MURA 3 SOLAR FACILITY

PLANT SPECIES COMPLIANCE STATEMENT

PRODUCED ON BEHALF RED CAP

3Foxes Biodiversity Solutions

Simon.Todd@3foxes.co.za

November 2022

MURA 3 SOLAR FACILITY

PLANT SPECIES COMPLIANCE STATEMENT

EXECUTIVE SUMMARY

Mura 3 (Pty) Ltd is proposing the construction and operation of the 320 MW Mura 3 Solar Photovoltaic (PV) Energy Facility (SEF) south-east of Loxton in the Northern Cape Province. The development is currently in the EIA process and 3Foxes Biodiversity Solutions has been appointed to provide a Plant Compliance Statement for the development.

The DFFE Screening Tool indicates that the site has a low sensitivity and the field assessment was able to confirm that there are no significant vegetation features or plant SCC within the development footprint. The vegetation within the footprint is typical for the area and consists of low shrubland on open plains representative of the Eastern Upper Karoo vegetation type with no other vegetation types in close proximity to the site. The site is therefore considered to be low sensitivity from a Plant Species Theme perspective.

This Plant Species Theme Compliance Statement therefore finds that the footprint of the Mura 3 Solar PV Facility is restricted to low sensitivity areas with no observed plant species of conservation concern present, and as such, there are no reasons to oppose the Mura 3 Solar PV facility.

environmental affairs
Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

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

	(For official use only)
File Reference Number:	
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

Mura 3 Solar 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:

25 October 2022

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

25 October 2022

Date

Signature of the Commissioner of Oaths

Date

SHORT CV/SUMMARY OF EXPERTISE – SIMON TODD

Simon Todd Pr.Sci.Nat
Director & Principle Scientist
C: 082 3326502
Simon.Todd@3foxes.co.za

23 De Villiers Road
Kommetjie
7975

Ecological Solutions for People & the Environment

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 Recent Studies Requiring Similar Expertise to the Current Project

- Beaufort West PV Facility. Fauna & Flora Assessment. SiVest Evironmental 2022.
- San Solar PV Facility, Kathu. Fauna & Flora Assessment. Savannah Environmental 2022.
- Soventix Phase 3 PV Facility, De Aar. Fauna & Flora Assesment. 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.

Mura 3 Solar PV Facility
Plant Species Compliance Statement

Contents

List of Figures

MURA 3 SOLAR PV FACILITY

Plant Species Compliance Statement

1. INTRODUCTION

Red Cap Energy (Pty) Ltd has appointed WSP Group Africa (Pty) Ltd to undertake the required EIA Process for the proposed construction of the Mura 3 Solar Photovoltaic (PV) Energy Facility (SEF) and associated grid connection infrastructure southeast of Loxton in the Northern Cape Province. The project involves the development of a solar-energy facility with a total generation capacity of approximately 320 MWac electricity from renewable solar energy to be supplied to the national Eskom grid via the approved Nuweveld Collector Substation, west of the site. The necessary associated infrastructure, including BESS, access roads, substations and control building(s) form a part of this 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 site falls within an area with Low Sensitivity under the Plant Species Theme. The site verification was able to confirm this low sensitivity and no plant SCC were observed on the site. Consequently, in terms of the regulations, a Plant Species Compliance Statement is the recommended level of study for the EIA process. To these ends, this Plant Species Compliance Statement for the Mura 3 Solar Project, addresses the potential impacts of the project on vegetation and plant species and must be included in the EIA for the development and any mitigation and monitoring measures as identified, must be incorporated into the EMPr for the development.

