

KOTULO TSATSI PV 3 FACILITY

TERRESTRIAL BIODIVERSITY COMPLIANCE STATEMENT



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March 2023

KOTULO TSATSI PV 3 FACILITY

TERRESTRIAL BIODIVERSITY COMPLIANCE STATEMENT

EXECUTIVE SUMMARY

The Applicant, Kotulo Tsatsi Energy (Pty) Ltd, is proposing the construction of a photovoltaic (PV) solar energy facility (known as the Kotulo Tsatsi Energy PV3 Solar Facility located on a site located approximately 70km south-west of the town of Kenhardt and 60km north east of Brandvlei in the Northern Cape Province. The solar energy facility will comprise arrays of PV panels and associated infrastructure and will have a contracted capacity of up to 480MWMW. The facility will be located within the farm Portion 2 of Farm Styns Vley 280. Savannah Environmental are conducting the required EIA process and 3Foxes Biodiversity Solutions has been appointed to provide Terrestrial Biodiversity inputs for the proposed Kotulo Tsatsi Energy PV3 Solar Facility as part of the EIA application.

The DFFE Screening Tool indicates that the Kotulo Tsatsi PV 3 project site has a low sensitivity for the Terrestrial Biodiversity Theme (not including avifauna) apart from some pan features present which are mapped as CBA 1. Under the mitigated layout, these features have been avoided and the Kotulo Tsatsi PV 3 project is restricted to lower sensitivity areas. In addition, the field assessment was able to confirm the low sensitivity of the site and there are no significant vegetation or faunal features within the development footprint. The site does not lie within a NPAES Focus Area or a Strategic Water Resource Area (SWSA). The contribution of the current project to cumulative impact is considered to be relatively low given the low sensitivity of the features within the development footprint and the low level of transformation the broader area has experienced. This Terrestrial Biodiversity Theme Compliance Statement therefore finds that the footprint of the Kotulo Tsatsi PV 3 Facility is restricted to low sensitivity areas with no observed plant or animal species of conservation concern present, and as such, there are no reasons to oppose the Kotulo Tsatsi PV 3 Facility.



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

DETAILS OF THE SPECIALIST, DECLARATION OF INTEREST AND UNDERTAKING UNDER OATH

File Reference Number:	(For official use only)
NEAS Reference Number:	DEA/EIA/
Date Received:	

Application for authorisation in terms of the National Environmental Management Act, Act No. 107 of 1998, as amended and the Environmental Impact Assessment (EIA) Regulations, 2014, as amended (the Regulations)

PROJECT TITLE

Kotulo Tsatsi PV 3 Project

Kindly note the following:

1. This form must always be used for applications that must be subjected to Basic Assessment or Scoping & Environmental Impact Reporting where this Department is the Competent Authority.
2. This form is current as of 01 September 2018. It is the responsibility of the Applicant / Environmental Assessment Practitioner (EAP) to ascertain whether subsequent versions of the form have been published or produced by the Competent Authority. The latest available Departmental templates are available at <https://www.environment.gov.za/documents/forms>.
3. A copy of this form containing original signatures must be appended to all Draft and Final Reports submitted to the department for consideration.
4. All documentation delivered to the physical address contained in this form must be delivered during the official Departmental Officer Hours which is visible on the Departmental gate.
5. All EIA related documents (includes application forms, reports or any EIA related submissions) that are faxed; emailed; delivered to Security or placed in the Departmental Tender Box will not be accepted, only hardcopy submissions are accepted.

Departmental Details

Postal address:

Department of Environmental Affairs
Attention: Chief Director: Integrated Environmental Authorisations
Private Bag X447
Pretoria
0001

Physical address:

Department of Environmental Affairs
Attention: Chief Director: Integrated Environmental Authorisations
Environment House
473 Steve Biko Road
Arcadia

Queries must be directed to the Directorate: Coordination, Strategic Planning and Support at:

Email: EIAAdmin@environment.gov.za

1. SPECIALIST INFORMATION

Specialist Company Name:	3Foxes Biodiversity Solutions			
B-BBEE	Contribution level (indicate 1 to 8 or non-compliant)	4	Percentage Procurement recognition	100%
Specialist name:	Simon Todd			
Specialist Qualifications:	BSc. (Zool. & Bot.), BSc Hons (Zool.), MSc (Cons. Biol.)			
Professional affiliation/registration:	SACNASP 400425/11			
Physical address:	23 De Villiers Road, Kommetjie 7975			
Postal address:	23 De Villiers Road, Kommetjie			
Postal code:	7975	Cell:	082 3326502	
Telephone:		Fax:		
E-mail:	Simon.Todd@3foxes.co.za			

2. DECLARATION BY THE SPECIALIST

I, Simon Todd, declare that –

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- all the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.



Signature of the Specialist

3Foxes Biodiversity Solutions

Name of Company:

30 March 2023

Kotulo Tsatsi Energy (Pty) Ltd
Kotulo Tsatsi PV 3 Facility - Plant Species Compliance Statement
Revision No. 1

Prepared by: 3Foxes Biodiversity Solutions

Date: March 2023

Date:

3. UNDERTAKING UNDER OATH/ AFFIRMATION

I, Simon Todd, swear under oath / affirm that all the information submitted or to be submitted for the purposes of this application is true and correct.



