

**Aquatic Ecological Compliance
Statement**

For

**Rhino & Sunnyside PV Energy
Facility**

November 2023



M²ENCO

**Title:**

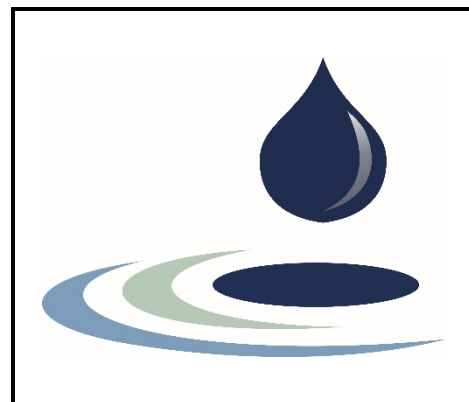
Aquatic Ecological Compliance Statement for the development of the Rhino and Sunnyside PV Energy Facility near Beaufort West, Western Cape under DFFE Reference Number: 14/12/16/3/3/1/2921.

Client:

CLIENT:	<i>SIVEST SA (Pty) Ltd</i>
Contact:	Zikhona Wana
Tel number:	021 689 2377
Cell number:	031 581 1500
Website:	Sivest.com
Email:	zikhonaw@sivest.com



CONSULTANT:	<i>M² Environmental Connections (Pty) Ltd</i>
Contact:	Hanjo Fourie
Designation:	Environmental Consultant
Address:	PO Box 2047 Garsfontein East 0060
Tel number:	012 004 0362
Email:	hanjo@menco.co.za

**Reviewer:**

Reuhl Lombard (M.Sc.; Pr. Sci. Nat. 128735)
Johan Maré (M.Sc.; Pr. Sci. Nat. 400092/91)

Report no:

SIVEST/AQUA/2023/Rhino&Sunnyside/V1

Date:

November 2023

COPYRIGHT WARNING

This document is privileged and confidential in nature and unauthorised dissemination or copying is prohibited. Menco claims protection of this information in terms of the Promotion of Access to Information Act, (No 2 of 2002) and without limiting this claim, especially the protection afforded by Chapter 4.



EXECUTIVE SUMMARY

K2022578692 South Africa (PTY) LTD has engaged SiVEST SA (Pty) Ltd to undertake the Basic Assessment process for the proposed 500 MW solar Photovoltaic (PV) facility and associated infrastructure near Beaufort West. Acting as independent Environmental Assessment Practitioners, SiVEST appointed M² Environmental Connections (Pty) Ltd as the independent specialist to complete the Aquatic Biodiversity Site Sensitivity Verification and Compliance Statement Assessment as independent specialists. The Aquatic Ecological Assessment for the Rhino PV Solar Energy Facility, situated approximately 25km northeast of Beaufort West on the Remainder of Farm Rhenosterkop 155 and the Sunnyside PV Solar Energy Facility, 26km east of Beaufort West on the Farm 400 in the Western Cape Province, aligns with the Environmental Authorisation Process mandated by the National Environmental Management Act, 1998 (Act No. 107 of 1998), and follows GN 320 of March 2020.

This Compliance Statement notes that the site's indicators indicate that the aquatic ecological footprint will have a localised and minimal impact, preserving the sensitive surroundings and water bodies associated with the broader project. The Platdoring River exhibits medium ecological sensitivity, and the L11F catchment has a low ecological importance sensitivity, with few sensitive aquatic elements near the study area. Despite being recognised as a vital ESA River system, the Platdoring River's low priority status is justified by continuous dry conditions and a persistent zero flow status. The aquatic compliance statement aims to minimise and mitigate potential impacts, with the overall effect on aquatic features deemed negligible despite ESA1 classification.

Should the project progress, engagement with the Department of Water and Sanitation (DWS) for the necessary water use authorisation application processes, such as a General Authorisation or Water Use License, will be required. The report recommends that the low importance and sensitivity of wetlands, rivers, and drainage lines (aquatic features) be considered by the DWS in deciding whether a GA or WUL is necessary in terms of Section 21 of the National Water Act (Act 36 of 1998).

In summary, the proposed Rhino PV and Sunnyside PV energy facilities are expected to proceed without substantial adverse effects on aquatic ecosystems provided the proposed mitigation measures are diligently implemented. This expert opinion is based on the



outlined mitigations and controls, ensuring successful project execution in accordance with environmental compliance and sustainability standards.

TABLE OF CONTENTS

1	INTRODUCTION	1
1.1	<i>Project Description & Background</i>	<i>1</i>
1.2	<i>Project Locality</i>	<i>3</i>
1.2.1	Rhino PV Facility	3
1.2.2	Sunnyside PV Facility	3
1.3	<i>Scope and Objectives</i>	<i>8</i>
2	TERMS OF REFERENCE & RELEVANT LEGISLATION.....	9
2.1	<i>Relevant Legislation</i>	<i>9</i>
2.1.1	Screening Tool outcomes for the Rhino PV SEF	9
2.1.2	Screening Tool outcomes for the Sunnyside PV SEF.....	10
3	ASSESSMENT METHODOLOGY	12
4	LIMITATIONS AND ASSUMPTIONS.....	13
5	AQUATIC CONSIDERATIONS: IMPACT FINDINGS & RESULTS.....	14
5.1	<i>Aquatic Biodiversity.....</i>	<i>14</i>
5.1.1	Rhino PV Energy Facility	15
5.1.2	Sunnyside PV Energy Facility	18
5.2	<i>CBA's and Wetlands</i>	<i>23</i>
5.2.1	Rhino PV SEF.....	23
5.2.2	Sunnyside PV SEF	25
6	SITE SENSITIVITY VERIFICATION	28
6.1	<i>Site Sensitivity & Buffers Required</i>	<i>28</i>
6.2	<i>No-go Areas</i>	<i>32</i>
6.3	<i>Consideration of Alternatives</i>	<i>32</i>
6.4	<i>Confirmation of Site Sensitivity.....</i>	<i>33</i>
7	PROPOSED IMPACT MANAGEMENT ACTIONS.....	35



7.1 Cumulative Impacts	43
8 AQUATIC COMPLIANCE STATEMENT.....	44
9 REFERENCES	46
10 ADDENDUMS.....	47

LIST OF FIGURES

Figure 1-1: Local Setting of Proposed Rhino and Sunnyside PV Facilities	3
Figure 1-2: Regional Settling of the Proposed Rhino PV Facility	4
Figure 1-3: Rhino PV Facility Farm Portions	5
Figure 1-4: Regional Settling of the Proposed Sunnyside PV Facility	6
Figure 1-5: Sunnyside PV Facility Farm Portions	7
Figure 5-1: Platdoring River and Drainage Lines associated with the Rhino SEF Site	17
Figure 5-2: Drainage Lines & Aquatic Features associated with the Sunnyside Facility	20
Figure 5-3: Rhino & Sunnyside PV Site Photographs and Locations	22
Figure 5-4: CBA's and NFEPA Features for the Rhino PV SEF	24
Figure 5-5: CBA's and NFEPA Features for the Sunnyside PV SEF	27
Figure 6-1: Rhino PV Aquatic Sensitivities	30
Figure 6-2: Sunnyside PV Aquatic Sensitivities	31

LIST OF TABLES

Table 1-1: Project Overview and details of Developments	1
Table 1-2: Project Technical Details.....	2
Table 2-1: Screening Tool Outcomes	10
Table 2-2: WCBSP, 2017 Outcomes.....	10
Table 2-3: Screening Tool Outcomes	11
Table 2-4: WCBSP, 2017 Outcomes.....	12
Table 5-1: Regional Characteristics of the Project Area	14
Table 7-1: Input to the Environmental Management Programme	37

LIST OF ADDENDUMS

- Addendum 1: Environmental Screening Tool Reports*
- Addendum 2: Site Verification Reports*
- Addendum 3: Project Team & Work Experience Report*
- Addendum 4: Risk Matrix Assessment (Rhino SEF only)*




LIST OF ABBREVIATIONS

ASPT	Average Score per Taxon
BSC	Biodiversity Sub-catchment Category
BA	Basic Assessment
BPA	Biodiversity Priority Areas
CBA	Critical Biodiversity Area
CMA	Catchment Management Area
DEC	Default Ecological Class
DWS	Department of Water and Sanitation
EA	Environmental Authorisation
EcoStatus	Ecological Status
EIS/C	Ecological Importance and Sensitivity / Category
ESA	Ecological Support Area
FEPA	Freshwater Ecosystem Priority Area
FRAI	Fish Response Assessment Index
GA	General Authorisation
GN	Government Notice
IHI	Index of Habitat Integrity
Km	Kilometers
NBA	National Biodiversity Areas
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998)
NFEPA	National Freshwater Ecosystem Priority Area
NWA	National Water Act (Act 36 of 1998)
PA	Protected Area
PES/C	Present Ecological State / Category
PV	Photovoltaic
QDG	Quarter Degree Grid
REC	Recommended Ecological Category
RHP	River Health Programme
RQO	Resource Quality Objectives
SANBI	South African National Biodiversity Institute
SASS5	South African Scoring System Version 5
SEF	Solar Energy Facility
Sub-WMA	Sub Water Management Area
WMA	Water Management Area
WUL	Water Use License





Declaration of Independence (Author)

I, **Hanjo Fourie**, declare that I act as the independent specialist for the aquatic compliance statement of this application. I conduct assessments in an objective manner, even when the views and findings might not be favourable to the Applicant. I have the expertise to conduct the assessment and will comply with the regulations and other applicable legislation. I do not have conflicting interests in the undertaking of the activity. I undertake to disclose all material information in my possession that has or may have the potential of influencing any decision to be taken in respect to the application.

Signature of Specialist	
SACNASP Registration No	SACNASP – 125420 (Aquatic Science); WISA - 40759; SASAqS – 0028; NAEHMP Accredited (11 years' experience and 9 Years accredited)
Name of Company	M ² Environmental Connections (Pty) Ltd
Date	November 2023

Declaration of Independence (Reviewers)

I, **Reuhl Lombard & Johan Maré**, declare that we act as the independent specialist for the aquatic compliance statement of this application. We conduct assessments in an objective manner, even when the views and findings might not be favourable to the Applicant. We have the expertise to conduct the assessment and will comply with the Act, regulations and other applicable legislation. We do not have conflicting interests in the undertaking of the activity. We undertake to disclose all material information in my possession that has or may have the potential of influencing any decision to be taken in respect to the application.

Signature of Specialist	 
SACNASP Registration No	128735 & 400092/91
Name of Company	M ² Environmental Connections (Pty) Ltd
Date	October 2023



**GN 320 OF 20 MARCH 2020: PROTOCOLS FOR THE COMPLIANCE STATEMENT AND
MINIMUM REPORT CONTENT REQUIREMENTS FOR ENVIRONMENTAL IMPACTS ON
AQUATIC BIODIVERSITY**

3	<i>Aquatic Biodiversity Compliance Statement</i>		
3.1	The compliance statement must be prepared by a suitably qualified specialist registered with the SACNASP, with expertise in the field of aquatic sciences.		The author, Hanjo Fourie, is an accredited SASS5 practitioner with more than 11 years' experience in the aquatic field. SACNASP: 125420 WISA: 40759 SASAqS: 0028
3.2	<i>The compliance statement must:</i>		
	3.2.1	be applicable to the preferred site and the proposed development footprint	Section 1.2
	3.2.2	confirm that the site is of "Low" sensitivity for aquatic biodiversity; and	Section 2.1.1
	3.2.3	Indicate whether or not the proposed development will have an impact on the aquatic features.	Section 5 and Section 6
3.3	<i>The compliance statement must contain, as a minimum, the following information:</i>		
	3.3.1	contact details of the specialist, their SACNASP registration number, their field of expertise and a curriculum vitae;	Page vii, Addendum 3
	3.3.2	a signed statement of independence by the specialist;	Page vii
	3.3.3	a statement on the duration, date and season of the site inspection and the relevance of the season to the outcome of the assessment;	Section 5
	3.3.4	a baseline profile description of biodiversity and ecosystems of the site;	Section 5.1 & 5.2
	3.3.5	the methodology used to verify the sensitivities of the aquatic biodiversity features on the site including the equipment and modelling used where relevant;	Section 3
	3.3.6	in the case of a linear activity, confirmation from the aquatic biodiversity specialist that, in their opinion, based on the mitigation and remedial measures proposed, the land can be returned to the current state within two years of completion of the construction phase;	N/A
	3.3.7	where required, proposed impact management outcomes or any monitoring requirements for inclusion in the EMP; and	Section 7
	3.3.8	a description of the assumptions made as well as any uncertainties or gaps in knowledge or data; and	Section 4
	3.3.9	Any conditions to which this statement is subjected.	Section 8
3.4	<i>A signed copy of the compliance statement must be appended to the Basic Assessment Report or Environmental Impact Assessment Report.</i>		



1 INTRODUCTION

1.1 Project Description & Background

K2022578692 South Africa (PTY) LTD, has appointed SIVEST SA (Pty) Ltd (SIVEST) to undertake the required Basic Assessment (BA) process for the proposed development of the 500-megawatt alternating current (MWac) solar photovoltaic (PV) facility and associated infrastructure. The project is being developed either to supply the national grid under the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) or a similar procurement programme. A project overview and details of the proposed SEFs is provided in **Table 1-1**. The proposed project will consist of the following infrastructure:

The applicant intends to develop a solar energy facility (SEF) and associated infrastructure on Remainder of farm Rhenosterkop 155 and Sunnyside Farm 400, Western Cape Province. A total development footprint of approximately 489.09 hectares (ha) is envisaged for the project. Details of each farm are provided in **Table 1-2** below.

Table 1-1: Project Overview and details of Developments

Projects	Description
1 x SEF	<ul style="list-style-type: none"> • Approximate combined capacity: 500 MWac; • Approximate combined properties affected/ site extent: 1,028.87 ha; • Associated infrastructure, per cluster, include: <ul style="list-style-type: none"> ◦ 6 to 8 metres (m) of access roads and 4 m internal roads; ◦ Solar PV panels; ◦ 132 kilovolt (kV) substation at a height of approximately 21 m; ◦ One construction camp per site with temporary containers occupying approximately 1 ha per site; ◦ 2 ha temporary construction laydown/ staging areas within the development area; ◦ The 1 ha construction camps will become the operational site camp offices, workshop areas, operation and maintenance (O&M) building, permanent parking area, storage area, etc.; ◦ Triple wire, electrical fencing of 3 m maximum height; ◦ Up to 5.8 ha Battery Energy Storage Systems (BESS) area.



The project will consist of one (1) Environmental Authorisation (EA), and one (1) BA. Thus, the entire project will require one EA process in terms of the Environmental Impact Assessment Regulations, 2014 as amended (EIA Regulations) and as promulgated under the National Environmental Management Act, 1998 (Act 107 of 1998) as amended (NEMA).

The proposed SEF and associated infrastructure are situated within a Renewable Energy Development Zone (REDZ), namely Zone 11 – Beaufort West.

SiVEST has been appointed as an independent Environmental Assessment Practitioner (EAP) to undertake the BA for the required EA application and Water Use Authorisation (WUA). As part of the processes, specialist studies need to be undertaken. This report details the methods, analysis, and findings of the Aquatic Ecological Compliance Statement undertaken by M2 Environmental Connections (Pty) Ltd (MENCO) as independent specialists on behalf of SiVEST for the proposed Rhino and Sunnyside PV Energy Facilities.

The project will entail development of PV facilities within the following locality classifications. The project locality can be seen in **Figure 1-1**. This report will focus on both the Rhino and Sunnyside PV Energy Facilities. The report will feature individual sections dedicated to each PV facility and presenting findings and discussions within their respective headings.

Table 1-2: Project Technical Details

Development ID	QDG ¹	Aquatic BPA ²	Property Name	Central Coordinate	Extent
Rhino PV	3222BB 3222BD	ESA 1 ³	Remainder of Farm Rhenosterkop 155	32°14'11.72"S 22°50'16.49"E	4 247 ha, only 563 ha available for PV development
Sunnyside PV	3222BD	ESA 1	Farm 400	Western PV 32°21'04.06"S 22°49'59.79"E & Eastern PV 32°21'34.56"S 22°50'55.34"E	4 035 ha, only 525.2 ha available for PV Development <i>Western PV = 443ha</i> <i>Eastern PV = 82.2</i>

¹ Quarter Degree Grid cell wherein the project is located

² Biodiversity Priority Area wherein the project is located

³ Ecological Support Area applicable to the sites



1.2 Project Locality

1.2.1 Rhino PV Facility

The proposed solar PV facilities are located in Beaufort West as shown in **Figure 1-1**. The area for development of the Rhino PV SEF is situated approximately 25km northeast of Beaufort West in the Western Cape Province on the Remainder of Farm Rhenosterkop 155. The project area falls within the Central Karoo District Municipality (CKDM) and within the Beaufort West Local Municipality (BWLM). The applicable quarter degree grid cell is 3222BB and 3222BD. **Figure 1-2** and **Figure 1-3** provides the regional setting and farm properties respectively of the Rhino PV Facility.

1.2.2 Sunnyside PV Facility

The proposed area for development of the Sunnyside PV SEF is situated approximately 26km east of Beaufort West in the Western Cape Province on the Farm 400. The project area falls within the CKDM and within the BWLM. The applicable quarter degree grid cell is 3222BD. **Figure 1-4** and **Figure 1-5** provides the regional setting and farm properties respectively of the Sunnyside PV Facility.