1.1 Scope and Objectives

In terms of the GN 1150 30 October 2020, *Procedures for the assessment and minimum criteria for reporting on identified environmental themes in terms of sections 24(5)(A) and (h) and 44 of the National Environmental Management Act, 1998, when applying for environmental authorisation*, the Terrestrial Plant Species Compliance Statement should include the following details:

- The compliance statement must be prepared by a SACNASP registered specialist under one of the two fields of practice (Botanical Science or Ecological Science).
- The compliance statement must:
  - be applicable within the study area;
  - confirm that the study area is of “low” sensitivity for terrestrial plant species; and
  - indicate whether or not the proposed development will have any impact on SCC.
- The compliance statement must contain, as a minimum, the following information:
  - contact details and relevant experience as well as the SACNASP registration number of the specialist preparing the compliance statement including a curriculum vitae;
  - a signed statement of independence by the specialist;
  - a statement on the duration, date and season of the site inspection and the relevance of the season to the outcome of the assessment;
  - a description of the methodology used to undertake the site survey and prepare the compliance statement, including equipment and modelling used where relevant;
  - where required, proposed impact management actions and outcomes or any monitoring requirements for inclusion in the EMPr;
  - a description of the assumptions made and any uncertainties or gaps in knowledge or data;

- the mean density of observations/ number of samples sites per unit area; and
- any conditions to which the compliance statement is subjected.

- A signed copy of the Terrestrial Plant Species Compliance Statement must be appended to the Basic Assessment Report or the Environmental Impact Assessment Report.

2. TECHNICAL DESCRIPTION

2.1 Project Location

The project is located approximately 42km southeast of the town of Loxton within the Pixley ka Seme District Municipality, Northern Cape Province (**Figure 1**). The site falls outside of any REDZ zone with the result that a full S&EIA process is required for authorisation. The Mura 3 Solar project lies immediately adjacent to the Mura 4 Solar Project site and will share an access road.

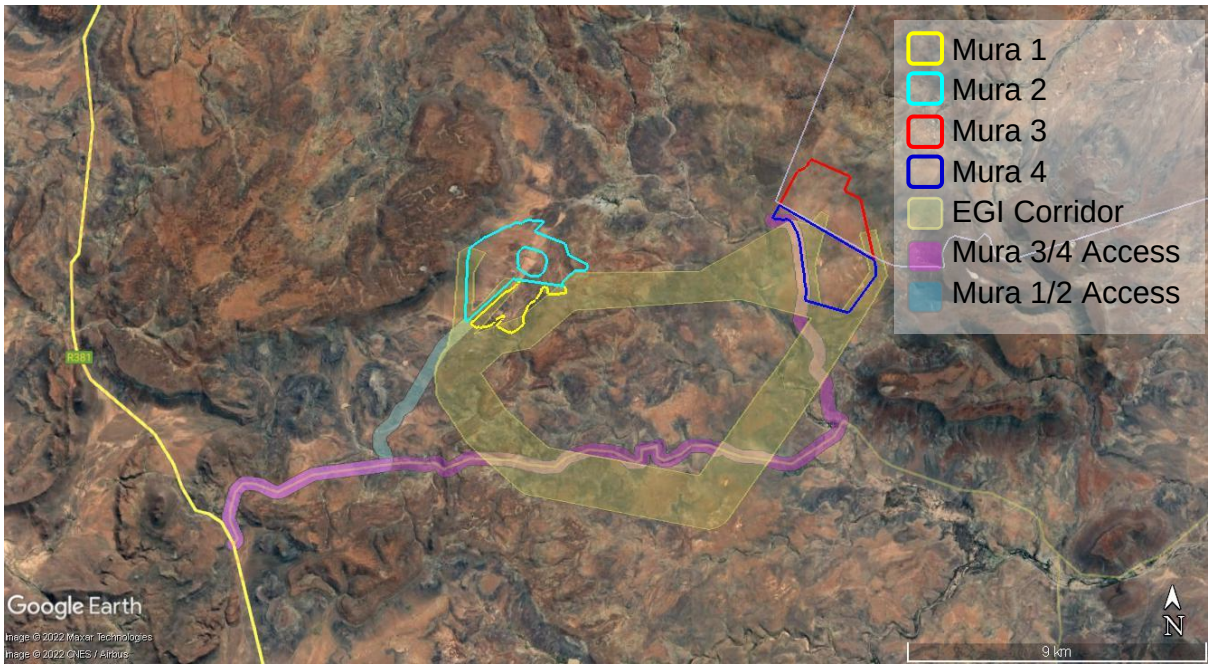

Figure 1: Locality Map of the Mura Series of PV developments and their associated EGI corridor, showing the location of the Mura 3 Solar project with the red boundary outline.

