The Biodiversity Company
Cell: +27 81 319 1225
Fax: +27 86 527 1965
info@thebiodiversitycompany.com
www.thebiodiversitycompany.com

13 April 2025

Attention: Humansrus Solar PV Energy Facility 2 (Pty) Ltd
Phunge Muwanwa: p.muwanwa@grupocobra.com

To whom it may concern:

TERRESTRIAL SPECIALIST INPUT FOR THE PART 1 AMENDMENT OF THE ENVIRONMENTAL AUTHORISATION (EA) FOR THE PROPOSED DEVELOPMENT OF THE HUMANSRUS SOLAR PV ENERGY FACILITY 2 (PTY) LTD (PREVIOUSLY KNOWN AS THE RE CAPITAL 14 SOLAR POWER PLANT), HUMANSRUS, NORTHERN CAPE.

1. Background

Humansrus Solar PV Energy Facility 2 (RF) (Pty) Ltd proposes the amendment of the Environmental Authorisation (EA) for the construction, operation and maintenance of a solar photovoltaic (PV) Project, Humansrus Solar PV 2, with a generation of 100 megawatt (MW). The project is located near Copperton, within the Remainder of Farm 147, Humansrus, within the Pixley Ka Seme District in the Northern Cape Province, under the jurisdiction of the Siyathemba Local Municipality, in the Northern Cape Province.

The proposed solar development is situated adjacent to the R357 Provincial Road, 6km north of the existing Kronos Substation. The total farm area is 4769 hectares (ha). Humansrus Solar PV Energy Facility 2 (referred to as Humansrus Solar PV 2) is approximately 295 ha. The provided project footprint is referred to as the Project Area of Influence (PAOI) for the purposes of this report (there are no alterations to the previously approved PAOI) (Figure 1).

Condition 6 of the Environmental Authorisation issued on the 19th of June 2015, DEA Reference 14/12/16/3/3/2/673 states that:

"This activity must commence within a period of ten (10)) years from the date of issue of the authorisation (i.e. the EA lapses on 17 June 2025). If commencement of the activity does not occur within that period, the authorisation lapses and a new application for environmental authorisation must be made in order for the activity to be undertaken."

The EA for Humansrus Solar PV 2 is nearing expiration and as such Humansrus Solar PV Energy Facility 2 (Pty) Ltd is applying for an extension of the validity of the existing Environmental Authorisation. The amendment request is to extend the validity period of the Environmental Authorisation by an additional 10 years to 2035.

Cape EAPrac has been appointed as the Registered Environmental Assessment Practitioner (EAP) to prepare the EA Amendment Application. The EA Amendment is being completed in terms of Regulation 29 of the Environmental Impact Assessment (EIA) Regulations, 2014, as amended and in terms of Regulation 30(1)(a), Department of Forestry, Fisheries and the Environment (DFFE) have requested specialist input to inform the amendment application.