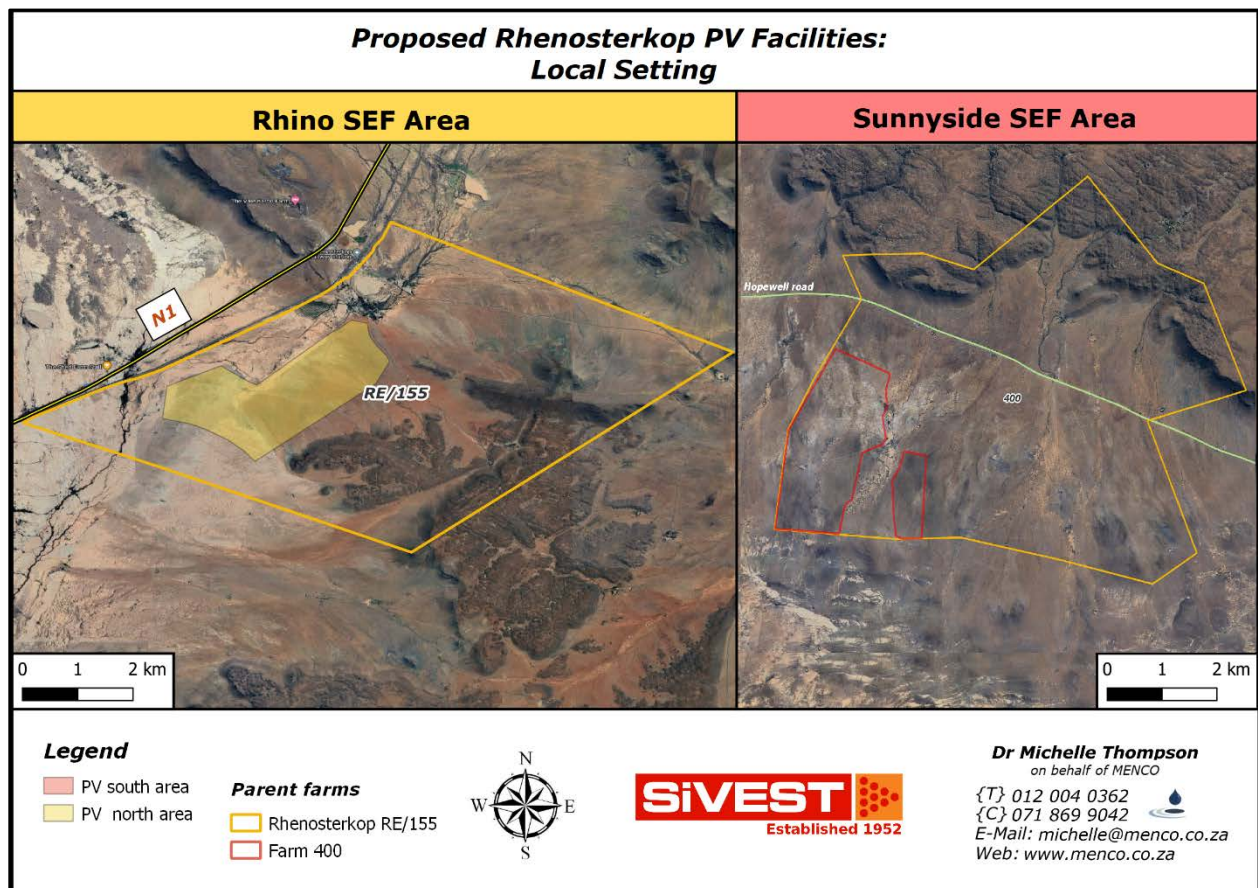


Figure 1-1: Local Setting of Proposed Rhino and Sunnyside PV Facilities

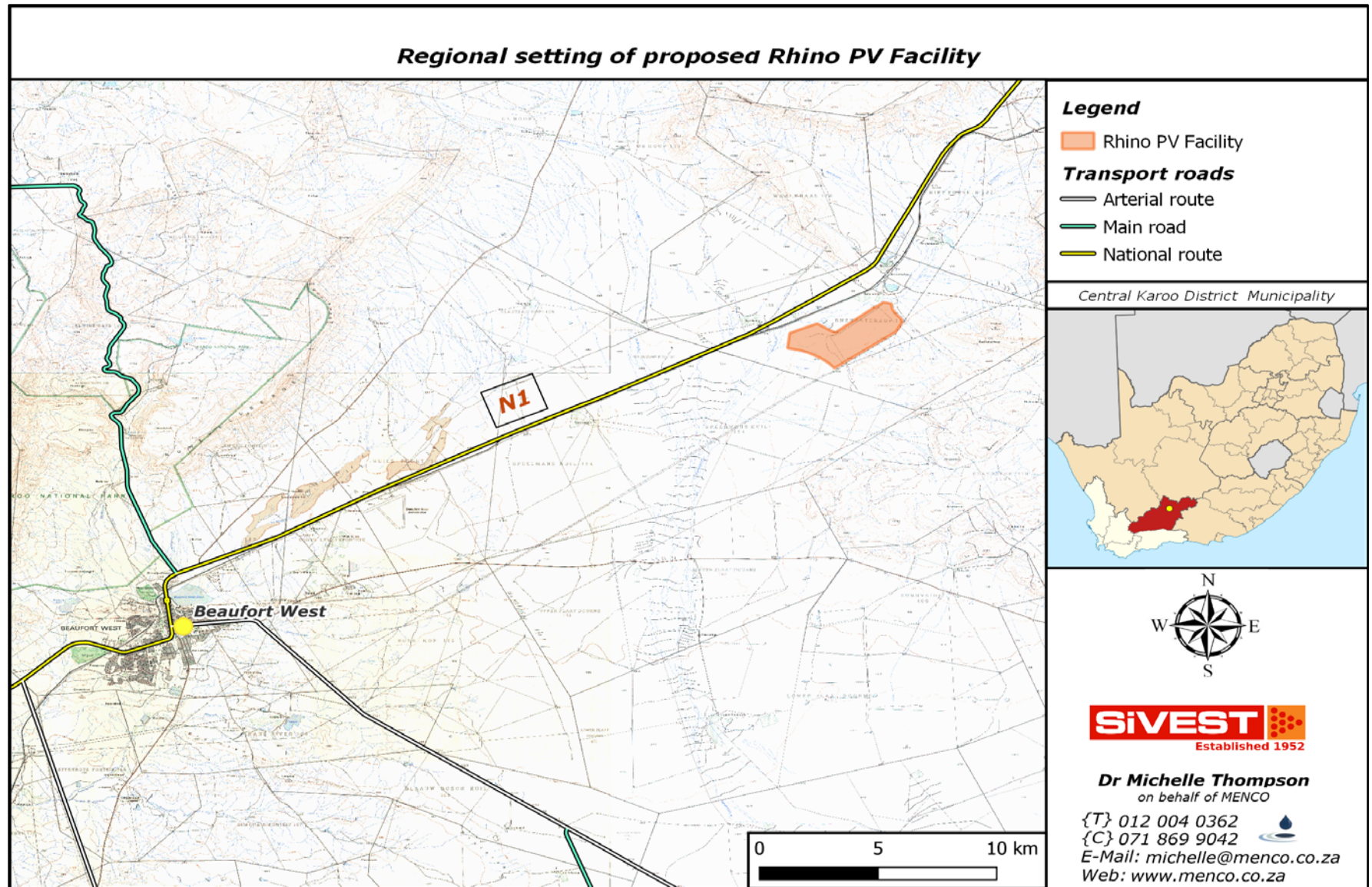


Figure 1-2: Regional Settling of the Proposed Rhino PV Facility

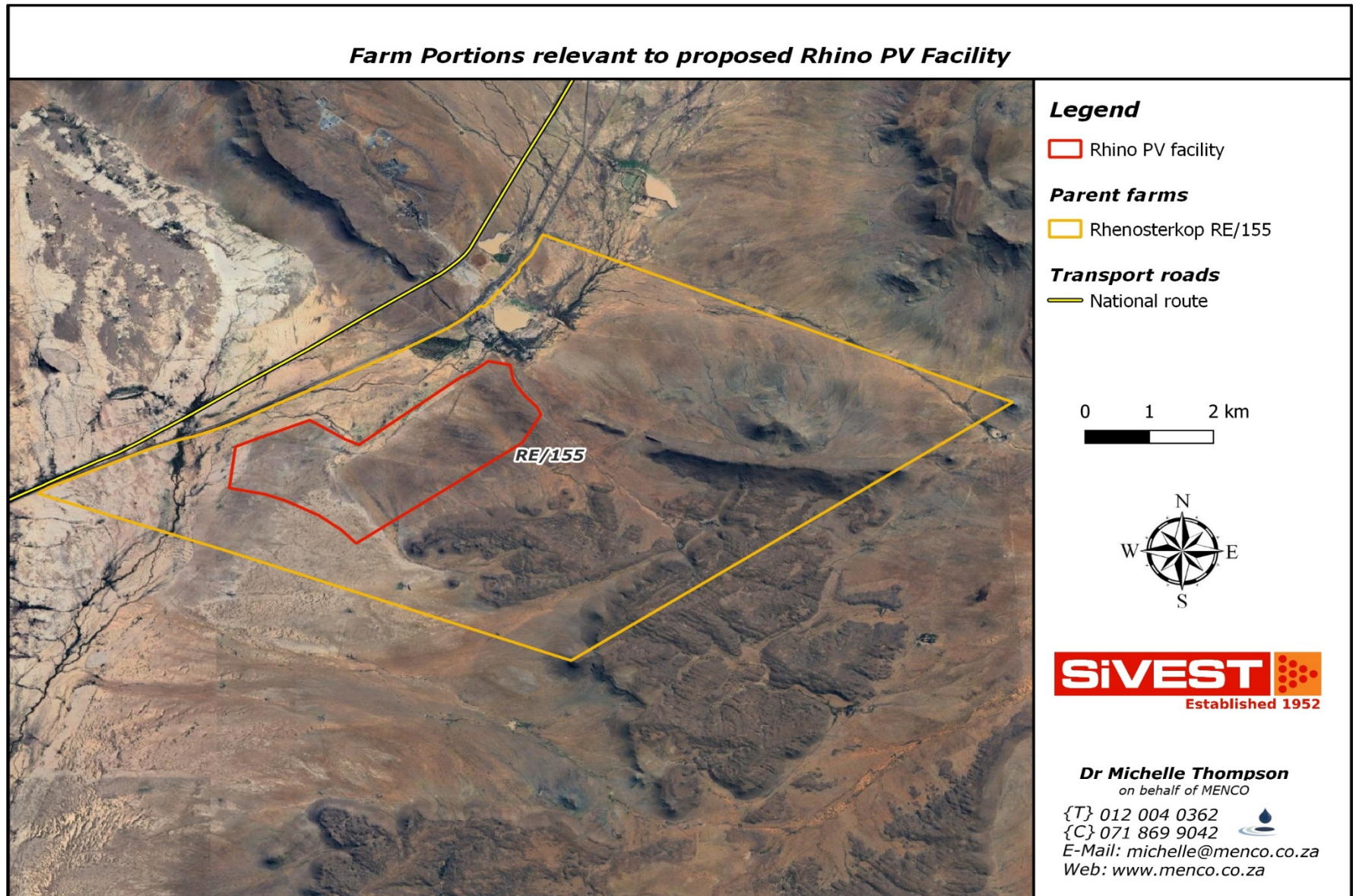


Figure 1-3: Rhino PV Facility Farm Portions

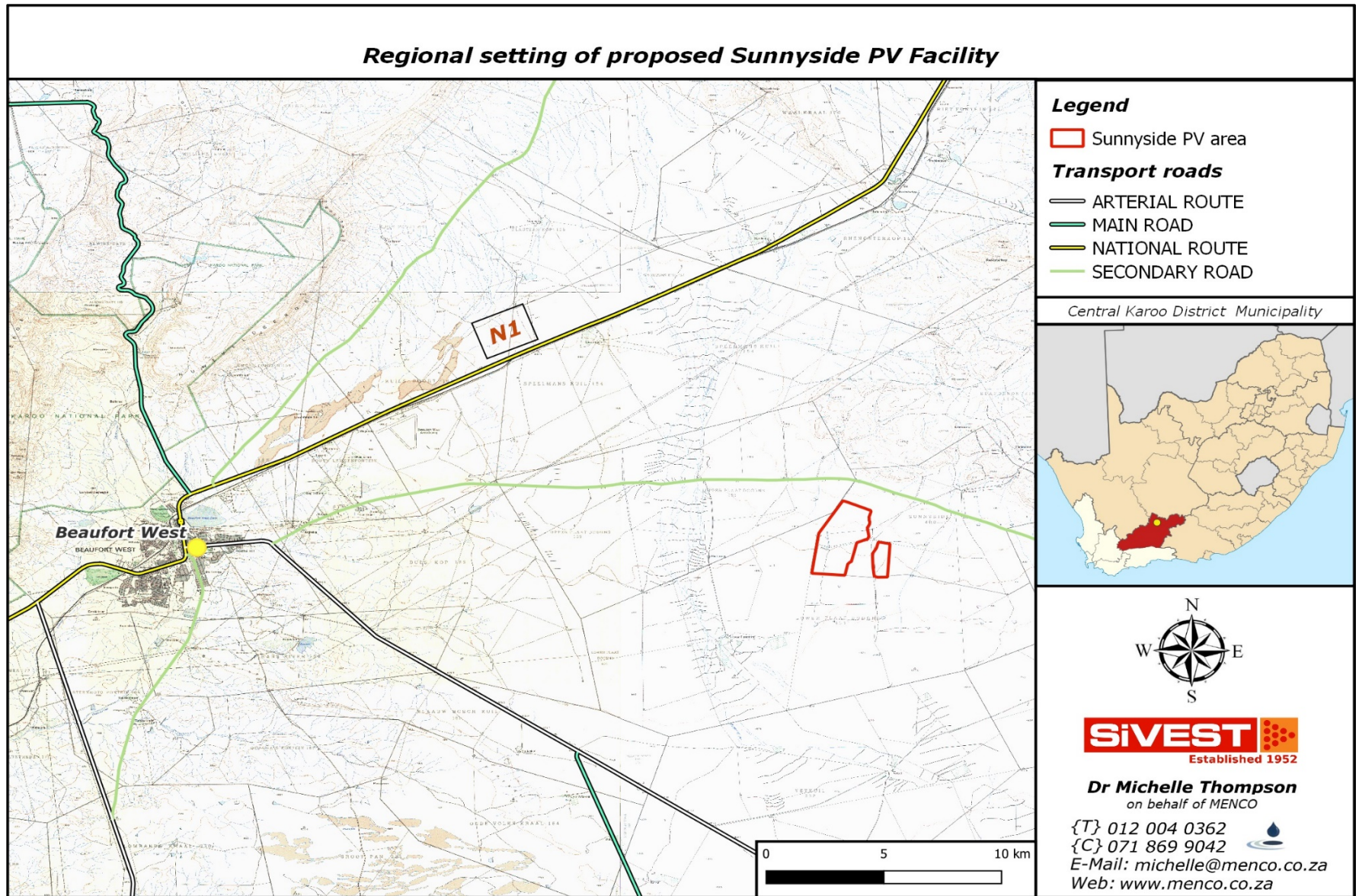


Figure 1-4: Regional Settling of the Proposed Sunnyside PV Facility

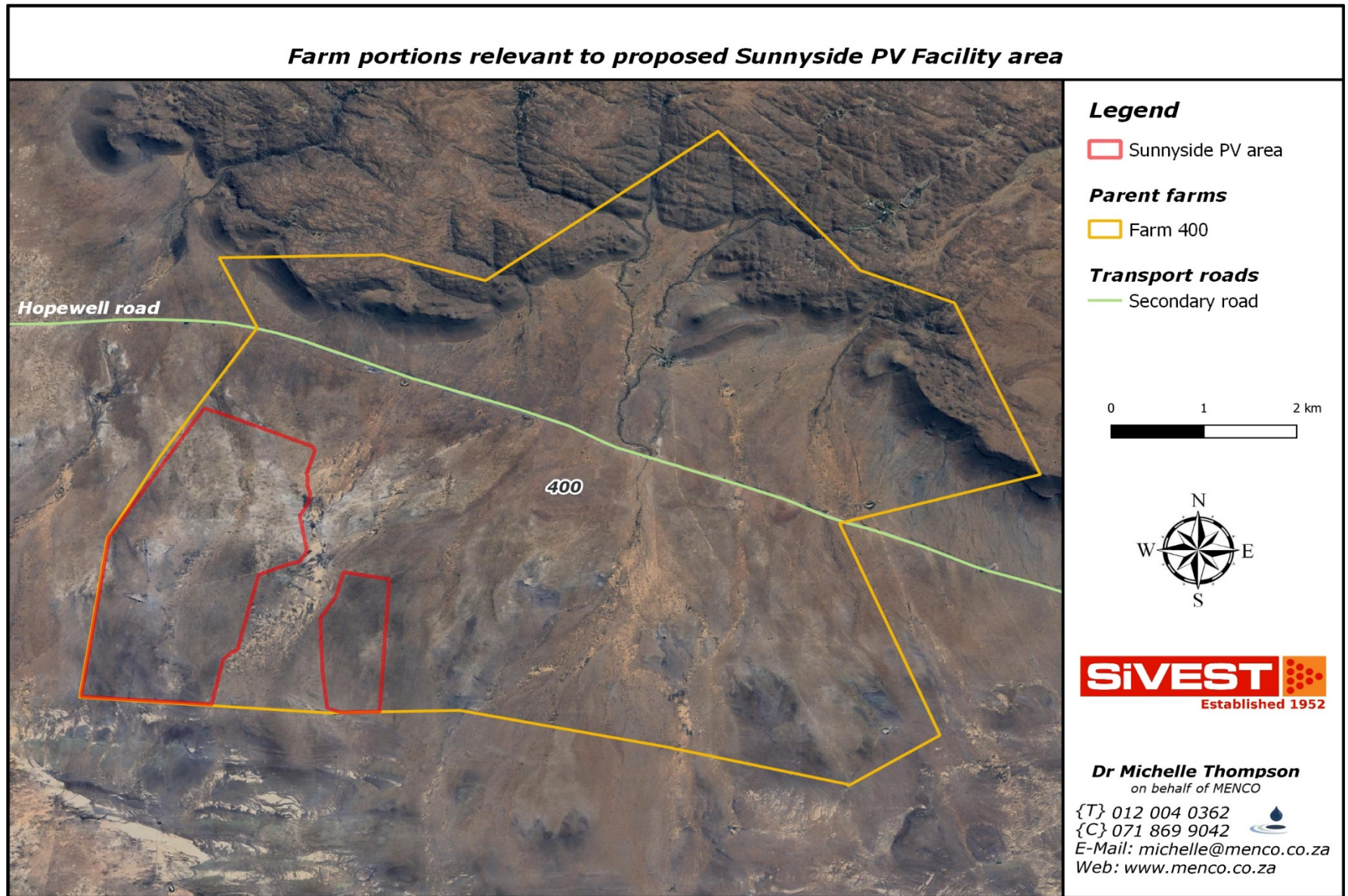


Figure 1-5: Sunnyside PV Facility Farm Portions



1.3 Scope and Objectives

Government Notice (GN) 320 of March 2020 as well as GN 4167 of 08 December 2023 provides protocols and criteria for the assessment and reporting of impacts on aquatic biodiversity for any activity requiring EA and WUA as per the NEMA and NWA. The assessment and minimum reporting requirements of this protocol are associated with detected levels of environmental sensitivity identified by the national web based environmental screening tool (screening tool). The requirements for aquatic biodiversity are dictated by sites which support various levels of aquatic biodiversity, inclusive of the presence of potential species of concern.

Prior to commencing with the specialist assessment, the current use of the land and the potential environmental sensitivity of the site under consideration as identified by the screening tool were confirmed by undertaking site sensitivity verification (SSV) on the 10th till the 12th of October 2023. As part of the SSV, a desktop analysis was done on the site in question and followed by a preliminary on-site inspection. The Screening Reports and SSV can be viewed under **Addendum 1 and 2**.

Usually, long term objectives are provided for any aquatic biological monitoring programme. However, given that this is a once-off assessment, the following short-term objectives for an aquatic biological monitoring programme are provided. Short term objectives measure, assess and report on the health and status related to the receiving environmental indicators representing the aquatic ecosystem associated to the specific project.

- *Conduct baseline surveys to determine the current state of the aquatic ecosystem;*
- *Assess the health of aquatic populations, including their distribution and abundance;*
- *Identify and monitor critical habitats, such as breeding and spawning areas for fish and other aquatic species;*
- *Conduct regular water quality assessments to determine potential sources of pollution or contamination;*
- *Monitor changes in aquatic plant communities, including the presence of nuisance species;*
- *Collect and analyse data on the overall health of the aquatic ecosystem and use the findings to inform management decisions.*



2 TERMS OF REFERENCE & RELEVANT LEGISLATION

2.1 Relevant Legislation

In terms of the Environmental Impact Assessment (EIA) Regulations promulgated under National Environmental Management Act (Act 107 of 1998) (NEMA), an EA is required for the proposed 500MW solar PV facility. Grid connection infrastructure for the proposed facility will be subject to separate EA process.

MENCO has been appointed as independent Aquatic Specialists to undertake the required SSV and Compliance Statement for the Aquatic Biodiversity theme in support of the BA and WUA process and application. This study is in support of an EA Processes as required by the NEMA and NWA, respectively. The assessment has been done in accordance with GN 320 of March 2020 including GN 4167 of 08 December 2023. Additionally, the WUA is also required in terms of Section 21 of the National Water Act (Act 36 of 1998).

2.1.1 Screening Tool outcomes for the Rhino PV SEF

The Screening Tool for the Rhino PV project indicates that the project area is considered "Very High Sensitivity" in terms of the Aquatic Biodiversity Theme. The (SSV) concluded that an Aquatic Compliance Statement will suffice for the EA process. The findings and outcomes of the assessment are discussed under **Section 5.1.1 and 5.2.1**, while an Impact Statement and Conclusion is outlined in **Section 7 and 8**.

As GN 4167 of December 2023, it stipulates under Condition 6 that the exercise of Section 21 (c and i) water use activities may be done without being subject to a Risk Assessment Matrix if no direct impact on a watercourse will occur. The Rhino SEF consists of the Platdoring River to the west of the site, however no direct impacts will occur within this watercourse it still located within the 100m buffer and a Risk Matrix Assessment has been conducted only for this site. (Refer to Addendum 4).

Key Activities

The key activities that require EA relate to the development of the PV infrastructure, and associated infrastructure and road networks required to effectively access the infrastructure. The structures in question and the project as a whole triggered themes and sensitivities as outlined in **Table 2-1**.



Table 2-1: Screening Tool Outcomes

Theme/specialist assessment	Facility	Sensitivity	Feature(s)
Aquatic Biodiversity	Rhino PV SEF	Low	Low sensitivity
		Very High	ESA 1: Aquatic
		Very High	Rivers_Z

The Screening Tool (**Addendum 1**) clearly presented the aquatic sensitivity features within the project area. 90% of the project area falls under a “Low Sensitivity” while non-perennial drainage lines are featured as having “Very High Sensitivity”.

Western Cape Biodiversity Spatial Plan for Beaufort West (WCBSP, 2017), presents the most updated Critical Biodiversity Areas Map for the region and delineates biodiversity priority areas as Critical Biodiversity Areas (CBA), Ecological Support Areas (ESA) and Protected Areas (PA). CBAs are key natural areas that are required to meet national biodiversity pattern and process targets. Areas housing critically endangered ecosystems as well as areas required for the continued existence and functioning of ecosystems and ecosystem services are also classified as CBAs. ESAs include natural, near-natural, degraded or heavily modified areas required to be maintained in an ecologically functional state to support CBAs and/or Protected Areas, and are usually vital for supporting landscape connectivity and the delivery of ecosystem services. **Table 2-2** describes the relationship between the project area and the 2017 WCBSP.

Table 2-2: WCBSP, 2017 Outcomes

Development site	Screening tool Criteria	Description
PV	Ecological Support Areas	ESA1 – all drainage lines ESA2 – modified drainage lines
	Critical Biodiversity Area	Bordered by a small CBA1 area

2.1.2 Screening Tool outcomes for the Sunnyside PV SEF

The Screening Tool for the Sunnyside PV project indicates that the project area is considered “Very High Sensitivity” in terms of the Aquatic Biodiversity Theme. The SSV concluded that this finding can be disputed and revised to low that an Aquatic Compliance Statement will suffice for the EA and WULA process. The findings and outcomes of the assessment are discussed under **Section 5.1.2 and 5.2.2**, while an Impact Statement and Conclusion is outlined in **Section 7 and 8**.

As per GN 4167, it stipulates under Condition 6 that the exercise of Section 21 (c and i) water use activities may be done without being subject to a Risk Assessment Matrix if no



direct impact on a watercourse will occur. The Sunnyside SEF is located 3.8km to the North of the Platdoring River and no direct impact will occur on this watercourse. The aquatic features located on site are insignificant drainage lines with no aquatic ecological contribution to the catchment PES.

Key Activities

The key activities that require EA relate to the development of the PV infrastructure, and road networks required to effectively access the infrastructure. The structures in question and the project as a whole triggered themes and sensitivities as outlined in **Table 2-3**.

Table 2-3: Screening Tool Outcomes

Theme/specialist assessment	Facility	Sensitivity	Feature(s)
Aquatic Biodiversity	Sunnyside PV SEF	Low	Low sensitivity
		Very High	ESA 1: Aquatic

The Screening Tool (**Addendum 1**) clearly presented the aquatic sensitivity features within the project area. The project area, depicted in **Figure 1-4** and **Figure 1-5**, is divided into two sections: the larger western site (446 ha) and the smaller eastern site (82.2 ha). The screening tool revealed that about 90% of the western project area is categorised as "Low Sensitivity." However, non-perennial drainage lines are classified as "Very High Sensitivity" and designated as ESA1 (aquatic features). Near but outside of the eastern site boundary, a small ESA1 area was identified. The entire eastern site, comprising 100%, is labelled as "Low Sensitivity" with no on-site aquatic sensitivity features. This report will therefore, not delve further into the eastern site of the Sunnyside PV Facility and all focus will be on the larger western area.

The WCBSP (2017) presents the most updated Critical Biodiversity Areas Map for the region and delineates biodiversity priority areas as CBAs, ESA's and PAs. CBAs are key natural areas that are required to meet national biodiversity pattern and process targets. Areas housing critically endangered ecosystems as well as areas required for the continued existence and functioning of ecosystems and ecosystem services are also classified as CBAs. ESA's include natural, near-natural, degraded or heavily modified areas required to be maintained in an ecologically functional state to support CBA's and/or Protected Areas, and are usually vital for supporting landscape connectivity and the delivery of ecosystem services. **Table 2-4** describes the relationship between the project area and the 2017 WCBSP.



Table 2-4: WCBSP, 2017 Outcomes

Development site	Screening tool Criteria	Description
PV	Ecological Support Areas	ESA1 – All drainage lines ESA2 – modified drainage lines

Please refer to **Figure 5-4** and **Figure 5-5** for the relevant ESAs and CBAs applicable to the study areas.

3 ASSESSMENT METHODOLOGY

A desktop survey was conducted where available data from the site was obtained for the aquatic communities that have been recorded from this area as well as the conservation importance of the site. In line with NEMA and NWA data was obtained from the following resources:

- FBIS: Freshwater Biodiversity Information System (FBIS). 2022. Downloaded from <https://freshwaterbiodiversity.org> on 16 October 2023.
- SANBI Biodiversity GIS
- RWQO version 4.1
- The Virtual Museum managed by the FitzPatrick Institute of African Ornithology and The Biodiversity and Development Institute.
 - **Fish:** The Virtual Museum - FishMAP (<http://vmus.adu.org.za/>);
 - **Odonata:** The Virtual Museum – OdonataMAP.

In addition to the desktop survey, the sites in question were investigated on foot by means of a site walk-over by a field specialist. The site visit took place during the 10th and 11th of October 2023. This study does not warrant intensive long term field sampling and as such, the conditions on site were evaluated during a rapid field assessment.

Aquatic scientific procedures were followed during the site visit, however, not all protocols could be completed due to the lack of suitability of the stream and drainage lines. As a result of water scarcity, no sampling occurred on the Rhino PV site as well as the Sunnyside PV Site. Visual assessments were conducted, yet the visibility of the Platdoring River and its drainage lines was obscured by the prevailing semi-arid environmental conditions in the area. Site photos of the aquatic assessment are available within **section 5.1.1** and **section 5.1.2**



4 LIMITATIONS AND ASSUMPTIONS

The report is subject to the following limitations and assumptions:

Due to the scarcity of biotopes and water resources, the implementation of aquatic methodologies proved to be impractical. Consequently, it is assumed that the selected sample sites for the aquatic assessment effectively represent the broader aquatic conditions in the project area. It is further assumed that the environmental conditions during the study period are typical of the broader conditions in the semi-arid environment.

The Platdoring River was thoroughly searched and assessed upstream and downstream from the site. Seasonal Variability played a major role with limited water bodies which can be variable in semi-arid environments such as the Rhino PV site location. The assessment may not capture the full range of aquatic conditions throughout the year. The current assessment was only a once-off assessment, in order for the aquatic assessment to yield more favourable results it is recommended that an aquatic assessment be conducted shortly after a noteworthy precipitation event. The river systems within the quaternary catchment are non-perennial and episodic which limits the time for surface water availability within these water bodies.

The inability to procure data makes it challenging to determine the Present Ecological Status (PES) for the site or project. However, the catchment PES was taken into account. It is suggested that during the construction of the PV facility, measures are taken to prevent any spillages that could potentially affect surface water features or contribute to the already disturbed area.

The desktop section of this study was conducted with up-to-date resources. However, it should be noted that these data sources provided information for a much larger area which is not representative of the site itself but rather focus on the entire catchment area. In addition, as this study was a once-off assessment, seasonal or temporal variation in the presence or absence of aquatic species has been accounted for through the use of long-term online databases.

It is assumed that any identified impacts on the aquatic ecosystems can be effectively mitigated through the implementation of recommended measures, without causing significant long-term harm to the receiving environment.

It's essential to regularly revisit and update the findings of the Rhino PV Facility as the project progresses, while more relaxed conditions are set for the Sunnyside PV Facility.



5 AQUATIC CONSIDERATIONS: IMPACT FINDINGS & RESULTS

5.1 Aquatic Biodiversity

The sites are situated within the Nama Karoo Biome, within the Lower Karoo Bioregion (*Mucina and Rutherford, 2006*). The Lower Karoo Bioregion is the lowest-altitude bioregion within the biome, receiving minimal rainfall (mean annual precipitation of 203 mm per annum) and frost.

Table 5-1 provides an overview of the L11F quaternary catchment indicating that the Platdoring River is a Class C health category according to the EcoClassification and EcoStatus (*Kleynhans, Louw. 2007*). This classification might not accurately depict the stream due to the intermittent availability of water during significant periods of the year. The Default Ecological Management Class (DEMC) is set at a Class D indicating that a Large Risk is allowed within this catchment due to the low sensitivity. The Ecological Importance and Sensitivity Category (EISC) and South African National Biodiversity Institute (SANBI) National Freshwater Ecosystem Priority Area (NFEPA) Status indicate that the area falls within an ESA however the sensitivity is classified as "Low" with a Large Risk Allowable.

Table 5-1 provides the characteristics of the aquatic features within the proposed project area.

Table 5-1: Regional Characteristics of the Project Area

Attribute	Project Details
Water User	Rhino & Sunnyside PV Facility
Water Management Area	Mzimvubu-Tsitsikamma
Sub-water Management Area	Gamtoos
Primary Catchment Region	Region L
Quaternary Drainage Region	L11F
Level 1 Eco-region	Great Karoo (21)
Level 2 Eco-region	21.05
Main River in Catchment and Site Specific	Platdoring River
Main River PES	Class C: Moderately Modified
River EIS	Medium Sensitivity
Site Specific River Condition	Z – Heavily to Critically Modified
DWS RQO Catchment PES	Class C: Moderately Modified
Best Attainable Management Class	Class C: Moderately Modified
Default Ecological Management Class	Class D: Large Risk Allowed
Catchment EISC	Low Importance and Sensitivity
SANBI NFEPA Status	Low Importance



5.1.1 Rhino PV Energy Facility

The Rhino PV site fringes on the Southern Karoo Riviere vegetation, classified as Inland Azonal Vegetation. The Southern Karoo Riviere vegetation (also least threatened) is found on the northern boundary of the sites along the Platdoring River, which it intersects to the southwest of the project site. This vegetation type is located on the outer reaches of the riparian areas of the Platdoring River which slightly intersects with the site boundary.

The project area falls within the “L” (L1) Drainage Region within the Mzimvubu-Tsitsikamma WMA. The quaternary catchment area, L11F, falls within a Class C Moderately Modified category, while the Best Attainable Ecological Class is also set at a Class C. The Platdoring River (River Order 1) borders the north eastern corner of the property area. This River system is classified as a non-perennial tributary system with limited flow throughout the year. Considering the low seasonal rainfall occurring within the surrounding areas, the surface water within this river system and its associated drainage lines are very limited in quantity. Additionally, there are no observed impacts or developments, apart from the N1 Highway within close proximity to the property area. Additionally, Rhino PV Facility is also planning on filling in 2 of these drainage lines which is not expected to have any impacts on the aquatic ecosystems due to their fragmented/impacted current status.

The geomorphological Zone for the Platdoring River associated with the project is considered as an Upper Foothill. The NFEPA River Condition for the L11F catchment falls under a CDEFZ classification which indicates that this catchment has no associated FEPA associated with it and contains no protected species. The Platdoring River and associate drainage lines more specifically are classified as a River Condition Z. This classification indicates that the Platdoring River and its drainage lines are not intact according to natural land cover, meaning the features deviate from its natural state possibly due to human activities or alterations in land cover causing a non-pristine condition. The National Biodiversity Assessment, (2018) also further classifies the river system as a non-free flowing aquatic system. Please refer to **Figure 6-1** for an indication of waterbodies and drainage lines relevant to the site.

The aquatic ecological footprint of the Rhino PV site will have a low impact with impacts expected to be very localised and will not infringe on the surrounding sensitive areas nor the water bodies associated with the greater project area. Therefore, the specific conservation value of the site itself is very low.



The EIS of the Platdoring River is considered to be Medium while the L11F catchment has a Low EIS, with very minimal sensitive aquatic features identified in close proximity to the study area. The area is also listed as least concerned as far as threatened aquatic sub-catchments are concerned. Although the Platdoring River is considered as an important ESA River system, the dry conditions with continual zero flow status justifies this river as a low priority status. **Figure 5-1** present the aquatic features relevant to the Rhino PV site.

Please refer to **Figure 5-3** (both sites) for the location and description of where the site photographs were taken.

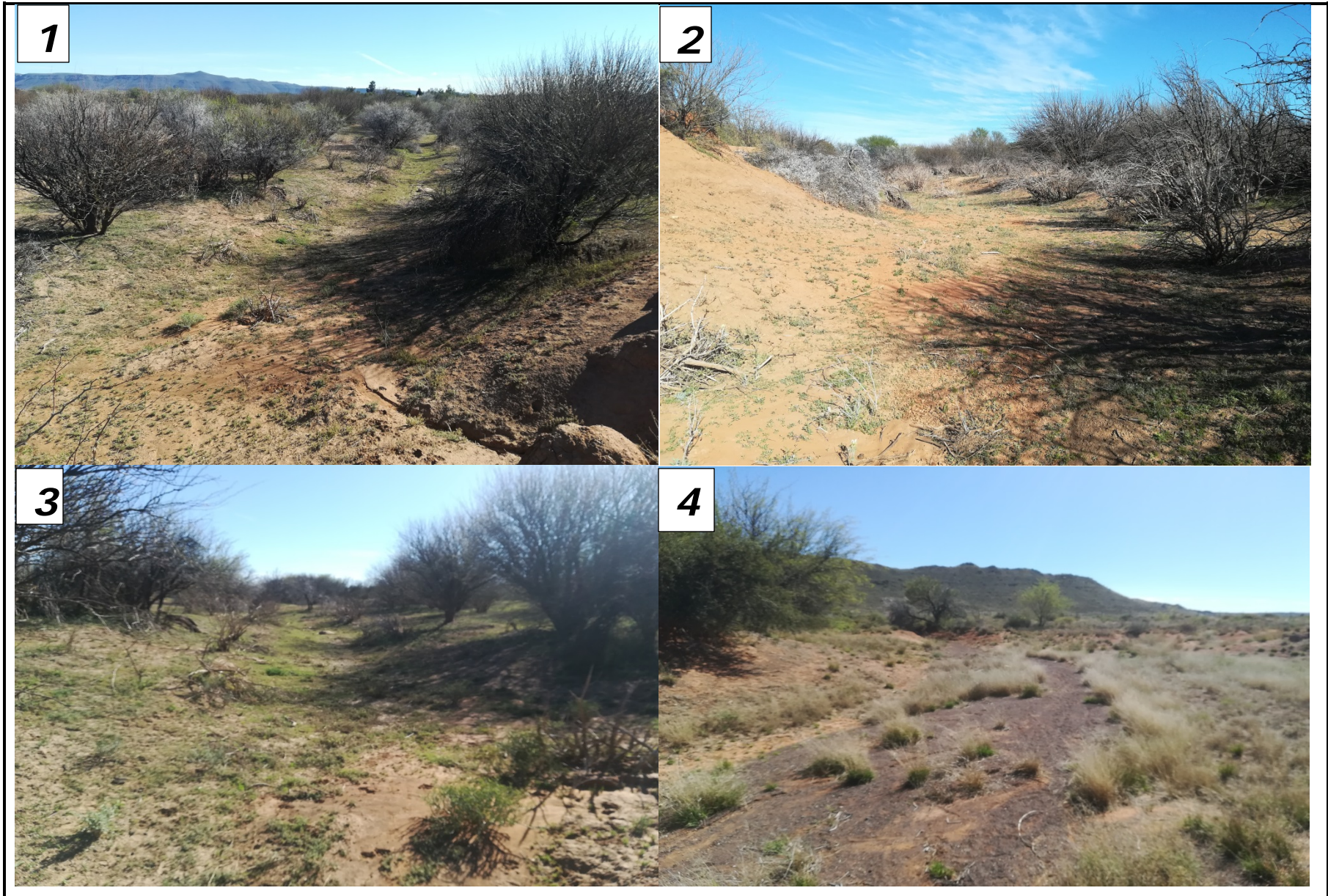


Figure 5-1: Platdoring River and Drainage Lines associated with the Rhino SEF Site



5.1.2 Sunnyside PV Energy Facility

The vegetation unit for the Sunnyside PV site is characteristic of the Gamka Karoo, a least threatened vegetation type of the Lower Karoo Bioregion. The Sunnyside project area is characterised more or less the same as the Rhino PV site.

The project area also falls within the “L” (L1) Drainage Region within the Mzimvubu-Tsitsikamma WMA. The quaternary catchment area, L11F, falls within a Class C Moderately Modified category, while the Best Attainable Ecological Class is also set at a Class C. The Platdoring River (River Order 1) is the main river within this catchment however this system drains approximately 3.8 km to the west of the project boundary and is not relevant to the project site (please refer to **Figure 5-4**). There are four (4) non-perennial drainage lines crossing the larger project area, with only 1 crossing the site and three (3) artificial dam waterbodies within the larger project area, all that can be classified as having a low EI and ES Class. The non-perennial tributary systems has very limited flow throughout the year and by considering the low seasonal rainfall occurring within the surrounding areas, the surface water within this river system and drainage region are very limited in quantity. Additionally, there are no observed impacts or developments within close proximity to the property area.

The Platdoring River system and nearby tributaries as well as the drainage lines are classified as a River Con Z (condition classification according to NFEPA), which indicates that the tributary condition and drainage lines are modelled as not intact, according to natural land cover. The NFEPA Wetland identified on-site is one Unchanneled Channelled Valley-bottom wetland but can be classified as artificially induced as mentioned (Artificial Dam) (please refer to **Figure 6-2**). Including this dam, there are three artificial small dams on site. The (EIS) of the Platdoring River is considered to be Medium while the L11F catchment has a Low EIS, with very minimal sensitive aquatic features identified in close proximity to the study area. The area is also listed as least concerned as far as threatened aquatic sub-catchments are concerned. Although the Platdoring River and its associated drainage lines are considered as an important ESA River system, the dry conditions with continual zero flow status justifies this River as a low priority status.