2.2 Project Description

The following are proposed as part of each project. It should be noted that the areas under consideration for each solar project site should be assumed to be wholly transformed and will contain the following:

A. Solar Field, comprising Solar Arrays:

- Maximum height of 6 m;
- PV Modules that are located on either single axis tracking structures or fixed tilt mounting structures or similar

B. Solar Farm Substation:

- Maximum height of 12m;
- Two up to 150 m x 75 m substation yards that will include:
  - Substation building; and
  - High voltage gantry.

C. Building Infrastructure:

- Maximum height of 8m;
- Offices;
- Operational and maintenance (O&M)/ control centre;
- Warehouse/workshop;
- Ablution facilities; and
- Converter/inverter stations.

D. Li-ion or similar solid state Battery Energy Storage System (BESS):

- Each solar farm will have up to a 4 ha area for a 240 MWac BESS;
- BESS substation (same specifications as the solar farm substations)
- Connected to the solar farm sub/switching stations via an underground high voltage cable.

E. Other Infrastructure located within the solar area footprint:

- Internal underground cables of up to 132 kV;
- Internal gravel roads;
- Fencing (between 2 – 3 m high) around the PV Facility;
- Panel maintenance and cleaning area;
- Storm water management system; and
- Up to two construction camps.

F. Associated Infrastructure (outside the solar area footprint but part of each solar project's application):

- Internal access gravel roads will have a 2-4 m wide driving surface and may require side drains on one or both sides. During construction the roads may be up to 12m wide but this will be a temporary impact and rehabilitated following the construction phase; and
- Up to two 2.2 ha construction camps located within the access road corridor.

3. ASSESSMENT METHODOLOGY

3.1 Site Visit

The site was visited twice for the current project. An initial field assessment took place on the 8th of June 2022 and a follow-up field assessment on the 19th of October 2022. During the initial field assessment, a

broad area was investigated in the field and the primary aim was to survey the ecological features of the site to inform a sensitivity map of the whole project area that can be used to guide the final development footprint for the PV areas and grid connection. A full species list for the site was developed during the field sampling and attention was paid to the possible presence of any flora of concern within the development footprint. Sensitive species and habitats within the footprint were recorded where present and mapped with a GPS if necessary. The track that was walked through the Mura 3 Solar PV footprint areas has a total length in excess of 8km (***Figure 2***). During the follow-up field assessment, the vegetation had dried significantly from the initial site visit and no additional species were observed.