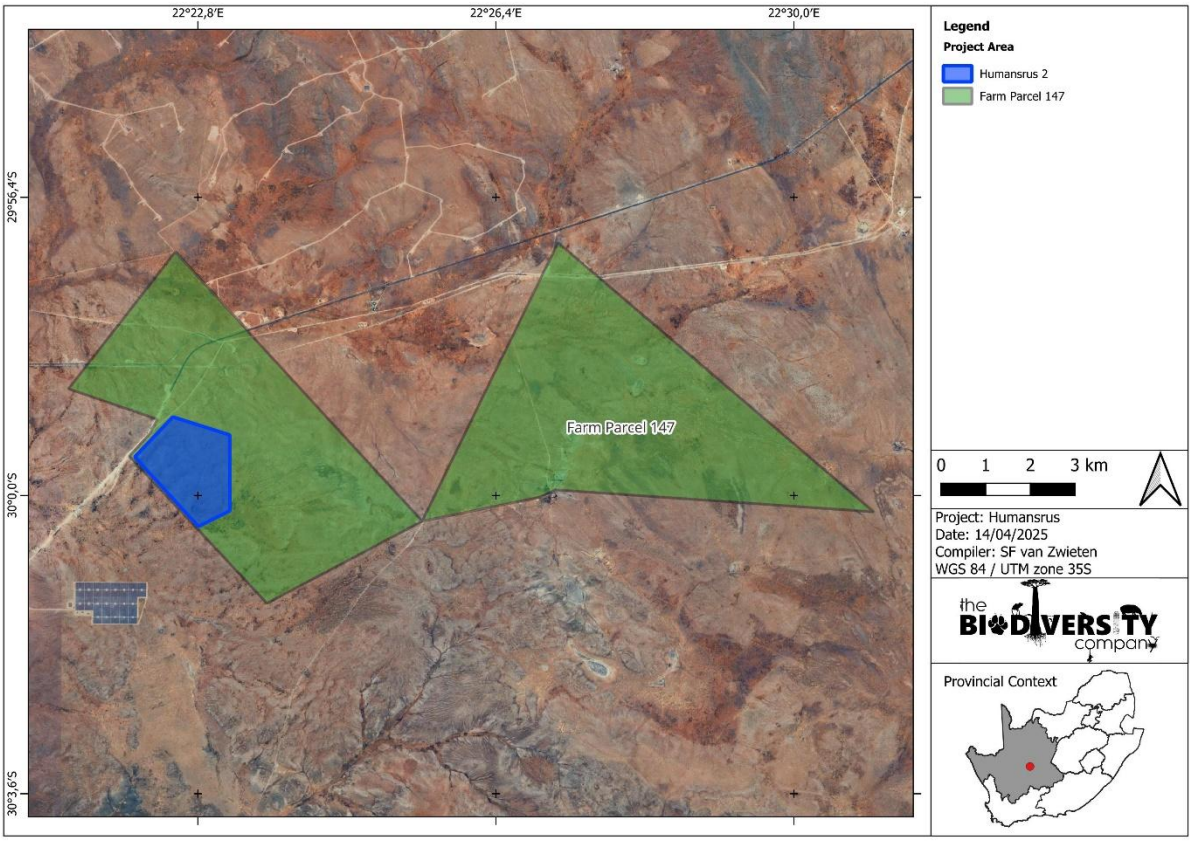


Figure 1 The Project Area of Influence, consisting of Humansrus Solar PV 2

2. Scope of Work

The Biodiversity Company was appointed to provide specialist inputs for this Amendment Application. The Scope of Work for this report is as follows:

- Confirmation of the status of the environment compared to that at the time of the original assessments done in 2014 by Simon Todd.
- An indication as to whether the impact rating as provided in the initial assessment remains valid; if the mitigation measures provided in the initial assessment are still applicable; or if there are any new mitigation measures which need to be included into the EA, should the request to extend the commencement period be granted by the DFFE.
- An indication as to whether there are any new assessments/guidelines which are now relevant to the authorised development which were not undertaken as part of the initial assessment, must be taken into consideration and addressed in the report.
- A description and an assessment of any changes to the biophysical environment that has occurred since the initial EA was issued.
- A description and an assessment of the surrounding environment, in relation to new developments or changes in land use which might impact on the authorised project, the assessment must consider the following:
    - Identified cumulative impacts, and where possible the size of the identified impact must be quantified and indicated, i.e., hectares of cumulatively transformed land.

3. Assumptions and Limitations

A field survey was conducted to meet the amendment requirements. The field survey sought to determine site characteristics and conditions to determine any changes from the baseline conditions and previous reports, supplemented by satellite imagery. The field survey was conducted during January 2025, which constitutes the wet season (between August to April). Despite the survey being conducted during the preferred season, site conditions were ‘dry’ for the period. However, this doesn’t present a limitation for the purposes of this amendment process.

4. Project Description

The project description remains as per the EA and no changes to the scope are proposed as part of this EA Amendment process. The project description as authorised:

- Transportation of solar components and equipment to site;
- Establishment of internal access roads;
- Undertaking site preparation (including clearance of vegetation; stripping of topsoil where necessary);
- Erecting of solar PV frames and panels;
- Cabling (DC) low and medium voltage {LV/MV);
- Installing of inverter rooms;
- Establishing the underground connections between PV panels and inverters;
- Constructing the on-site substation;
- Establish connections between inverters and on-site substation;
- Establishment of additional infrastructure (workshop and maintenance buildings);
- Connection of on-site substation to power grid;
- Undertaking site remediation; and,
- Construction of perimeter fencing.

5. Site Baseline and Sensitivity (2014)

Simon Todd Consulting undertook the initial fauna, flora and avifaunal specialist impact assessment for the project in 2014. The faunal and floral baseline environment is summarised as follows in the 2014 assessment:

5.1. One habitat was identified, and the site is described as broadly homogenous with some variation due to changes in soil depth and slope position. The habitat is described as “low open shrubland”. Soils are mostly shallow and stony, with exposed calcrete in some areas and loose surface stone in other areas. Areas with deeper soils have taller and larger woody shrubs. The vegetation consists predominantly of shrub species, with a higher density of graminoids in certain areas.

5.2. No terrestrial fauna or flora Species of Conservation Concern (SCC) were observed on the site. The protected species *Boscia foetida* was observed within the proposed Humansrus Solar PV 2 project footprint area. It is also noted that there is a high likelihood of multiple additional protected species occurring in the PAOI, including *Titanopsis calcarea,* which was observed within the adjacent Humansrus PV 1 area, however none were observed within the Humansrus 2 area.