The geomorphological Zone for the Platdoring River and main drainage lines associated with the Sunnyside PV is considered as a Lower Foothill. The NFEPA River Condition for the L11F catchment falls under a CDEFZ classification while the Platdoring River and associate drainage lines are classified as a River Condition Z. This classification indicates that the Platdoring River and its drainage lines are not intact according to natural land cover,



meaning the features deviates from its natural state possibly due to human activities or alterations in land cover causing a non-pristine condition. The NBA (2018) also further classifies the river system as non-free flowing aquatic system.

The aquatic ecological footprint of the Sunnyside PV site will have a low impact with impacts expected to be very localised and will not infringe on the surrounding sensitive areas nor the water bodies associated with the greater project area. Therefore, the specific conservation value of the site itself is very low.

The Ecological Sensitivity and Importance (EIS) of the Platdoring River is considered to be Medium while the L11F catchment has a Low EIS, with very minimal sensitive aquatic features identified in close proximity to the study area. The area is also listed as least concerned as far as threatened aquatic sub-catchments are concerned. Although the drainage lines are considered as an important ESA aquatic feature the dry conditions with continual zero flow status justifies this drainage lines as a low priority status. **Figure 5-2** present the aquatic features relevant to the Sunnyside PV site.

Please refer to **Figure 5-3** (both sites) for the location and description of where the site photographs were taken.

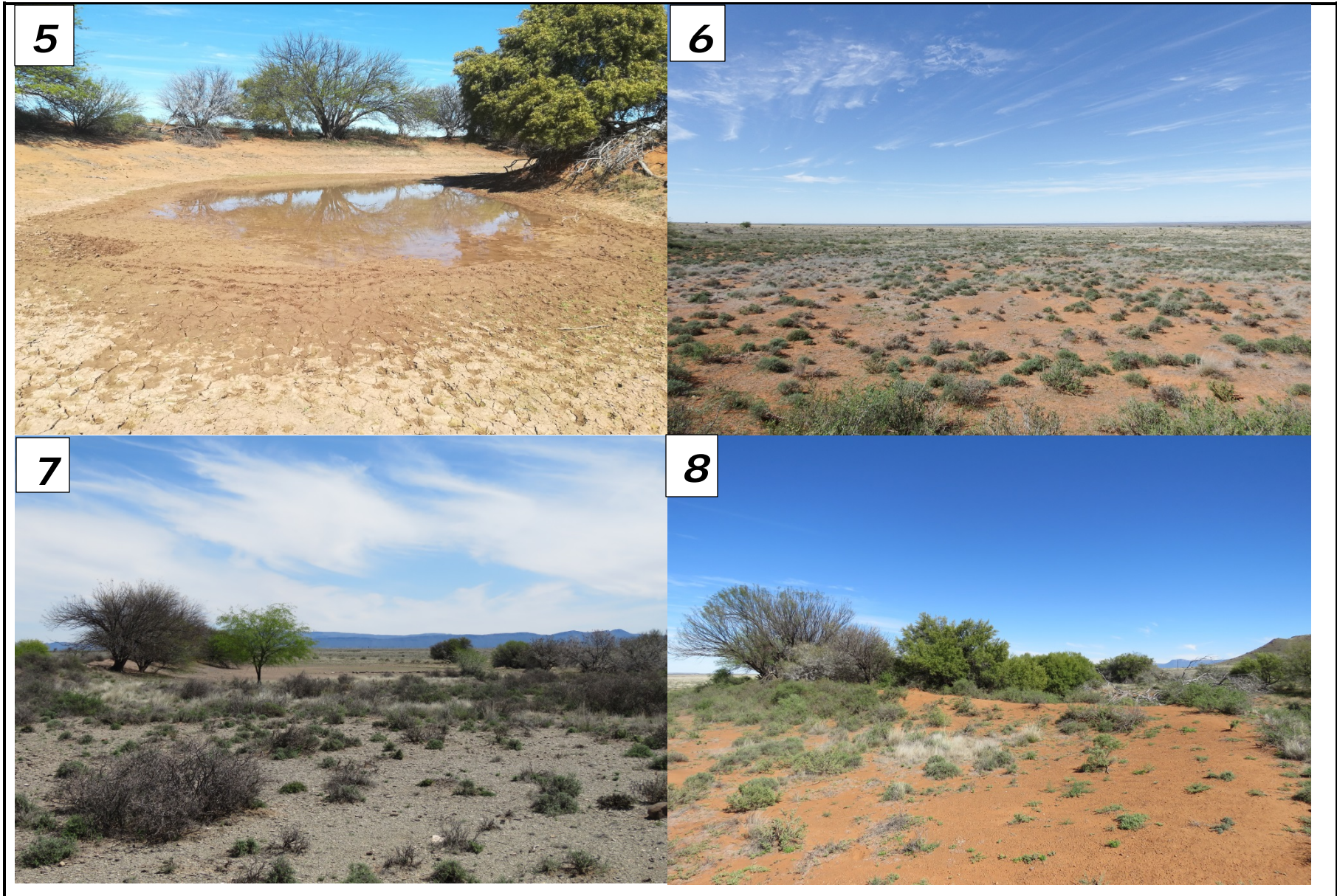
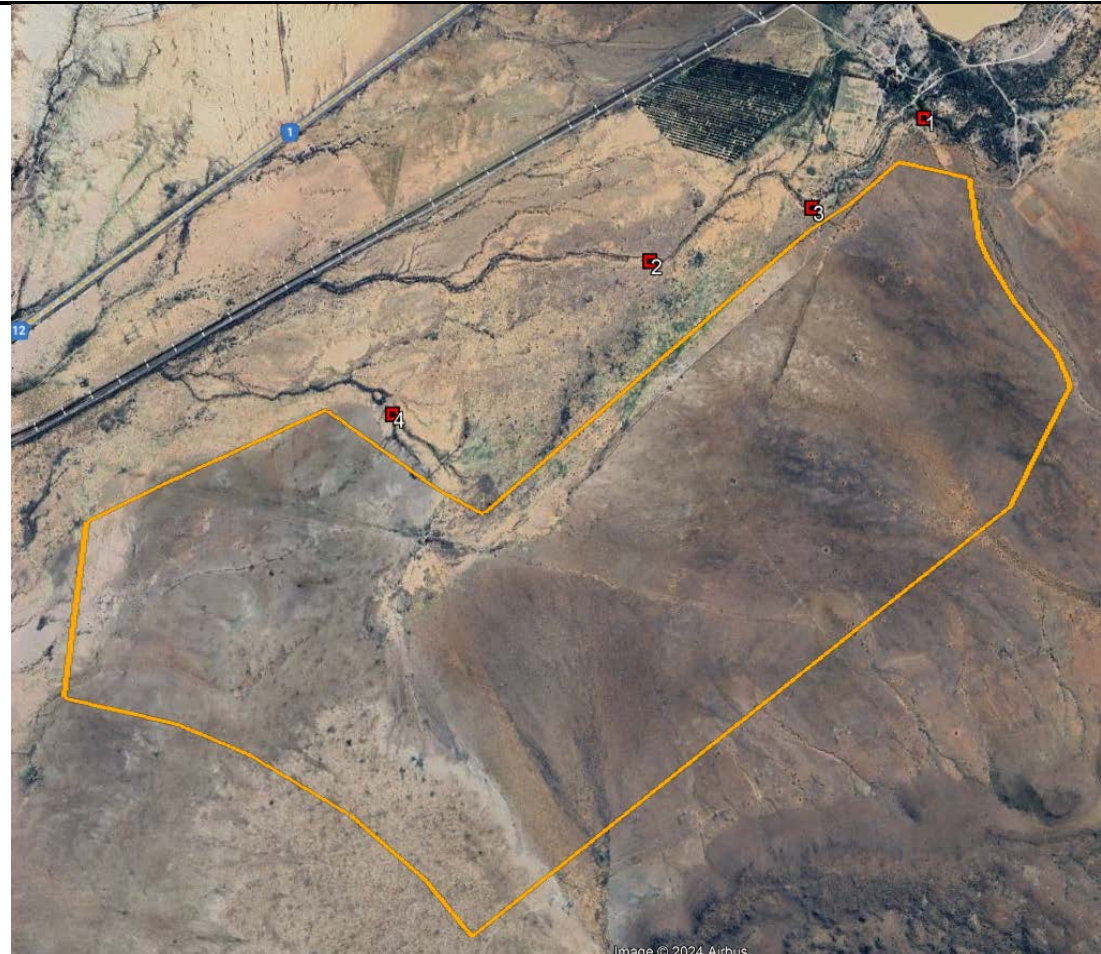


Figure 5-2: Drainage Lines & Aquatic Features associated with the Sunnyside Facility

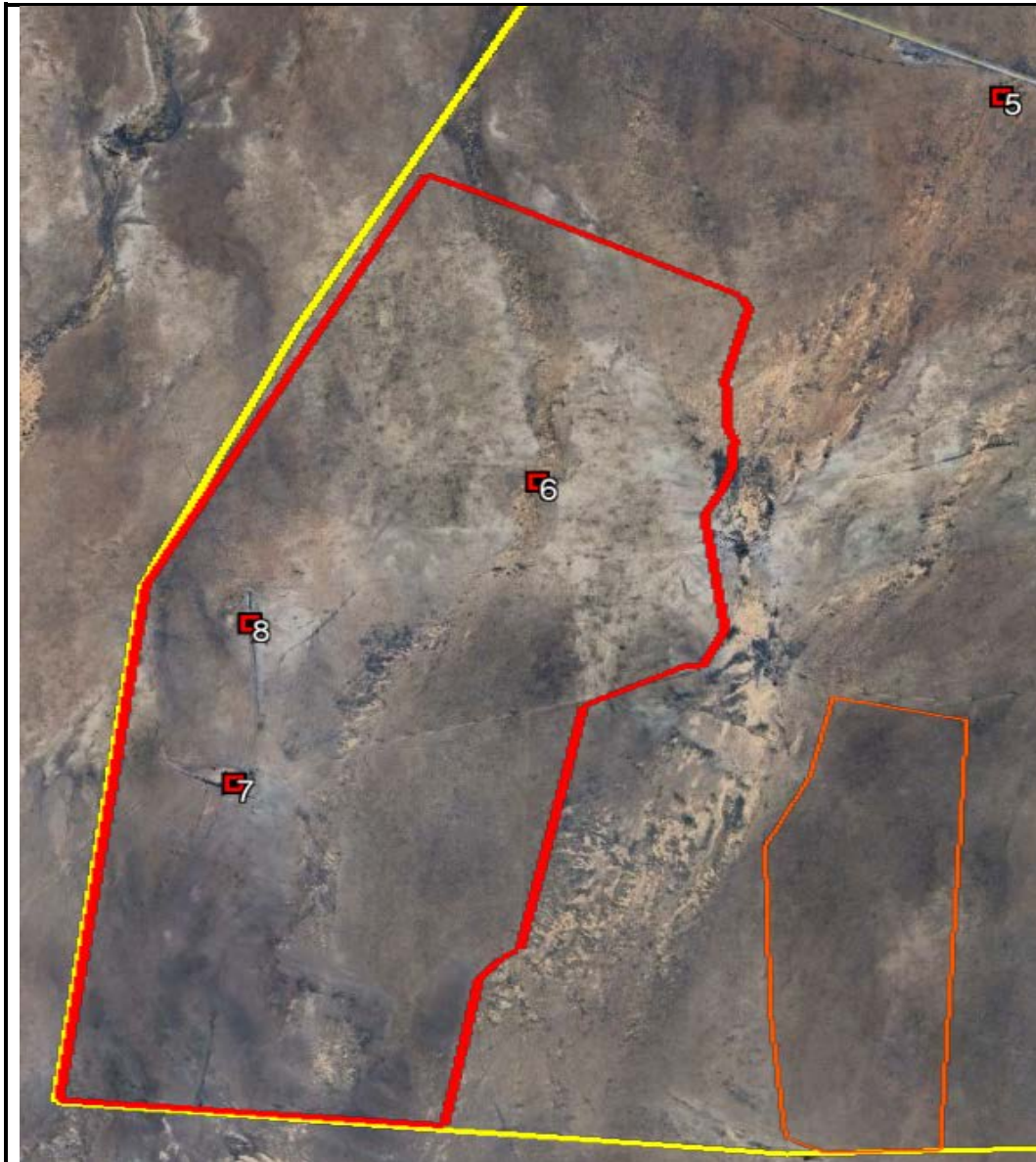


Site 1 – Upstream in Platdoring River just below the artificial dam (Unchannelled Valey Bottom wetland as per Figure 5-3)

Site 2 and **Site 3** – Photographs taken in Platdoring river channel with sandy river banks. Dry most of the season with some vegetation present.

Site 4 – Taken below the cement dam (water point) for livestock in an unnamed drainage channel of the Platdoring river. Drainage channel seeps towards the main channel closer to the N1 Highway.

**The drainage channels associated with the Rhino SEF is classified as intermittent streams and does not contribute to the aquatic ecological importance of the Platdoring river. The Platdoring River is the only aquatic features applicable to the site.*



Site 5 – Due to the dry nature of the site, this water source was visited as it was the only site with water available. It serves as an upstream site in the drainage channel that runs through the middle of the two sites.

Site 6 – Taken in the main drainage channel of the site.

Site 7 – Taken at the Artificial dam (Other Natural Areas as per Figure 5-5). No significant importance.

Site 8 – Taken at the water points (cement dams). No significant importance.

**Observation reveals that the Platdoring River lies approximately 3.8 km to the south of the designated sites, and that the drainage channels dissipate before reaching the river. These drainage channels can be seen as intermittent systems. The Sunnyside SEF is deemed to lack significant aquatic ecological importance in this context.*

Figure 5-3: Rhino & Sunnyside PV Site Photographs and Locations



5.2 CBA's and Wetlands

5.2.1 Rhino PV SEF

All drainage lines on site are categorised as ESA1, and when these drainage lines intersect with road infrastructure, they are classified as ESA2. The site is bordered to the west by a small CBA1 area which slightly infringes the site boundary but is considered a low sensitivity feature (Please refer to **Figure 5-4**).

In reviewing SANBI's NFEPA, it was determined that a seasonal watercourse, the Platdoring River, is situated to the north of the PV site (within a distance range of 40 – 800 m from the site boundary). Several CBA were identified along this watercourse, but they are expected to remain unaffected by the development. The regulated 500 m buffer zone for a noteworthy NFEPA feature, an un-channelled valley-bottom wetland, extends into the northeast sector of the site. The Un-channelled Valley Bottom Wetlands were broadly characterised as linear fluvial, net depositional valley bottom surfaces which do not have a channel. Concerning this specific NFEPA wetland feature, it encroached a mere 20 m into the site, as illustrated in **Figure 5-4**. It is crucial to note that this 20 m encroachment is unrelated to the project area, and no adverse effects on the wetland, which is categorised as an artificial dam, are anticipated.

These CBA and ESA areas as identified by the WCBSP (2017) and NFEPA are classified as "Artificial Waterbodies" by the Freshwater Biodiversity Information System (FBIS). No other NFEPA Wetlands were identified on-site with the small Un-channelled Valley Bottom Wetland (Artificial Dam) being the only wetland system in close proximity to the study area.

As previously mentioned, (**Section 2.1.1**) the majority of the site (90%) falls within areas defined as "Other Natural Areas". While the proposed PV plant necessitates development over these "ONAs", it is recommended to ensure an approach that prioritises responsible environmental stewardship by the developer.

This aquatic compliance statement has been conducted to minimise and mitigate potential aquatic ecological effects on these areas. It is concluded that although classified as ESA1 areas the overall impacts on the aquatic features will be insignificant and that all features relevant to the project area will remain unaffected.

Sensitive areas relevant to the proposed Rhino PV area

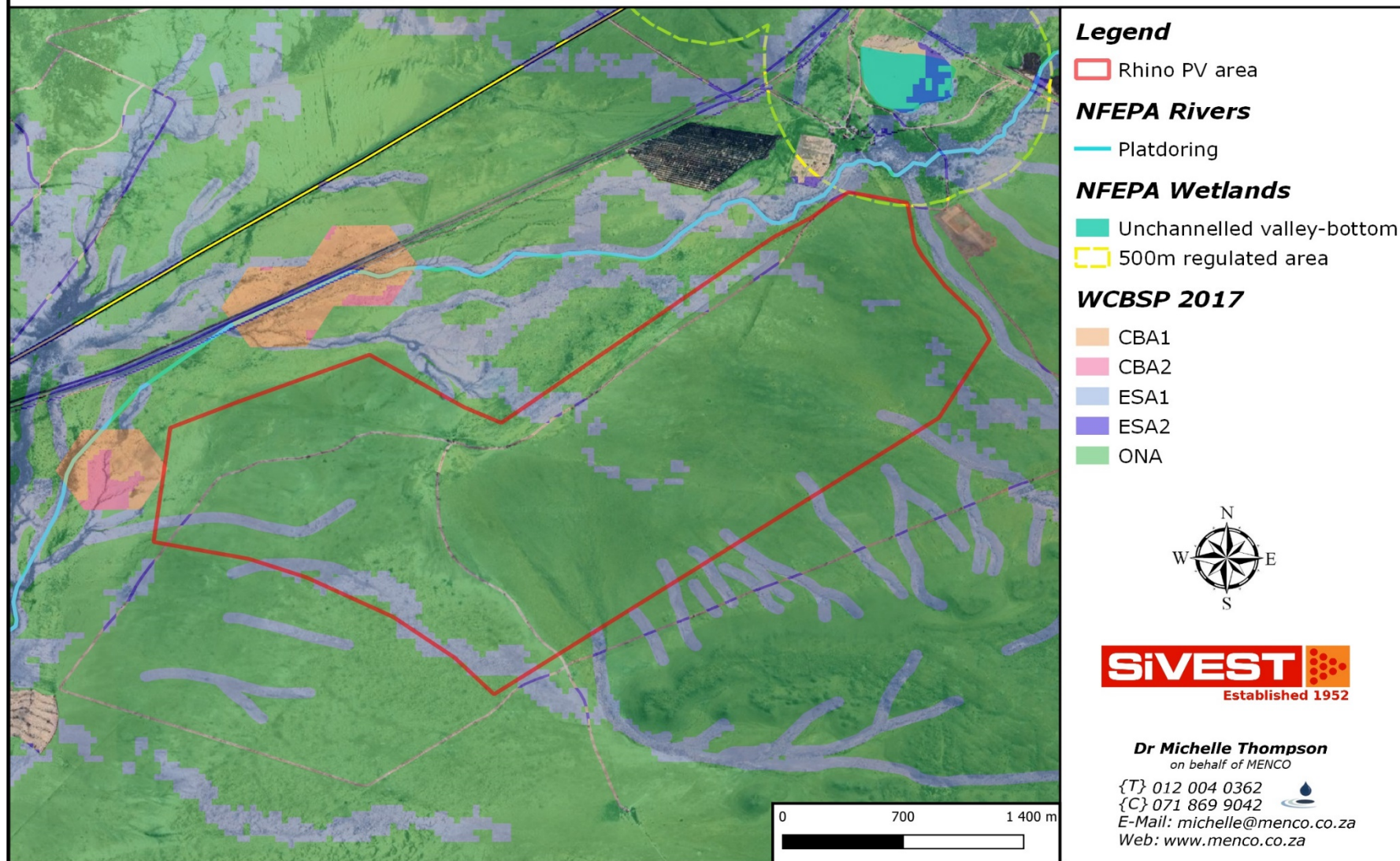


Figure 5-4: CBA's and NFEPA Features for the Rhino PV SEF



5.2.2 Sunnyside PV SEF

As detailed in **Section 5.1.2** and **Figure 6-2**, the four intermittent drainage lines can be categorised as two primary lines with two smaller branches originating from the one on the western side of the project boundary. This implies that the one minor drainage lines within the site boundary may be regarded as practically non-existent. One of these drainage lines is depicted in **Figure 5-5** however, the ESA1 is fragmented and lacks a prominent aquatic feature. The on-site drainage lines are identified as ESA1 areas, and the outer eastern border of the site includes a small ESA2 area (Artificial Dam), but it is considered a feature of low sensitivity in aquatic scientific terms. Approximately 450m of this (500m wetland buffer) intersects the site boundary.

In reviewing SANBI's (NFEPA), it was determined that a singular NFEPA feature exists within the confines of the project area. This feature is initially identified as an Un-channelled Valley-bottom Wetland; however, upon closer examination during the site visit, it was determined to be an Artificial Dam. The 500m wetland buffer in this case will have no relevance to the artificial dam as ground proofing concluded that there was no wetland habitat and vegetation remaining. This particular feature holds very little water in the rainy season and quickly dries up. It is not a natural feature and there is no wetland associated vegetation on site. It is ranked in the terrestrial habitat ranking as low sensitivity. NFEPA often incorrectly delineates wetland features. The regulated 500 m buffer zone for the NFEPA feature extends into the southwestern sector of the site. Regarding this specific NFEPA wetland feature, it intrudes a distance of 350 m into the site, as illustrated in **Figure 5-5**. Importantly, it is essential to highlight that this encroachment is not anticipated to have any adverse effects on the wetland, which is classified as an artificial dam.

The ESA areas as identified by the WCBSP (2017) and NFEPA are classified as "Artificial Waterbodies" by the (FBIS). No other NFEPA Wetlands were identified on-site with the small Un-channelled Valley Bottom Wetlands (Artificial Dams) being the only wetland systems with in close proximity to the study area.

As previously mentioned, (Section 2.1.2) the majority (90%) of the western project site falls within areas as defined as "Other Natural Areas". While the proposed PV plant necessitates development over these "ONAs", it is recommended to ensure an approach that prioritises responsible environmental stewardship by the developer.



This aquatic compliance statement has been conducted to minimise and mitigate potential aquatic ecological effects on these areas. It is concluded that although classified as ESA1 areas the overall impacts on the aquatic features will be insignificant and that all features relevant to the project area will remain unaffected.

Sensitive areas relevant to the proposed Rhino PV area

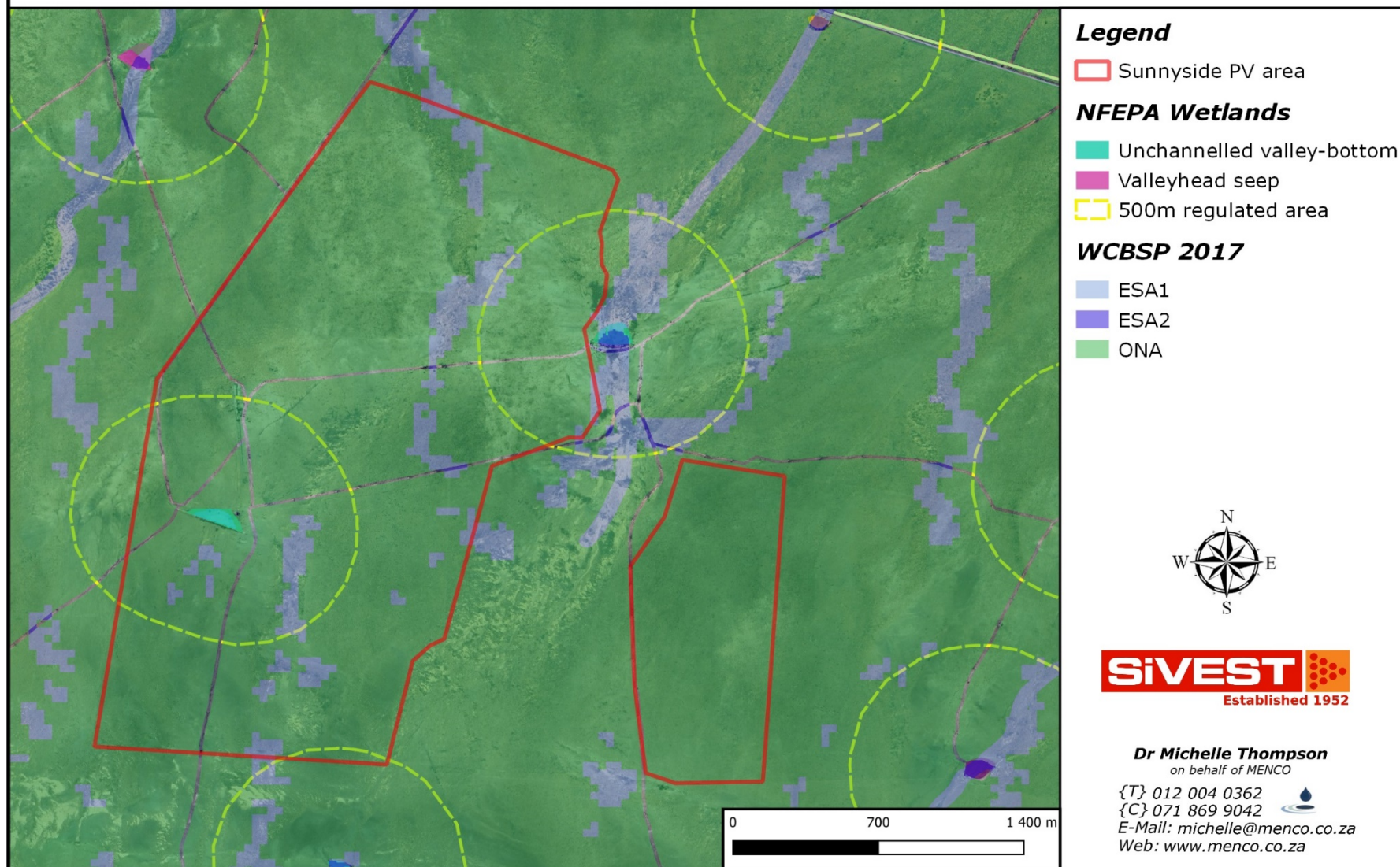


Figure 5-5: CBA's and NFEPA Features for the Sunnyside PV SEF



6 SITE SENSITIVITY VERIFICATION

6.1 Site Sensitivity & Buffers Required

In terms of GN 4167 of 2023 in terms of the NWA, 100 m from a river is defined as a regulated area and thus development within 40 m of a river triggers a water use in terms of Section 21 (c) and (i) irrespective of the condition of such a river. Although the Platdoring River is considered as an important ESA river system the dry conditions with continual zero flow status justifies this river as a low priority status, even with a 15m buffer this does not infringe on the site as the Platdoring lies 40 m away at its nearest point. There are no aquatic sensitivities to be considered that fall within the site. The 15m buffer as calculated by the Aquatic River Impact Buffers Tool (*Macfalane, 2017*) for the Platdoring that could be impacted on all fall outside the site footprints (thus are not relevant). There are no regulated buffers zones required nor calculated for the minor drainage channels lines on site and the proposed development or infilling of these channels could be executed without any impacts on the aquatic ecosystem. **Figure 6-1** provides an overview of the aquatic sensitivities for the Rhino PV Site. In reference to the Sunnyside PV, the non-perennial nature of the drainage lines and the scarcity of water for a significant part of the year mean that there are no aquatic sensitivities considered for the aquatic features. **Figure 6-2** provides an overview of the drainage lines, highlighting that these areas do not fall under the category of no-go areas.

As for the Un-channelled Valley Bottom Wetlands on both sites (Artificial dam), GN 4167 stipulates that activities falling within the 500m Regulated Area surrounding a wetland trigger the need for a risk assessment in terms of a Section 21 (c) and (i) water use, as per the NWA, 1998 (Act No. 36 of 1998). The 500 m regulated area of the wetland does encroach the Rhino site by a mere 20 m, however regardless of the status quo of the wetland (Artificial dam) this activity still triggers a water use and may require a WUL or a GA. GN 4167 stipulates that any activity with a Low-Risk Rating will qualify for a GA, which is the case for these aquatic features. The encroachment of Unchanneled Valley bottom wetland of 350 m towards at the south western part of the Sunnyside site may require an authorisation however the natures of this feature (artificially induced) should be taken into account.



Should the development of the sites progress, the (DWS) should be contacted for the relevant application processes for either a GA or a WUL. It is recommended that the low importance and sensitivity of the wetlands, river and drainage lines (aquatic features) are taken into account by DWS to make an informed decision on whether a GA or WUL is required. This report should and could be used as motivation to exclude an authorisation process for the applicant by submitting an exemption letter to the department. This is however subject to the implementation of sufficient mitigation measures and by ensuring that an approach prioritises responsible environmental stewardship by the developer.