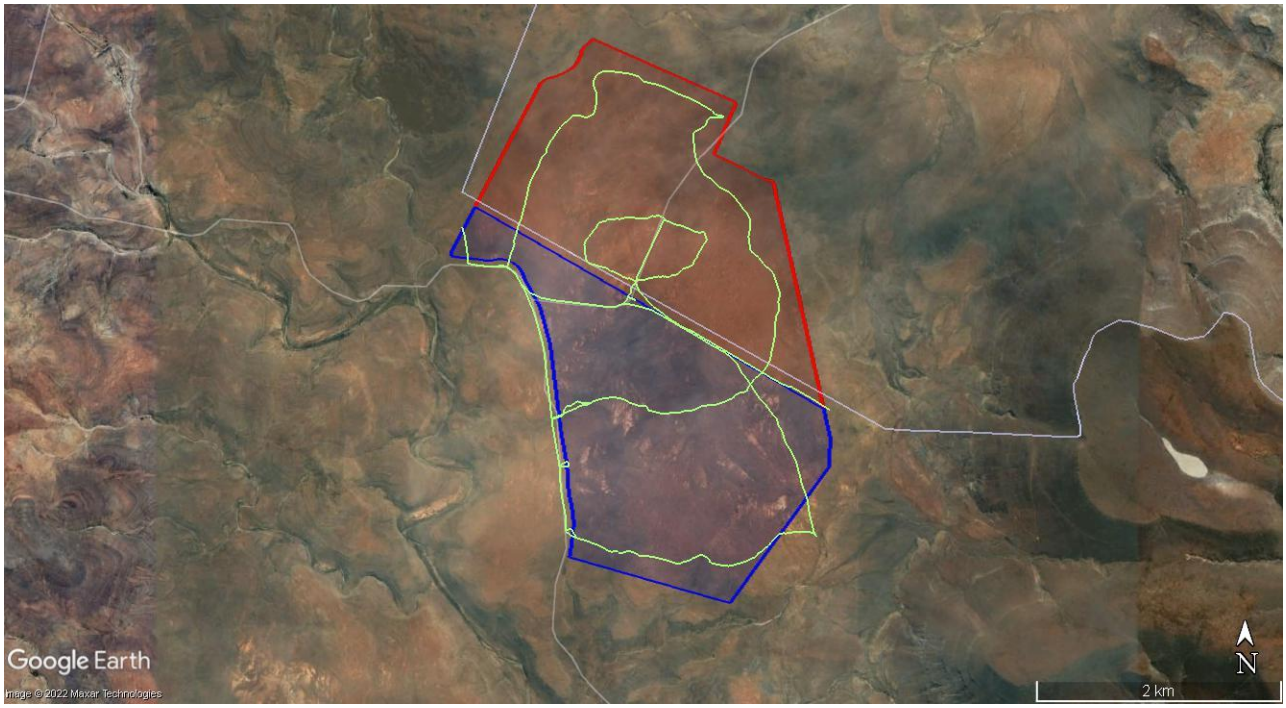

Figure 2. Map showing the sampling track (yellow line) that was walked through the Mura 3 (red) and Mura 4 (blue) PV footprint areas.

3.2 Data Sourcing and Review

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

- Vegetation types and their conservation status were extracted from the South African National Vegetation Map (2018 update).
- Information on plant 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.
- 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).

4. ASSUMPTIONS AND LIMITATIONS

Conditions at the time of the initial survey were in a relatively favourable condition for the field assessment as there had been rain prior to sampling and the abundance of annuals and geophytes as relatively high, with

many species growing or in flower. Although not all of the PV area could be searched given its' large extent, the footprint area is considered to have been well-covered and it is highly unlikely that there are any significant vegetation features present that would not have been observed during the study. Given the extent of the sample track and the relatively favourable conditions at the time of the site visit, there are few limitations and assumptions required with regards to the vegetation of the site and the presence of plant SCC within the PV development footprint.

5. LEGAL REQUIREMENT AND GUIDELINES

5.1 National Permitting

In terms of national permits, a protected tree clearing permit is potentially required under the National Forests Act. The Notice of the List of Protected Tree Species Under the National Forests Act, 1998 (ACT NO 84 OF 1998) can be obtained from this location: https://www.gov.za/documents/national-forests-act-list-protected-tree-species-7. This list has not been changed since it was last published in 2014. However, no protected tree species were observed present within the site and as such, no tree clearing permit would be required.

Threatened Or Protected Species (TOPS) permits for the carrying out of restricted activities in terms of the National Environmental Management: Biodiversity Act 2004 (No. 10 of 2004) may be required. However, TOPS permits are submitted to either the national minister or the provincial minister. In terms of the legislation, the relevant issuing authority for the current project would be the office of the MEC of the province.

The most recent lists of TOPS species and associated legislation is available in the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004), Threatened or Protected Species Regulations Notice 255 of 2015. In addition to these species, SANBI maintains a national list of the IUCN conservation status of all plant species in South Africa. Any endangered (VU, EN, CR) species under this list are also subject to the TOPS regulations.

5.2 Provincial Permitting

In terms of Northern Cape provincial permits, a protected flora clearing permit from DENC would be required. This permit must list the number and location of all individuals of protected plants as listed in the provincial ordinance (Northern Cape Nature Conservation Act, 2009) as well as those plants listed as being of conservation concern by the Red List of South African Plants (http://redlist.sanbi.org/index.php).

This permit requires a full walk-through of the final approved solar farm development footprint, following which the number of individuals of protected species that would be affected by the development can be quantified and used to populate the permit application. Depending on the identity of the species concerned, some would be destroyed, while other species would need to be translocated within the site to a safe site outside the development footprint, based on the recommendations of the walk-through study.