Signature of the Specialist

3Foxes Biodiversity Solutions

Name of Company

30 March 2023

Date

Signature of the Commissioner of Oaths

Date

SHORT CV/SUMMARY OF EXPERTISE – SIMON TODD

 <p>3Foxes Biodiversity Solutions ECOLOGICAL SPECIALIST SERVICES Assessment/Management/Research</p>	<p>Simon Todd Pr.Sci.Nat Director & Principle Scientist C: 082 3326502 Simon.Todd@3foxes.co.za</p> <p>23 De Villiers Road Kommetjie 7975</p>	<p>Ecological Solutions for People & the Environment</p>
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Simon Todd is Director and principal scientist at 3Foxes Biodiversity Solutions and has over 20 years of experience in biodiversity measurement, management and assessment. He has provided specialist ecological input on more than 200 different developments distributed widely across the country, but with a focus on the three Cape provinces. This includes input on the Wind and Solar SEA (REDZ) as well as the Eskom Grid Infrastructure (EGI) SEA and Karoo Shale Gas SEA. He is on the National Vegetation Map Committee as representative of the Nama and Succulent Karoo Biomes. Simon Todd is a recognised ecological expert and is a past chairman and current deputy chair of the Arid-Zone Ecology Forum. He is registered with the South African Council for Natural Scientific Professions (No. 400425/11).

Skills & Primary Competencies

- Research & description of ecological patterns & processes in Nama Karoo, Succulent Karoo, Thicket, Arid Grassland, Fynbos and Savannah Ecosystems.
- Ecological Impacts of land use on biodiversity
- Vegetation surveys & degradation assessment & mapping
- Long-term vegetation monitoring
- Faunal surveys & assessment.
- GIS & remote sensing

Tertiary Education:

- 1992-1994 – BSc (Botany & Zoology), University of Cape Town
- 1995 – BSc Hons, Cum Laude (Zoology) University of Natal
- 1996-1997- MSc, Cum Laude (Conservation Biology) University of Cape Town

Employment History

- 2009 – Present – Sole Proprietor of Simon Todd Consulting, providing specialist ecological services for development and research.

- 2007 Present – Senior Scientist (Associate) – Plant Conservation Unit, Department of Botany, University of Cape Town.
- 2004-2007 – Senior Scientist (Contract) – Plant Conservation Unit, Department of Botany, University of Cape Town
- 2000-2004 – Specialist Scientist (Contract) - South African National Biodiversity Institute
- 1997 – 1999 – Research Scientist (Contract) – South African National Biodiversity Institute

A selection of recent work is as follows:

Strategic Environmental Assessments

Co-Author. Chapter 7 - Biodiversity & Ecosystems - Shale Gas SEA. CSIR 2016.

Co-Author. Chapter 1 Scenarios and Activities – Shale Gas SEA. CSIR 2016.

Co-Author – Ecological Chapter – Wind and Solar SEA. CSIR 2014.

Co-Author – Ecological Chapter – Eskom Grid Infrastructure SEA. CSIR 2015.

Contributor – Ecological & Conservation components to SKA SEA. CSIR 2017.

Relevant Studies Related to the Current Project

- Nuweveld North, East and West WEFs. Fauna & Flora Specialist Study for EIA. Zutari 2021.
- Beaufort West PV Facility. Fauna & Flora Assessment. SiVest Environmental 2022.
- San Solar PV Facility, Kathu. Fauna & Flora Assessment. Savannah Environmental 2022.
- Soventix Phase 3 PV Facility, De Aar. Fauna & Flora Assessment. Ecologes Environmental Consultants, 2022.
- Sadawa PV Facilities, Tankwa Karoo. Fauna & Flora Assessment. Savannah Environmental 2021.
- Kotulo Tsatsi PV 1 Facility near Kenhardt. Fauna & Flora Assessment. Savannah Environmental 2021.
- Hyperion 2 PV Facility, Kathu. Fauna & Flora Assessment. Savannah Environmental 2021.

Kotulo Tsatsi PV 3 PV Facility

Terrestrial Biodiversity Compliance Statement

Contents

1.	SPECIALIST INFORMATION.....	III
2.	DECLARATION BY THE SPECIALIST	III
3.	UNDERTAKING UNDER OATH/ AFFIRMATION	IV
	SHORT CV/SUMMARY OF EXPERTISE – SIMON TODD	V
1.	INTRODUCTION.....	1
1.1	Scope and Objectives	1
2.	TECHNICAL DESCRIPTION	3
2.1	Project Location	Error! Bookmark not defined.
2.2	Project Description.....	Error! Bookmark not defined.
3.	ASSESSMENT METHODOLOGY	4
3.1	Site Visit.....	4
3.2	Data Sourcing and Review.....	4
4.	ASSUMPTIONS AND LIMITATIONS	5
5.	DESCRIPTION OF THE RECEIVING ENVIRONMENT	7
5.1	Vegetation	7
5.2	Fauna	8
5.3	Critical Biodiversity Areas & Broad-Scale Processes	9
5.4	Site Sensitivity Assessment	10
5.5	Cumulative Impacts	12
6.	COMPARATIVE ASSESSMENT OF ALTERNATIVES	12
6.1	No-Go Alternative	12
7.	PROPOSED MITIGATION ACTIONS.....	12
8.	CONCLUSION	13

