

Savannah Environmental (Pty) Ltd | Directors: KM Jodas, J Thomas, M Matsabu Company Reg No.: 2006/000127/07

VAT Reg No.: 4780226736

## SITE SENSITIVITY VERIFICATION REPORT FOR THE PROPOSED TRANSALLOYS SOLAR PV FACILITY AND ASSOCIATED INFRASTRUCTURE ON PORTIONS 34 AND 35 OF THE FARM ELANDSFONTEIN 309JS AND PORTIONS 20 AND 24 OF THE FARM SCHOONGEZICHT 308JS, WITHIN THE EMALAHLENI LOCAL MUNICIPALITY

Transalloys (Pty) Ltd propose to develop a commercial Solar Photovoltaic (PV) Energy Facility and associated electrical infrastructure on Portions 34 and 35 of the Farm Elandsfontein 309JS and Portions 20 and 24 of the Farm Schoongezicht 308JS, adjacent to their smelter complex on Clewer Road 1034, eMalahleni, in the Emalahleni Local Municipality. The project is located in the greater Nkangala District Municipality of Mpumalanga Province, approximately 34km west of Middelburg and 37km east of Bronkhorstspruit. The entire extent of the site falls within the Emalahleni Renewable Energy Development Zone (REDZ9) and the International Corridor of the Strategic Transmission Corridors (Figure 1.1). The facility will have a contracted capacity of up to 55MV and will be known as the Transalloys Solar PV Energy Facility.

The PV facility is proposed in order to partially meet Transalloys' current electricity needs and future expansion requirements. The plant will be a captive generating plant whereby generated electricity will be fed directly into the smelter complex for direct consumption. The development of the power plant project would effectively mean that Transalloys would become less dependent on the Eskom electricity grid, thereby creating additional capacity within the Eskom grid for use by other electricity users.

A development area of ~67.9ha has been identified by Transalloys (Pty) Ltd for the establishment of the PV facility. The proposed facility will have a contracted capacity of up to 55MW and will include the following infrastructure:

- » Solar PV array comprising PV modules and mounting structures (Bi-facial panels with single axis tracking are preferred over fixed-axis or double axis tracking systems, and mono-facial panels. However, the preferred panel technology will be confirmed during the final design phase.)
- » Inverters and on-site transformers with total capacity up to 53MVA.
- » Cabling between the project components.
- » Underground 33kV power line to connect the solar PV facility to the existing Transalloys Substation
- » Site control building and Site Security office, operations and control, and maintenance and storage laydown areas.
- » Access roads and internal distribution roads.

To evacuate the generated power to Transalloys Smelter, a 33kV underground power line will be established to connect the on-site facility transformers to the existing Transalloys Substation. This proposed power line will run within the Transalloys property, parallel to the existing internal distribution roads.



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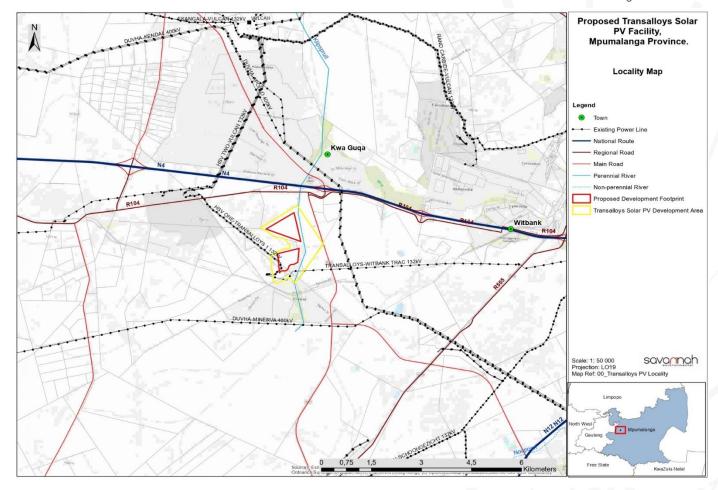


Figure 1: Locality map illustrating the location of the Transalloys Solar PV Facility and associated infrastructure