6. DESCRIPTION OF THE RECEIVING ENVIRONMENT

The Mura 3 Solar footprint falls entirely within the Eastern Upper Karoo vegetation type (***Figure 3***). Eastern Upper Karoo has an extent of 49 821 km^2 and is the most extensive vegetation type in South Africa and forms a large proportion of the central and eastern Nama Karoo Biome. This vegetation type is classified as Least Threatened, and about 2% of the original extent has been transformed largely for intensive agriculture.

Eastern Upper Karoo is however poorly protected and less than 1% of the 21% target has been formally conserved. Mucina & Rutherford (2006) list eight endemic species for this vegetation type, which considering that it is the most extensive unit in the country, is not very high. As a result, this is not considered to represent a sensitive vegetation type. Within the study area, the vegetation is relatively homogenous, although there is some variation in which species are dominant depending on soil depth and the degree of rockiness. Dominant and characteristic species observed at the site include low woody shrubs such as *Pentzia globosa*, *Plinthus karooicus*, *Pteronia adenocarpa*, *Pteronia glomerata*, *Pteronia incana*, *Ruschia spinosa*, *Tetragonia arbuscula*, *Salsola rabieana*, *Asparagus glaucus*, *Asparagus capensis*, *Euryops lateriflorus*, *Eriocephalus ericoides*, *Eriocephalus spinescens*, *Lycium cinereum*; forbs such as *Arctotis leiocarpa*, *Aptosimum indivisum*, *Nemesia fruticans*, *Heliophila suavissima* and *Chenopodium album*; grasses such as *Aristida adscensionis*, *Aristida diffusa*, *Enneapogon desvauxii*, *Eragrostis lehmanniana*, *Eragrostis obtusa*, *Stipagrostis obtusa* and *Tragus berteronianus*. A total of 61 plant species were recorded within the Mura 3 Solar footprint area during the walk-through survey (Appendix 1).

