

7 April 2025

**Attention: Humansrus Solar PV Energy Facility 1 (Pty) Ltd**

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**To whom it may concern:**

**AQUATIC BIODIVERSITY SPECIALIST INPUT FOR THE PART 1 AMENDMENT OF THE ENVIRONMENTAL AUTHORISATION (EA) FOR THE PROPOSED DEVELOPMENT OF THE HUMANSRUS SOLAR PV ENERGY FACILITY 1 (PTY) LTD (PREVIOUSLY KNOWN AS THE RE CAPITAL 13 SOLAR POWER PLANT), HUMANSRUS, NORTHERN CAPE.**

## **1. Background**

Humansrus Solar PV Energy Facility 1 (Pty) Ltd proposes the amendment of the Environmental Authorisation (EA) for the construction, operation and maintenance of a solar photovoltaic (PV) Project, Humansrus PV 1, with a generation of 100 megawatt (MW). The project is located near Copperton on 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.

The proposed solar development is situated adjacent to the R357 Provincial Road, approx. 6 km north of the existing Kronos Substation. The total farm area is 4769 hectares (ha). Humansrus Solar PV Energy Facility 1 (referred to as Humansrus PV 1) is approximately 225 ha. The extent of Humansrus PV 1 has been considered for this assessment, for the requirements of this amendment letter (Figure 1).

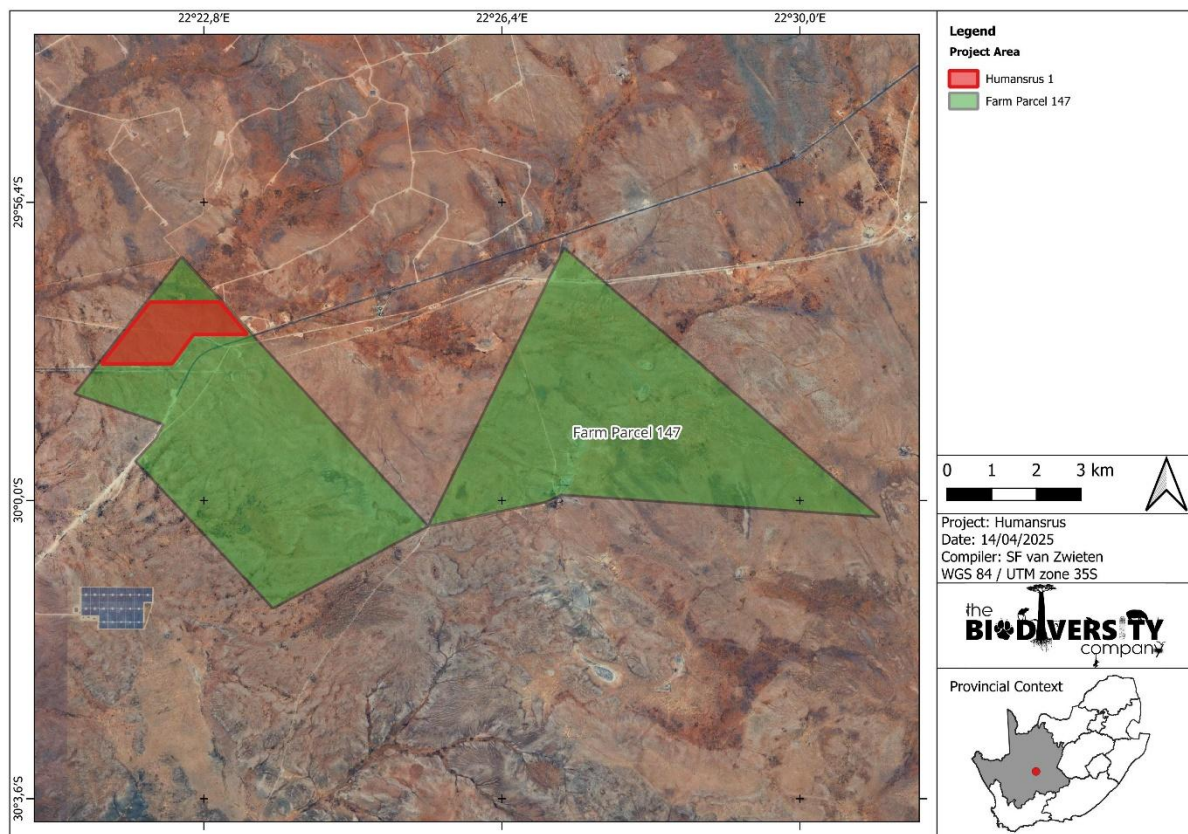
Condition 6 of the Environmental Authorisation issued on the 19<sup>th</sup> of June 2015, DEA Reference 14/12/16/3/3/2/673 states that:

*“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 PV 1 is nearing expiration and as such Humansrus Solar PV Energy Facility 1 (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.