## 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 Basic Assessment process. This report forms part of the Basic Assessment process being undertaken for the proposed Transalloys Solar PV Facility and associated infrastructure on infrastructure on Portions 34 and 35 of the Farm Elandsfontein 309JS and Portions 20 and 24 of the Farm Schoongezicht 308JS, within the Emalahleni Local Municipality in Mpumalanga 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	High	The proposed Transalloys Solar PV energy facility project is mostly characterised with "Low" to "Moderate" land capability sensitivities.  Smaller patches are characterised by sensitivities up to "High". Furthermore, various crop field boundaries were identified by means of the DEA Screening Tool (2022), which are predominantly characterised by "High" sensitivities with one area being classified as "Very High" sensitivity. It is the specialist's recommendation that such high potential crop fields be avoided for the project. In a case relocating of the project is not feasible, intensive mitigation measures should be applied.  A Soils and Agricultural Potential Compliance Statement is included in this EIA Report as <b>Appendix F</b> of the EIA Report.					
Animal Species	High	The completion of the terrestrial desktop and field studies disputes the 'Ven High' sensitivity presented in screening report. As most of the project area represents Degraded Grassland habitat which has been exposed to significant levels of historical disturbance and is thus assigned a 'Low sensitivity. Portions of land within the project area, namely the Wetland habitats, maintain a higher level of functionality and are assigned a 'High sensitivity.  Three (3) different terrestrial habitat types were delineated within the project area, and one set of wetland habitats as a whole. Based on the criteria provided in Section 5.2 of the specialist report, all habitats within the assessment area of the proposed project were allocated a sensitivity category.  Summary of habitat types delineated within the project area					
		Habitat (Area)	Conservation Importance	Functional Integrity	Biodiversity Importance	Receptor Resilience	Ecological Importance
		Transformed	Very Low	Low	Very Low	High	Very Low

Environmental Theme/Specialist Assessment	Sensitivity Rating as per the Screening Tool (relating to the need for the study)	Verification of Site Sensitivity					
		Degraded Grassland	Low	Low	Low	Medium	Low
		Secondary Grassland	Medium	Medium	Medium	Medium	Medium
		An Ecology Im Facility and is i					High  Solar Energy
Landscape (Solar)	Very High	The majority of the exposed areas in this area fall within the Transalloys property itself. The Evras Highveld Steel, Transalloys Smelter Complex and the Landua mining activities are the dominant industries in the area. It is generally acceptable, from a visual impact point of view, to place industrial infrastructure within existing industrial areas. The existing visual disturbances brought about by the Transalloys Smelter and the Evras Highveld Steel works, and the close proximity of the proposed PV Facility to these, somewhat mitigates the visual impact of the structures and activities.  A Visual Impact Assessment has been undertaken for the Solar Energy Facility and is included in this EIA Report as <b>Appendix G</b> .					
Archaeological and Cultural Heritage	Very High	There is number of heritage resources within and in proximity to the area proposed for Transalloys Solar PV Energy Facility including "the remains of a very large graveyard containing at least 90 graves. Different types of grave dressing and headstones were found, being cement borders with headstones, heaps of soil, stone packed with or without headstones, granite borders and headstones and heaps of brick.  A Heritage Screener has been undertaken for the Solar Energy Facility and is included in this EIA Report as <b>Appendix H</b> .					
Palaeontology	Very High	The project area proposed for Transalloys PV Solar Energy facility is underlain by sediments of very high palaeontological sensitivity. According to the CGS Map for Pretoria, the underlying geology of the development area consists of sediments of the Ecca Formation. "The region is known for its fossiliferous mudstones and sandstones and it is highly probable that fossils will be encountered during construction if the excavations expose the bedrock.  A Heritage Screener has been undertaken for the Solar Energy Facility and is included in this EIA Report as <b>Appendix H</b> .					
Terrestrial Biodiversity	Very High	The completio High' sensitivity represents De significant leve sensitivity. Port habitats, main sensitivity.	n of the terres y presented ir graded Grasels of historic ions of land	trial deskton screening ssland hab tal disturbo within the	op and field so g report. As r pitat which ance and is project are	most of the has been thus assig a, namely	project area exposed to ned a 'Low' the Wetland

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		Habitat (Area)	Conservation Importance	Functional Integrity	Biodiversity Importance	Receptor Resilience	Site Ecological Importance	
		Transformed	Very Low	Low	Very Low	High	Very Low	
		Degraded Grassland	Low	Low	Low	Medium	Low	
		Secondary Grassland	Medium	Medium	Medium	Medium	Medium	
		Watercourse	High	High	High	Medium	High	
Aquatic Biodiversity	Very High  The completion of the terrestrial biodiversity asset Degraded Thornveld habitat that overlaps with the medium sensitivity and thus do not corroborate the regard.  Three (3) different terrestrial habitat types were project area, and one set of wetland habitats as criteria provided in Section 2.2 of the specialist reports assessment area of the proposed project were category.  Summary of habitat types delineated within the proposed project.					essment fo ne screening e screening de delineate a whole. I port, all habit allocatec	ng report is of report in that ed within the Based on the tats within the d a sensitivity	
		Habitat (Area)	Conservation Importance	Functional Integrity	Biodiversity Importance	Receptor Resilience	Site Ecological Importance	
		Degraded Thornveld	Medium	High	Medium	Medium	Medium	
		Wetlands	Medium	Medium	Medium	Low	Medium	
		Disturbed Thornveld	Medium	Low	Low	Medium	Low	
		Transformed	Very Low	Very Low	Very Low	Low	Very Low	
Avious	Low	An Ecology Im	ncluded as <b>A</b>	ppendix D	of the EIA R	eport.	<i>σ,</i>	
Avian	Low	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 Water resources 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						