5.3. The habitat was assigned low, medium, and medium-high sensitivity areas (Figure 2).

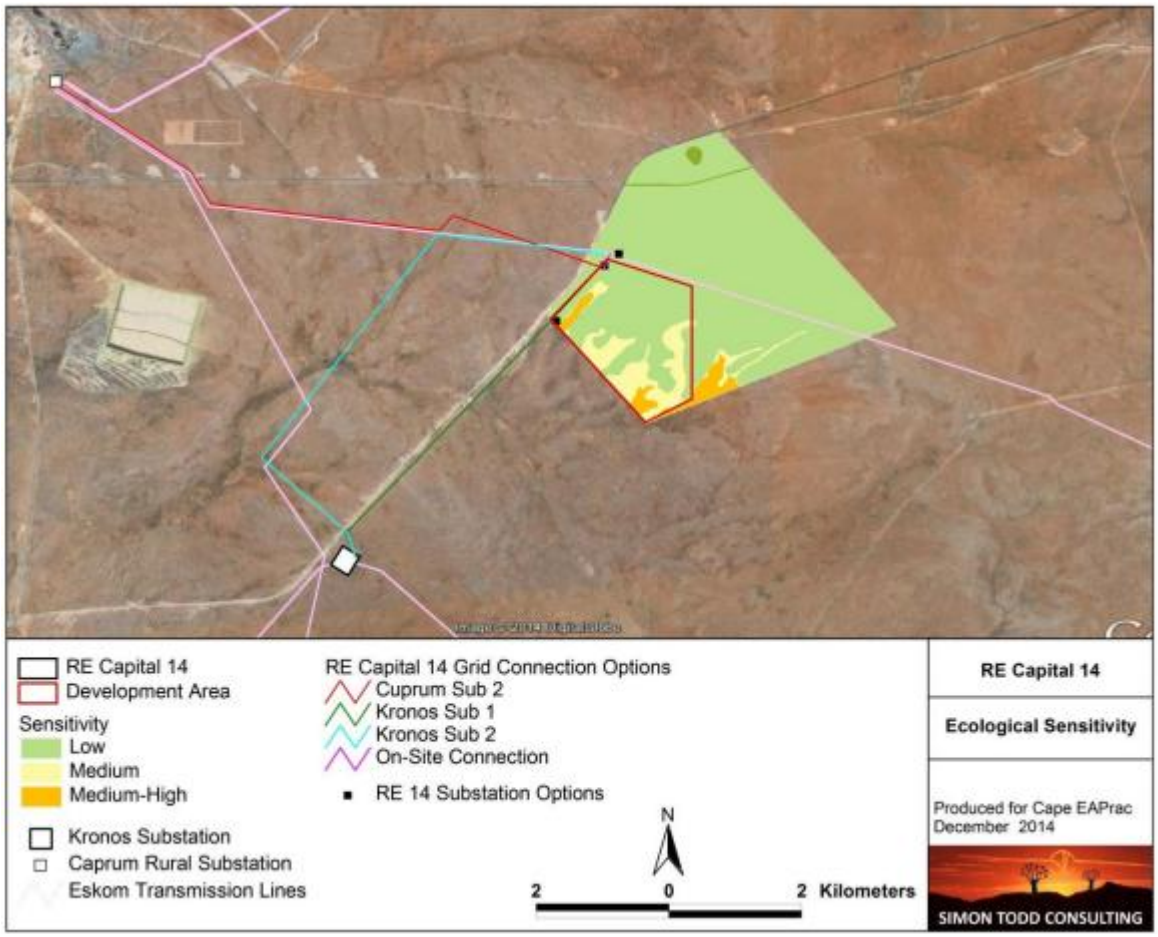


Figure 2 ***Terrestrial sensitivity of Humansrus Solar PV 2 as described by Simon Todd (2014)***

