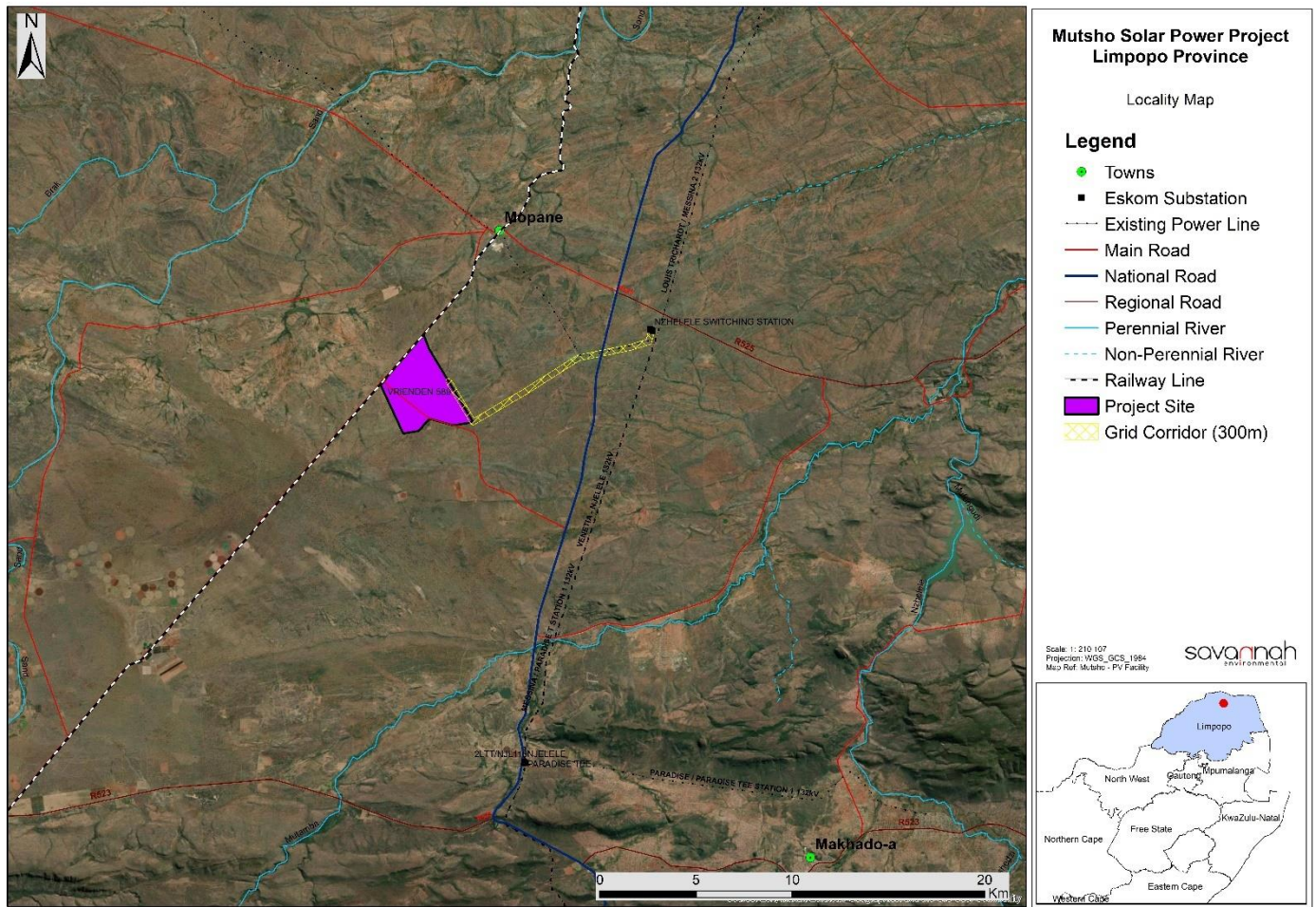


Figure 1: Locality map illustrating the location of Mutsho Solar PV1 and associated infrastructure

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 S&EIA process. This report forms part of the Scoping and Environmental Impact Assessment (S&EIA) process being undertaken for the proposed Mutsho Solar PV1 and associated infrastructure on the Remaining Extent of Farm Vrienden 589 MS, Musina Local Municipality, Limpopo Province.