8.1 Impact Statement..... 13

9. REFERENCES..... 0

List of Figures

- Figure 1.** Satellite image showing the location of the proposed Kotulo Tsatsi PV 3 development, west of the R27, located between Kenhardt and Brandvlei. 3
- Figure 2.** DFFE Screening Tool output for the Kotulo Tsatsi PV 3 site showing that tool indicates that the site falls largely within low sensitivity areas for the Terrestrial Biodiversity Theme, with some areas mapped as very high related to the presence of pans in these areas. 7
- Figure 3.** Typical open plains within the Kotulo Tsatsi PV 3 site representing the Bushmanland Basin Shrubland vegetation type..... 8
- Figure 4.** Critical Biodiversity Areas and ESAs for the Kotulo Tsatsi PV 3 project area, which is an extract of the Northern Cape CBA map. 10
- Figure 5.** Sensitivity map for the Kotulo Tsatsi PV 3 project area, illustrating areas with habitats of higher sensitivity that should be avoided as much as possible by the development and the mitigated layout, which has been produced in response to the mapped sensitivities..... 11

KOTULO TSATSI PV 3 PV FACILITY

Terrestrial Biodiversity Compliance Statement

1. INTRODUCTION

The Applicant, Kotulo Tsatsi Energy (Pty) Ltd, is proposing the construction of a photovoltaic (PV) solar energy facility (known as the Kotulo Tsatsi Energy PV3 Solar Facility) located on a site located approximately 70km south-west of the town of Kenhardt and 60km north east of Brandvlei in the Northern Cape Province. The solar energy facility will comprise arrays of PV panels and associated infrastructure and will have a contracted capacity of up to 480MW. The facility will be located within the farm Portion 2 of Farm Styns Vley 280. Savannah Environmental are conducting the required EIA process and 3Foxes Biodiversity Solutions has been appointed to provide Terrestrial Biodiversity inputs for the proposed Kotulo Tsatsi Energy PV3 Solar Facility as part of the EIA application.

As part of the required studies for the required Scoping and EIA application for environmental authorisation, 3Foxes Biodiversity Solutions has been appointed to provide terrestrial ecological input for the development application. The DFFE Screening Tool indicates that the Terrestrial Biodiversity Theme for the site is largely restricted to areas of low sensitivity, with some pans mapped as CBA 1. Provided that these more sensitive features can be avoided, then, in terms of the regulations, a Terrestrial Biodiversity Compliance Statement is required for the Development. To these ends, this Terrestrial Biodiversity Compliance Statement for the Kotulo Tsatsi PV 3 Facility, addresses the potential impacts of the Kotulo Tsatsi PV 3 Facility on Terrestrial Biodiversity and must be included in the EIA for the development and any mitigation and monitoring measures as identified, must be incorporated into the EMP for the development.

1.1 Scope and Objectives

In terms of GN 320 (20 March 2020) and GN 1150 (30 October 2020) of the NEMA EIA Regulations of 2014 (as amended), prior to the commencement of a specialist assessment, a site sensitivity verification must be undertaken to confirm the current land use and environmental sensitivity of the proposed project areas as identified by the Screening Tool. In terms of the Assessment Criteria, the following guidelines are provided for areas identified as Low Sensitivity:

1.1 An applicant, intending to undertake an activity identified in the Scope of this Protocol, on a site identified as being of “low sensitivity” for terrestrial biodiversity on the national web based environmental screening tool must submit a Terrestrial Biodiversity Compliance Statement to the competent authority, unless:

1.1.1 The information gathered from the Initial Site Sensitivity Verification differs from that identified as having a “low” terrestrial biodiversity sensitivity by the national web based environmental screening tool and it is found to be of a “very high” sensitivity.

1.2 Should paragraph 1.1.1 apply, a Terrestrial Biodiversity Impact Assessment is to be undertaken and a report should be prepared in accordance with the requirements of a Terrestrial Biodiversity Impact Assessment.

2. Terrestrial Biodiversity Compliance Statement

2.1 The Terrestrial Biodiversity Compliance Statement, must be prepared by a suitably qualified specialist in the field of ecological sciences, on the site being submitted as the preferred development site and must verify:

2.1.1 That the site is of “low” sensitivity for terrestrial biodiversity; and

2.1.2 Whether or not the proposed development will have any impact on the biodiversity feature.

3. The Terrestrial Biodiversity Compliance Statement, must contain, as a minimum, the following information:

3.1 Contact details and curriculum vitae of the specialist including SACNASP registration number and field of expertise;

3.2 A signed statement of independence by the specialist;

3.3 Baseline profile description of biodiversity and ecosystems, including the duration, date and season of the site investigation and the relevance of the season to the outcome of the assessment;

3.4 Methodology used to verify the sensitivities of the terrestrial biodiversity on the national web based environmental screening;

3.5 Methodology used to undertake the site survey and prepare the Compliance Statement, including equipment and modelling used where relevant;

3.6 Where required, proposed impact management outcomes or any monitoring requirements for inclusion in the EMPr;

3.7 A description of the assumptions made and any uncertainties or gaps in knowledge or data as well as a statement of the timing and intensity of site inspection observations; and

3.8 Any conditions to which the statement is subjected.

4 A signed copy of the full **Terrestrial Biodiversity Compliance Statement** must be appended to the Basic Assessment Report or Environmental Impact Assessment Report.