Aquatic sensitive areas relevant to the proposed Rhino PV area

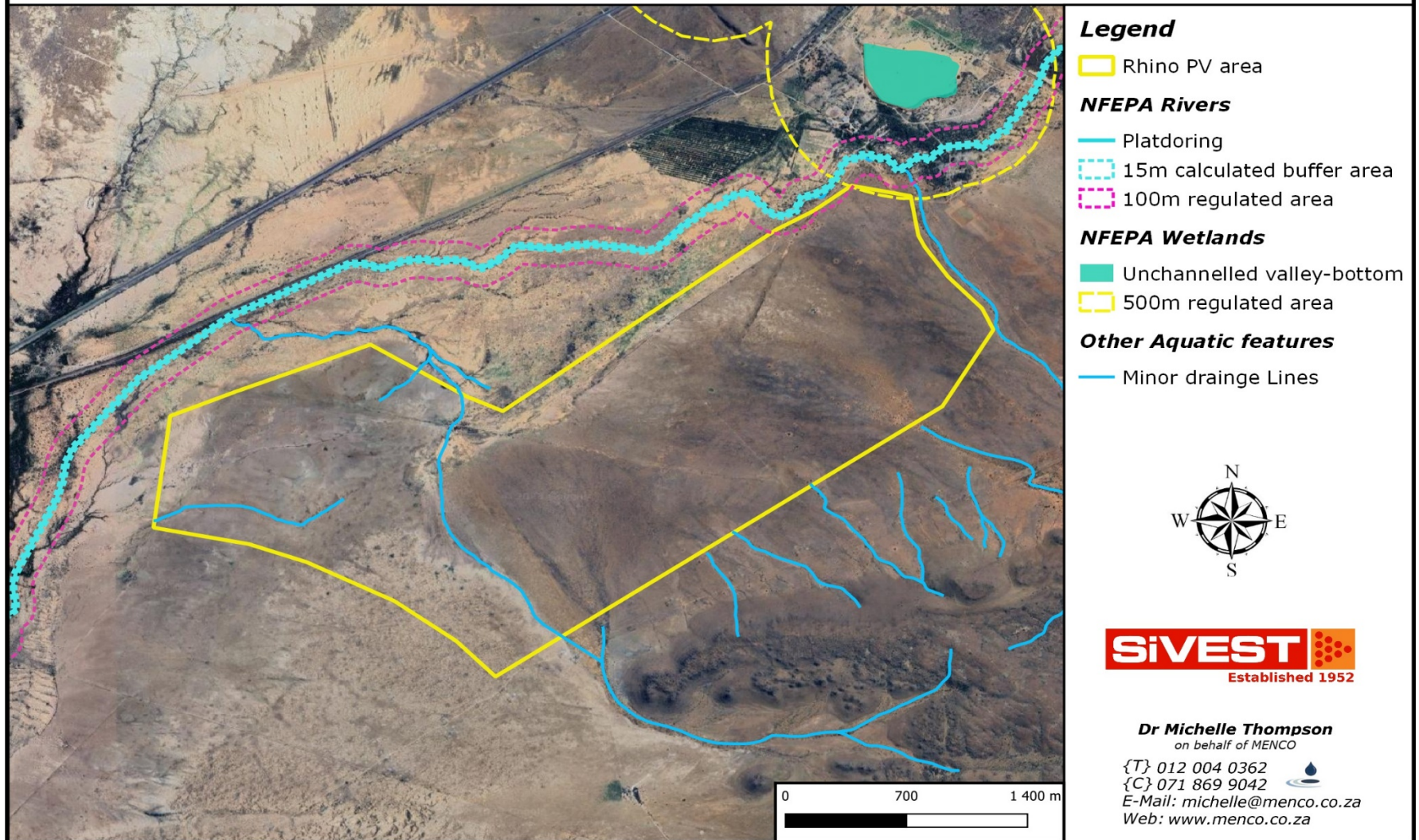


Figure 6-1: Rhino PV Aquatic Sensitivities

Aquatic biodiversity sensitive areas relevant to the proposed Sunnyside PV area

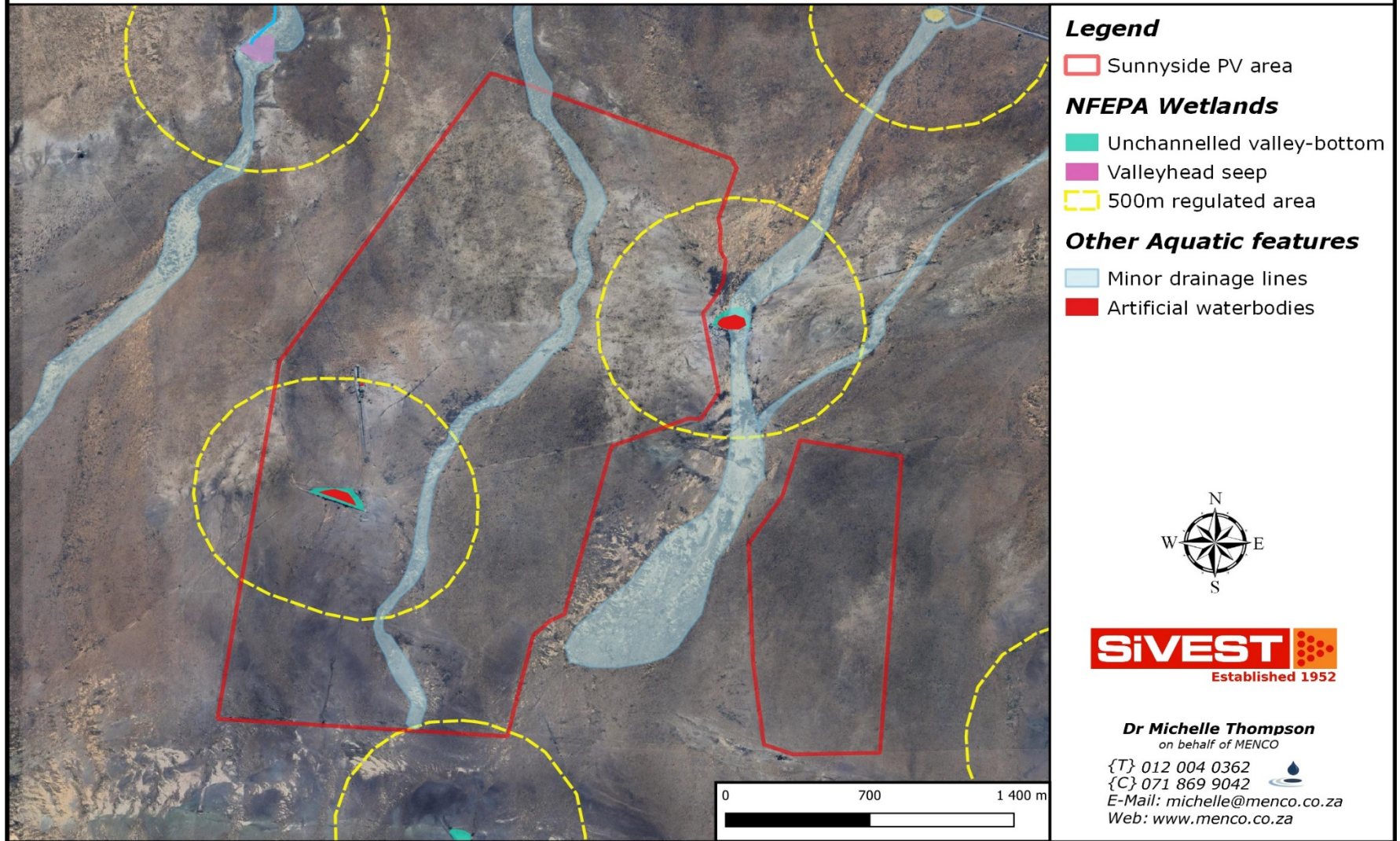


Figure 6-2: Sunnyside PV Aquatic Sensitivities



6.2 No-go Areas

"Artificial Waterbodies" refer to water features that have been intentionally created or modified by human activities rather than occurring naturally. These may include ponds, reservoirs, and other bodies of water that have been constructed for various purposes, such as irrigation, recreation, or stormwater management.

In the context of environmental regulations and buffer requirements, the term "Artificial Waterbodies" implies that these water features are not part of the natural landscape. When no buffers are required for these features, it suggests that, in the regulatory framework or environmental assessment, there may be recognition that the ecological sensitivity or potential impact associated with these artificial waterbodies is lower compared to natural water bodies. The absence of buffer requirements may stem from the understanding that the ecological dynamics and functions of artificial waterbodies differ from those of natural ones, and therefore, the need for protective buffers may be deemed unnecessary or less critical. This recognition can influence decisions about development or construction activities in proximity to such artificial waterbodies.

The localised nature of the construction and PV facility will not impact the functionality of the identified ESA1. It is suggested to introduce mitigation strategies to prevent any potential impacts within this freshwater ecosystem, thereby preventing any aggravation of its degradation. Given the minimal project area impact and low environmental sensitivity, a 15-meter buffer suffices around the Platdoring River zones for the Rhino PV Facility. As the PV facility lies beyond these designated buffers, there is no imperative need for the inclusion of aquatic scientific buffers on the drainage channels. However, it is still advisable that all development activities be confined outside of these designated areas.

As for the Sunnyside PV Facility, there is no imperative need for the inclusion of aquatic scientific buffers. However, as mentioned it remains advisable that all development activities are carried out in terms of best practice while still adhering to the Aquatic Biodiversity guidelines to ensure minimal impact on the aquatic features.

6.3 Consideration of Alternatives

Originally, for the solar PV facilities, the farm Rhenosterkop 155 was identified as most suitable from a topographic, local, and environmental perspective. However, due to the presence of a Martial Eagle, the development area was reduced significantly. Furthermore, the landowner does not support solar PV facility development on some sections of the property



due to agriculture preference, and the development's potential visual impact since the development would be within direct view of the guest house existing on the farm.

The landowners were consulted, and due to the discussions undertaken, agreed to the solar PV development under certain conditions. These conditions will most probably be included in the BA public consultation process.

Development proposed on Farm 400 needed to be located to the southwest of the property so that it is not visible from the farmstead. A layout was then developed and discussed with the landowner which was agreed upon. Presented with the proposed development area, the landowner noted their support of the development, and that development would be within an area that is not preferred by sheep for grazing that always migrate back to the preferred areas within the Farm 400 boundary.

Other alternative locations were identified and assessed from a development perspective. The alternative locations, including surrounding farms, are less desirable to develop due to increased distance from the cluster as well as more identified ESA areas.

During the premature design and planning phase, the initial proposed PV development areas were reduced to a layout similar to the one proposed for the BAR. Due to the loss of development area on Farm 155, an additional area on Farm 400 was identified for development to 'compensate' for the 'lost' capacity.

6.4 Confirmation of Site Sensitivity

These sites are preferred due to the suitable climate, conditions and topography including close proximity to the national grid. Based on the above site-specific attributes, the study area is considered highly preferred in terms of the development of Solar PV Energy Facility.

The Platdoring River near the Rhino PV Site is unlikely to improve in the future but is expected to remain in the current condition as assessed during the site visit. In combination with the extremely localised nature of the impact required to develop the PV facilities the impact is being classified as **"low sensitivity"**, especially when taking into account the current impaired state of the drainage lines as well as the fact that the 500m wetland buffer only slightly intersects the site boundary with the wetland also having a significantly impaired status.

The drainage lines at the Sunnyside PV Site are unlikely to improve and is expected to remain in the current condition as assessed during the site visit. The extremely localised nature of the impact required to develop the PV facilities is being classified as **"low**



sensitivity". The wetland identified on-site (south-west) as well as the (north-eastern) wetland is primarily classified as artificial wetlands with impaired habitat conditions and available wetland vegetation which further correlates to a low sensitivity rating. The 500m wetland buffer will thus also not be fully implemented for these wetland systems considering the current wetland statuses.



7 PROPOSED IMPACT MANAGEMENT ACTIONS

The following management actions are proposed to mitigate any potential impacts. While certain measures may not directly apply to the project area because some ESA 1 areas extend beyond the project boundary, it is advisable to incorporate these measures. Ensuring that all contractors and subcontractors are informed about these actions is crucial to prevent any additional deterioration of the aquatic ecosystem. According to GN320 of March 2020 no Risk Assessment is required for a Compliance Statement, however this report is also in accordance with GN 4167 of 8 December 2023. Please refer to **Addendum 4** for the Risk Assessment Matrix as described below.

1. *Streambank stabilisation: Implementing measures to stabilise streambanks, such as vegetation planting, to prevent erosion and sedimentation from entering the river. (Rhino PV only)*
2. *Water quality management: Using low-impact construction methods to minimise soil disturbances. Chemicals used during all phases must be stored safely in bunded areas and must be inspected regularly for any potential seepages or spillages. (Both PV Sites)*
3. *Sanitation Services: Portable toilets (1 toilet per 20 users is the norm) to be provided where construction is occurring. Workers need to be encouraged to use these facilities and not the natural environment. Toilets should be located outside of the watercourse or the calculated buffer or from any natural water bodies including rivers, streams and wetlands. Waste from chemical toilets should be disposed of regularly and in a responsible manner by a registered waste contractor. (Both PV Sites)*
4. *Habitat restoration: Restoring degraded or destroyed aquatic habitats, such as wetlands and riparian zones, to support the recovery of aquatic species. The focus of this measure should be on the access roads that crosses the Platdoring River. (Rhino PV Only)*
5. *Flow management: Implementing measures to manage river flow, such as reducing water withdrawals or releasing water from reservoirs, to maintain adequate flow and water quality for aquatic species. This recommendation is specific towards the main Platdoring River system considering that impaired drainage lines are going to be*



filled in. Implementing an Alien Invasive Programme in the drainage lines and Platdoring River will also be beneficial for flow management. (*Rhino PV Only*)

6. Alien Invasive Plant Management: The plan will need to be applied broadly to the entire footprint to effectively reduce alien invasive species and prevent their recolonisation of cleared areas. Some of the key species include exotic tree species such as *Prosopis chilensis*, *Prosopis velutina* and *Eucalyptus spp.* as well as the herbaceous *Argemone ochroleuca*.
7. Monitoring and reporting: Establishing monitoring and reporting programs to track the effectiveness of the mitigation measures and identify any new impacts.
8. The construction activities impact should be restricted to only the PV facility area. It is suggested that the construction activities take place within the project area to prevent any hydrocarbon spillages from construction vehicles that could infiltrate into the groundwater aquifer. (*Both PV Sites*)
9. If possible and feasible, it is recommended that construction and site establishment take place during the dry season. (*Both PV Sites*)
10. In addition, the necessary storm water management will be required to ensure that rainwater runoff is appropriately managed and does not result in erosion (rill erosion) or the pooling of potentially toxic water which could act as an attractant for fauna. This measure should aim on the few non-perennial drainage channels crossing the site. (*Both PV Sites*)

It is important to tailor the mitigation measures to the specific conditions and impacts of each project to ensure that they are effective in protecting the aquatic ecology of the rivers. The potential impact from the PV facility on the Rhino PV site as well as the Sunnyside PV is considered low without mitigation measures and **very low** with mitigation measures mentioned above.

The management actions as described above needs to be incorporated into the Environmental Management Programme for further consideration. Each applicable mitigation measure as identified for the project are presented in **Table 7-1** below.



Table 7-1: Input to the Environmental Management Programme

Impact / Activity	Mitigation Measures / Management Actions	Responsibility	Methodology	Mitigation Measures / Objectives & Outcomes	Frequency
(Erosion) Streambank Stabilisation	Implementing measures to stabilise streambanks through vegetation planting to mitigate erosion and sedimentation, thereby safeguarding the integrity of the river ecosystem. Adequate stormwater management will be crucial to prevent runoff-induced erosion and the accumulation of potentially harmful substances, ensuring the preservation of aquatic habitats and preventing adverse impacts on local fauna. Special attention will be directed towards managing runoff in the few non-perennial drainage channels within the site to minimise ecological disturbances to the Platdoring River.	Applicant	Site Assessment and Planning of identified erosion that require re-vegetating areas; Monitoring & Implementation	Restoration of aquatic habitats, rehabilitation of streambanks ensuring adequate stormwater management and river ecosystem and re-vegetation ensuring stabilised banks and preventing minimum ecological disturbances.	Continuous (C & O)



(Contamination) Water Quality Impact and Management	Using low-impact construction techniques to reduce soil disturbances, thereby minimising adverse effects on aquatic habitats. All chemicals utilised throughout the construction process must be securely stored in bunded areas and subject to regular inspections to detect and prevent any seepages or spillages that could potentially contaminate water sources and jeopardize aquatic ecosystems.	Environmental Control Officer And contractors/sub- contractors	Utilise low- impact construction techniques; All chemicals and materials must be stored in bunded areas and within a demarcated site camp (outside of the regulated area); Conduct regular inspections and site walk over	Ensuring that no adverse effects occur on the aquatic habitats during construction. Prevention of spillages and soil disturbances on aquatic habitats and ecosystems.	Weekly (C)
(Pollution) Sanitation Services	Deploying portable toilets (at a ratio of 1 toilet per 20 users) at construction sites to ensure minimal impact on aquatic ecosystems by preventing human waste from contaminating natural water bodies. Workers will be actively encouraged to utilise these facilities instead of resorting to the surrounding environment. Placement of toilets will be carefully chosen to be situated away from watercourses, calculated buffer zones, and other	Environmental Control Officer And contractors/sub- contractors	Placement of toilets outside the regulated area Ensure regular and responsible disposal of waste from chemical toilets by licensed waste contractors.	Prevent the impact of human waste on aquatic systems.	Daily basis (C)



	natural water bodies such as rivers, streams, and wetlands. Waste from chemical toilets will be regularly and responsibly disposed of by licensed waste contractors to mitigate potential pollution risks to aquatic environments.				
(Biodiversity) Habitat Restoration	Restoring degraded or destroyed aquatic habitats, such as wetlands and riparian zones, to support the recovery of aquatic species. The focus of this measure should be on the access roads that crosses the Platdoring River.	Applicant and contractors	Develop a restoration plan tailored to the specific needs of potential affected area. Monitoring & Implement restoration activities.	Restore degraded aquatic habitats with specific focus on access roads crossing the Platdoring River. Improved habitat availability and functionality of riparian zones	Continuous (C and O)
	Limiting the environmental footprint of construction activities exclusively to the designated Solar PV facility area. Construction operations will be confined within the project boundaries to mitigate the risk of hydrocarbon spillages from construction vehicles, thereby safeguarding the integrity of the	Applicant and contractors	Establish clear project boundaries. Educate contractors on the importance of adhering to the designated area and spill prevention measures.	Confine construction activities within project boundary. Respond promptly to any spills to mitigate impacts on aquatic resources.	Weekly (C)



	groundwater aquifer from potential contamination.				
(Hydrology) Flow Management	Implementing measures to manage river flow, including measures such as minimising water withdrawals and controlled releases from reservoirs, aimed at preserving sufficient flow and water quality to sustain aquatic species. This proposal is particularly relevant for the primary Platdoring River system, especially as impaired drainage lines are slated for restoration. Additionally, instituting an Alien Invasive Species Management Program in both the drainage lines and Platdoring River can further aid in flow management efforts.	Applicant	<p>Implement measures to minimise water withdrawals.</p> <p>Develop & implement AIP targeting the Platdoring River.</p> <p>Monitor water flow and quality to assess the potential impacts from construction activities.</p>	<p>Preservation of adequate flow and water quality in the Platdoring River.</p> <p>Sustaining habitats for aquatic species during wet periods and detection of potential impacts that might occur.</p>	Monthly (C & O)
	Effective stormwater management is imperative to prevent runoff-related erosion, such as rill erosion, and the accumulation of potentially harmful substances that may attract fauna. Special attention will be directed	Applicant	<p>Assess site's topography to identify areas prone to run-off.</p> <p>Design & Implement SWMP</p>	<p>Implement SWMP to prevent run-off related erosion and ponding on site.</p> <p>Prevention of adverse aquatic habitats and</p>	Monthly (O)



	towards managing rainwater runoff in the limited non-perennial drainage channels intersecting the site to mitigate ecological disturbances and safeguard aquatic habitats.		Adjust SWM by monitoring the site throughout the year	fauna impacts.	
(Biodiversity) Alien Invasive Management	The AIP plan will need to be applied broadly to the entire footprint to effectively reduce alien invasive species and prevent their recolonisation of cleared areas	Applicant	<p>Conduct a thorough assessment of the AIP on entire project area.</p> <p>Develop AIP plan outlining strategies for eradication and control.</p> <p>Monitor cleared areas regularly to detect any signs of recolonisation of invasive species, especially near the Platdoring River.</p>	<p>Apply AIP Plan across entire site to prevent recolonisation on cleared areas.</p> <p>Restoring the native ecosystem and biodiversity.</p>	Yearly (O)
(Contamination) Construction of PV	If viable and practicable, it is advisable to schedule construction and site establishment activities during the dry season. Construction impacts should be confined solely to the PV facility area. It is strongly	Contractors; Sub-contractors and Environmental Control Officer	<p>Plan construction & site establishment to align with dry season conditions.</p> <p>Monitor construction</p>	<p>Schedule activities during dry season to ensure no potential run-off occurs.</p> <p>Minimise the overall</p>	Continuous (C)



	recommended that all construction activities occur within the project site to mitigate the risk of hydrocarbon spillages from construction vehicles seeping into the groundwater aquifer.		activities and ensure compliance to all proposed mitigation measures.	environmental impact and ensure protection of the surrounding Platdoring River ecosystem and water quality.	



7.1 Cumulative Impacts

As part of this compliance statement, the inclusion and consideration of cumulative impacts is generally not required if the proposed project is deemed to have low to insignificant impacts. However, following a direct request, the cumulative impacts of an approved Dolorite Mine on the farm Rhenosterkop 155 is discussed and considered below. Only overlapping impacts between the two projects have been investigated.

- Hydrocarbon spillages from PV construction vehicles and onsite activities was calculated to be Low. The Risk Assessment for the proposed Dolorite Mine identified a similar risk related to that project and deemed the risk to be Low-Medium. Considering the extent of both project areas and the single haul road river crossing related to the proposed mine, the cumulative impact in terms of hydrocarbon leaks and spillages is rated as Low-Medium, slightly higher than the direct possible impact of the considered PV Project.
- Dust generation from the PV facility construction phase was calculated to have a potential Low impact on the receiving environment through direct fallout and sediment wash out. Similarly, the Risk Assessment for the proposed Dolorite Mine calculated Low-Medium impacts in terms of dust nuisance as a result of site establishment, haul roads and blasting. The proposed PV facility will have a Low additive dust impact to that of the approved mine, and as such, the risk rating of the mine is carried over and slightly inflated (still Low-Medium) as the final cumulative impact.
- The proposed PV facility currently covered by this report was calculated to have a potential Alien Invasive Plant species impact of Low. As with the dust generation impact discussed above, a low additive impact will inflate the Low-Medium impact identified in the Risk Assessment for the proposed Dolorite Mine to a Medium impact. This stems from the possible vehicle associated spread from the mining area along the haul road to the Platdoring River crossing.



8 AQUATIC COMPLIANCE STATEMENT

This compliance statement is applicable to the study area as described in **Section 1**. MENCO on behalf of SiVEST confirm that the low impact project on aquatic ecology has been planned in full compliance with all relevant environmental regulations and guidelines as described in **Section 2.1**. The project has been designed to have minimal impact on the aquatic ecosystem, and taken all necessary measures to prevent harm to aquatic biodiversity. MENCO have conducted a thorough aquatic environmental assessment to identify potential risks and impacts on the aquatic environment, and have implemented mitigation measures to reduce these potential risks. Based on the results of the desktop review and the site verification, the sensitivity of aquatic biodiversity is regarded as **Low**.

The development of the Rhino PV facility will have a very small to no impact on freshwater biodiversity should the management actions be taken into consideration during the construction phase. Some impact is expected as a result of the proposed SEFs as a result of the infilling of drainage lines within the development areas. The potential impacts are considered to be of very low to low impact with implementation of the mitigation measures. No aquatic impacts are expected to occur during the operational phase however it is the recommendation from the specialists that the client/applicant remains committed to ongoing monitoring and evaluation of the Rhino PV project to ensure that the Rhino PV Facility continue to meet its environmental commitments and minimise the impact on the aquatic ecosystem. It is further encouraged that the Rhino PV facility maintain open lines of communication with stakeholders and authorities to ensure that they are informed of any changes or developments in the project.

The development of the Sunnyside PV facility will not impact on any freshwater biodiversity should the management actions be taken into consideration during the construction phase. Similar to the Rhino PV facility some impacts is expected as a result of the proposed SEFs as a result of the infilling of drainage lines within the development areas with impacts considered to be very low.

Since the current assessment forms part of a compliance statement (low impacts) no risk assessment has been included within this report. It is recommended that an additional risk assessment be considered and implemented to further motivate that a GA could be registered.



The proposed Rhino PV and Sunnyside PV energy facilities can be executed without substantial adverse effects and impacts on the aquatic ecosystems, given the diligent implementation of the proposed mitigation measures. Consequently, based on the outlined mitigations and controls in this report, it is the expert opinion that the project can be carried out successfully, ensuring environmental compliance and sustainability.



9 REFERENCES

Allan, J.D. 1995. Stream Ecology Structure and function of running waters. s.l.: Chapman & Hall.

Chutter, F.M. 1998. Research on the rapid biological assessment of water quality impacts in streams and rivers. Water Research Commission Report No 442/1/98. Pretoria: Water Research Commission, South Africa.

Dallas, H.F. 2007a. River Health Programme: South African Scoring System (SASS) Data Interpretation Guidelines. The Freshwater Consulting Group/ Freshwater Research Unit. s.l.: University of Cape Town, South Africa.

Dickens, C.W. and Graham, P. M. 2002. The South African Scoring System (SASS) Version 5 Rapid Bioassessment Method for Rivers. s.l.: African Journal of Aquatic Science, 27: 1-10.

Department of Water Affairs and Forestry, 2008. National Aquatic Ecosystem Health Monitoring Programme (NAEHMP): River Health Programme (RHP) Implementation Manual. Version 2.. Pretoria: Department of Water Affairs and Forestry, South Africa.

Helen Dallas, Jeremy Shelton, Tim Sutton, Dimas Tri Cuptura, Mohammed Kajee & Nancy Job (2022) The Freshwater Biodiversity Information System (FBIS) – mobilising data for evaluating long-term change in South African rivers, African Journal of Aquatic Science, 47:3, 291-306, DOI: 10.2989/16085914.2021.1982672

Jooste, S., MacKay, H. M., Scherman, P. A. and Muller, W. J. 2000. Feasibility of using a risk - based approach to set integrated environmental objectives for the protection of water resources. Water Research Commission Report No. 914/1/100. Pretoria, South Africa: Water Research Commission.

Kemper, N. 1999. Intermediate Habitat Integrity Assessment for use in the Rapid and Intermediate Assessments. RDM Manual version 1.0. Pretoria: Department of Water Affairs and Forestry.

Kleynhans, C. J. & Louw, M. D., 2007. Module A: EcoClassification and EcoStatus determination in River EcoClassification: Manual for EcoStatus Determination (version 2). Joint Water Research Commission and Department of Water Affairs and Forestry report. WRC Report No. TT 329/08, Pretoria: Water for Africa.



Nel, J. L. et al., 2011. Atlas of Freshwater Ecosystem Priority Areas in South Africa: Maps to support sustainable development of water resources. s.l.: Water Resource Commission.

Roux, D. J., 1997. National Aquatic Ecosystem Biomonitoring Programme: Overview of the design process and guidelines for implementation. NAEBP report Series No 6. Institute for Water Quality Studies, Department of Water Affairs and Forestry, Pretoria, South Africa. 112p.. s.l.: (Web) <http://www.csir.co.za/rhp/reports.html>.

Thirion, C. A., 2008. River Ecoclassification. Manual for Ecostatus determination (Version2). Module E: Macro Invertebrate Response Index (MIRAI). April 2008 ed. s.l.: WRC Report no TT332/08..

Van Deventer, H.; Smith-Adao, L.; Mbona, N.; Petersen, C.; Skowno, A.; Collins, N.B.; Grenfell, M.; Job, N.; Lötter, M.; Ollis, D.; Scherman, P.; Sieben, E.; Snaddon, K. 2018. South African Inventory of Inland Aquatic Ecosystems. South African National Biodiversity Institute, Pretoria. Report Number: CSIR report number CSIR/NRE/ECOS/IR/2018/0001/A; SANBI report number <http://hdl.handle.net/20.500.12143/5847>.