6. Site Baseline and Sensitivity (2025)

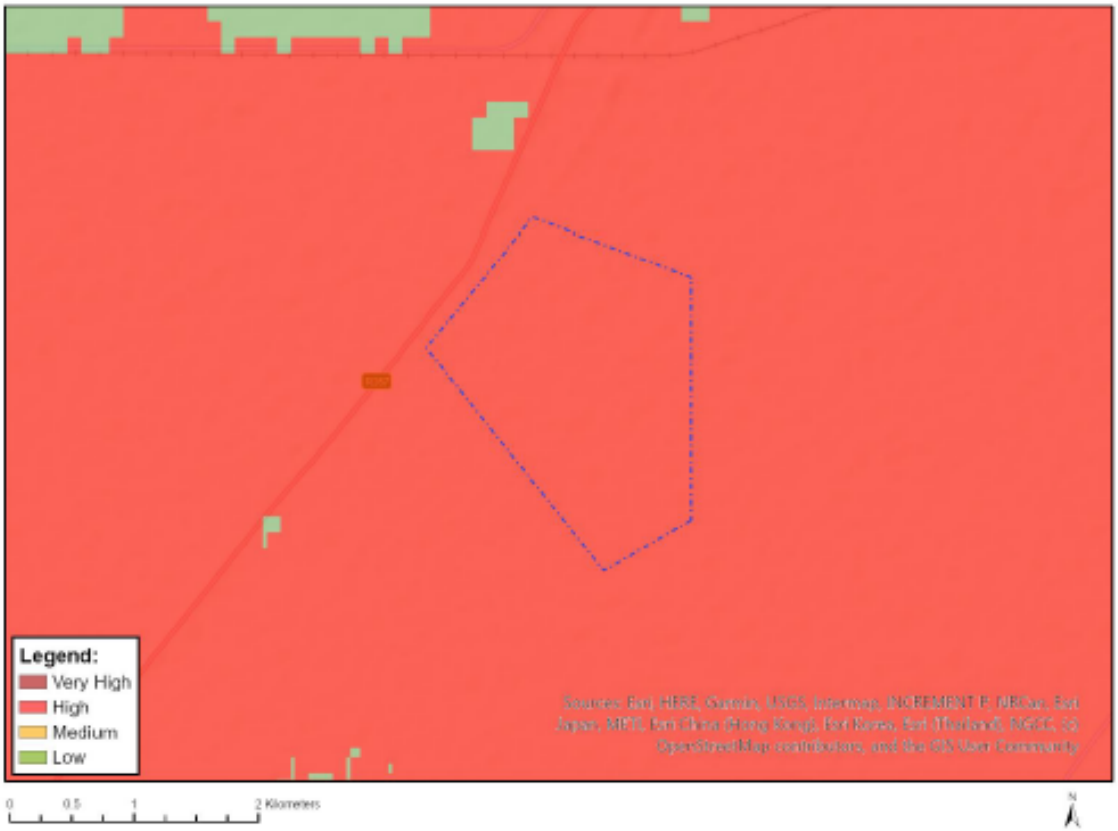
A specialist from The Biodiversity Company (TBC) undertook a site survey on the 15th and 16th of January 2025. The pictures below were taken during the site visit (Figure 3).

Figure 3 ***Example of the vegetation represented within the PAOI considered for this amendment.***

6.1. A screening tool was generated for the PAOI. Below are the outcomes for each (applicable) theme:

- Animal Species Theme – High. This is due to the possible presence of one high sensitivity avifauna Species of Conservation Concern (SCC), namely *Falco biarmicus* (Figure 4).
- Plant Species Theme – Medium. Due to the likely presence of two medium sensitivity flora SCC, namely *Tridentea virescens* and *Sensitive Species 144* (Figure 6); and
- Terrestrial Theme - Very High. Due to the presence of a FEPA Subcatchment (Figure 6).

MAP OF RELATIVE ANIMAL SPECIES THEME SENSITIVITY



Where only a sensitive plant unique number or sensitive animal unique number is provided in the screening report and an assessment is required, the environmental assessment practitioner (EAP) or specialist is required to email SANBI at eiadatarequests@sanbi.org.za listing all sensitive species with their unique identifiers for which information is required. The name has been withheld as the species may be prone to illegal harvesting and must be protected. SANBI will release the actual species name after the details of the EAP or specialist have been documented.