The above Terms of Reference and reporting requirements are achieved in this study and report.

2. TECHNICAL DESCRIPTION

2.1 Project Description

Kotulo Tsatsi Energy PV3 Solar Facility is part of the Kotulo Tsatsi PV Cluster and is located approximately 70km south-west of the town of Kenhardt and 60km north east of Brandvlei in the Northern Cape Province. The layout and location of the Facility is illustrated below in Figure 1. The output of the facility would be up to 480MW and the infrastructure associated with the PV development includes the following:

- Solar PV array comprising PV modules and mounting structures.
- Inverters and transformers.
- Cabling between the project components.
- Access roads, internal distribution roads and fencing around the development area.
- Substation and BESS hubs, including:
 - Battery Energy Storage System (BESS)
 - On-site facility substations, switching substations
- 132kV power line within a 300m wide corridor to facilitate the connection between the PV Facility and the authorised 400kV collector substation.
- O&M and laydown area hub, including:
 - Site offices and maintenance buildings, including workshop areas for maintenance and storage.
 - Laydown areas and temporary construction camp area.



Figure 1. Satellite image showing the location of the proposed Kotulo Tsatsi PV 3 development, west of the R27, located between Kenhardt and Brandvlei.

3. ASSESSMENT METHODOLOGY

3.1 Site Visit & Field Assessment

An initial site visit took place on the 14th of August 2016 when the proposed development was still a CSP plant, and the follow-up field assessment to verify and sample the current footprint took place on the 12th of December 2021. During the site visits, the different biodiversity features, habitat, and landscape units present at the site were identified and mapped in the field. Specific features visible on the satellite imagery of the site were also marked for field inspection and were verified and assessed during the site visit. Walk-through-surveys were conducted within representative areas across the different habitat units identified and all plant and animal species observed were recorded. Active searches for reptiles and amphibians were also conducted within habitats likely to harbour or be important for such. The presence of sensitive habitats such as stands of large trees, pans or rocky outcrops were noted in the field where present and recorded on a GPS. The site is homogenous and open, with the result that any features present are easily observable and it is highly unlikely that there are any species of significance or sensitive features present that were not observed during the site visits.

3.2 Data Sourcing and Review

Data sources from the literature consulted and used where necessary in the study includes the following:

Vegetation:

- Vegetation types were extracted from the South African National Vegetation Map (2018 update).
- Information on plant and animal species recorded for the wider area was extracted from the South African Biodiversity Information Facility (SABIF)/ SANBI Integrated Biodiversity Information System (SIBIS) database hosted by the South African National Biodiversity Institute (SANBI). Data was extracted for a significantly larger area than the study area, but this is necessary to ensure a conservative approach as well as counter the fact that the site itself has not been well sampled in the past.
- The International Union for Conservation of Nature (IUCN) conservation status of the species in the list was also extracted from the database and is based on the Threatened Species Programme, Red List of South African Plants (2022).

Ecosystem:

- Freshwater and wetland information was extracted from the National Freshwater Ecosystem Priority Areas assessment, NFEPA (Nel *et al.* 2011) as well as the 2018 NBA.
- Critical Biodiversity Areas (CBAs) and ESAs in the study area were obtained from the 2016 Northern Cape CBA map (Oostehuysen & Holness 2016).

- Protected Area Expansion Strategy Focus Areas for the region were extracted from the 2018 NPAES (DEA 2018) available at https://egis.environment.gov.za/data_egis/data_download/current
- There are no threatened ecosystems within the site (NBA 2018)
- Strategic Water Source Areas (SWSAs) for the area were extracted from the SWSAs map available on the SANBI BGIS data portal (Water Research Commission. 2017 Surface and Groundwater SWSA [Vector] 2017).

Fauna

- Lists of mammals, reptiles and amphibians which are likely to occur at the site were derived based on distribution records from the literature and the ADU databases (ReptileMap, Frogmap and MammalMap) <http://vmus.adu.org.za> as well as the iNaturalist citizen science site <https://www.inaturalist.org/>
- Literature consulted includes Branch (1988) and Alexander and Marais (2007) for reptiles, Du Preez and Carruthers (2009) for amphibians, EWT & SANBI (2016) and Skinner and Chimimba (2005) for mammals.
- The faunal species lists provided are based on species which are known to occur in the broad geographical area, as well as an assessment of the availability and quality of suitable habitat at the site.
- The conservation status of mammals is based on the IUCN Red List Categories (EWT/SANBI 2016), while reptiles are based on the South African Reptile Conservation Assessment (Bates et al. 2013) and amphibians on Minter et al. (2004) as well as the IUCN (2023).

4. ASSUMPTIONS AND LIMITATIONS

A number of limitations and assumptions are inherent in ecological studies generally and with the assessment of rare fauna. These include the following:

- It is not possible to confirm the absence of a faunal species with 100% certainty. A species may be absent from an area during sampling but may move through the area occasionally or seasonally.
- Some species are rare or difficult to locate and it may be very difficult to confirm either the absence or presence of such species without long-term studies.
- The presence of such species are assessed in the current study based on observations of such species from the wider area in the various publicly available databases and citizen science websites (Virtual Museum & iNaturalist), as well as the habitat suitability, quality and condition as observed in the field.