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.

## Aquatic Biodiversity



**Figure 1**      *The Project Area of Influence, consisting of Humansrus PV 1*

## 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.
- Consideration of the characterisation of the site by Fluvious Environmental Consultants (2014) and the identification and watercourse and drainage lines for the site.
- Consideration of the SWMP measures proposed by Aurecon South Africa (2014).
- 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:

Aquatic Biodiversity

- 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 3 April 2025, which constitutes the wet season (between August to April). Despite the survey being conducted during the preferred season and site conditions being 'dry' for the period, the survey is deemed sufficient for the requirements of the 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)

The initial EIA undertaken in 2014 didn't include a standalone aquatic impact assessment. Characterisation and commentary on sensitivity was rather addressed in the ecology impact assessment and further elaborated on a specialist opinion document prepared by Fluvius Environmental Consultants for the WUA application and a SWMP prepared by Aurecon.

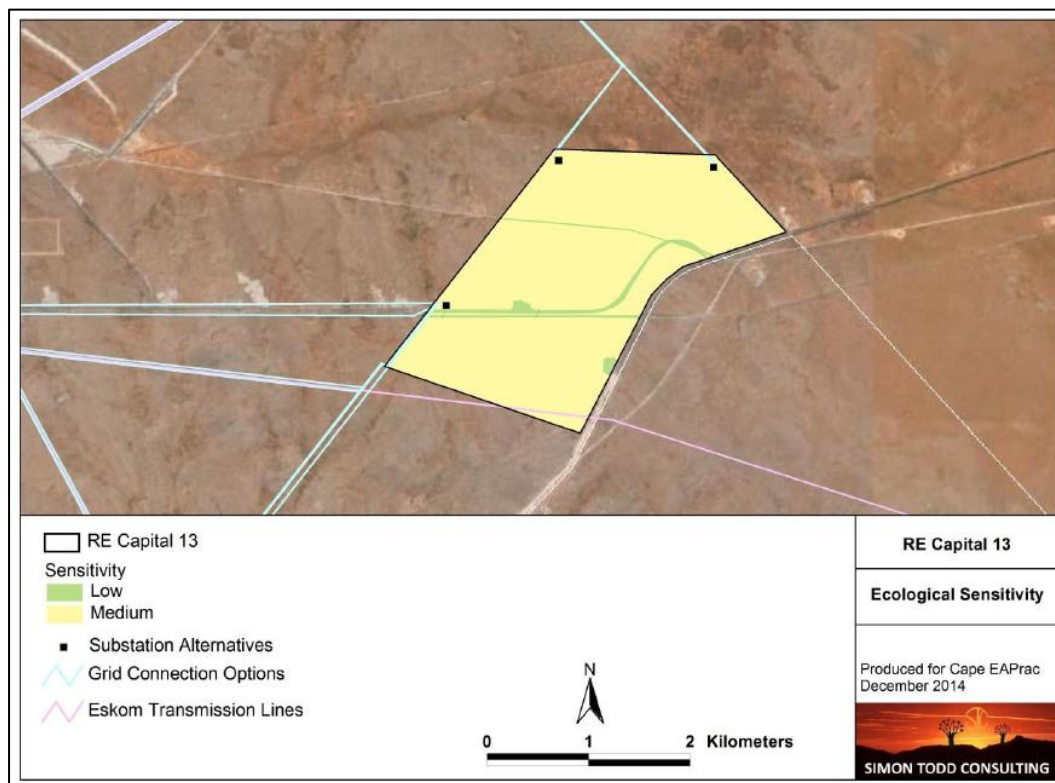
As such, all three documents have been consulted for the purpose of this specialist verification report.