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 as per the Screening Tool (relating to the need for the study)	Verification of Site Sensitivity												
Agriculture Theme/Agricultural Impact Assessment	Medium	<p>The proposed Mutsho Solar PV1 project is mostly characterised with “Low” to “Moderate” land capability sensitivities. Some small portions in the assessment area fall within the “Very Low” sensitivities. In the assessment area there is no segregation of agricultural lands or crop fields with high potentials. The land capability and land potential in the assessed area concur. The “Very Low to Moderate” sensitivities also fall within the DAFF, (2017) requirements for a compliance statement report only.</p> <p>A Soils and Agricultural Potential Compliance Statement is included in the EIA Report as Appendix F.</p>												
Animal Species Theme/ Terrestrial Ecology Impact Assessment	Medium	<p>A total of 13 mammal, 0 amphibian, and 3 reptile species were recorded within the project/study area. No amphibian or reptile SCC were recorded within the study area; and no mammal SoCC were recorded, namely. It was determined that the development will not detrimentally impact these populations as no faunal SCC were recorder within the project/study area.</p> <p>Four (4) different habitat units were identified during the assessment and included closed woodland, a rocky area, watercourses, and mopane bushveld. The sensitivity of these habitats ranged from high to medium with the closed woodland, rocky area and watercourses regarded as high sensitivity due to the species recorded and the role of this intact unique habitat to biodiversity, whilst the mopane bushveld is regarded as having a medium sensitivity.</p> <p>Summary of habitat types delineated within the project area is provided in the table below.</p> <table border="1"> <thead> <tr> <th>Habitat</th> <th>Conservation Importance</th> <th>Functional Integrity</th> <th>Biodiversity Importance</th> <th>Receptor Resilience</th> <th>Site Ecological Importance</th> </tr> </thead> <tbody> <tr> <td>Wetlands</td> <td>Medium</td> <td>Medium</td> <td>Medium</td> <td>Low</td> <td>High</td> </tr> </tbody> </table>	Habitat	Conservation Importance	Functional Integrity	Biodiversity Importance	Receptor Resilience	Site Ecological Importance	Wetlands	Medium	Medium	Medium	Low	High
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Landscape (Solar) Theme/Visual Impact Assessment	Very High	<p>The most prominent (and visible) land use within the region is agricultural land uses, which mainly consists of low intensity grazing. There also appears to be a significant eco-tourism secondary bias to the land use. Area receptors include settlement Areas, particularly Mopane which is the closest settlement to the proposed development.</p> <p>Highly Sensitivity Areas include:</p> <ul style="list-style-type: none"> » Areas immediately surrounding homesteads development of which is likely to significantly change the character of views for residents and guests. A 500m buffer is proposed which should be sufficient to ensure that development does not totally dominate views. It is possible that receptors (owners /residents / guests) have no concern regarding the development of these areas, in which case the sensitivity rating will reduce. <p>Medium Sensitivity Areas include:</p> <ul style="list-style-type: none"> » Corridors beside the roads that could be affected. Due to distance, the main roads that run through the area are unlikely to be significantly impacted. As indicated in previously, given that local unsurfaced roads are likely to provide access to local lodges, these also have tourism importance. <p>Low Sensitivity Areas include:</p> <ul style="list-style-type: none"> » All other areas of the proposed site. <p>According to the specialist, the project falls entirely within the Low Sensitivity zone.</p> <p>A Visual Impact Assessment has been undertaken for the Solar Energy Facility and is included in this EIA Report as Appendix H.</p>																		
Archaeological and Cultural Heritage Theme/Heritage Impact Assessment	High	<p>The current and past heritage assessments of this property have identified limited heritage resources of cultural value. A previous assessment identified Farm Vrienden 589 as preferred for development with limited impacts to heritage resources anticipated as its overall heritage sensitivity is regarded as LOW overall. The most significant archaeological site identified in the vicinity of the development is Site V04. It is recommended that Site V04, the Baobab Room, must not be impacted by any activity and any proposed activity on this farm must adhere to a buffer area of</p>																		