In terms of vegetation, conditions at the time of the surveys were relatively dry with the result that forbs and annuals were not in abundance at the time. However, the perennial component of the

vegetation was well represented and the species lists obtained for the site are considered representative.

5. DESCRIPTION OF THE RECEIVING ENVIRONMENT

The output of the DFFE Screening Tool for the Terrestrial Biodiversity Theme is illustrated below and indicates that the majority of the site falls within areas classified as Low Sensitivity, with two areas of Very High Sensitivity related to pan features. The fauna and flora of the site is described in detail in the Plant and Animal Compliance Statements for the project and a summary is provided below to provide the context for the site and the broader receiving environment.

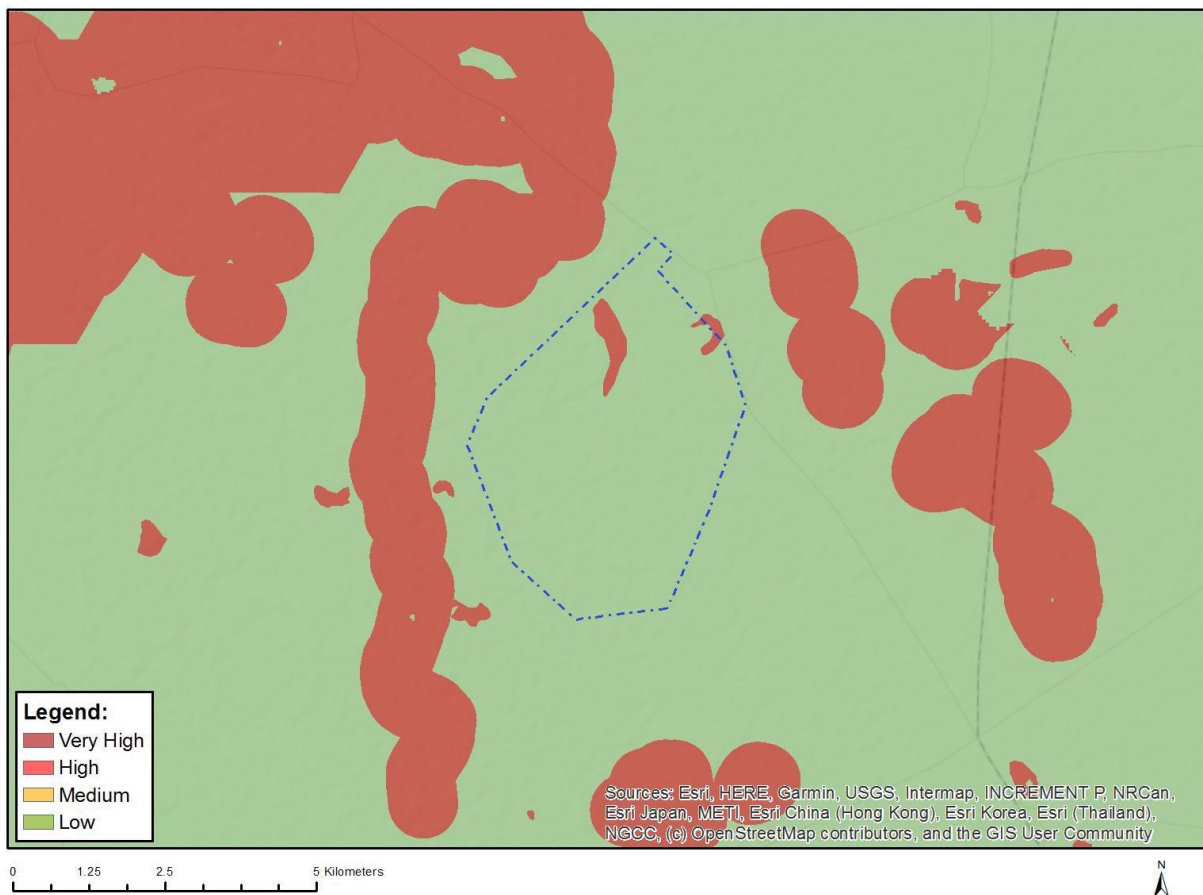


Figure 2. DFFE Screening Tool output for the Kotulo Tsatsi PV 3 site showing that tool indicates that the site falls largely within low sensitivity areas for the Terrestrial Biodiversity Theme, with some areas mapped as very high related to the presence of pans in these areas.

5.1 Vegetation

The Kotulo Tsatsi PV 3 Facility falls almost entirely within the Bushmanland Basin Shrubland vegetation type, with two pans present that represent the Bushmanland Vloere vegetation type, that would not be built onto. Bushmanland Basin Shrubland is an extensive vegetation type that occupies over 34 000 km² of the Northern Cape and is among the most extensive vegetation types in South Africa. As a result of the arid nature of the area, very little of this vegetation type has been affected by intensive agriculture and it is classified as Least Threatened. The field assessment

identified the following species as common and characteristic species at the site: Shrubs such as *Rhigozum trichotomum*, *Phaeoptilum spinosum*, *Lycium pumilum*, *Aizoon schellenbergii*, *Osteospermum armatum*, *Eriocephalus pauperrimus*, *Rosenia glandulosa*, *Pteronia leucoclada*, *P.glomerata*, *P.sordida*, *P.leucoclada*, *Salsola tuberculata*, *Sarcocaulon patersonii*, *Hermannia spinosa*, *Osteospermum armatum*, and *Zygophyllum chrysopteron*. Grasses present include *Stipagrostis ciliate*, *Stipagrostis obtusa*, *Stipagrostis uniplumis* *Enneapogon scaber*, *E.desvauxii*, *Fingerhuthia africana* and *Aristida adscensionis*. The only species of significance present are occasional individuals of the provincially protected species *Aloe claviflora* and *Hoodia gordonii* which occur at a low density.