Simon Todd Consulting summarised the baseline environment as follows in the 2014 assessment:

- 5.1. No perennial water[courses] or pans were identified on the site and as such, no sensitivity rating was allocated to aquatic features. The entire site is deemed to have a sensitivity rating of Medium (except for portions transformed by roads and railway line which are deemed to

### Aquatic Biodiversity

have a low sensitivity) (Figure 2). It should be noted that this is an overall ecological sensitivity rating rather than aquatic in isolation.



**Figure 2** *Aquatic biodiversity sensitivity of Humansrus PV 1 as described by Simon Todd (2014)*

Fluvious Environmental Consultants provided a specialist opinion for potential National Water Act (Act 36 of 1998) uses for the project in 2014. The following was stated:

- 5.2. The identification of watercourses and drainage lines through detailed mapping of vegetation have been carried out by the on-site specialist (Simon Todd, 2014).
- 5.3. Although large drainage lines have largely been avoided in the preferred layouts, minor non-perennial washouts and drainage lines may be impacted by the proposed development.
- 5.4. Mitigation of the potential impacts on watercourses and drainage lines has been undertaken through:
  - 5.4.1. preferred layouts avoiding large and/or sensitive watercourses; and
  - 5.4.2. the development of a concept stormwater plan which seeks to minimize runoff and drainage impacts on the watercourses.

## 6. Site Baseline and Sensitivity (2025)

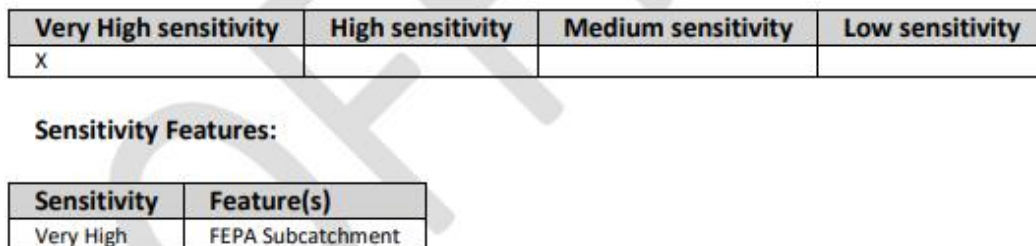
A specialist from The Biodiversity Company (TBC) undertook a site survey on the 3<sup>rd</sup> April 2025. The pictures below were taken during the site visit. No wetlands or rivers were identified.



**Figure 3**      *Example of the dryland habitat for the area.*

6.1. A screening tool was generated for the project. Below are the outcomes for the theme:

- Aquatic Biodiversity Theme – High. This is due to the site being within a FEPA Sub catchment (see below).



## 7. Project Impacts

The assessment of impact significance for this amendment process considers pre-mitigation as well as implemented post-mitigation scenarios. Two phases were considered for the impact assessment, with no decommissioning phase being considered.

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### Aquatic Biodiversity

- Loss, disturbance and degradation of wetland systems;
- Loss or degradation in ecosystem services;
- Altered hydrological regimes;
- Increase in erosion and sedimentation of receiving systems;
- Introduction and spread of alien and invasive vegetation;
- Impaired water quality.

The pre-mitigation and post-mitigation impact ratings for the construction phase are shown in Table 1.

**Table 1** *Impacts associated with the Construction Phase*

Nature of the Impact	Status	Cumulative Effect	Impact Significance	Impact Rating	Can impact be mitigated?	Is the impact acceptable ?
Loss, disturbance and degradation of wetland systems;	Before mitigation	2	28	Low (6-28)	Yes	Yes
	After mitigation	1	8	Low (6-28)		
Loss or degradation in ecosystem services;	Before mitigation	2	28	Low (6-28)	Yes	Yes
	After mitigation	1	8	Low (6-28)		
Altered hydrological regimes;	Before mitigation	2	28	Low (6-28)	Yes	Yes
	After mitigation	1	7	Low (6-28)		
Increase in erosion and sedimentation of receiving systems;	Before mitigation	2	24	Low (6-28)	Yes	Yes
	After mitigation	1	6	Low (6-28)		
Introduction and spread of alien and invasive vegetation;	Before mitigation	2	24	Low (6-28)	Yes	Yes
	After mitigation	1	6	Low (6-28)		
Impaired water quality.	Before mitigation	2	26	Low (6-28)	Yes	Yes
	After mitigation	1	6	Low (6-28)		

The following impacts were considered during the operational phase:

- Loss or degradation in ecosystem services;
- Altered hydrological regimes;
- Increase in erosion and sedimentation of receiving systems; and
- Introduction and spread of alien and invasive vegetation.