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		<p>100m around this site. This site is located a significant distance from the area proposed for development.</p> <p>A Heritage Impact Assessment (including cultural heritage, palaeontology and archaeology) has been undertaken for the Solar Energy Facility and is included in this EIA Report as Appendix G.</p>																														
Palaeontology Theme/Heritage Impact Assessment	Very High	<p>The Palaeontological Impact Assessment notes that "The scarcity of fossil heritage at the proposed development footprint indicate that the impact of the (of the development) will be of a low significance in palaeontological terms. Thus, the construction and operation of the facility may be authorised as the whole extent of the development footprint is not considered sensitive in terms of palaeontological resources."</p> <p>A Heritage Impact Assessment (including cultural heritage, palaeontology and archaeology) has been undertaken for the Solar Energy Facility and is included in this EIA Report as Appendix G.</p>																														
Terrestrial Biodiversity Theme/ Terrestrial Ecology Impact Assessment	Very High	<p>The completion of the terrestrial biodiversity assessment found that the Mopane Bushveld habitat that overlaps with the screening report is of medium sensitivity and thus do not corroborate the screening report in that regard.</p> <p>Four (4) different habitat units were identified during the assessment and included closed woodland, a rocky area, watercourses, and mopane bushveld. The sensitivity of these habitats ranged from high to medium with the closed woodland, rocky area and watercourses regarded as high sensitivity due to the species recorded and the role of this intact unique habitat to biodiversity, whilst the mopane bushveld is regarded as having a medium sensitivity.</p> <p>Summary of habitat types delineated within the project area is provided in the table below.</p> <table border="1"> <thead> <tr> <th>Habitat</th> <th>Conservation Importance</th> <th>Functional Integrity</th> <th>Biodiversity Importance</th> <th>Receptor Resilience</th> <th>Site Ecological Importance</th> </tr> </thead> <tbody> <tr> <td>Wetlands</td> <td>Medium</td> <td>Medium</td> <td>Medium</td> <td>Low</td> <td>High</td> </tr> <tr> <td>Closed Woodland</td> <td>High</td> <td>Medium</td> <td>Medium</td> <td>Low</td> <td>High</td> </tr> <tr> <td>Rocky Area</td> <td>Medium</td> <td>High</td> <td>Medium</td> <td>Low</td> <td>High</td> </tr> <tr> <td>Mopane Bushveld</td> <td>Medium</td> <td>Medium</td> <td>Medium</td> <td>Medium</td> <td>Medium</td> </tr> </tbody> </table> <p>An Ecology Impact Assessment has been undertaken for the Solar Energy Facility and is included as Appendix D of the EIA Report.</p>	Habitat	Conservation Importance	Functional Integrity	Biodiversity Importance	Receptor Resilience	Site Ecological Importance	Wetlands	Medium	Medium	Medium	Low	High	Closed Woodland	High	Medium	Medium	Low	High	Rocky Area	Medium	High	Medium	Low	High	Mopane Bushveld	Medium	Medium	Medium	Medium	Medium
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Aquatic Biodiversity Theme/Freshwater Impact Assessment	Very High	<p>One (1) form of a watercourse was identified and delineated within the regulated area applied, namely ephemeral drainage lines/ features. Natural wetlands were absent from the project area. The nearest known 'pan' system is more than 3 km north-west of the project area. No</p>																														