10 ADDENDUMS

Addendum 1: Environmental Screening Tool Reports

Addendum 2: Site Verification Reports

Addendum 3: Project Team & Work Experience Report

Addendum 4: Risk Assessment Matrix

**SCREENING REPORT FOR AN ENVIRONMENTAL AUTHORIZATION AS
REQUIRED BY THE 2014 EIA REGULATIONS – PROPOSED SITE
ENVIRONMENTAL SENSITIVITY**

EIA Reference number:

Project name: SiVEST Rhino PV Facility

Project title: SiVEST Rhino PV Facility

Date screening report generated: 19/09/2023 15:35:11

Applicant: SiVEST

Compiler: Menco

Compiler signature:

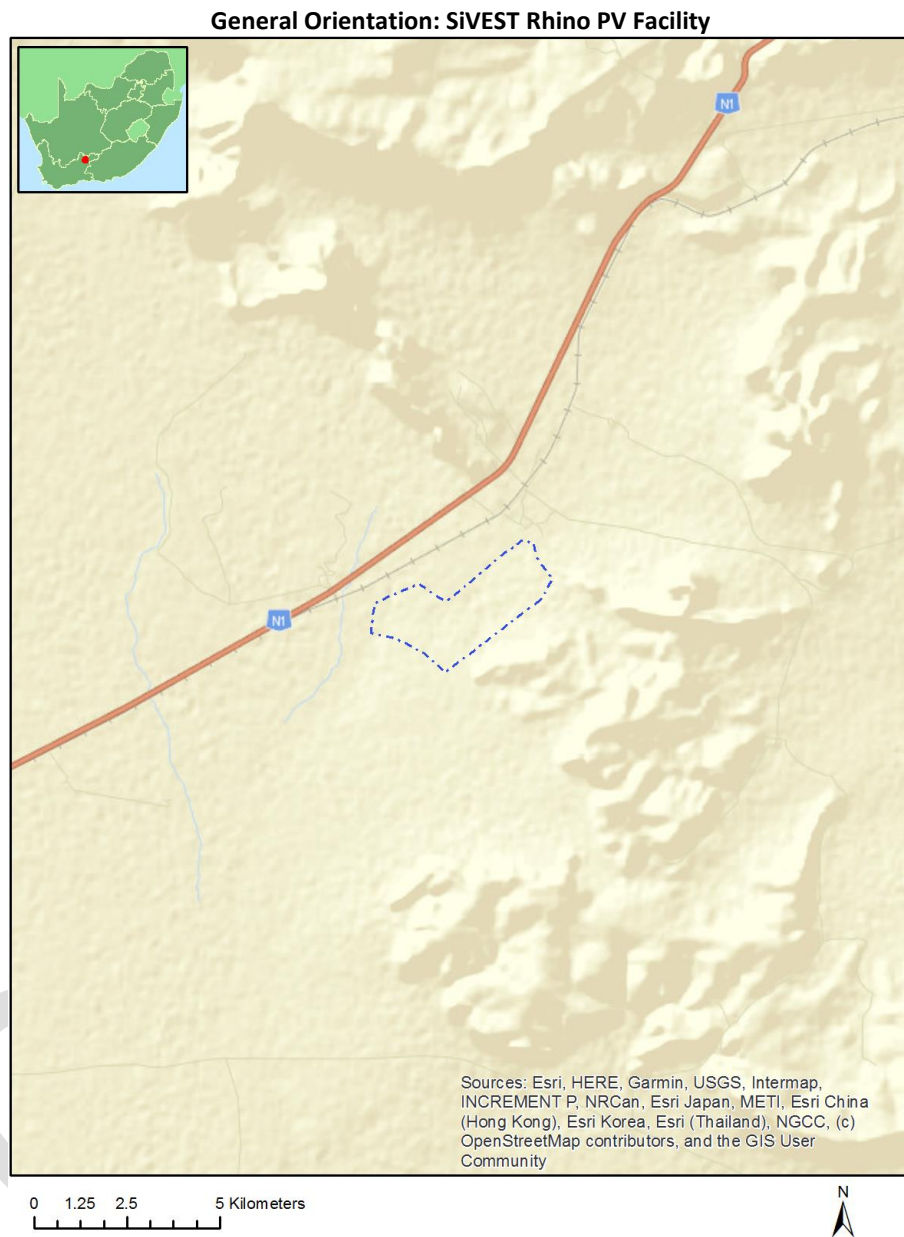
Application Category: Utilities Infrastructure|Electricity|Generation|Renewable|Solar|PV

Table of Contents

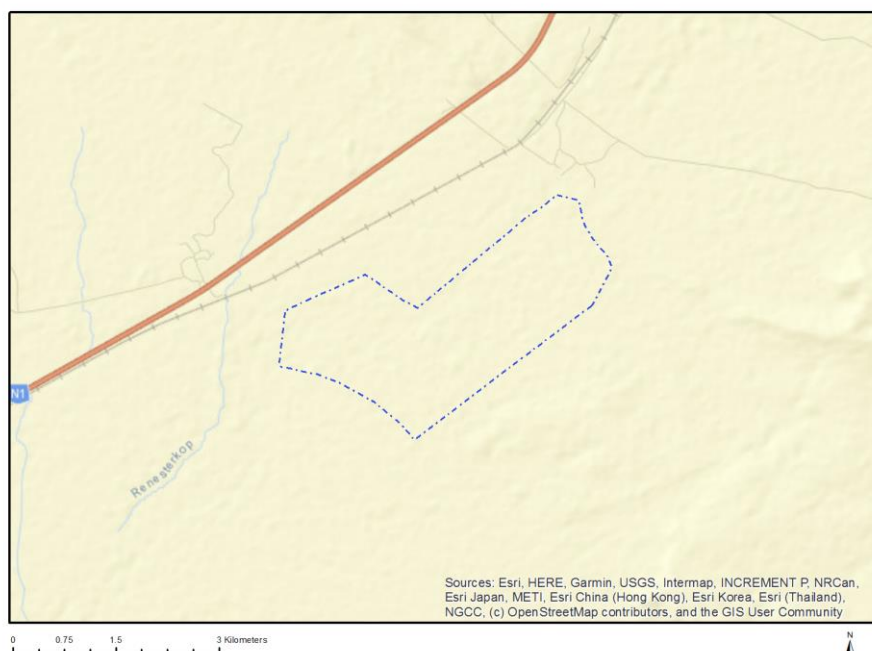
Proposed Project Location	3
Orientation map 1: General location	3
Map of proposed site and relevant area(s)	4
Cadastral details of the proposed site	4
Wind and Solar developments with an approved Environmental Authorisation or applications under consideration within 30 km of the proposed area	4
Environmental Management Frameworks relevant to the application	5
Environmental screening results and assessment outcomes	5
Relevant development incentives, restrictions, exclusions or prohibitions	5
Proposed Development Area Environmental Sensitivity	5
Specialist assessments identified	6
Results of the environmental sensitivity of the proposed area	8
MAP OF RELATIVE AGRICULTURE THEME SENSITIVITY	8
MAP OF RELATIVE ANIMAL SPECIES THEME SENSITIVITY	9
MAP OF RELATIVE AQUATIC BIODIVERSITY THEME SENSITIVITY	10
MAP OF RELATIVE ARCHAEOLOGICAL AND CULTURAL HERITAGE THEME SENSITIVITY	11
MAP OF RELATIVE AVIAN THEME SENSITIVITY	12
MAP OF RELATIVE CIVIL AVIATION (SOLAR PV) THEME SENSITIVITY	13
MAP OF RELATIVE DEFENCE THEME SENSITIVITY	14
MAP OF RELATIVE LANDSCAPE (SOLAR) THEME SENSITIVITY	15
MAP OF RELATIVE PALEONTOLOGY THEME SENSITIVITY	16
MAP OF RELATIVE PLANT SPECIES THEME SENSITIVITY	17
MAP OF RELATIVE RFI THEME SENSITIVITY	18
MAP OF RELATIVE TERRESTRIAL BIODIVERSITY THEME SENSITIVITY	19

Proposed Project Location

Orientation map 1: General location



Map of proposed site and relevant area(s)



Cadastral details of the proposed site

Property details:

No	Farm Name	Farm/ Erf No	Portion	Latitude	Longitude	Property Type
1	RHENOSTERKOP	155	0	32°13'54.62S	22°51'2.27E	Farm
2	RHENOSTERKOP	155	0	32°14'5.69S	22°51'41.48E	Farm Portion

Development footprint¹ vertices:

No development footprint(s) specified.

Wind and Solar developments with an approved Environmental Authorisation or applications under consideration within 30 km of the proposed area

No	EIA Reference No	Classification	Status of application	Distance from proposed area (km)
1	14/12/16/3/3/2/773	Solar PV	Approved	26.5
2	14/12/16/3/3/1/2517	Solar PV	Approved	20.2
3	12/12/20/2286/AM4	Solar PV	Approved	17
4	14/12/16/3/3/1/2521	Solar PV	Approved	20.2

¹ "development footprint", means the area within the site on which the development will take place and includes all ancillary developments for example roads, power lines, boundary walls, paving etc. which require vegetation clearance or which will be disturbed and for which the application has been submitted.

5	12/12/20/2286	Solar PV	Approved	17
6	14/12/16/3/3/1/2520	Solar PV	Approved	20.2
7	14/12/16/3/3/2/774	Solar PV	Approved	26.5
8	14/12/16/3/3/2/772	Solar PV	Approved	26.5
9	14/12/16/3/3/1/2332	Solar PV	Approved	17
10	14/12/16/3/3/1/2518	Solar PV	Approved	20.2
11	14/12/16/3/3/1/2519	Solar PV	Approved	20.2

Environmental Management Frameworks relevant to the application

No intersections with EMF areas found.

Environmental screening results and assessment outcomes

The following sections contain a summary of any development incentives, restrictions, exclusions or prohibitions that apply to the proposed development site as well as the most environmental sensitive features on the site based on the site sensitivity screening results for the application classification that was selected. The application classification selected for this report is: **Utilities Infrastructure | Electricity | Generation | Renewable | Solar | PV.**

Relevant development incentives, restrictions, exclusions or prohibitions

The following development incentives, restrictions, exclusions or prohibitions and their implications that apply to this site are indicated below.

Incentive, restriction or prohibition	Implication
Strategic Transmission Corridor-Central corridor	https://screening.environment.gov.za/ScreeningDownloads/DevelopmentZones/Combined_EGI.pdf
Renewable energy development zones 11-Beaufort West	https://screening.environment.gov.za/ScreeningDownloads/DevelopmentZones/Combined_REDZ.pdf
Strategic Gas Pipeline Corridors-Phase 9: Inland Corridor from Saldanha to Coega	https://screening.environment.gov.za/ScreeningDownloads/DevelopmentZones/Combined_GAS.pdf

Proposed Development Area Environmental Sensitivity

The following summary of the development site environmental sensitivities is identified. Only the highest environmental sensitivity is indicated. The footprint environmental sensitivities for the proposed development footprint as identified, are indicative only and must be verified on site by a suitably qualified person before the specialist assessments identified below can be confirmed.

Theme	Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
Agriculture Theme			X	
Animal Species Theme		X		
Aquatic Biodiversity Theme	X			
Archaeological and Cultural				X

Heritage Theme				
Avian Theme				X
Civil Aviation (Solar PV) Theme				X
Defence Theme				X
Landscape (Solar) Theme	X			
Paleontology Theme	X			
Plant Species Theme			X	
RFI Theme			X	
Terrestrial Biodiversity Theme	X			

Specialist assessments identified

Based on the selected classification, and the known impacts associated with the proposed development, the following list of specialist assessments have been identified for inclusion in the assessment report. It is the responsibility of the EAP to confirm this list and to motivate in the assessment report, the reason for not including any of the identified specialist study including the provision of photographic evidence of the site situation.

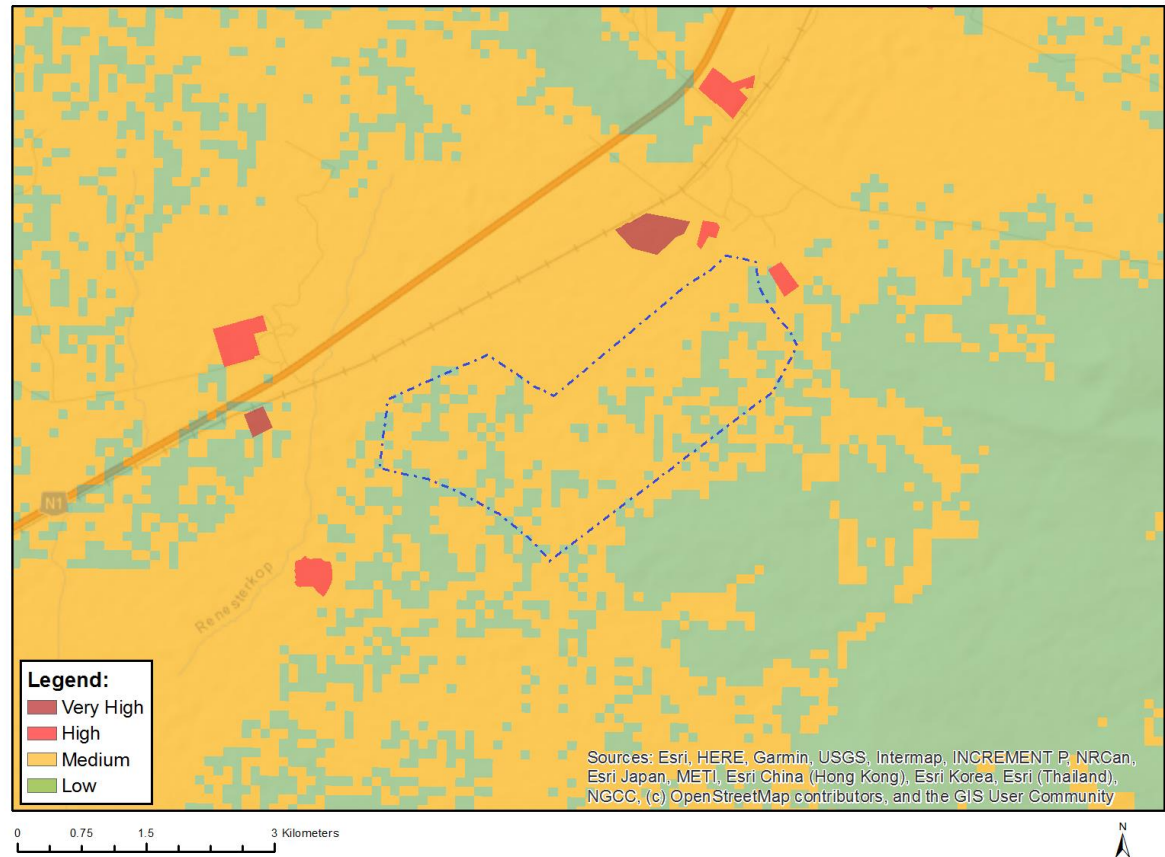
No	Specialist assessment	Assessment Protocol
1	Agricultural Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_WindAndSolar_Agriculture_Assessment_Protocols.pdf
2	Landscape/Visual Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
3	Archaeological and Cultural Heritage Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
4	Palaeontology Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
5	Terrestrial Biodiversity Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Terrestrial_Biodiversity_Assessment_Protocols.pdf
6	Aquatic Biodiversity Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Aquatic_Biodiversity_Assessment_Protocols.pdf
7	Civil Aviation Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Civil_Aviation_Installations_Assessment_Protocols.pdf
8	Defense Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Defence_Installations_Assessment_Protocols.pdf
9	RFI Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
10	Geotechnical Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
11	Socio-Economic	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf

	Assessment	ssmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
12	Plant Species Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Plant_Species_Assessment_Protocols.pdf
13	Animal Species Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Animal_Species_Assessment_Protocols.pdf

Results of the environmental sensitivity of the proposed area.

The following section represents the results of the screening for environmental sensitivity of the proposed site for relevant environmental themes associated with the project classification. It is the duty of the EAP to ensure that the environmental themes provided by the screening tool are comprehensive and complete for the project. Refer to the disclaimer.

MAP OF RELATIVE AGRICULTURE THEME SENSITIVITY

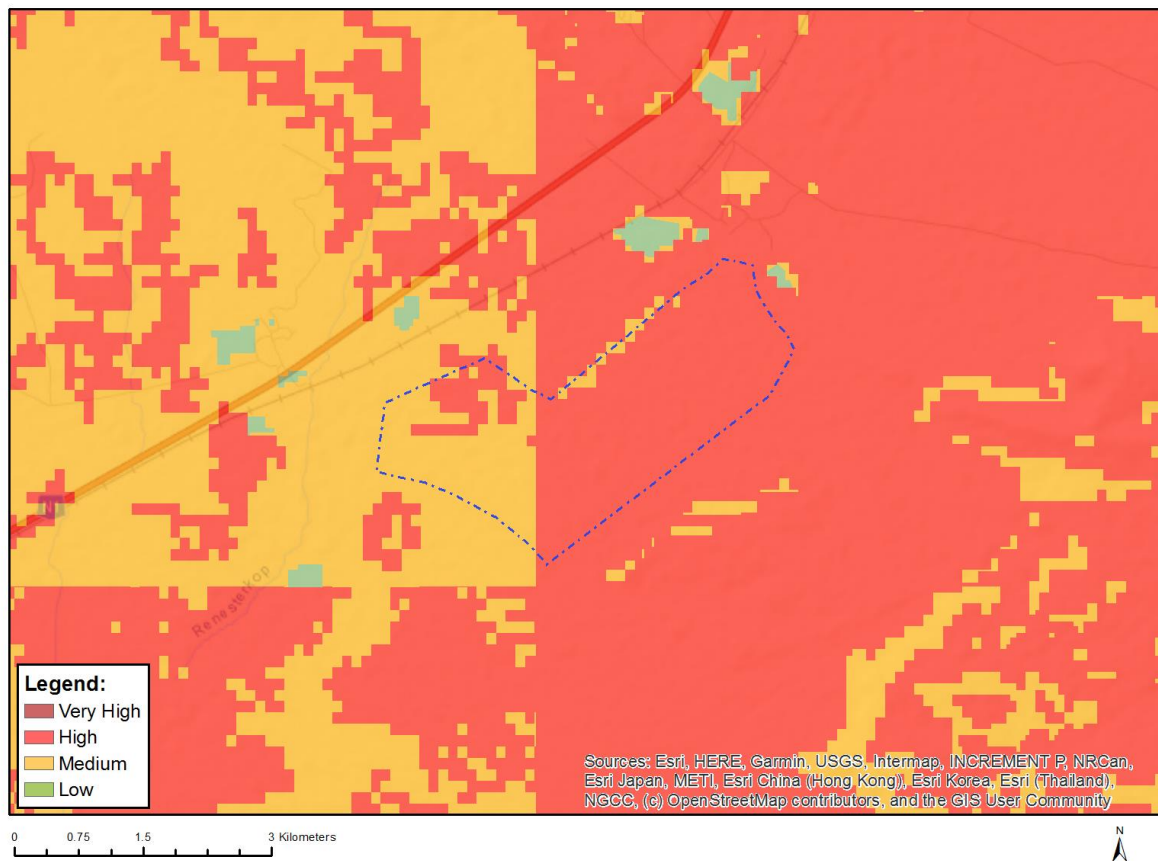


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
		X	

Sensitivity Features:

Sensitivity	Feature(s)
Low	Land capability;01. Very low/02. Very low/03. Low-Very low/04. Low-Very low/05. Low
Medium	Land capability;06. Low-Moderate/07. Low-Moderate/08. Moderate

MAP OF RELATIVE ANIMAL SPECIES THEME SENSITIVITY



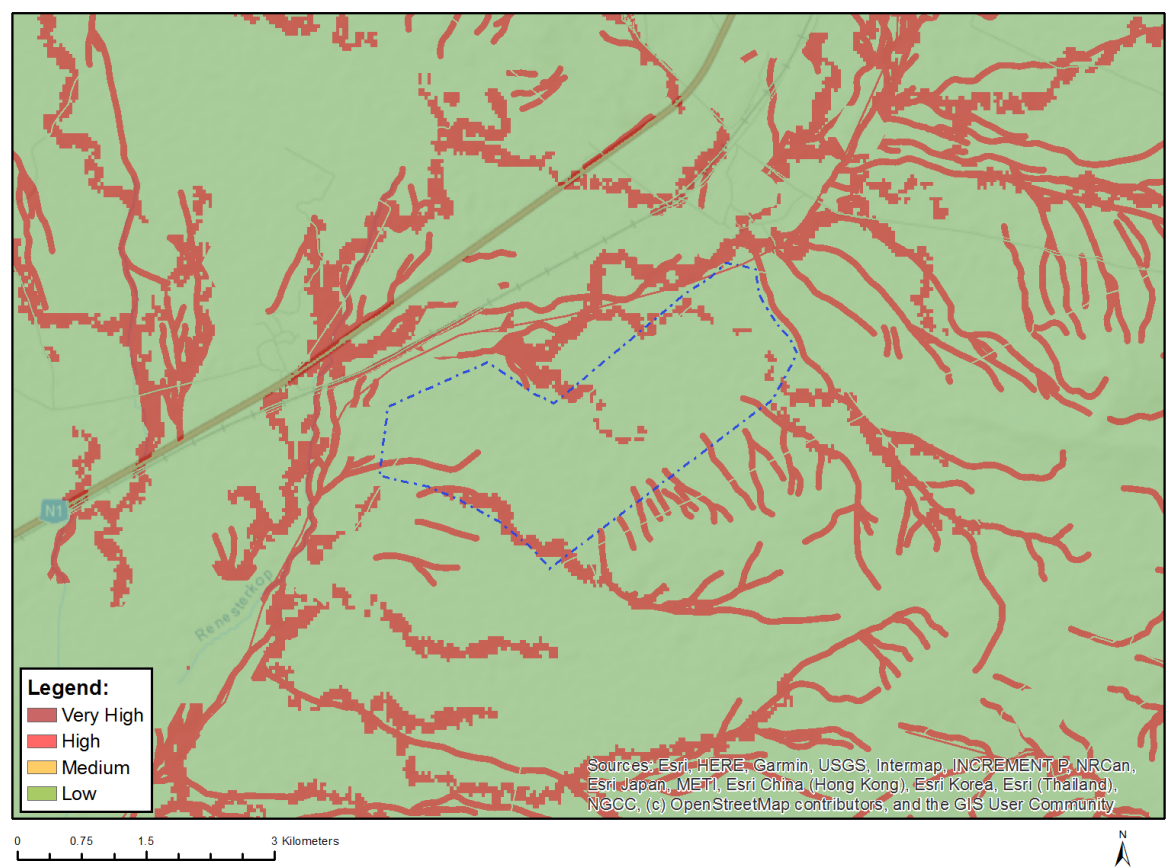
Where only a sensitive plant unique number or sensitive animal unique number is provided in the screening report and an assessment is required, the environmental assessment practitioner (EAP) or specialist is required to email SANBI at eiadatarequests@sanbi.org.za listing all sensitive species with their 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
High	Aves-Polemaetus bellicosus
Medium	Aves-Afrotis afra
Medium	Aves-Neotis ludwigii
Medium	Reptilia-Chersobius boulengeri

MAP OF RELATIVE AQUATIC BIODIVERSITY THEME SENSITIVITY

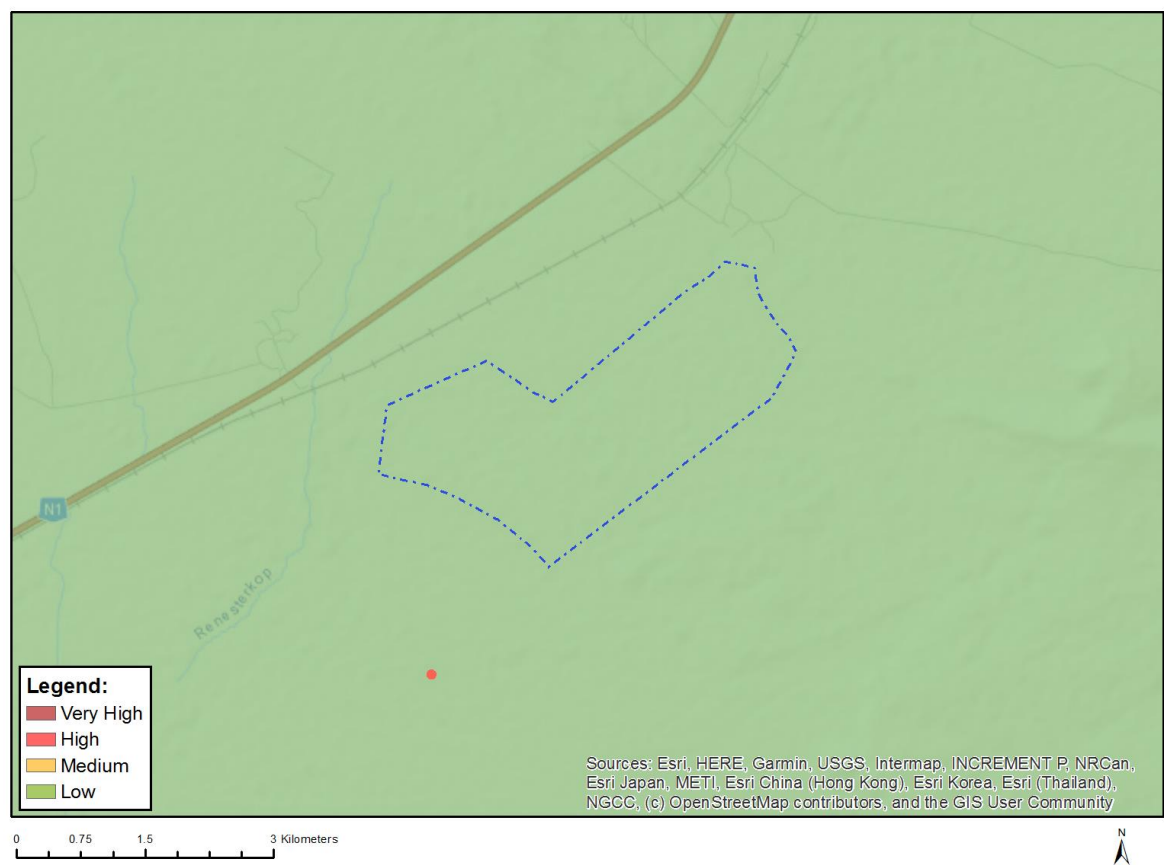


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low sensitivity
Very High	ESA 1: Aquatic
Very High	Rivers_Z