Figure 3. Typical open plains within the Kotulo Tsatsi PV 3 site representing the Bushmanland Basin Shrubland vegetation type.

5.2 Fauna

In terms of the fauna that potentially occur in the broad area, the potential diversity is considered to be moderate and numbers approximately 48 mammals, 30 reptiles and about 8 frog and toads (See Appendix 1-3). Species observed in the area include Yellow Mongoose *Cynictis penicillata*, South African Ground Squirrel *Xerus inauris*, Steenbok *Raphicercus campestris*, Common Duiker *Sylvicapra grimmia*, Aardvark *Orycteropus afer*, Aardwolf *Proteles cristatus*, Cape Porcupine *Hystrix africaeaustralis*, Bat-Eared Fox *Otocyon megalotis* and Stiped Polecat *Ictonyx striatus*. Widespread predators such as Caracal *Caracal caracal*, Black-backed Jackal *Canis mesomelas* and Cape Fox *Vulpes chama* are also likely to be present at typically low density for an arid area. Reptile abundance on the site is low, which likely relates to general lack of vegetation or rock cover.

The Namaqua Sand Lizard *Pedioplanis namaquensis* and Ground Agama *Agama aculeata* are the only species observed during the site visits. Due to the aridity of the area, amphibian abundance is very low. The pans are usually quite saline with the result that these features are not usually used by amphibians for breeding purposes. There are no amphibians of concern that are known to occur in the area.

Parotomys littledalei, Littledale's Whistling Rat, is listed as Near Threatened and is the only terrestrial faunal species of concern that may be present in the area. This species is typically associated with riverine habitat, particularly with *Lycium* bushes or *Psilocalon absimile* plants, where there is some perennially green vegetation. As there is no suitable habitat present for this species on the site, it is considered highly unlikely that this species is present on-site.

5.3 Critical Biodiversity Areas & Broad-Scale Processes

The CBA and ESA map for the broader project area is indicated below in Figure 4 and indicates that there are two areas of CBA 1 in close proximity to the PV arrays, but that these areas have been avoided. The development footprint is restricted to areas that are not classified as CBAs, ESAs or NC-PAES Focus Areas, with the result that the development would not have a significant impact on these conservation planning and broad-scale process features.