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		<p>functional assessment was completed for the delineated watercourses. A buffer width of 15 m is recommended for each of the drainage features. Regulated areas delineated with a 32m and 100m buffer were also identified and recommended for each drainage feature.</p> <p>Four (4) different habitat units were identified during the assessment and included closed woodland, a rocky area, watercourses, and mopane bushveld. The sensitivity of these habitats ranged from high to medium with the closed woodland, rocky area and watercourses regarded as high sensitivity due to the species recorded and the role of this intact unique habitat to biodiversity, whilst the mopane bushveld is regarded as having a medium sensitivity.</p> <p>Summary of habitat types delineated within the project area is provided in the table below.</p> <table border="1"> <thead> <tr> <th>Habitat</th> <th>Conservation Importance</th> <th>Functional Integrity</th> <th>Biodiversity Importance</th> <th>Receptor Resilience</th> <th>Site Ecological Importance</th> </tr> </thead> <tbody> <tr> <td>Wetlands</td> <td>Medium</td> <td>Medium</td> <td>Medium</td> <td>Low</td> <td>High</td> </tr> <tr> <td>Closed Woodland</td> <td>High</td> <td>Medium</td> <td>Medium</td> <td>Low</td> <td>High</td> </tr> <tr> <td>Rocky Area</td> <td>Medium</td> <td>High</td> <td>Medium</td> <td>Low</td> <td>High</td> </tr> <tr> <td>Mopane Bushveld</td> <td>Medium</td> <td>Medium</td> <td>Medium</td> <td>Medium</td> <td>Medium</td> </tr> </tbody> </table> <p>An Ecology Impact Assessment has been undertaken for the Solar Energy Facility and is included as Appendix D of the EIA Report.</p>	Habitat	Conservation Importance	Functional Integrity	Biodiversity Importance	Receptor Resilience	Site Ecological Importance	Wetlands	Medium	Medium	Medium	Low	High	Closed Woodland	High	Medium	Medium	Low	High	Rocky Area	Medium	High	Medium	Low	High	Mopane Bushveld	Medium	Medium	Medium	Medium	Medium
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Avian Impact Assessment/Avifauna Impact Assessment	Very High	<p>Sensitivities were compiled for the avifauna study based on the field results and desktop information. Based on the criteria provided in the specialist report, all habitats within the assessment area of the proposed project were allocated a sensitivity category. The Wetlands were given a high sensitivity based on the importance of these areas for the species in the area not only as a water source but also as habitat for the water birds. The level of disturbance found in the Mopane Bushveld combined with the mostly generalist species found here led to the Moderate rating.</p> <p>SEI Summary of habitat types delineated within field assessment area of project area is provided in the table below.</p> <table border="1"> <thead> <tr> <th>Habitat</th> <th>Conservation Importance</th> <th>Functional Integrity</th> <th>Biodiversity Importance</th> <th>Receptor Resilience</th> <th>Site Ecological Importance</th> </tr> </thead> <tbody> <tr> <td>Wetlands</td> <td>High</td> <td>High</td> <td>High</td> <td>Medium</td> <td>High</td> </tr> <tr> <td>Closed Woodland</td> <td>High</td> <td>High</td> <td>High</td> <td>Medium</td> <td>High</td> </tr> <tr> <td>Mopane Bushveld</td> <td>Medium</td> <td>Medium</td> <td>Medium</td> <td>Medium</td> <td>Medium</td> </tr> </tbody> </table>	Habitat	Conservation Importance	Functional Integrity	Biodiversity Importance	Receptor Resilience	Site Ecological Importance	Wetlands	High	High	High	Medium	High	Closed Woodland	High	High	High	Medium	High	Mopane Bushveld	Medium	Medium	Medium	Medium	Medium						
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Civil Aviation (Solar PV) Theme	Low	<p>The Very High sensitivity rating for avifauna, as indicated in the screening tool report, was based on the occurrence of four SCCs, Kori Bustard (<i>Ardeotis kori</i>); Black Stork (<i>Ciconia nigra</i>); Saddle-billed Stork (<i>Ephippiorhynchus senegalensis</i>), and White-backed Vulture (<i>Gyps africanus</i>) within the project site. High sensitivity in some areas has been confirmed as detailed above.</p> <p>An Avifauna Impact Assessment has been undertaken for the Solar Energy Facility and included as Appendix E of the EIA Report. 12-months pre-construction monitoring as per the BirdLife SA Best Practice Guidelines has been completed and has informed the assessment of impacts.</p> <p>The Civil Aviation Authority (CAA) and Air Traffic Navigation Services (ATNS) have been consulted throughout the BA process to obtain input and details of any requirements for further studies. No objections to the project have been received.</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 Theme	Low	<p>The project site is not located within close proximity of any military base or infrastructure. The low sensitivity rating is supported, and no study is required in this regard.</p>					
RFI Theme	Medium	<p>The project site is not located near any SKA receptors as the site is not in the Northern Cape. The South African Radio Astronomy Observatory (SARAO) will however be consulted during the 30-day review and comment period of the EIA Report to provide written comment on the proposed development.</p>					
Plant Species Theme/ Terrestrial Ecology Impact Assessment	Low	<p>The completion of the terrestrial biodiversity assessment found that the Mopane Bushveld habitat that overlaps with the screening report is of medium sensitivity and thus do not corroborate the screening report in that regard.</p> <p>Four (4) different habitat units were identified during the assessment and included closed woodland, a rocky area, watercourses, and mopane bushveld. The sensitivity of these habitats ranged from high to medium with the closed woodland, rocky area and watercourses regarded as high sensitivity due to the species recorded and the role of this intact unique habitat to biodiversity, whilst the mopane bushveld is regarded as having a medium sensitivity.</p> <p>Summary of habitat types delineated within the project area is provided in the table below.</p>					

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Socio-Economic Assessment	The screening report does not indicate a rating for this theme.	A Socio-Economic Impact Assessment has been undertaken and is included in the EIA Report as Appendix I .					

Based on the outcomes of the Scoping Phase evaluation of the project and the outcomes of the Site Sensitivity Verification, the following studies were identified as being required:

- » Terrestrial and Freshwater Ecology Impact Assessment
- » Avifauna Impact Assessment
- » Soils and Agricultural Potential Compliance Statement
- » Heritage Impact Assessment (Including cultural heritage, archaeology, and palaeontology)
- » Visual Impact Assessment
- » Social 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).