MAP OF RELATIVE ARCHAEOLOGICAL AND CULTURAL HERITAGE THEME SENSITIVITY

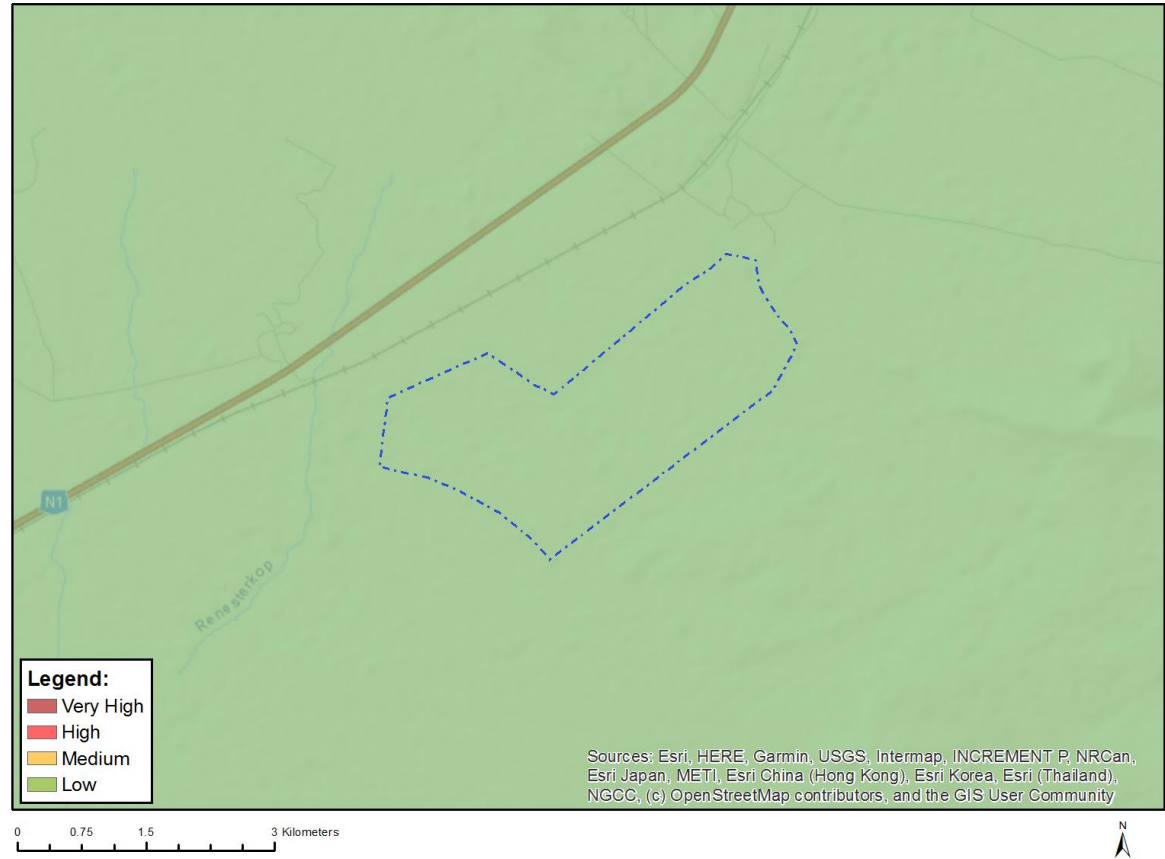


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low sensitivity

MAP OF RELATIVE AVIAN THEME SENSITIVITY

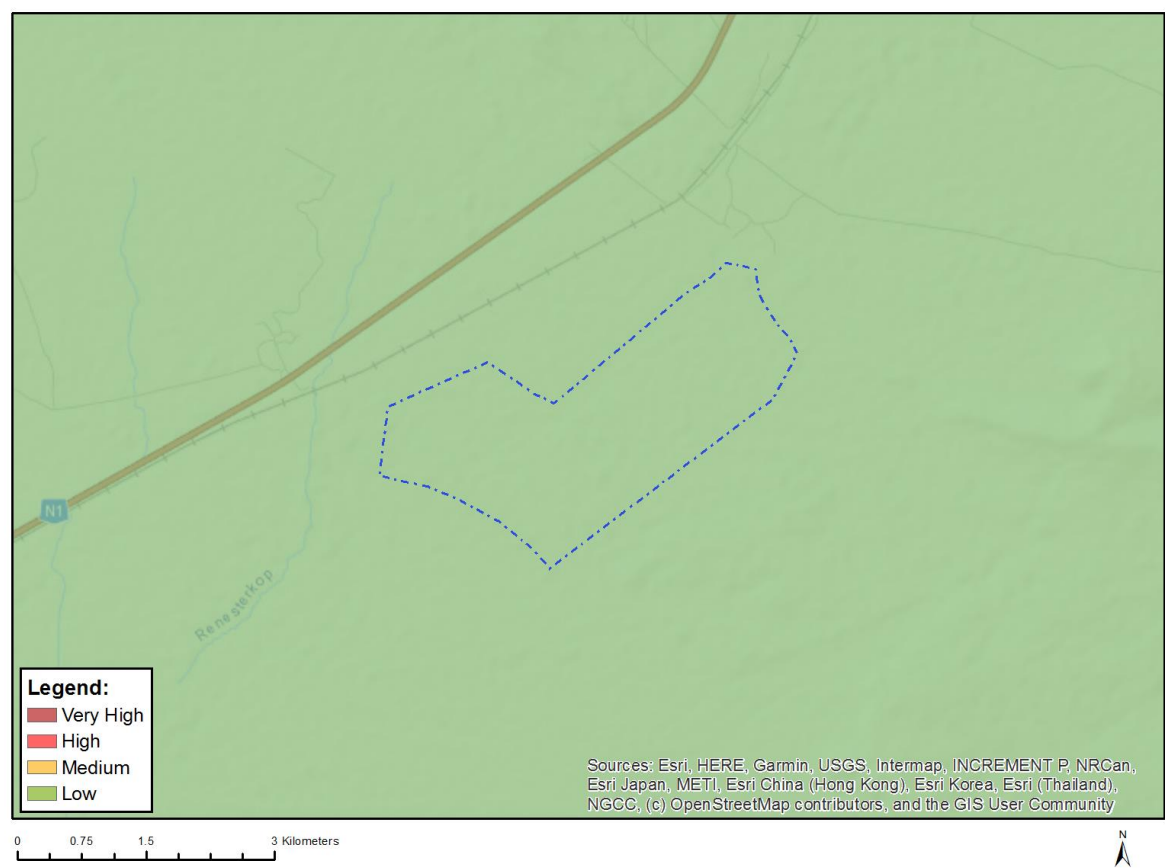


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity

MAP OF RELATIVE CIVIL AVIATION (SOLAR PV) THEME SENSITIVITY

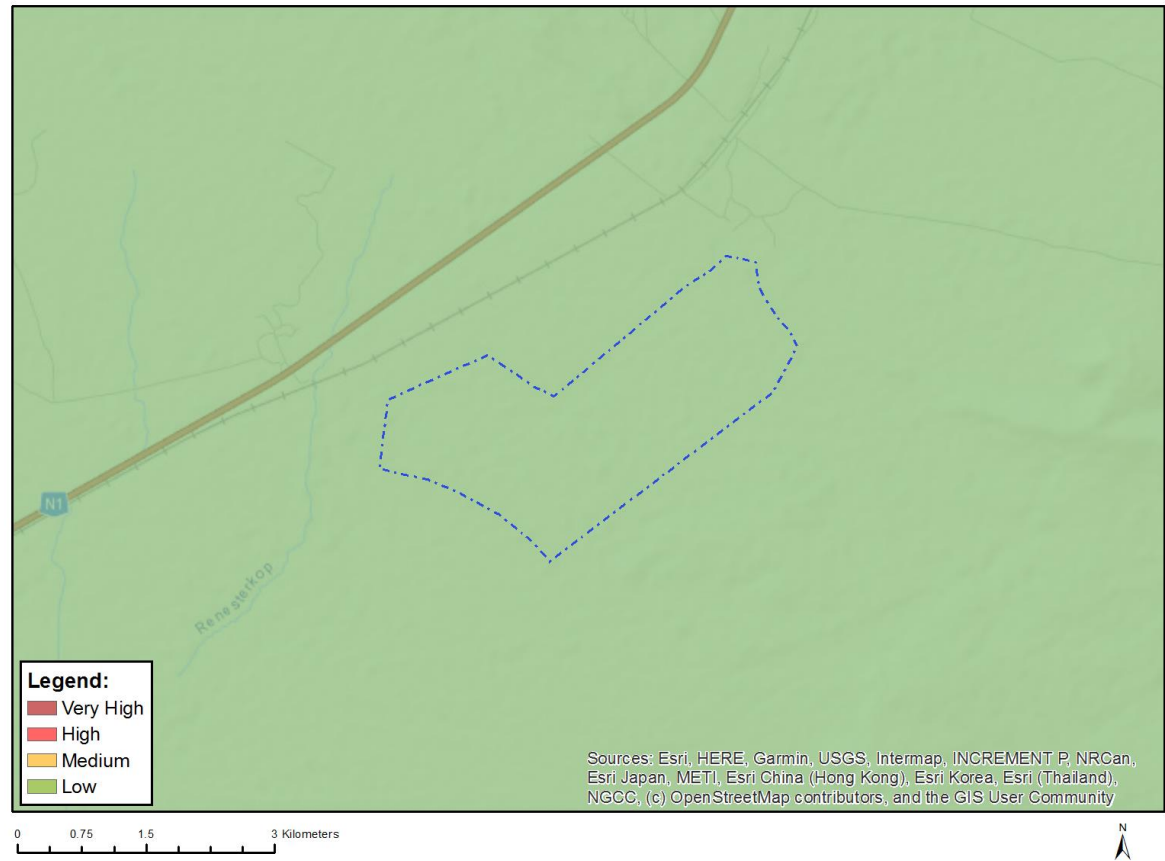


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	No major or other types of civil aviation aerodromes

MAP OF RELATIVE DEFENCE THEME SENSITIVITY

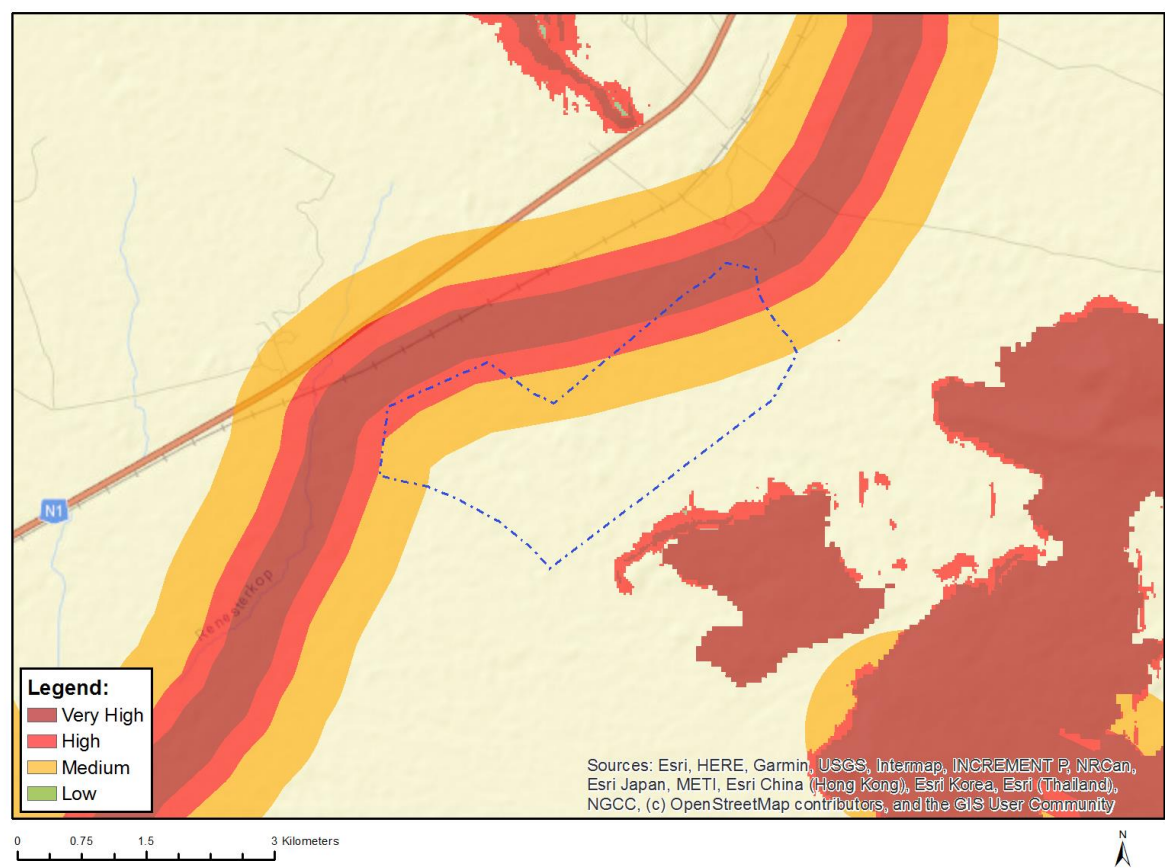


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low sensitivity

MAP OF RELATIVE LANDSCAPE (SOLAR) THEME SENSITIVITY

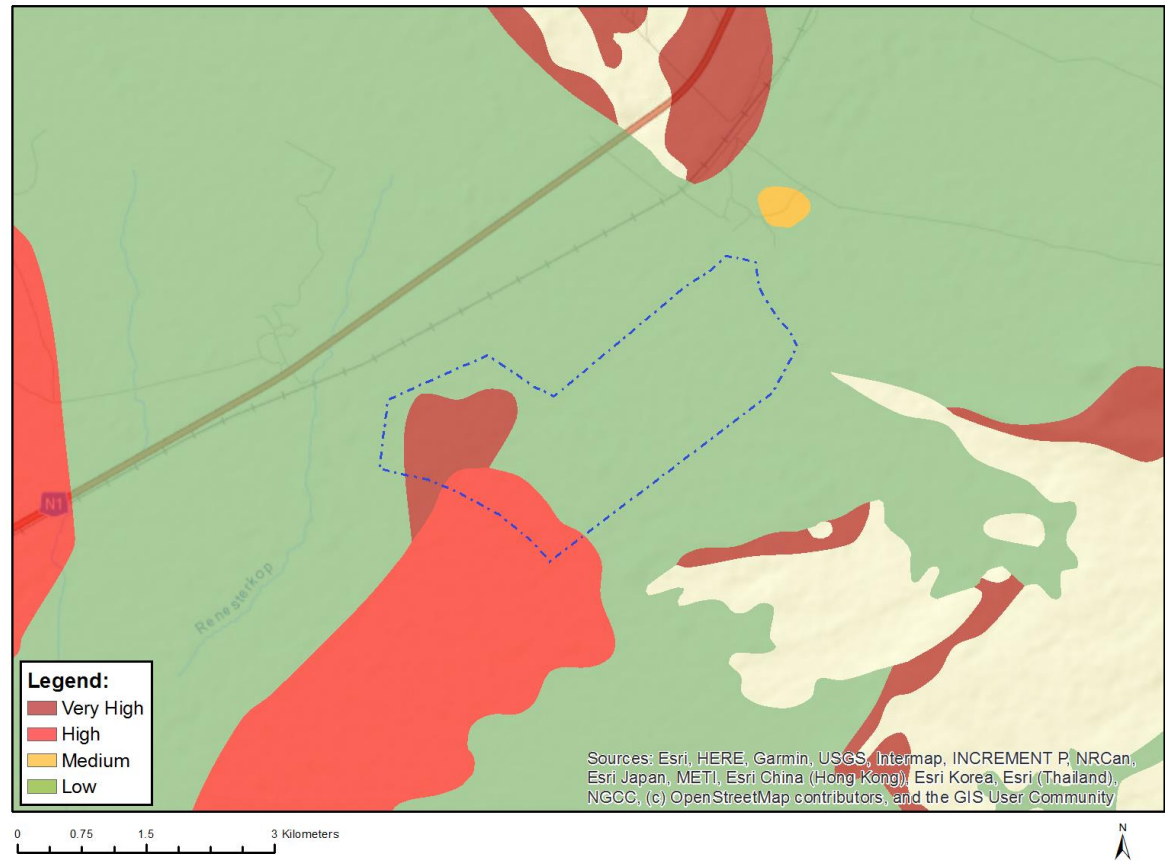


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
High	Within 500 m of a river
Medium	Within 1000 m of a wetland
Very High	Within 250 m of a river

MAP OF RELATIVE PALEONTOLOGY THEME SENSITIVITY

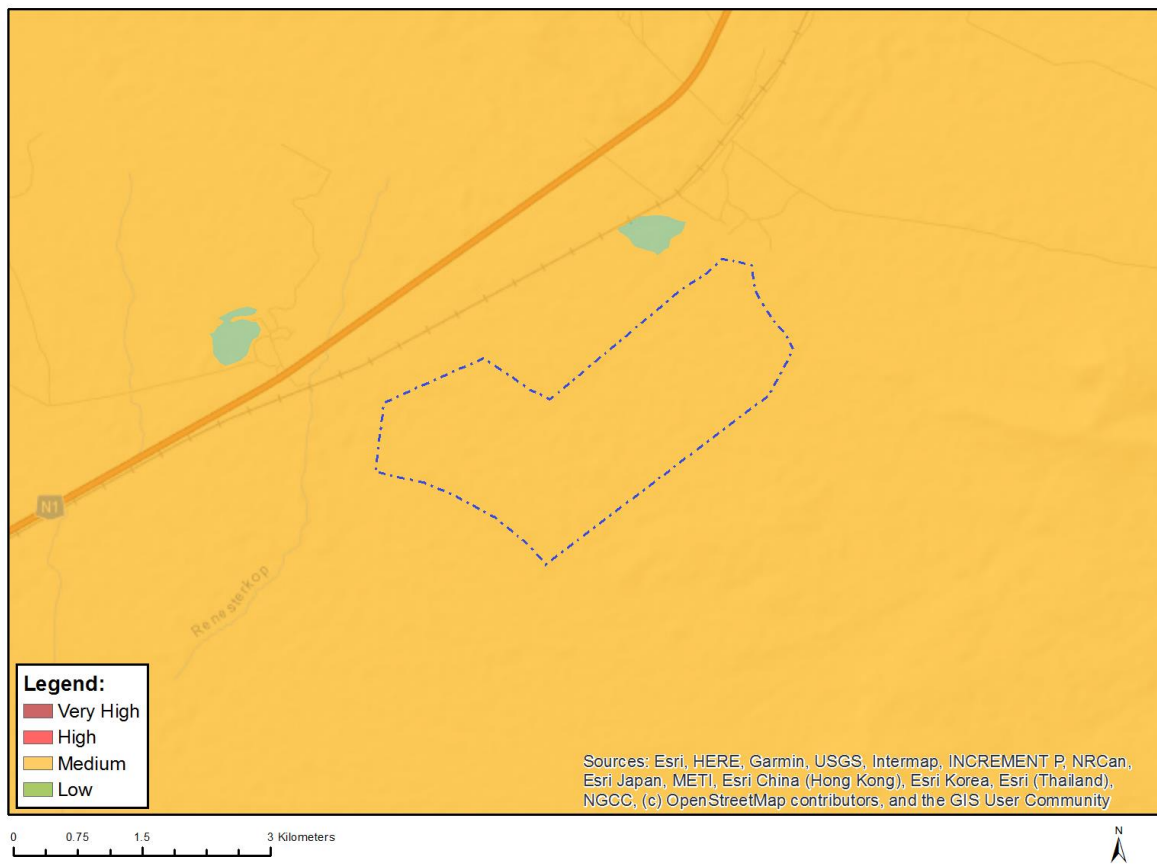


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
High	Features with a High paleontological sensitivity
Low	Features with a Low paleontological sensitivity
Very High	Features with a Very High paleontological sensitivity

MAP OF RELATIVE PLANT SPECIES THEME SENSITIVITY



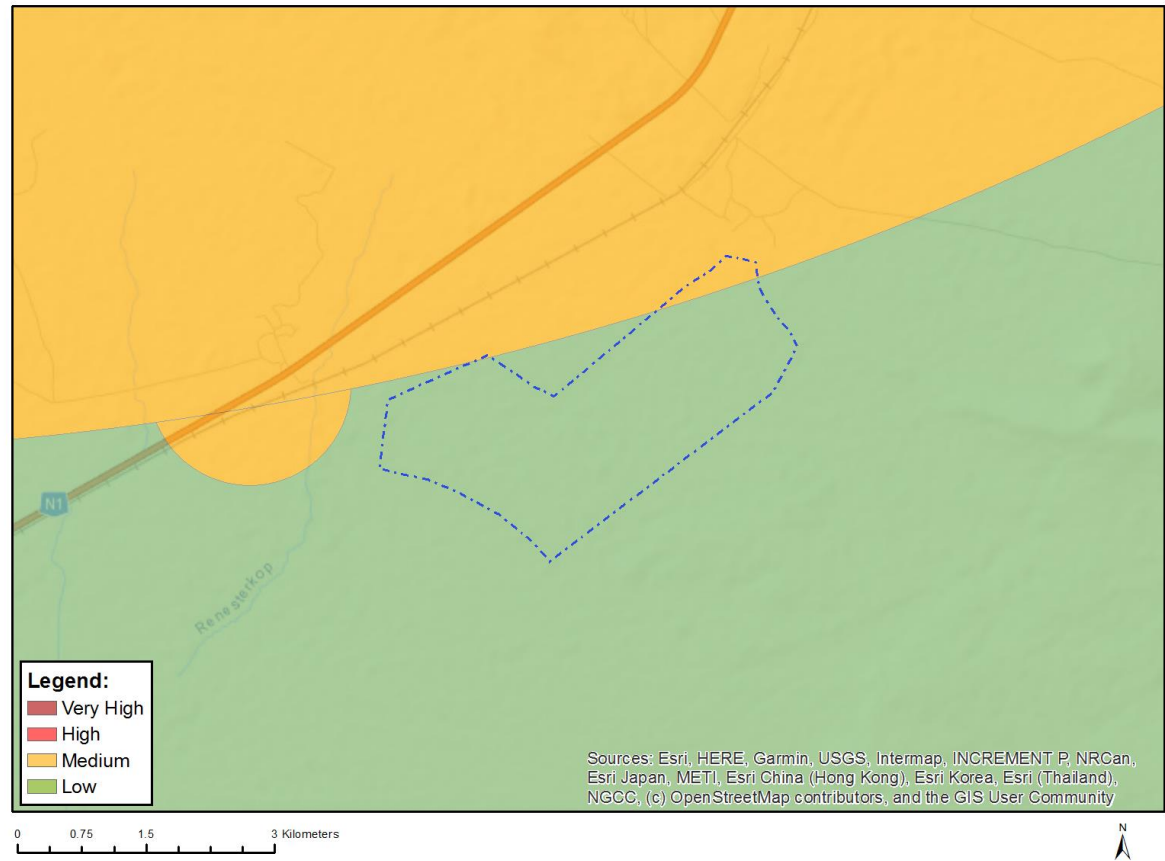
Where only a sensitive plant unique number or sensitive animal unique number is provided in the screening report and an assessment is required, the environmental assessment practitioner (EAP) or specialist is required to email SANBI at eiadatarequests@sanbi.org.za listing all sensitive species with their 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)
Medium	Sensitive species 383
Medium	Peersia frithii
Medium	Hereroa concava
Medium	Sensitive species 945
Medium	Anisodonteia malvastroides

MAP OF RELATIVE RFI THEME SENSITIVITY

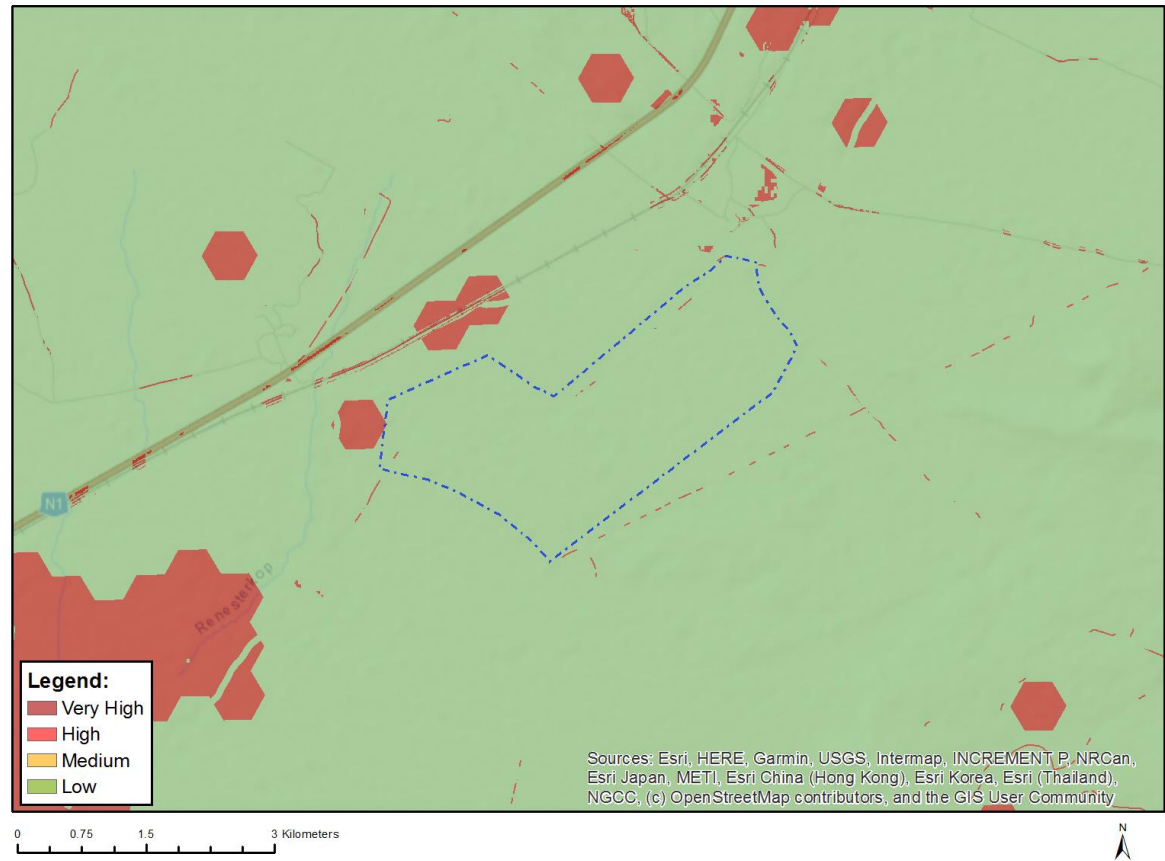


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
		X	

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low sensitivity
Medium	Between 14 and 32 km of a SKA receptor

MAP OF RELATIVE TERRESTRIAL BIODIVERSITY THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity
Very High	ESA 2: Restore from other land use
Very High	CBA 1: Terrestrial

**SCREENING REPORT FOR AN ENVIRONMENTAL AUTHORIZATION AS
REQUIRED BY THE 2014 EIA REGULATIONS – PROPOSED SITE
ENVIRONMENTAL SENSITIVITY**

EIA Reference number: TBC

Project name: Rhenosterkop PV EIA

Project title: Rhenosterkop PV EIA

Date screening report generated: 01/08/2023 15:57:10

Applicant: K2022578692 (SOUTH AFRICA) (PTY) LTD

Compiler: SiVEST SA (Pty) Ltd

Compiler signature:

.....

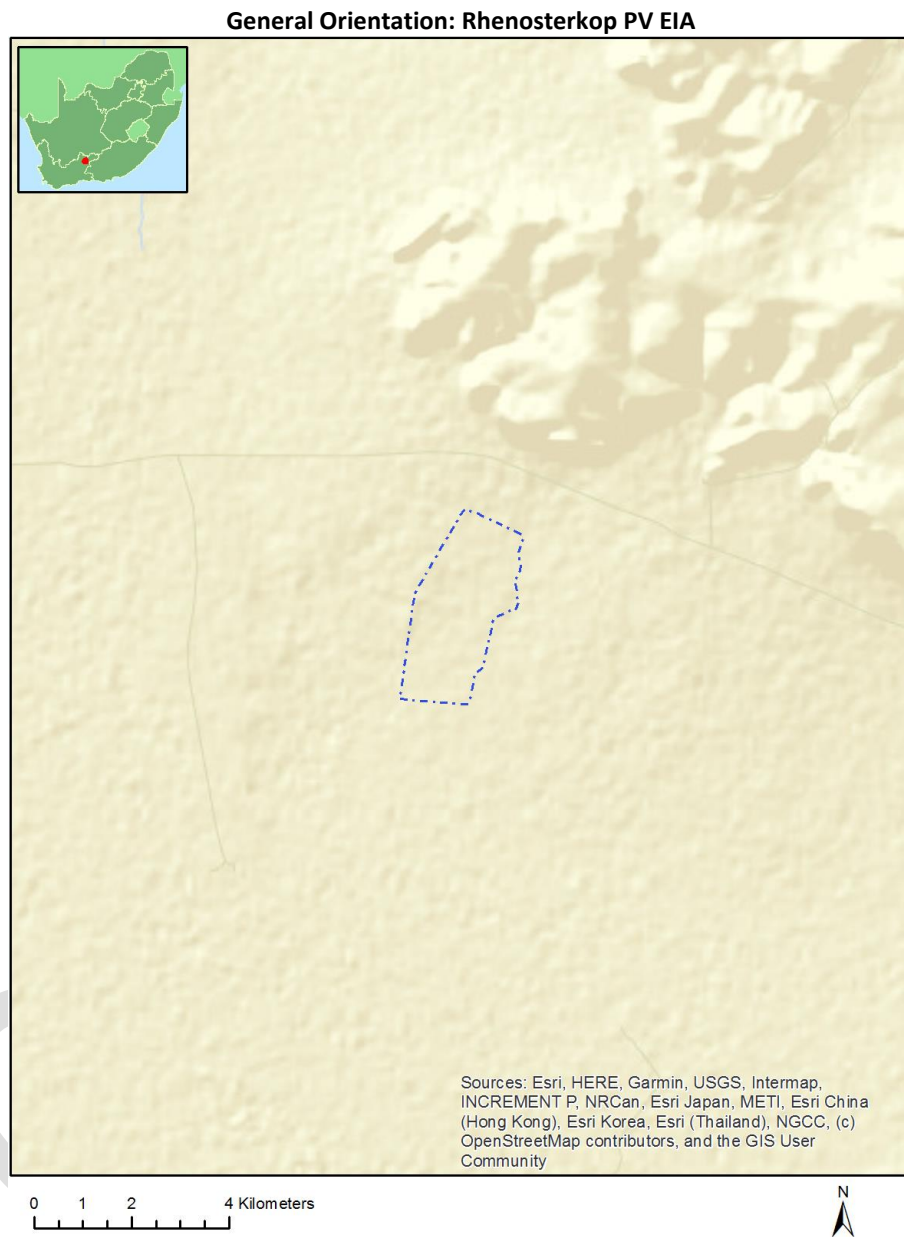
Application Category: Utilities Infrastructure|Electricity|Generation|Renewable|Solar|PV

Table of Contents

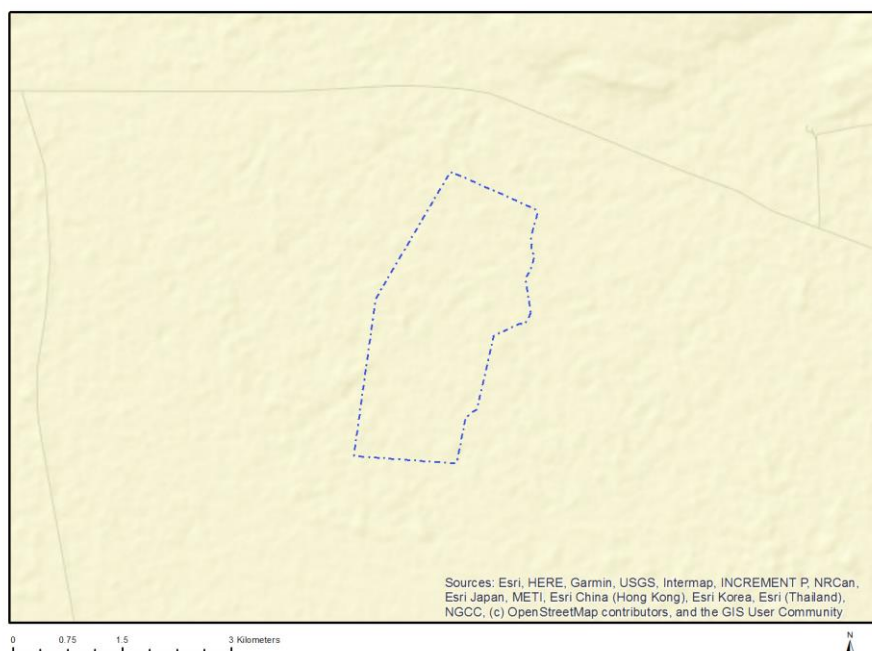
Proposed Project Location	3
Orientation map 1: General location	3
Map of proposed site and relevant area(s)	4
Cadastral details of the proposed site	4
Wind and Solar developments with an approved Environmental Authorisation or applications under consideration within 30 km of the proposed area	4
Environmental Management Frameworks relevant to the application	5
Environmental screening results and assessment outcomes	5
Relevant development incentives, restrictions, exclusions or prohibitions	5
Proposed Development Area Environmental Sensitivity	5
Specialist assessments identified	6
Results of the environmental sensitivity of the proposed area	8
MAP OF RELATIVE AGRICULTURE THEME SENSITIVITY	8
MAP OF RELATIVE ANIMAL SPECIES THEME SENSITIVITY	9
MAP OF RELATIVE AQUATIC BIODIVERSITY THEME SENSITIVITY	10
MAP OF RELATIVE ARCHAEOLOGICAL AND CULTURAL HERITAGE THEME SENSITIVITY	11
MAP OF RELATIVE AVIAN THEME SENSITIVITY	12
MAP OF RELATIVE CIVIL AVIATION (SOLAR PV) THEME SENSITIVITY	13
MAP OF RELATIVE DEFENCE THEME SENSITIVITY	14
MAP OF RELATIVE LANDSCAPE (SOLAR) THEME SENSITIVITY	15
MAP OF RELATIVE PALEONTOLOGY THEME SENSITIVITY	16
MAP OF RELATIVE PLANT SPECIES THEME SENSITIVITY	17
MAP OF RELATIVE RFI THEME SENSITIVITY	18
MAP OF RELATIVE TERRESTRIAL BIODIVERSITY THEME SENSITIVITY	19

Proposed Project Location

Orientation map 1: General location



Map of proposed site and relevant area(s)



Cadastral details of the proposed site

Property details:

No	Farm Name	Farm/ Erf No	Portion	Latitude	Longitude	Property Type
1		400	0	32°20'35.87S	22°52'9.53E	Farm
2		400	0	32°20'35.87S	22°52'9.53E	Farm Portion

Development footprint¹ vertices:

No development footprint(s) specified.