Environmental Theme/Specialist Assessment	Sensitivity Rating as per the Screening Tool (relating to the need for the study)	Verification of Site Sensitivity					
		rating.		tly generalist vpes delineate			
		project area			JG ************************************		
		Habitat	Conservation Importance	Functional Integrity	Biodiversity Importance	Receptor Resilience	Site Ecological Importance
	Water Resources	High  The water resources (i.e., river and wetland) are rated as CR based on the SAIIAE dataset.	High  The CR wetland found on site is approximately 60Ha. The size combined with the somewhat disturbed nature this habitat it was given a High functional integrity.	High	Medium Taking into account the current vegetation growth and state, the area will recover slowly, and it will take more than 10 years to reach the same state. If the vegetation growth in the area is altered, it will disturb the avifauna diversity as well which will take long to return to its pre disturbance state.	High	
		Degraded Grassland	Medium The VU listed Lanner Falcon were observed in this area	Medium The area does still function as ecological corridor especially between the water resource areas	Medium	High The area has been altered from its original state mainly by over grazing, therefore the flora species composition is low. As the area	Low

Environmental Theme/Specialist Assessment	Sensitivity Rating as per the Screening Tool (relating to the need for the study)						
						does not provide a large number of food sources especially for granivorous species the receptor resilience is rated as high.	
		Secondary Grassland	Medium The VU listed Lanner Falcon were observed in this area	Medium The area does still function as an ecological corridor especially between the water resource areas.	Medium	High his habitat has also been altered by overgrazing, however the flora species composition in this area is more diverse. As the habitat is mainly supporting graminoid species and therefore granivorous species if the area recovers the granivores will return	Low
		Transformed	Very Low Unlikely to support any SCCs and no natural habitat remains in these areas anymore.	Very Low Several major current negative ecological impacts found in the area and no ecological connectivity offered.	Very Low	Very High The flora species composition surrounding the buildings for example is mainly garden species and therefore will support mainly generalist more adaptable	Very Low

Environmental Theme/Specialist Assessment	Sensitivity Rating as per the Screening Tool (relating to the need for the study)	Verification of Site Sensitivity					
		An Avifauna Ir Facility and inc been underta Best Practice (	cluded as <b>Ap</b> ken in accord	<b>pendix E</b> of dance with	f the EIA Rep n the require	ort. The as	ssessment has
Civil Aviation (Solar PV)	Low	A Compliance Statement is included in the Draft BA Report. The set has been verified to be low due to the long distance in betwee proposed PV facility and the airfield. Further assessment of the primpacts is not required.					
		The Civil Aviati have been co details of any i have been red	onsulted thro requirements	oughout th	e EIA proce	ess to obto	in input and
Defence	Low	The project site	e is not locate	ed within cl	ose proximit	y of any mi	litary base.
RFI	Medium	The screening report indicates that there is a telecommunication facility within 1km of the proposed development, but this has not been identified as being of significant sensitivity during the assessment. No comments or objections in this regard have been received during the S&EIA process.					
		A Compliance	Statement w	vill be inclu	ded in the Fi	inal BA Rep	ort.
Plant Species	Medium	The completion of the terrestrial biodiversity assessment found that the Degraded Thornveld habitat that overlaps with the screening report is of medium sensitivity and thus do not corroborate the screening report in that regard.  Three (3) different terrestrial habitat types were delineated within the project area, and one set of wetland habitats as a whole. Based on the criteria provided in Section 2.2 of the specialist report, all habitats within the					
		assessment ar category.	ea of the p	roposed p	roject were	e allocated	I a sensitivity
		Table 1: Summ	ary of habita	t types del	ineated with	nin the proje	ect area
		Habitat (Area)	Conservation Importance	Functional Integrity	Biodiversity Importance	Receptor Resilience	Site Ecological Importance
		Degraded Thornveld	Medium	High	Medium	Medium	Medium
		Wetlands	Medium	Medium	Medium	Low	Medium
		Disturbed Thornveld	Medium	Low	Low	Medium	Low
		Transformed	Very Low	Very Low	Very Low	Low	Very Low
		A Terrestrial I undertaken fo EIA Report.					

Environmental Theme/Specialist Assessment	Sensitivity Rating as per the Screening Tool (relating to the need for the study)	Verification of Site Sensitivity
Socio-Economic Assessment	• ,	A Socio-Economic Impact Assessment has been undertaken and is included in the EIA Report as <b>Appendix I</b> .

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

- » Terrestrial Ecology Impact Assessment
- » Civil Aviation Compliance Statement
- » Avifauna Impact Assessment
- » Aquatic Impact Assessment
- » Heritage Screener
- » Soils and Agricultural Potential
- » 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).