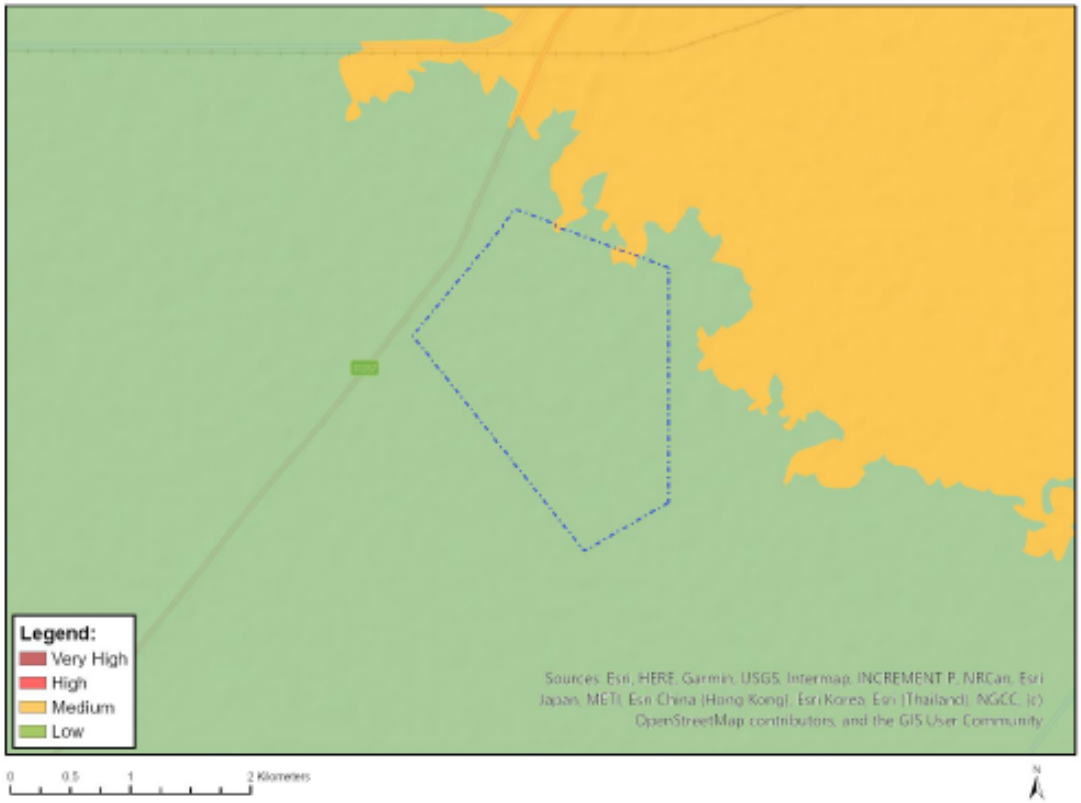
Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
	X		

Sensitivity Features:

Sensitivity	Feature(s)
High	Aves-Neotis ludwigii
High	Aves-Falco biarmicus

Figure 4 ***Figure indicating the relative Animal Sensitivity Theme Sensitivity as identified by the Environmental Screening Tool for Humansrus Solar PV 2***

MAP OF RELATIVE PLANT SPECIES THEME SENSITIVITY



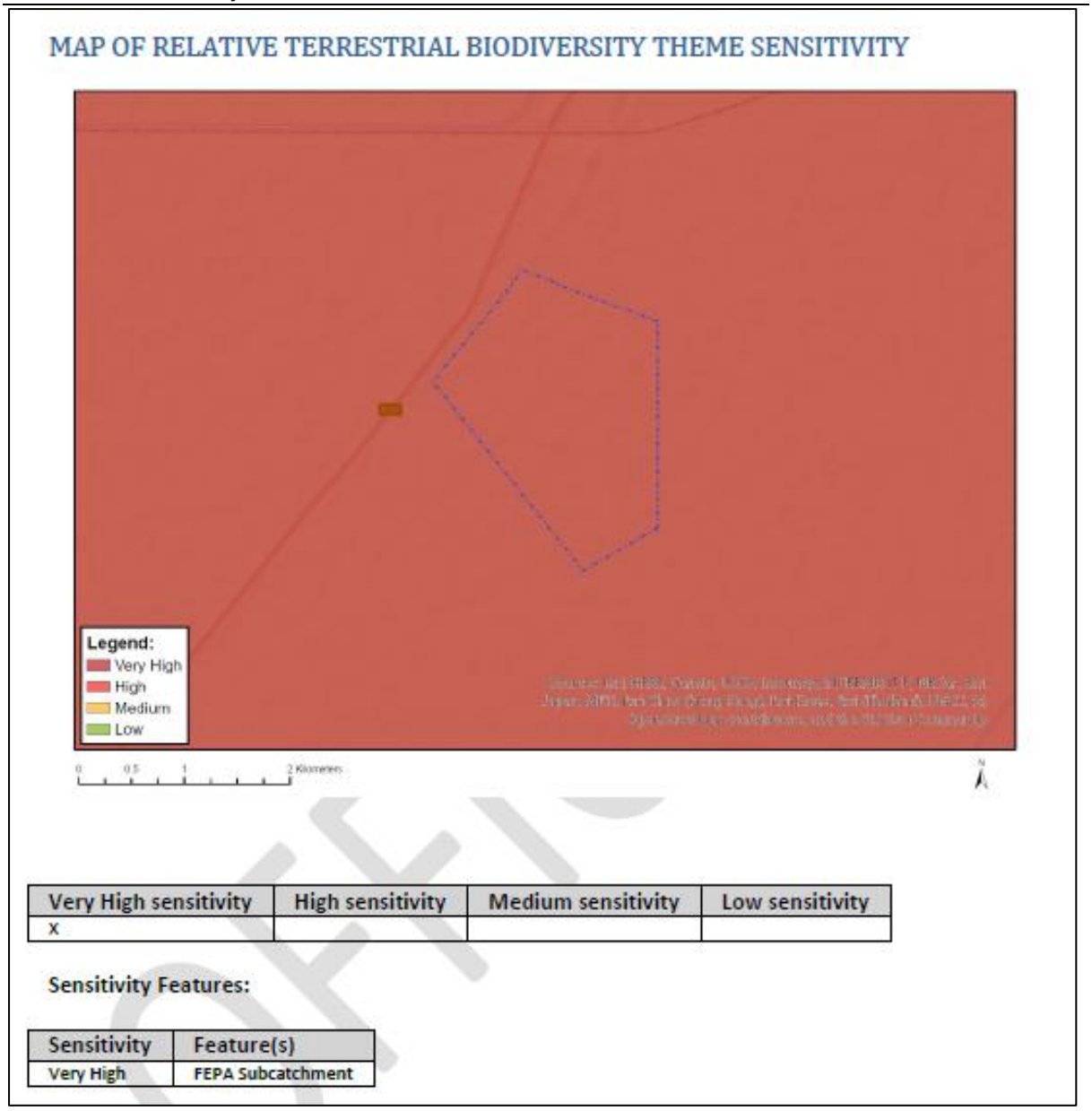
Where only a sensitive plant unique number or sensitive animal unique number is provided in the screening report and an assessment is required, the environmental assessment practitioner (EAP) or specialist is required to email SANBI at eiadatarequests@sanbi.org.za listing all sensitive species with their unique identifiers for which information is required. The name has been withheld as the species may be prone to illegal harvesting and must be protected. SANBI will release the actual species name after the details of the EAP or specialist have been documented.

Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
		x	

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity
Medium	Tridentea virescens
Medium	Sensitive species 144

Figure 5 ***Figure indicating the relative Plant Sensitivity Theme Sensitivity as identified by the Environmental Screening Tool for Humansrus Solar PV 2***



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
Very High	FEPA Subcatchment

Figure 6 ***Figure indicating the relative Terrestrial Theme Sensitivity as identified by the Environmental Screening Tool for Humansrus Solar PV 2***

7. Project Impacts

Table 1 highlights the impacts that were identified during the 2014 assessment:

Table 1 Summary table of the impacts associated with the development of the project (Todd, 2014)

Phase & Impact	Without Mitigation	With Mitigation
Planning & Construction		
Impacts on vegetation and listed or protected plant species resulting from construction activities	Medium Negative	Medium-Low Negative
Direct Faunal Impacts During Construction	Medium Negative	Medium-Low Negative
Avifaunal impacts due to habitat loss and construction activities	Medium Negative	Medium-Low Negative
Soil Erosion Risk During Construction	Medium-Low Negative	Low Negative
Operation		
Alien Plant Invasion Risk During Operation	Medium Negative	Low Negative
Soil Erosion Risk During Operation	Medium Negative	Low Negative
Faunal impacts during operation:	Medium-Low Negative	Low-Negative
Avifaunal impacts due to operational activities	Medium-Low Negative	Low Negative

The quantitative impacts of the proposed project in isolation on terrestrial biodiversity are anticipated to be “Low” overall provided that the mitigation measures recommended in the 2014 report are implemented (Table 2).

Table 2 Quantitative impact assessment of the project in isolation

Impact	Project in Isolation							
	Duration of Impact	Spatial Scope	Severity of Impact	**Consequence**	Sensitivity of Receiving Environment	Probability of Impact	**Likelihood**	Significance (with mitigation)
Destruction, fragmentation of the vegetation community, and loss of habitat; spread of alien and invasive species; displacement and mortality of the faunal community	4	2	3	9	2	3	5	
	Life of operation or less than 20 years: Long Term	Development specific/ within the site boundary / < 100 ha impacted / Linear features affected < 100m	Significant / ecosystem structure and function moderately altered		Ecology with limited sensitivity/Importance	Likely		**Low**

The quantitative impact assessment of the proposed project aligns with the findings of Todd (2014) as depicted in the table below. Please note, that avifaunal impacts are assessed in a separate report.

Table 3 Comparison of the quantitative impact assessment of the initial survey (Todd, 2014) and the latest survey (TBC, 2025)

Phase	Impact	Todd (2014)	TBC (2025)
		With mitigations	With mitigations
Planning and Construction	Impacts on vegetation and listed or protected plant species	Medium-Low Negative	Low Negative
	Direct faunal impacts	Medium-Low Negative	Low Negative
	Soil erosion risk	Low Negative	Low Negative
Operation	Alien plant invasion risk	Low Negative	Low Negative
	Soil erosion risk	Low Negative	Low Negative
	Faunal impacts	Low Negative	Low Negative

It is the opinion of the specialist that the original assessment for the facility in isolation findings appear to be appropriate, and the assignment of the “Low”, “Medium”, and “Medium-High” sensitivities, and subsequent “Low Negative” and “Medium-Low Negative” (with mitigations) impact significance, are still valid.