Wind and Solar developments with an approved Environmental Authorisation or applications under consideration within 30 km of the proposed area

No	EIA Reference No	Classification	Status of application	Distance from proposed area (km)
1	14/12/16/3/3/2/773	Solar PV	Approved	16.8
2	12/12/20/2133/AM4	Solar PV	Approved	28.6
3	14/12/16/3/3/1/2517	Solar PV	Approved	10.1
4	12/12/20/2133/A1	Solar PV	Approved	28.6
5	12/12/20/2286/AM4	Solar PV	Approved	18.1
6	14/12/16/3/3/1/2521	Solar PV	Approved	10.1

¹ "development footprint", means the area within the site on which the development will take place and includes all ancillary developments for example roads, power lines, boundary walls, paving etc. which require vegetation clearance or which will be disturbed and for which the application has been submitted.

7	12/12/20/2286	Solar PV	Approved	18.1
8	14/12/16/3/3/1/2520	Solar PV	Approved	10.1
9	14/12/16/3/3/2/774	Solar PV	Approved	16.8
10	14/12/16/3/3/2/772	Solar PV	Approved	16.8
11	12/12/20/2133	Solar PV	Approved	28.6
12	14/12/16/3/3/1/2332	Solar PV	Approved	18.2
13	12/12/20/2133/AM3	Solar PV	Approved	28.6
14	14/12/16/3/3/1/2518	Solar PV	Approved	10.1
15	14/12/16/3/3/1/2519	Solar PV	Approved	10.1
16	12/12/20/2133/AM5	Solar PV	Approved	28.6

Environmental Management Frameworks relevant to the application

No intersections with EMF areas found.

Environmental screening results and assessment outcomes

The following sections contain a summary of any development incentives, restrictions, exclusions or prohibitions that apply to the proposed development site as well as the most environmental sensitive features on the site based on the site sensitivity screening results for the application classification that was selected. The application classification selected for this report is:

Utilities Infrastructure | Electricity | Generation | Renewable | Solar | PV.

Relevant development incentives, restrictions, exclusions or prohibitions

The following development incentives, restrictions, exclusions or prohibitions and their implications that apply to this site are indicated below.

Incentive, restriction or prohibition	Implication
Strategic Transmission Corridor-Central corridor	https://screening.environment.gov.za/ScreeningDownloads/DevelopmentZones/Combined_EGI.pdf
Renewable energy development zones 11-Beaufort West	https://screening.environment.gov.za/ScreeningDownloads/DevelopmentZones/Combined_REDZ.pdf
Strategic Gas Pipeline Corridors-Phase 9: Inland Corridor from Saldanha to Coega	https://screening.environment.gov.za/ScreeningDownloads/DevelopmentZones/Combined_GAS.pdf

Proposed Development Area Environmental Sensitivity

The following summary of the development site environmental sensitivities is identified. Only the highest environmental sensitivity is indicated. The footprint environmental sensitivities for the proposed development footprint as identified, are indicative only and must be verified on site by a suitably qualified person before the specialist assessments identified below can be confirmed.

Theme	Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
Agriculture Theme			X	

Animal Species Theme		X		
Aquatic Biodiversity Theme	X			
Archaeological and Cultural Heritage Theme				X
Avian Theme				X
Civil Aviation (Solar PV) Theme				X
Defence Theme				X
Landscape (Solar) Theme			X	
Paleontology Theme	X			
Plant Species Theme			X	
RFI Theme				X
Terrestrial Biodiversity Theme	X			

Specialist assessments identified

Based on the selected classification, and the known impacts associated with the proposed development, the following list of specialist assessments have been identified for inclusion in the assessment report. It is the responsibility of the EAP to confirm this list and to motivate in the assessment report, the reason for not including any of the identified specialist study including the provision of photographic evidence of the site situation.

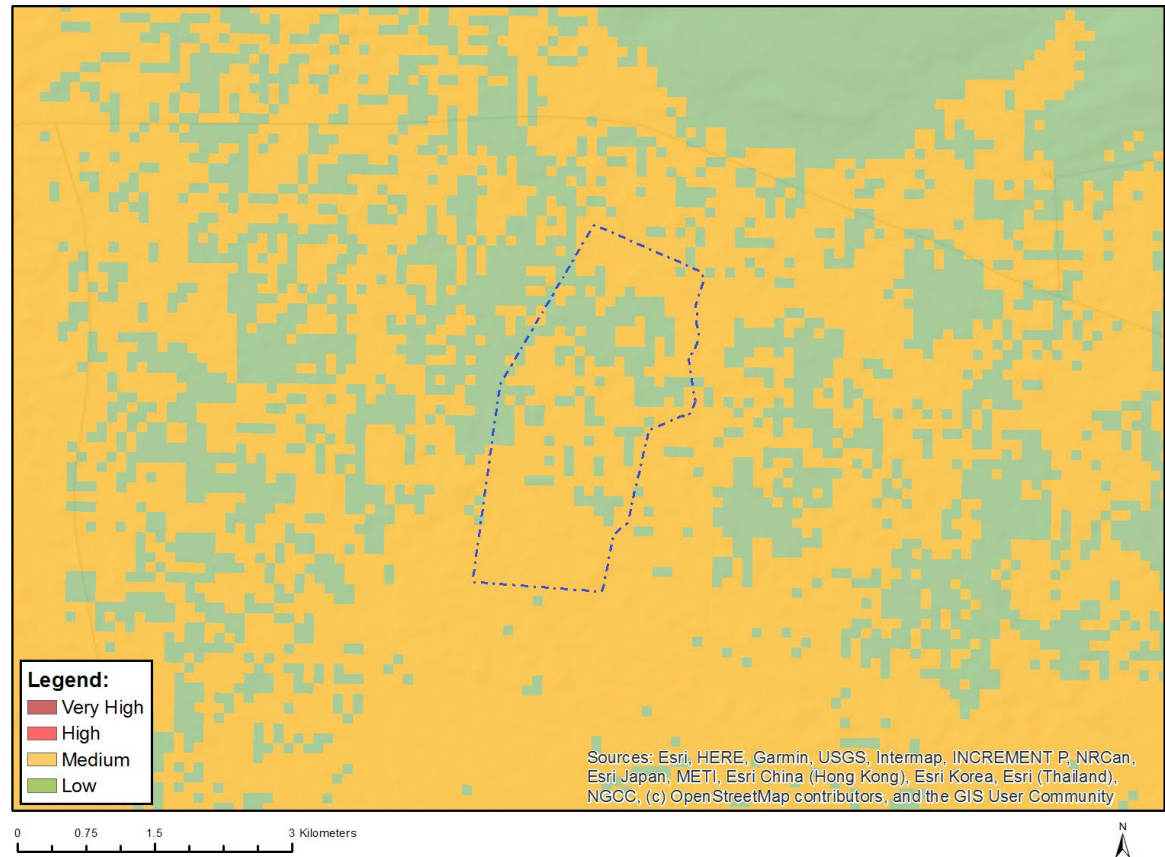
No	Specialist assessment	Assessment Protocol
1	Agricultural Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_WindAndSolar_Agriculture_Assessment_Protocols.pdf
2	Landscape/Visual Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
3	Archaeological and Cultural Heritage Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
4	Palaeontology Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
5	Terrestrial Biodiversity Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Terrestrial_Biodiversity_Assessment_Protocols.pdf
6	Aquatic Biodiversity Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Aquatic_Biodiversity_Assessment_Protocols.pdf
7	Civil Aviation Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Civil_Aviation_Installations_Assessment_Protocols.pdf
8	Defense Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Defence_Installations_Assessment_Protocols.pdf
9	RFI Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
10	Geotechnical Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Geotechnical_Assessment_Protocols.pdf

		ssmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
11	Socio-Economic Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
12	Plant Species Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Plant_Species_Assessment_Protocols.pdf
13	Animal Species Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Animal_Species_Assessment_Protocols.pdf

Results of the environmental sensitivity of the proposed area.

The following section represents the results of the screening for environmental sensitivity of the proposed site for relevant environmental themes associated with the project classification. It is the duty of the EAP to ensure that the environmental themes provided by the screening tool are comprehensive and complete for the project. Refer to the disclaimer.

MAP OF RELATIVE AGRICULTURE THEME SENSITIVITY

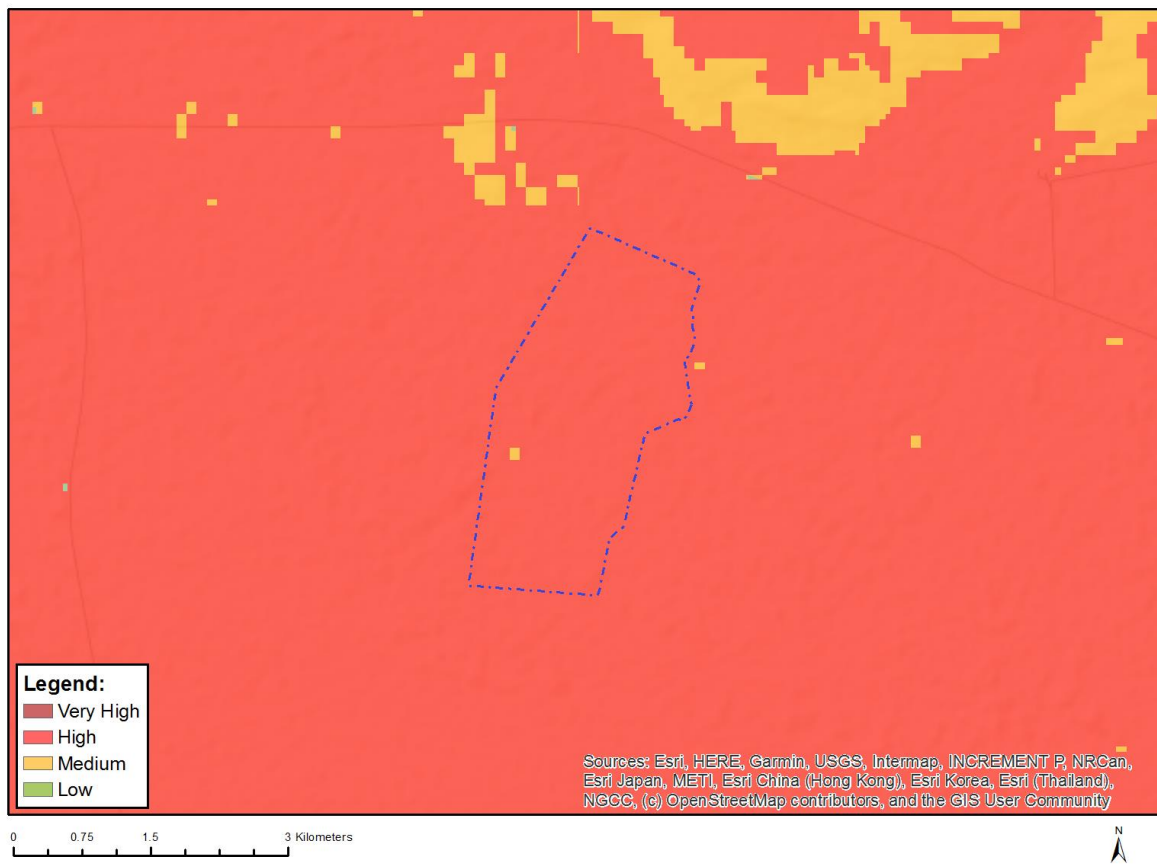


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
		X	

Sensitivity Features:

Sensitivity	Feature(s)
Low	Land capability;01. Very low/02. Very low/03. Low-Very low/04. Low-Very low/05. Low
Medium	Land capability;06. Low-Moderate/07. Low-Moderate/08. Moderate

MAP OF RELATIVE ANIMAL SPECIES THEME SENSITIVITY



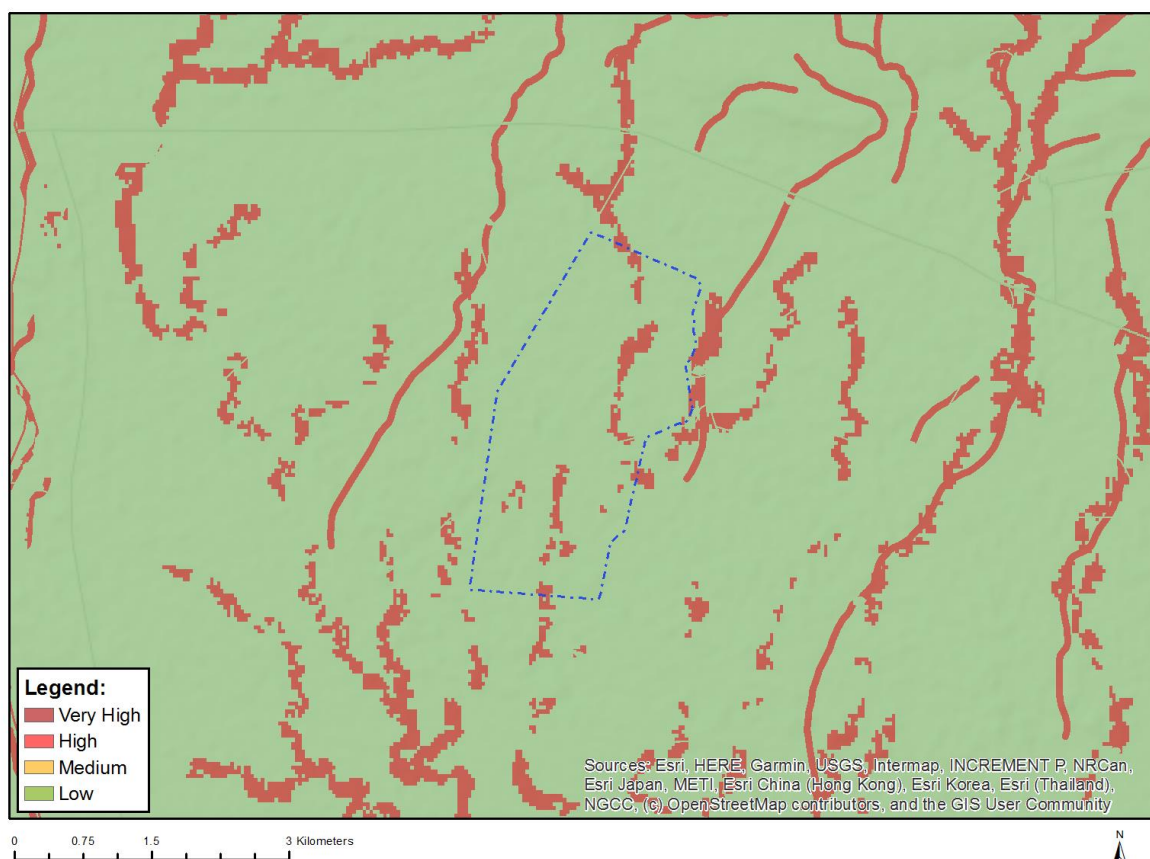
Where only a sensitive plant unique number or sensitive animal unique number is provided in the screening report and an assessment is required, the environmental assessment practitioner (EAP) or specialist is required to email SANBI at eiadatarequests@sanbi.org.za listing all sensitive species with their 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-Afrotis afra
Medium	Reptilia-Chersobius boulengeri

MAP OF RELATIVE AQUATIC BIODIVERSITY THEME SENSITIVITY

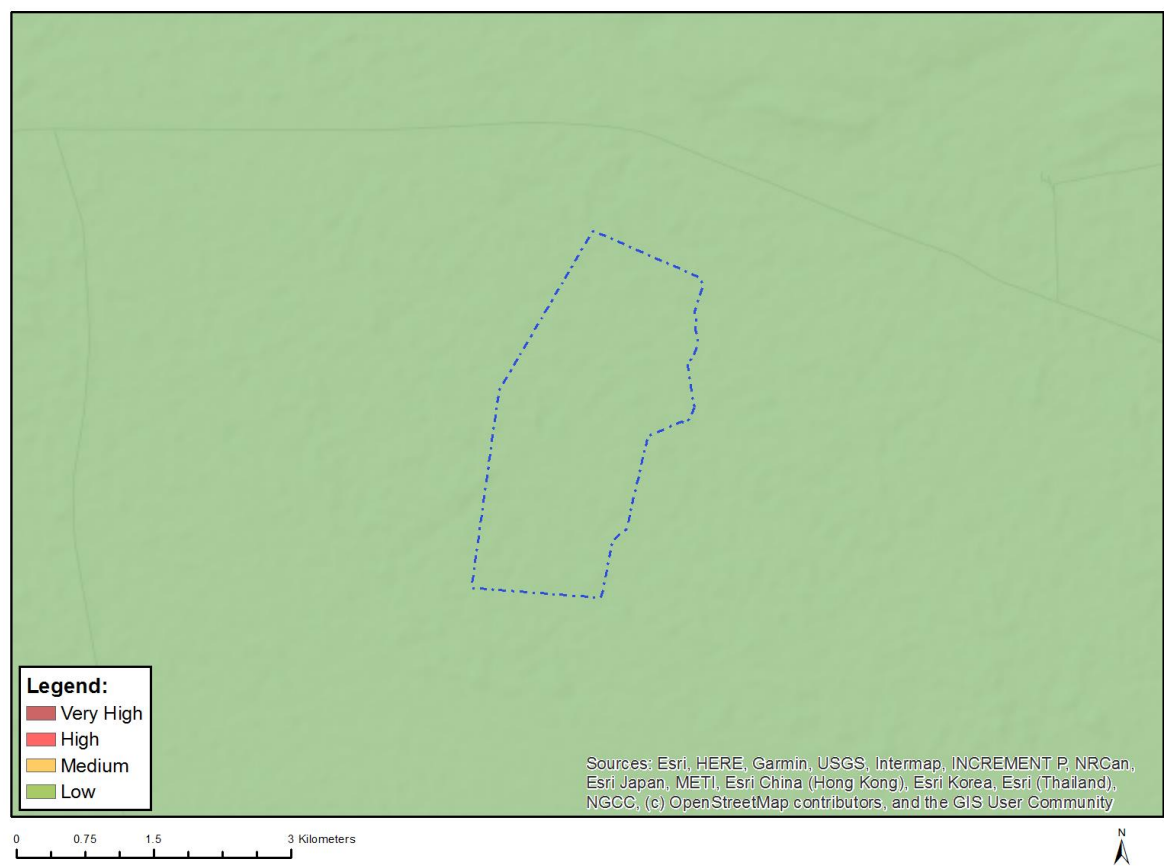


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low sensitivity
Very High	ESA 1: Aquatic

MAP OF RELATIVE ARCHAEOLOGICAL AND CULTURAL HERITAGE THEME SENSITIVITY

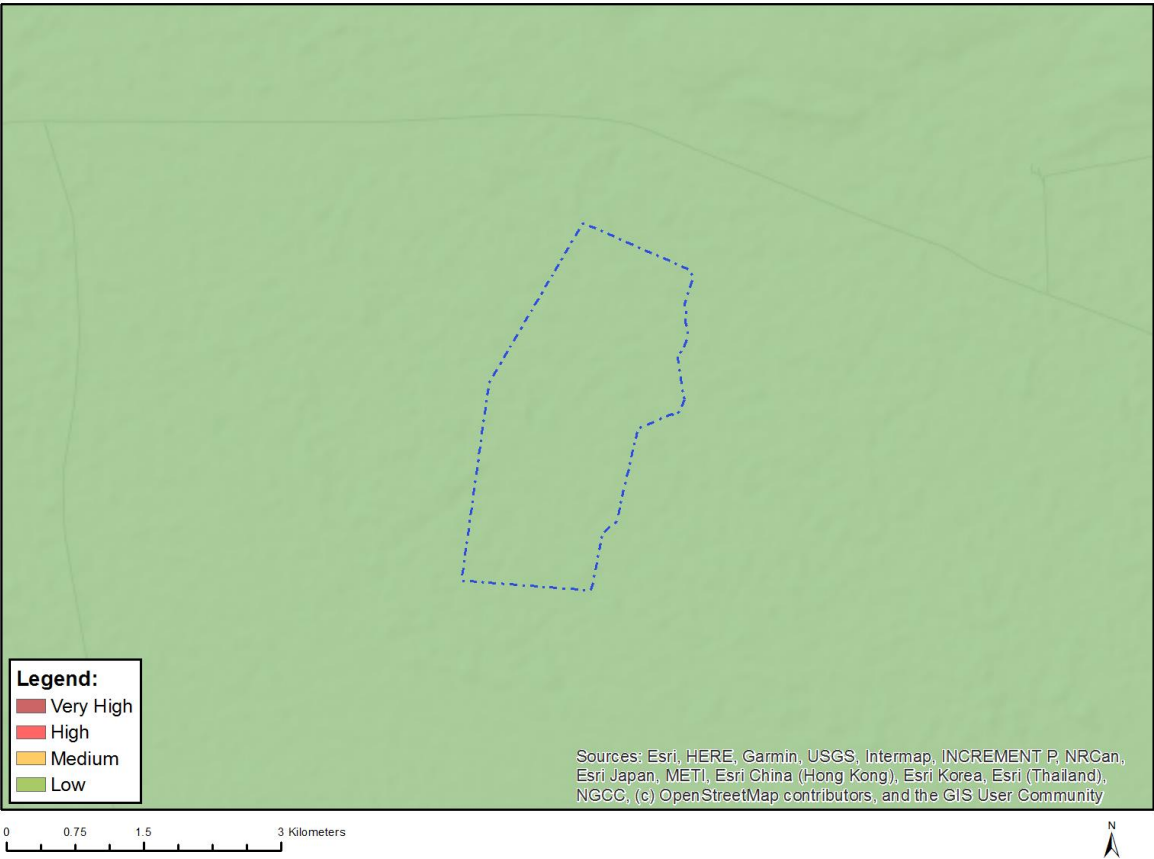


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low sensitivity

MAP OF RELATIVE AVIAN THEME SENSITIVITY

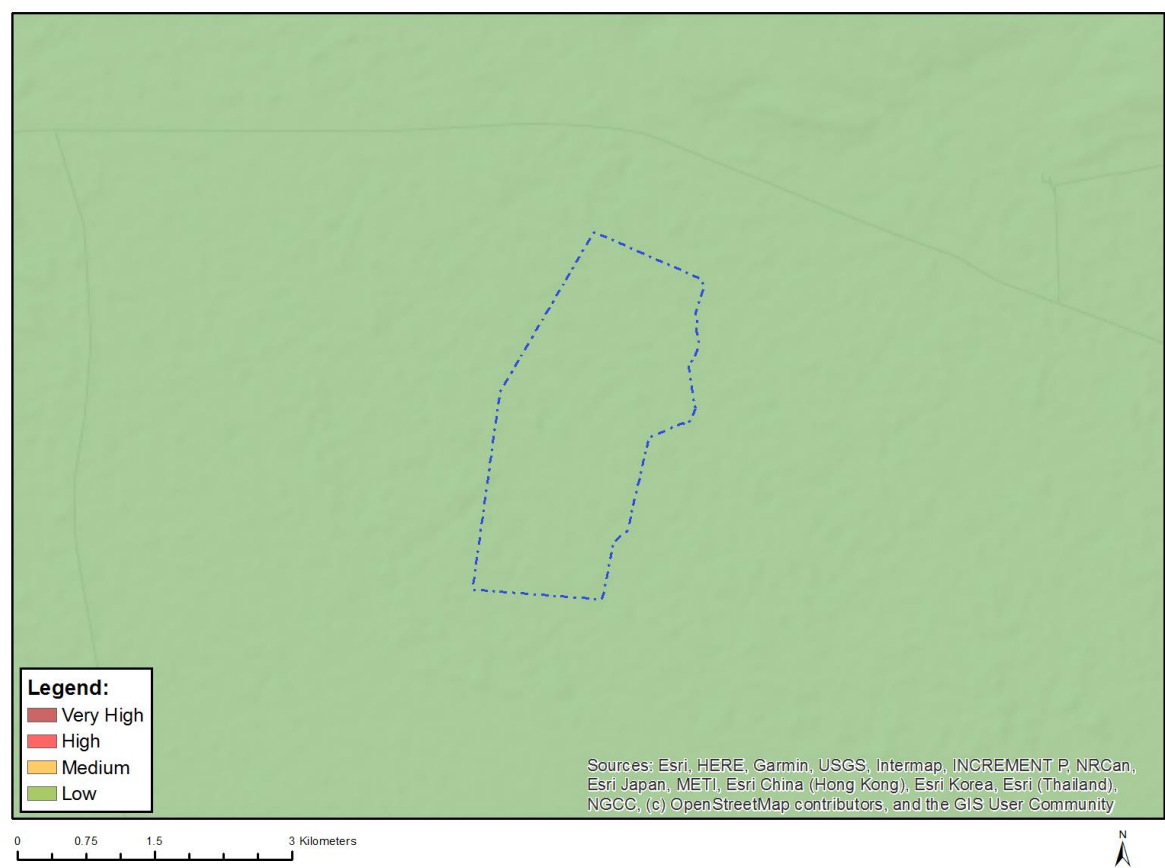


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity

MAP OF RELATIVE CIVIL AVIATION (SOLAR PV) THEME SENSITIVITY

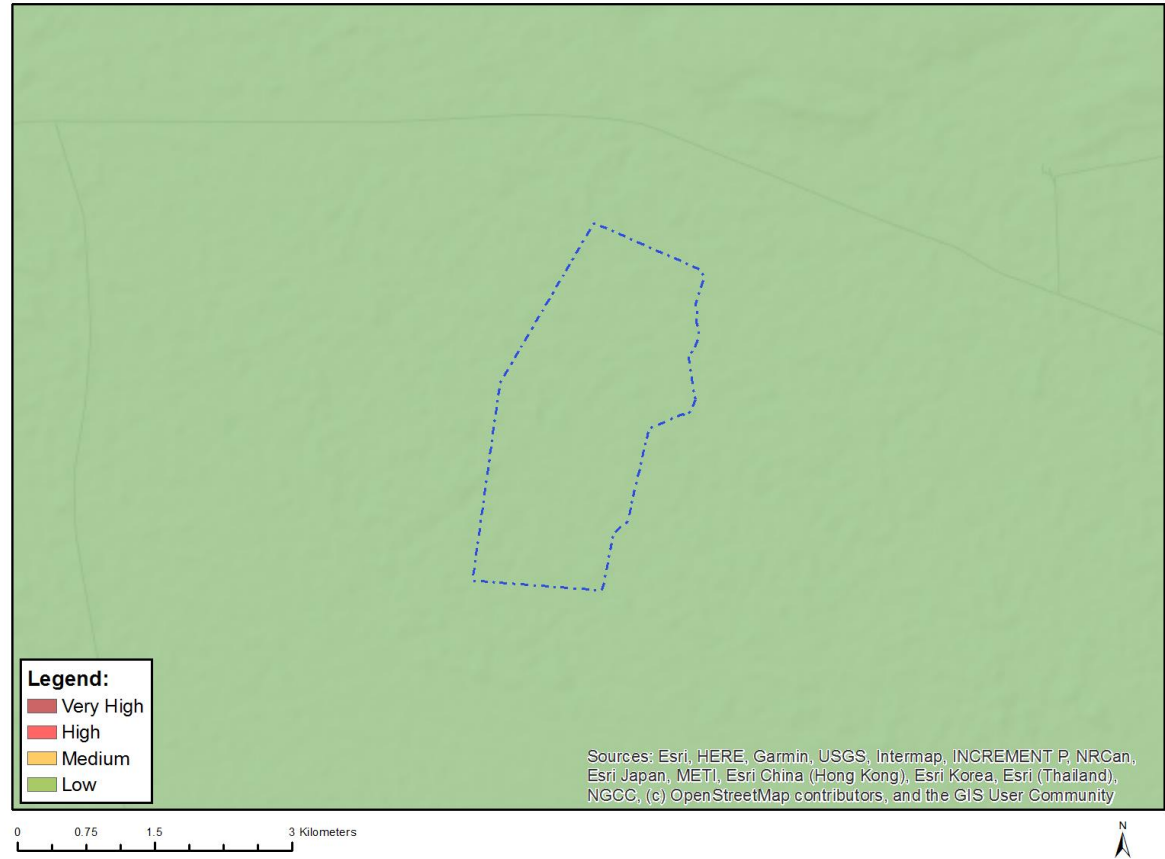


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	No major or other types of civil aviation aerodromes