The pre-mitigation and post-mitigation impact ratings for the construction phase are shown in Table 2.

**Table 2** *Impacts associated with the Operational phase*

Nature of the Impact	Status	Cumulative Effect	Impact Significance	Impact Rating	Can impact be mitigated?	Is the impact acceptable ?
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## Aquatic Biodiversity

Loss or degradation in ecosystem services;	Before mitigation	2	24	Low (6-28)	Yes	Yes
	After mitigation	1	6	Low (6-28)		
Altered hydrological regimes;	Before mitigation	2	26	Low (6-28)	Yes	Yes
	After mitigation	1	6	Low (6-28)		
Increase in erosion and sedimentation of receiving systems;	Before mitigation	2	24	Low (6-28)	Yes	Yes
	After mitigation	1	6	Low (6-28)		
Introduction and spread of alien and invasive vegetation;	Before mitigation	2	26	Low (6-28)	Yes	Yes
	After mitigation	1	6	Low (6-28)		

It is the opinion of the specialist that due to no specific freshwater features being identified for the site, and also achieving avoidance of drainage systems, the overall residual impact is expected to be low.

## 8. Mitigation Measures

8.1. The following conditions/mitigations were recommended by Simon Todd (2014) and considered by Fluvius Environmental Consultants (2014):

8.1.1. preferred layouts avoiding large and/or sensitive watercourses; and

8.1.2. the development of a concept stormwater plan which seeks to minimize runoff and drainage impacts on the watercourses.

8.2. Mitigation measures prescribed by the reviewed report and supporting statement remain applicable and must be strictly adhered to. The stormwater plan compiled by Aurecon South Africa (Pty) Ltd (2014) is deemed acceptable.

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.*

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

## Aquatic Biodiversity

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
<b>Mitigation/Management Actions</b> <ul style="list-style-type: none"> <li>Minimise the development footprint as far as possible and allow the retention of some natural vegetation between the rows of panels or trackers.</li> <li>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.</li> </ul>								

The quantitative impact of the proposed project in isolation on aquatic biodiversity is anticipated to be “Absent” due to the avoidance of these systems (Table 3). The cumulative impact of the proposed project on aquatic biodiversity is also anticipated to be “Low”. It should be noted that pre-existing modifications to the systems do exist to some degree. Since the layout achieves avoidance of large and/or sensitive watercourses and that stormwater plan will be implemented, no irreplaceable loss of freshwater biodiversity is anticipated.

**Table 3** *Cumulative Impacts to avifauna associated with the proposed project*

Status	Cumulative Effect	Impact Significance	Impact Rating	Can impact be mitigated?	Is the impact acceptable ?
Impact in isolation	-	-	Absent	Yes	Yes
Cumulative impact	1	21	Low (6-28)		

## 10. Summary of Findings

The initial aquatic biodiversity study was conducted in 2014 by Simon Todd. The table below (Table 4) illustrates the comparisons between the original (or initial) assessments and this amendment process.

**Table 4** *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	<b>Findings:</b> No specific features were identified.	<b>Findings:</b> No wetlands or rivers were identified. Minor non-perennial washouts and drainage lines may be impacted by the proposed development.
Sensitivity	<b>Findings:</b> The entire site is deemed to have a sensitivity rating of Medium (with the exception of portions transformed by roads and railway line which are deemed to have a low sensitivity).	<b>Findings:</b> The sensitivity of the habitats are as described in the 2014 report, i.e. the majority of the habitat is deemed a medium sensitivity habitat.
<b>Impacts</b>		
Cumulative Impacts	<b>Findings:</b> The cumulative impact is rated as Medium-Low Negative without mitigation and Low Negative with mitigation	<b>Findings:</b> The cumulative impact is Low Negative.
Conditions	<b>Findings:</b> Several conditions (Section 2.5) were provided.	<b>Recommendation:</b> 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), the specialist opinion by Fluvious Environmental Consultants appears to be appropriate and relevant with no discrepancies. The appropriate authorities may proceed with the amendment authorization.

Aquatic Biodiversity

Kind regards,

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