8. Mitigation Measures

8.1. The following conditions/mitigations were recommended by Todd, 2014:

8.1.1. Preconstruction/Planning Phase

8.1.1.1. Conduct a preconstruction walk-through to locate species of conservation concern and protected species, and comply with relevant conservation acts and permit conditions.

8.1.1.2. Vegetation clearing should only commence after necessary permits are obtained and should be kept to a minimum.

8.1.1.3. Temporary lay-down areas must be located within previously transformed or low-sensitivity areas and rehabilitated after use.

8.1.1.4. Topsoil must be retained if excavation is necessary to be replaced after the construction phase.

8.1.2. Construction Phase

8.1.2.1. Ensure environmental induction for all construction staff to adhere to basic environmental principles, including no littering, handling pollution and chemical spills appropriately, avoiding fire hazards, minimising wildlife interactions, and staying within demarcated construction areas. No fauna species may be harmed, including snakes, tortoises and owls which are often persecuted. Fauna threatened by the construction activities must be moved to safety by a qualified ecologist.

8.1.2.2. Construction vehicles must stay on demarcated roads only. Vehicles must drive slowly (speed limits of 30 km/h) to prevent wildlife collisions and death of slow-moving species.

8.1.2.3. No large woody species may be cleared from the servitude. If tall trees are a safety concern, they may be trimmed down to 1 m.

8.1.2.4. Vegetation clearing along the servitude must be done by hand, no usage of bulldozers or herbicides allowed. Vegetation to be cleared to 0.5 m height with bush cutters.

8.1.2.5. Hazardous materials should be stored properly to prevent contamination, and any spills should be cleaned up appropriately.

8.1.2.6. Trenches or holes should not be left open for extended periods to prevent trapping fauna and should have escape ramps if left open.

8.1.2.7. Avoid disturbance near drainage lines and demarcate sensitive areas as no-go zones. Furthermore, activity must be limited to the development footprint. Areas outside of the development footprint must be demarcated as no-go zones.

8.1.2.8. Dust suppression protocols, erosion management, and an alien and invasive species management plan must be developed and implemented from the construction phase. These aspects must be monitored frequently. Roads and cleared areas must be monitored for erosion regularly and rectified as soon as noticed. Sediment traps are to be used if necessary.

8.1.2.9. Low vegetation cover must be retained wherever possible to prevent erosion and promote recovery of the habitat post-construction.

8.1.3. Operational Phase

8.1.3.1. Regular monitoring and control of alien plants within the development footprint and adjacent areas that received run-off must be implemented. Herbicides may not be sprayed and may only be used it cut-stump type applications. Listed alien species, such as *Prosopis glandulosa* must be removed from the PAOI.

8.1.3.2. Erosion must be monitored. Hardened surfaces, such as roads, must have runoff control features. Erosion problems must be rectified as soon as possible. Cleared areas must be revegetated with local, indigenous perennial grass species.

8.1.3.3. Encourage the recovery of indigenous vegetation by leaving some areas intact during construction to serve as seed sources.

8.1.3.4. Ensure that any potentially dangerous fauna is removed to safety and that no unauthorized persons are allowed on site.

8.1.3.5. Store hazardous materials properly and clean up any spills immediately.

8.1.3.6. No plants or animals may be collected, hunted or harvested within the PAOI. Vehicles must adhere to a speed limit of 30 km/h to limit collisions with sensitive, slow-moving fauna.

8.1.3.7. If fences are used, only the inside wires may be electrified to prevent tortoise fatalities.

8.1.3.8. If lights are needed at night, they must be downward-directed low-UV lights, such as LEDs.

8.1.4. Cumulative Impacts

8.1.4.1. Minimize the development footprint and allow the retention of natural vegetation between infrastructure.

8.1.4.2. Fence the facility in a manner that allows fauna to pass by easily, avoiding fencing in large areas of intact vegetation.

8.2. Mitigation measures prescribed by the reviewed reports remain applicable and must be strictly adhered to.

8.3. All prescribed mitigation measures and supporting recommendations presented will help to achieve an acceptable residual impact. These measures and recommendations will remain applicable for the requested extension of the EA.

9. Cumulative Impacts

The 2014 study made the following comments on development in the area:

There is, however, a large amount of other renewable energy development in the area, which raises the possibility of significant cumulative impacts. However, a number of the applications have lapsed and there are no preferred bidders in the immediate area either, suggesting that not all of the proposed facilities will ultimately be built. Nevertheless, due to the presence of the Kronos and Garona substations, the area is likely to remain attractive to renewable energy developers and it is likely that there will ultimately be a number of different renewable energy facilities operating in the area.