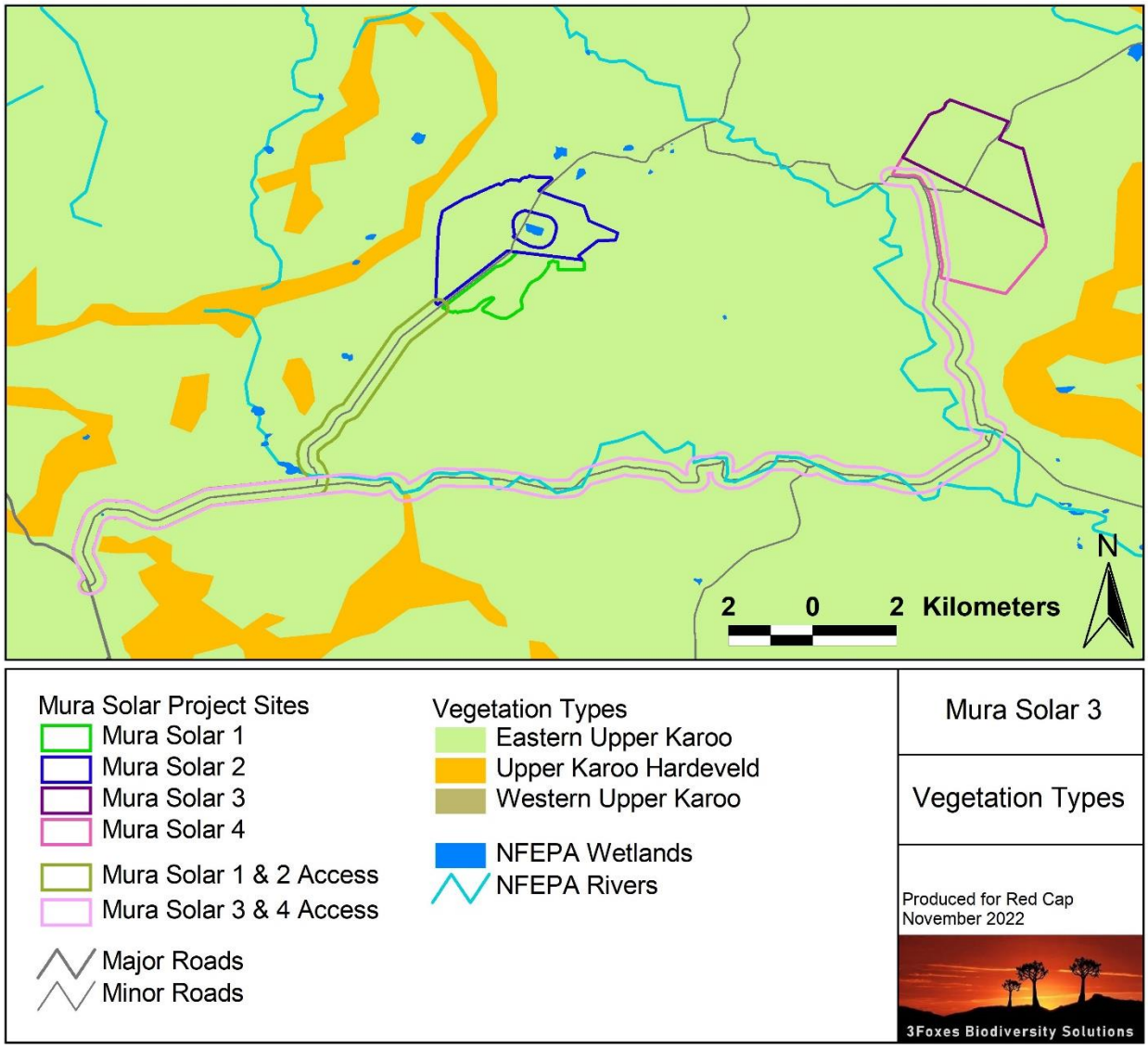

Figure 3. Vegetation map of the broader Mura Solar Project area, showing that the Mura 3 Solar site falls entirely within the Eastern Upper Karoo vegetation type.

Figure 4. Typical open plains within the Mura 3 Solar project area, representative of the Eastern Upper Karoo vegetation type.

Figure 5. Looking eastwards out over the Mura 3 Solar project area, showing the homogenous nature of the site and lack of significant features within the project area.

7. PROPOSED MITIGATION ACTIONS

The following avoidance and mitigation measures should be included in the EMPr for the Mura 3 Solar Facility in order to avoid, reduce and manage impacts on vegetation and plant species:

- Develop and implement alien vegetation, soil erosion, revegetation and rehabilitation management plans based on the site attributes and environmental constraints. This can be developed post-authorisation once the project is certain to go ahead.
- Ensure that all vegetation-related preconstruction permits have been obtained, and surveys and walk-throughs have been conducted prior to the commencement of construction activity.
- Preconstruction walk-through of the final development footprint to check the final footprint areas and access road routes to verify that sensitive habitats are being avoided as much as possible and also provide certainty as to the zero expected impact on plant SCC.
- Annual rehabilitation activities in line with the Generic EMPr requirements (for example, any erosion problems observed on-site should be rectified as soon as possible using appropriate revegetation and erosion control works).

The following Monitoring and management actions should be included in the EMPr:

- Ensure that all vegetation-related preconstruction permits, surveys and walk-throughs have been conducted prior to the commencement of construction activity.
- Monitoring of vegetation clearing during construction by the EO to ensure that any protected plant within the development footprint area are translocated to safety where necessary.
- Annual monitoring of runoff and erosion from the PV area into the adjacent veld to ensure that the hardened surfaces and PV arrays within the PV area are not generating a lot of runoff that is impacting adjacent natural areas. There should be follow-up erosion control and alien vegetation clearing where required.

7.1 Cumulative Impacts

Cumulative impacts associated with the Mura 3 Solar Facility are assessed in the Terrestrial Biodiversity Assessment and are not assessed in detail here. From a plant species and vegetation perspective, the Mura 3 Solar Facility would have very low impact on plant SCC and the Eastern Upper Karoo vegetation type is little impacted by renewable energy development to date. As a result, the contribution of the Mura 3 Solar Facility towards cumulative impact on plant SCC and vegetation is considered acceptable.

8. COMPARATIVE ASSESSMENT OF ALTERNATIVES

There are no alternatives to be considered with regards to the PV facility.

8.1 No-Go Alternative

Under the no-go alternative, the current landuse 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 landuse 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.