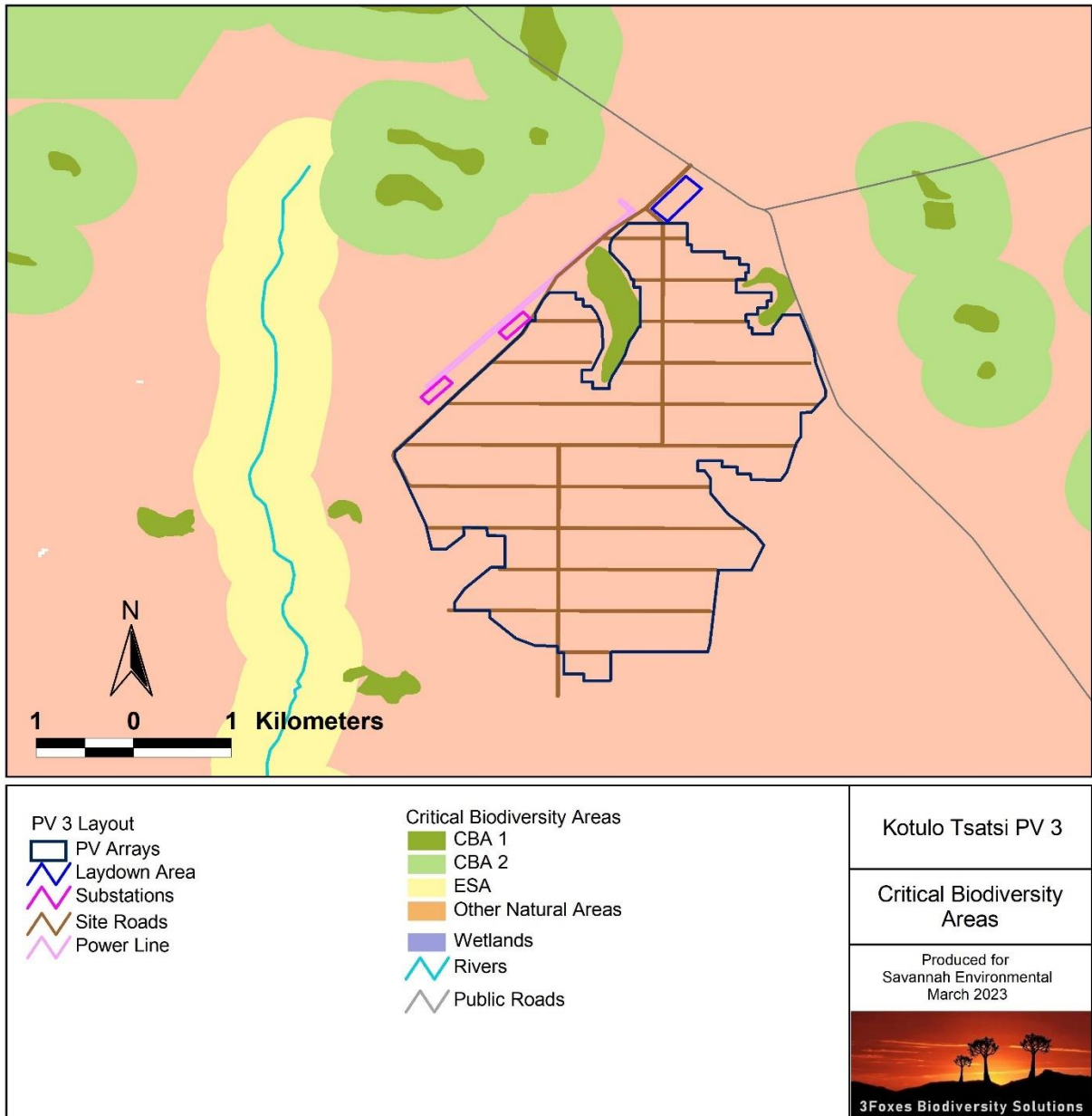


Figure 4. Critical Biodiversity Areas and ESAs for the Kotulo Tsatsi PV 3 project area, which is an extract of the Northern Cape CBA map.

5.4 Site Sensitivity Assessment

In order to inform the planning and layout of the development, an ecological sensitivity map for the full project site was developed in order to guide the developer and aid in reducing the overall impact of the development. The sensitivity map is illustrated below in **Figure 5** and illustrates areas that are considered to represent more sensitive areas from a general ecological perspective. It is important to note that these areas are not areas where SCC have been observed, but rather habitats such as drainage features that are considered more vulnerable to disturbance due to their higher diversity or lower tolerance of disturbance. In response to the mapping, the developer has produced

a mitigated layout which takes cognisance of the mapped sensitivities. The mitigated layout and sensitivities are mapped below in **Figure 5** and illustrate that the major drainage features and pans have been avoided as compared to the initial layout which traversed most of these features. The mitigated layout would preserve the ecological functioning of the landscape and is considered acceptable.