Todd (2014) further states that *although cumulative impacts are a potential concern, the affected habitat is not considered rare or sensitive and is widely available in the area, with the result that the contribution of the current development to cumulative impacts is likely to be low.*

With the above in mind, the cumulative impacts were rated as follows:

Nature of impact	Spatial Extent	Duration	Intensity	Probability	Reversibility	Significance and Status		Confidence level
						Without Mitigation	With Mitigation	
Impact on broad-scale ecological processes due to cumulative loss and fragmentation of habitat	Regional	Long-Term	Medium	Moderate	Low	Medium-Low Negative	Low Negative	Moderate-High
Mitigation/Management Actions • Minimise the development footprint as far as possible and allow the retention of some natural vegetation between the rows of panels or trackers. • The facility should be fenced off in a manner which allows fauna to pass by the facility as easily as possible. This implies not fencing-in large areas of intact vegetation into the facility and only the developed area should be fenced. •								

An in-situ review of similar developments under the current conditions was undertaken. See Table 4

Table 4 The in-situ cumulative impact assessment of the current conditions for the project

Impact	In-situ cumulative impacts							
	Duration of Impact	Spatial Scope	Severity of Impact	**Consequence**	Sensitivity of Receiving Environment	Probability of Impact	**Likelihood**	Significance (with mitigation)
Destruction, fragmentation of the vegetation community, and loss of habitat; spread of alien and invasive species; displacement	4	4	2	10	2	3	5	
	Life of operation or less than 20 years: Long Term	Regional within 5 km of the site boundary / < 2000ha impacted / Linear features affected < 3000m	Small / ecosystem structure and function largely unchanged		Ecology with limited sensitivity/importance	Likely		**Low**

and mortality of the faunal community								

The cumulative impacts of the proposed project on terrestrial biodiversity are anticipated to be "Low" Negative due to the number of similar projects currently within the direct area. Please note, this rating is in-situ and takes into account only the existing current similar developments, not future developments.

Todd notes that the habitat is not "rare or sensitive" and the location of the project is preferrable as it is located within a development cluster near the Kronos and Cuprum substation. The current assessment agrees with this statement.

10. Summary Of Findings

The initial biodiversity study was conducted in 2014 by Simon Todd. Table 5 illustrates the comparisons between the original (or initial) assessments and this amendment process.

Table 5 Table depicting the differences between the Simon Todd 2014 findings and the current amendment findings

Aspect	Comments and Recommendations	
	Pervious Study (Simon Todd, 2014)	**Current study**
Baseline	**Findings:** The vegetation type was deemed to be broadly homogenous with some variation due to changes in soil depth and slope position. The habitat is described as low open shrubland. The authorised powerline does pass over a drainage line.	**Findings:** The site was found to be largely homogenous and the findings support that the habitat represents a low open karoo shrubland. No ephemeral pans are located on the project site. However, the powerline does cross over a drainage line, which has been impacted by quarrying. The baseline environment remains as described in the 2014 terrestrial study.
Sensitivity	**Findings:** The low open shrubland is of low sensitivity. Some areas with deeper sand, dominated by *Rhigozum trichotomum,* is assigned a medium and medium-high sensitivity.	**Findings:** The sensitivity of the habitats is as described in the 2014 report, i.e. the majority of the habitat is deemed a low sensitivity habitat, with some areas having a medium or medium-high sensitivity.
Impacts		
Planning and Construction Phase Impacts	**Findings:** The terrestrial impacts range from Low Negative to Medium-Low Negative with mitigation.	**Findings:** The quantitative impact assessment of the current assessment are in line with the findings from Todd (2014). No new impacts have been identified.
Operation Phase Impacts	**Findings:** The terrestrial impacts are all Low Negative with mitigation.	**Findings:** The quantitative impact assessment of the current assessment are in line with the findings from Todd (2014). No new impacts have been identified.
Cumulative Impacts	**Findings:** The cumulative impact is rated as Medium-Low Negative without mitigation and Low Negative with mitigation	**Findings:** The cumulative impact, evaluated in-situ considering current similar projects within the area, is rated as Low Negative with mitigations.
Conditions	**Findings:** Several conditions (Section 2.5) were provided.	**Recommendation:** Authorisation is not subject to any further conditions).

11. Conclusion

It is the opinion of the specialist that the findings from the original assessments conducted in 2014 (Simon Todd) appear to be appropriate and relevant with no discrepancies. The appropriate authorities may proceed with the amendment authorization.

Kind regards,

Andine Erasmus (Cand. Sci. Nat. 164894)

Terretsrial Ecologist

The Biodiversity Company

April 2025

Leigh-Ann de Wet (SACNASP 400233/12)

Terrestrial Ecologist

The Biodiversity Company

April 2025