9. CONCLUSION

- This compliance statement is applicable to the Mura 3 Solar Facility development with specific reference to the layout as provided for the assessment.
- The vegetation of the site is mapped as Eastern Upper Karoo with no other vegetation types present within the development footprint. There are no threatened vegetation types present within the site or nearby.
- No plant species of concern (SCC), were observed within the site despite extensive walked transects across the PV area, confirming the low sensitivity of the project footprint.
- The low sensitivity of the site as identified by the DFFE Screening Tool for the Plant Species Theme was confirmed by the field assessment there are no significant vegetation features within the site.

9.1 Impact Statement

The footprint of the Mura 3 Solar PV Facility is restricted to low sensitivity areas with no observed plant species of conservation concern present. As such, from a plant species perspective there are no reasons to oppose the Mura 3 PV facility.

10. ANNEX 1. LIST OF PLANT SPECIES

List of plant species recorded from within the development footprint of the PV area during the walk-through survey conducted within the site.

Family	Species
Acanthaceae	*Blepharis mitrata*
Aizoaceae	*Delosperma multiflorum*
Aizoaceae	*Drosanthemum lique*
Aizoaceae	*Galenia africana*
Aizoaceae	*Galenia sarcophylla*
Aizoaceae	*Mesembryanthemum noctiflorum*
Aizoaceae	*Mesembryanthemum coriarium*
Aizoaceae	*Mesembryanthemum grossum*
Aizoaceae	*Mesembryanthemum nodiflorum*
Aizoaceae	*Mesembryanthemum tetragonum*
Aizoaceae	*Plinthus karooicus*
Aizoaceae	*Ruschia spinosa*
Aizoaceae	*Tetragonia arbuscula*
Amaranthaceae	*Salsola rabieana*
Amaranthaceae	*Salsola kali*
Amaranthaceae	*Chenopodium album*
Amaryllidaceae	*Boophone disticha*
Asparagaceae	*Asparagus glaucus*
Asparagaceae	*Asparagus capensis*
Asparagaceae	*Asparagus racemosus*
Asteraceae	*Arctotis leiocarpa*
Asteraceae	*Euryops lateriflorus*
Asteraceae	*Eriocephalus ericoides*
Asteraceae	*Eriocephalus spinescens*
Asteraceae	*Felicia muricata*
Asteraceae	*Gazania krebsiana*
Asteraceae	*Helichrysum zeyheri*
Asteraceae	*Ifloga glomerata*
Asteraceae	*Pentzia globosa*
Asteraceae	*Pteronia adenocarpa*
Asteraceae	*Pteronia glomerata*
Asteraceae	*Pteronia incana*
Asteraceae	*Ursinia nana*
Brassicaceae	*Heliophila suavissima*
Brassicaceae	*Lepidium desertorum*
Colchicaceae	*Colchicum albomarginatum*
Cucurbitaceae	*Cucumis africanus*
Cucurbitaceae	*Cucumis myriocarpus*
Cucurbitaceae	*Citrullus amarus*
Cyperaceae	*Cyperus usitatus*

Euphorbiaceae	*Euphorbia hypogaea*
Fabaceae	*Lessertia annularis*
Geraniaceae	*Pelargonium minimum*
Hyacinthaceae	*Albuca setosa*
Hyacinthaceae	*Drimia physodes*
Lamiaceae	*Salvia verbenaca*
Limeaceae	*Limeum aethiopicum*
Malvaceae	*Hermannia erodioides*
Malvaceae	*Malva parvifolia*
Poaceae	*Aristida adscensionis*
Poaceae	*Aristida diffusa*
Poaceae	*Enneapogon desvauxii*
Poaceae	*Eragrostis lehmanniana*
Poaceae	*Eragrostis obtusa*
Poaceae	*Stipagrostis obtusa*
Poaceae	*Tragus berteronianus*
Scrophulariaceae	*Aptosimum indivisum*
Scrophulariaceae	*Nemesia fruticans*
Scrophulariaceae	*Jamesbrittenia tysonii*
Solanaceae	*Lycium cinereum*
Zygophyllaceae	*Tribulus terrestris*