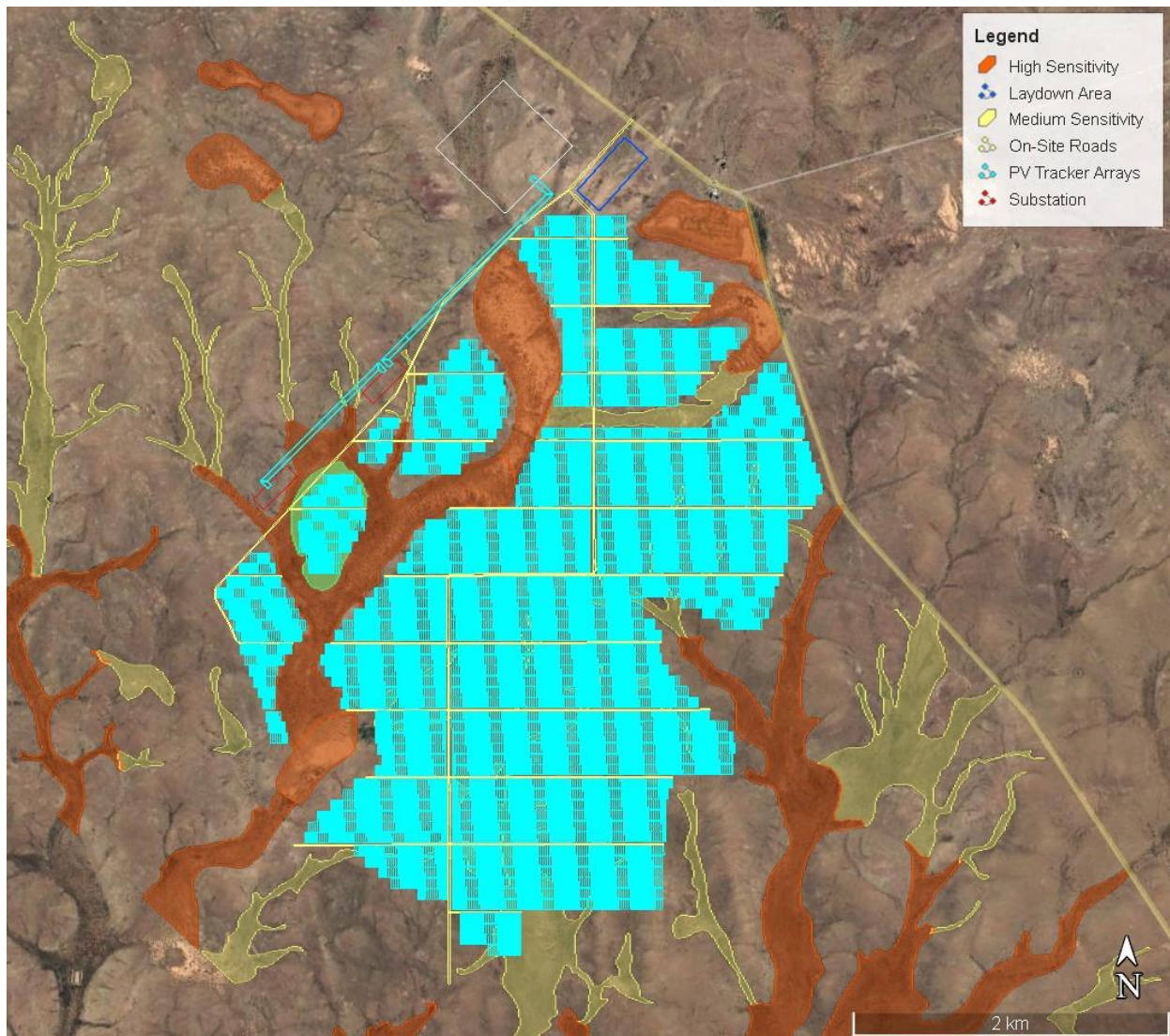


Figure 5. Sensitivity map for the Kotulo Tsatsi PV 3 project area, illustrating areas with habitats of higher sensitivity that should be avoided as much as possible by the development and the mitigated layout, which has been produced in response to the mapped sensitivities.

5.5 Cumulative Impacts

In terms of cumulative impacts in and around the site, there are no built PV facilities in the immediate vicinity and the only existing facilities in the area are the PV plants at the Aries Substation northeast of the site. Apart from the current facility, there are two other approved PV facilities which are part of the current PV cluster at Kotulo Tsatsi, each with a footprint of approximately 300ha. Thus there is the potential for approximately 1000ha of PV development at the Kotulo Tsatsi site. While this would be a significant node of development, the wider area is still largely undeveloped and the Kotulo Tsatsi node would not significantly impact the availability of the affected vegetation types and habitats. As such, the contribution of the Kotulo Tsatsi PV 3 Facility to cumulative impacts and habitat loss in the area is considered acceptable.

6. COMPARATIVE ASSESSMENT OF ALTERNATIVES

The site selection and pre-screening process undertaken ensured that all areas not suitable for development were excluded from the footprint considered for this assessment. There are therefore no alternatives to be considered with regards to the PV facility.

6.1 No-Go Alternative

Under the no-go alternative, the current land use consisting of extensive livestock grazing would continue. When applied correctly, such livestock grazing is considered to be largely compatible with long-term biodiversity conservation, although in practice there are some negative effects associated with such land use such as predator control and negative impacts on habitat availability for the larger ungulates that would historically have utilised the area. Under the current circumstances, the no-go alternative is considered to represent a low long-term negative impact on the environment, but has less impact than the loss of habitat resulting from the construction of the PV facility.

7. PROPOSED MITIGATION ACTIONS

The following avoidance and mitigation measures should be included in the EMP for the Kotulo Tsatsi PV 3 Facility in order to avoid, reduce and manage impacts on terrestrial biodiversity:

Impact/Aspect	Mitigation/Management Actions	Responsibility	Methodology	Mitigation/Management Objectives and Outcomes	Frequency
Construction Phase disturbance	Demarcate sensitive areas as no-go areas	Environmental Officer	Demarcate sensitive areas with construction tape, shield fencing etc as appropriate.	No excess habitat loss within sensitive areas.	Daily/As required during construction
Construction Phase disturbance	Rehabilitation of disturbed areas	Environmental Officer	Surface scarification and active rehabilitation of temporary use areas after	Revegetation of cleared areas	After construction with annual follow-up to

			construction with indigenous species.		ensure adequate revegetation.
Alien Vegetation Management	Alien vegetation control	Environmental Officer	Walked Surveys of access roads, PV areas and associated infrastructure.	Alien vegetation clearing & control	Annual
Erosion Management	Erosion control and revegetation	Environmental Officer	Walked Surveys of PV perimeter, access roads and other areas adjacent to hard infrastructure.	Remedial action to reduce erosion including revegetation where necessary.	Annual

8. CONCLUSION

The DFFE Screening Tool indicates that the Kotulo Tsatsi PV 3 project site has a low sensitivity for Terrestrial Biodiversity Theme apart from some pan features present which are mapped as CBA 1. Under the mitigated layout, these features have been avoided and the Kotulo Tsatsi PV 3 project is restricted to lower sensitivity areas. In addition, the field assessment was able to confirm the low sensitivity of the site and there are no significant vegetation or faunal features within the development footprint. The site does not lie within a NPAES Focus Area or a Strategic Water Resource Area (SWSA). The contribution of the current project to cumulative impact is considered to be relatively low given the low sensitivity of the features within the development footprint and the low level of transformation the broader area has experienced. This Terrestrial Biodiversity Theme Compliance Statement therefore finds that the footprint of the Kotulo Tsatsi PV 3 Facility is restricted to low sensitivity areas with no observed plant or animal species of conservation concern present, and as such, there are no reasons to oppose the Kotulo Tsatsi PV 3 Facility.

8.1 Impact Statement

The footprint of the Kotulo Tsatsi PV 3 Facility is restricted to low sensitivity features and in terms of terrestrial biodiversity is considered acceptable. As such, from a terrestrial ecology perspective there are no reasons to oppose the Kotulo Tsatsi PV 3 Facility.

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