MAP OF RELATIVE DEFENCE THEME SENSITIVITY

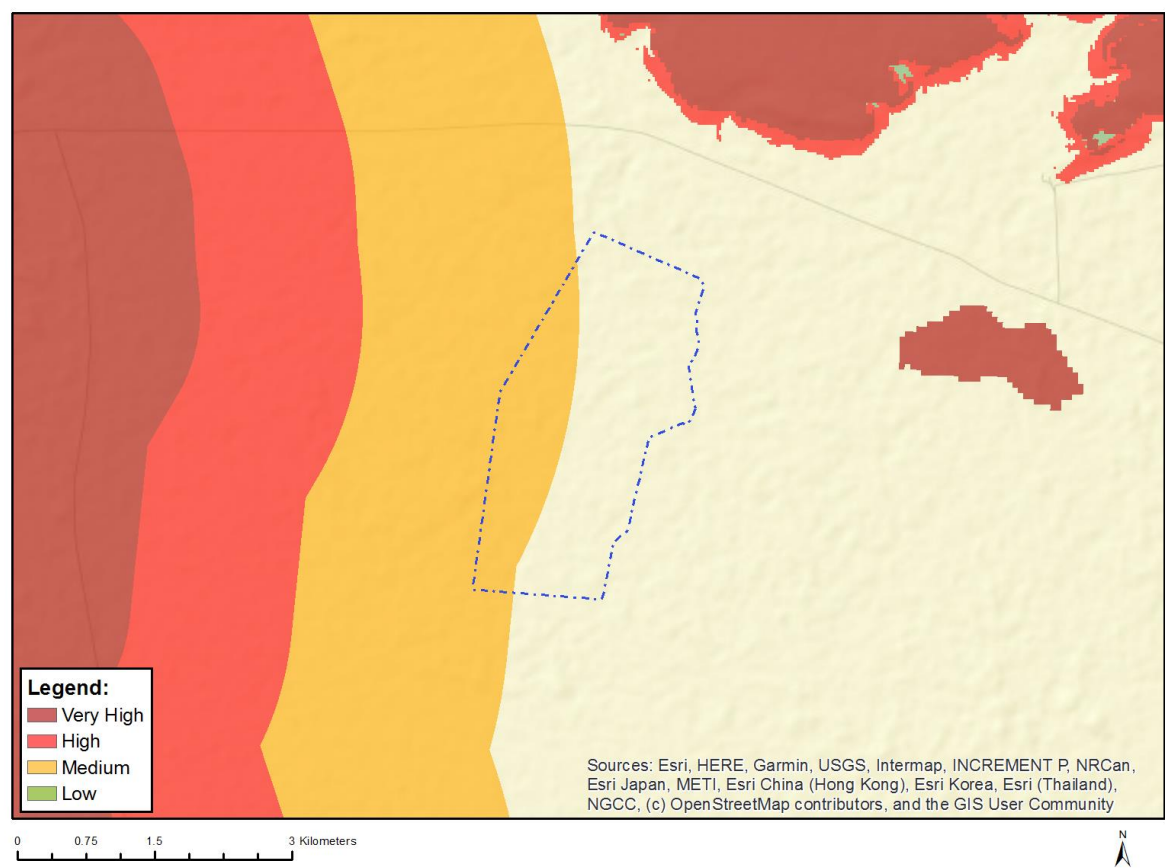


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low sensitivity

MAP OF RELATIVE LANDSCAPE (SOLAR) THEME SENSITIVITY

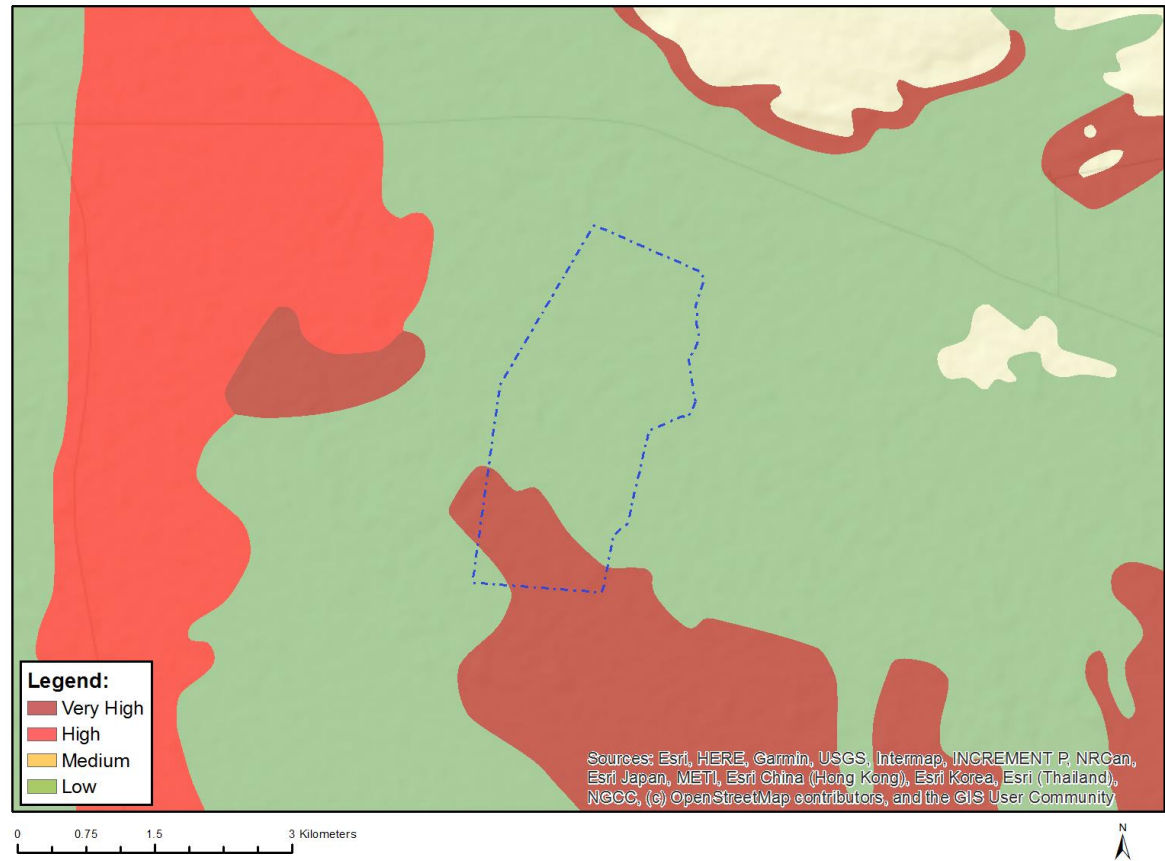


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
		X	

Sensitivity Features:

Sensitivity	Feature(s)
Medium	Between 3 and 5 km of a nature reserve

MAP OF RELATIVE PALEONTOLOGY THEME SENSITIVITY

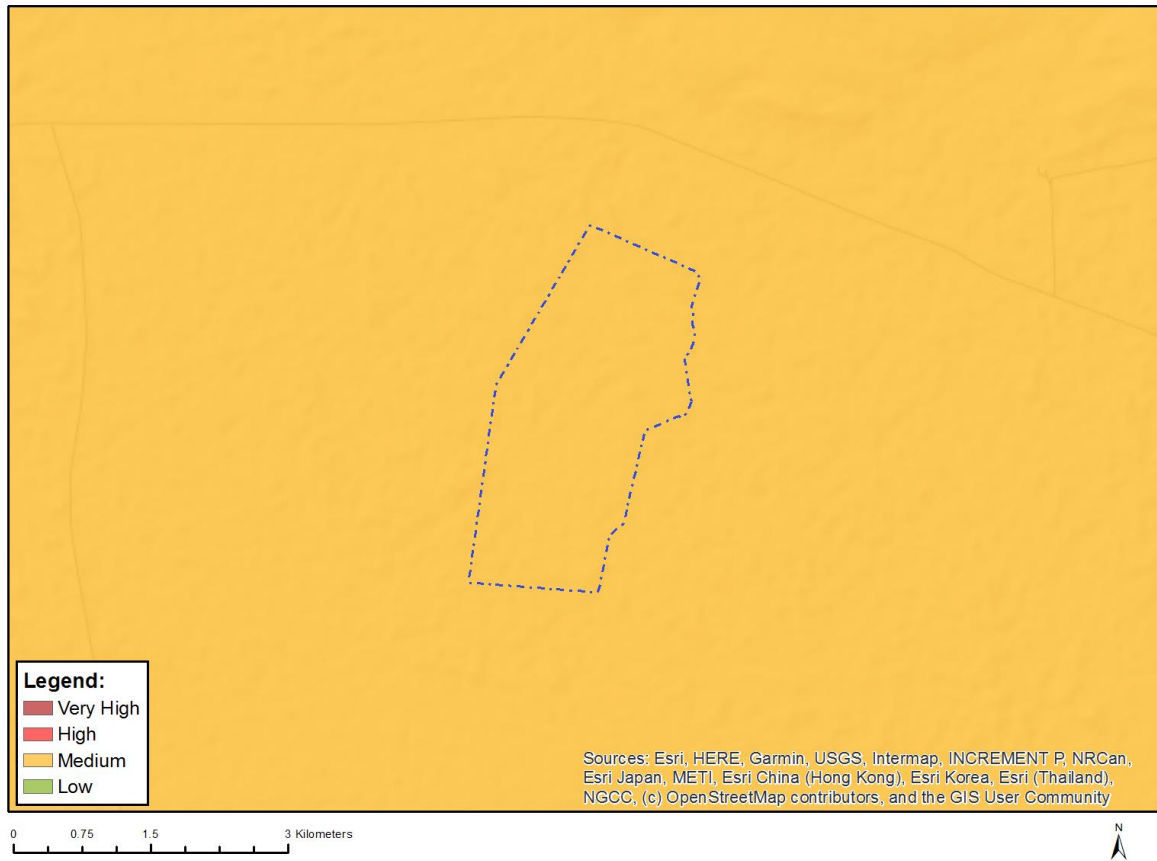


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
Low	Features with a Low paleontological sensitivity
Very High	Features with a Very High paleontological sensitivity

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)
Medium	Ruschia beaufortensis
Medium	Sensitive species 383
Medium	Peersia frithii
Medium	Sensitive species 1212

MAP OF RELATIVE RFI THEME SENSITIVITY

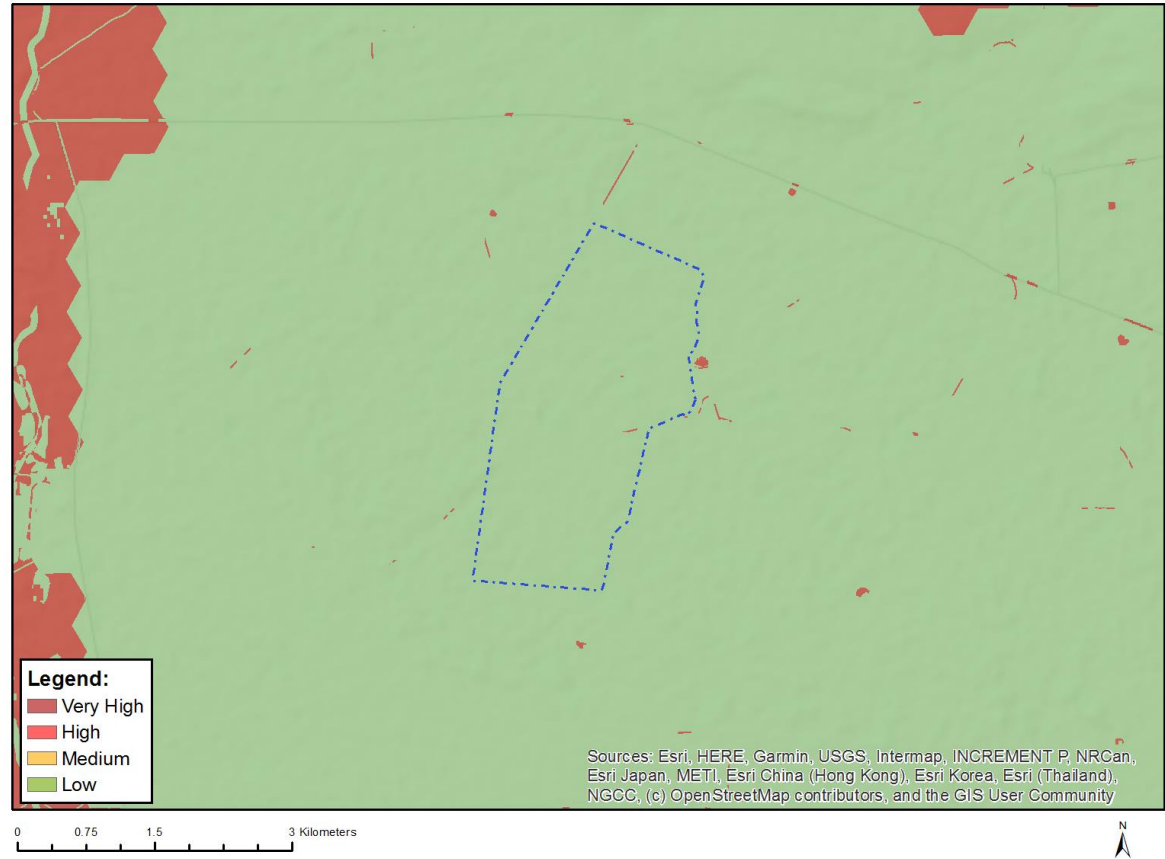


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low sensitivity

MAP OF RELATIVE TERRESTRIAL BIODIVERSITY THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity
Very High	ESA 2: Restore from other land use

**SCREENING REPORT FOR AN ENVIRONMENTAL AUTHORIZATION AS
REQUIRED BY THE 2014 EIA REGULATIONS – PROPOSED SITE
ENVIRONMENTAL SENSITIVITY**

EIA Reference number: TBC

Project name: Rhenosterkop PV EIA

Project title: Rhenosterkop PV EIA

Date screening report generated: 04/08/2023 10:15:55

Applicant: K2022578692 (SOUTH AFRICA) (PTY) LTD

Compiler: SiVEST

Compiler signature:

Application Category: Utilities Infrastructure|Electricity|Generation|Renewable|Solar|PV

Table of Contents

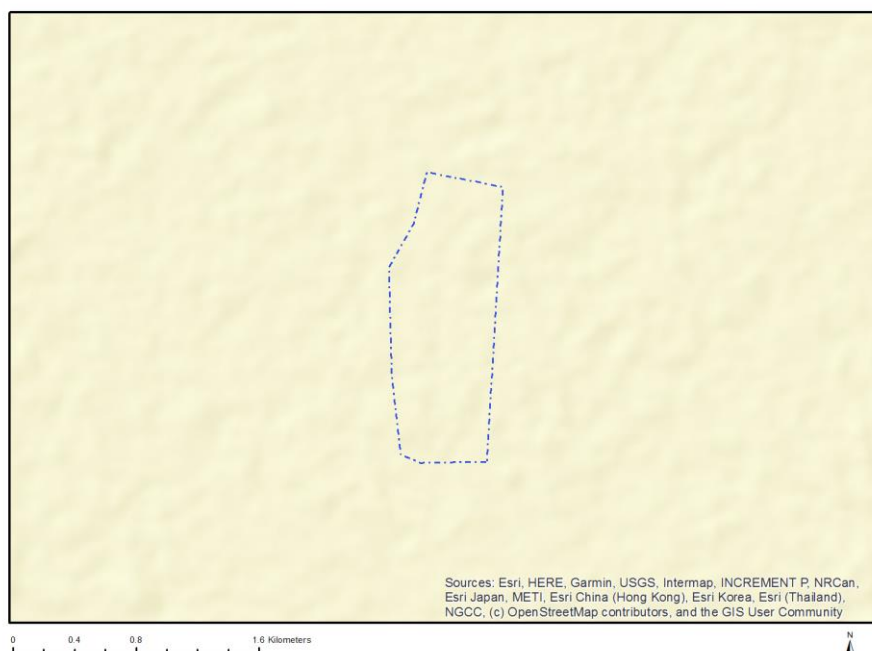
Proposed Project Location	3
Orientation map 1: General location	3
Map of proposed site and relevant area(s)	4
Cadastral details of the proposed site	4
Wind and Solar developments with an approved Environmental Authorisation or applications under consideration within 30 km of the proposed area	4
Environmental Management Frameworks relevant to the application	5
Environmental screening results and assessment outcomes	5
Relevant development incentives, restrictions, exclusions or prohibitions	5
Proposed Development Area Environmental Sensitivity	5
Specialist assessments identified	6
Results of the environmental sensitivity of the proposed area	8
MAP OF RELATIVE AGRICULTURE THEME SENSITIVITY	8
MAP OF RELATIVE ANIMAL SPECIES THEME SENSITIVITY	9
MAP OF RELATIVE AQUATIC BIODIVERSITY THEME SENSITIVITY	10
MAP OF RELATIVE ARCHAEOLOGICAL AND CULTURAL HERITAGE THEME SENSITIVITY	11
MAP OF RELATIVE AVIAN THEME SENSITIVITY	12
MAP OF RELATIVE CIVIL AVIATION (SOLAR PV) THEME SENSITIVITY	13
MAP OF RELATIVE DEFENCE THEME SENSITIVITY	14
MAP OF RELATIVE PALEONTOLOGY THEME SENSITIVITY	15
MAP OF RELATIVE PLANT SPECIES THEME SENSITIVITY	16
MAP OF RELATIVE RFI THEME SENSITIVITY	17
MAP OF RELATIVE TERRESTRIAL BIODIVERSITY THEME SENSITIVITY	18

Proposed Project Location

Orientation map 1: General location



Map of proposed site and relevant area(s)



Cadastral details of the proposed site

Property details:

No	Farm Name	Farm/ Erf No	Portion	Latitude	Longitude	Property Type
1		400	0	32°20'35.87S	22°52'9.53E	Farm
2		400	0	32°20'35.87S	22°52'9.53E	Farm Portion

Development footprint¹ vertices:

No development footprint(s) specified.

Wind and Solar developments with an approved Environmental Authorisation or applications under consideration within 30 km of the proposed area

No	EIA Reference No	Classification	Status of application	Distance from proposed area (km)
1	14/12/16/3/3/2/773	Solar PV	Approved	19.3
2	14/12/16/3/3/1/2517	Solar PV	Approved	12.7
3	12/12/20/2286/AM4	Solar PV	Approved	20.6
4	14/12/16/3/3/1/2521	Solar PV	Approved	12.7
5	12/12/20/2286	Solar PV	Approved	20.6
6	14/12/16/3/3/1/2520	Solar PV	Approved	12.7

¹ "development footprint", means the area within the site on which the development will take place and includes all ancillary developments for example roads, power lines, boundary walls, paving etc. which require vegetation clearance or which will be disturbed and for which the application has been submitted.

7	14/12/16/3/3/2/774	Solar PV	Approved	19.3
8	14/12/16/3/3/2/772	Solar PV	Approved	19.3
9	14/12/16/3/3/1/2332	Solar PV	Approved	20.7
10	14/12/16/3/3/1/2518	Solar PV	Approved	12.7
11	14/12/16/3/3/1/2519	Solar PV	Approved	12.7

Environmental Management Frameworks relevant to the application

No intersections with EMF areas found.

Environmental screening results and assessment outcomes

The following sections contain a summary of any development incentives, restrictions, exclusions or prohibitions that apply to the proposed development site as well as the most environmental sensitive features on the site based on the site sensitivity screening results for the application classification that was selected. The application classification selected for this report is:

Utilities Infrastructure | Electricity | Generation | Renewable | Solar | PV.

Relevant development incentives, restrictions, exclusions or prohibitions

The following development incentives, restrictions, exclusions or prohibitions and their implications that apply to this site are indicated below.

Incentive, restriction or prohibition	Implication
Strategic Transmission Corridor-Central corridor	https://screening.environment.gov.za/ScreeningDownloads/DevelopmentZones/Combined_EGI.pdf
Renewable energy development zones 11-Beaufort West	https://screening.environment.gov.za/ScreeningDownloads/DevelopmentZones/Combined_REDZ.pdf
Strategic Gas Pipeline Corridors-Phase 9: Inland Corridor from Saldanha to Coega	https://screening.environment.gov.za/ScreeningDownloads/DevelopmentZones/Combined_GAS.pdf

Proposed Development Area Environmental Sensitivity

The following summary of the development site environmental sensitivities is identified. Only the highest environmental sensitivity is indicated. The footprint environmental sensitivities for the proposed development footprint as identified, are indicative only and must be verified on site by a suitably qualified person before the specialist assessments identified below can be confirmed.

Theme	Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
Agriculture Theme			X	
Animal Species Theme		X		
Aquatic Biodiversity Theme				X
Archaeological and Cultural Heritage Theme				X
Avian Theme				X

Civil Aviation (Solar PV) Theme				X
Defence Theme				X
Paleontology Theme				X
Plant Species Theme			X	
RFI Theme				X
Terrestrial Biodiversity Theme				X

Specialist assessments identified

Based on the selected classification, and the known impacts associated with the proposed development, the following list of specialist assessments have been identified for inclusion in the assessment report. It is the responsibility of the EAP to confirm this list and to motivate in the assessment report, the reason for not including any of the identified specialist study including the provision of photographic evidence of the site situation.

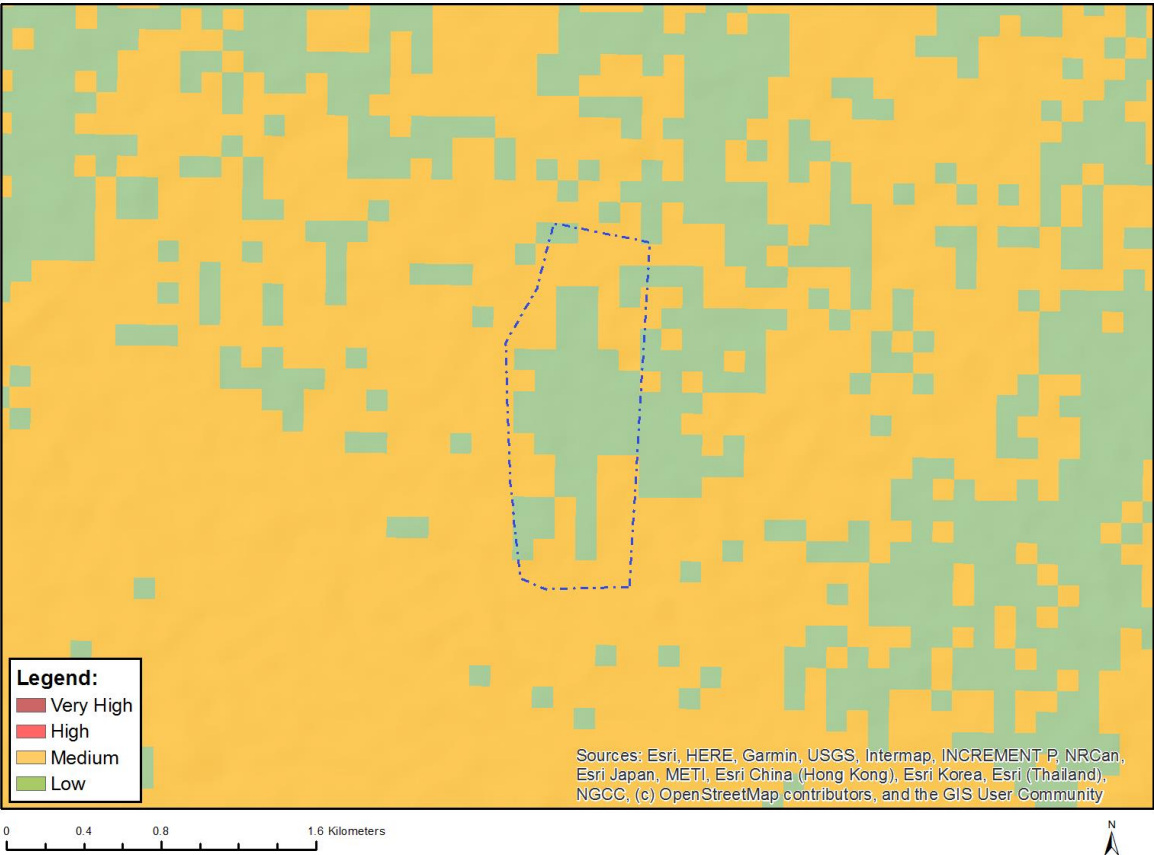
No	Specialist assessment	Assessment Protocol
1	Agricultural Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_WindAndSolar_Agriculture_Assessment_Protocols.pdf
2	Landscape/Visual Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
3	Archaeological and Cultural Heritage Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
4	Palaeontology Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
5	Terrestrial Biodiversity Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Terrestrial_Biodiversity_Assessment_Protocols.pdf
6	Aquatic Biodiversity Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Aquatic_Biodiversity_Assessment_Protocols.pdf
7	Civil Aviation Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Civil_Aviation_Installations_Assessment_Protocols.pdf
8	Defense Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Defence_Installations_Assessment_Protocols.pdf
9	RFI Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
10	Geotechnical Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
11	Socio-Economic Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf

12	Plant Species Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted Plant Species Assessment Protocols.pdf
13	Animal Species Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted Animal Species Assessment Protocols.pdf

Results of the environmental sensitivity of the proposed area.

The following section represents the results of the screening for environmental sensitivity of the proposed site for relevant environmental themes associated with the project classification. It is the duty of the EAP to ensure that the environmental themes provided by the screening tool are comprehensive and complete for the project. Refer to the disclaimer.

MAP OF RELATIVE AGRICULTURE THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
		X	

Sensitivity Features:

Sensitivity	Feature(s)
Low	Land capability;01. Very low/02. Very low/03. Low-Very low/04. Low-Very low/05. Low
Medium	Land capability;06. Low-Moderate/07. Low-Moderate/08. Moderate

MAP OF RELATIVE ANIMAL SPECIES THEME SENSITIVITY



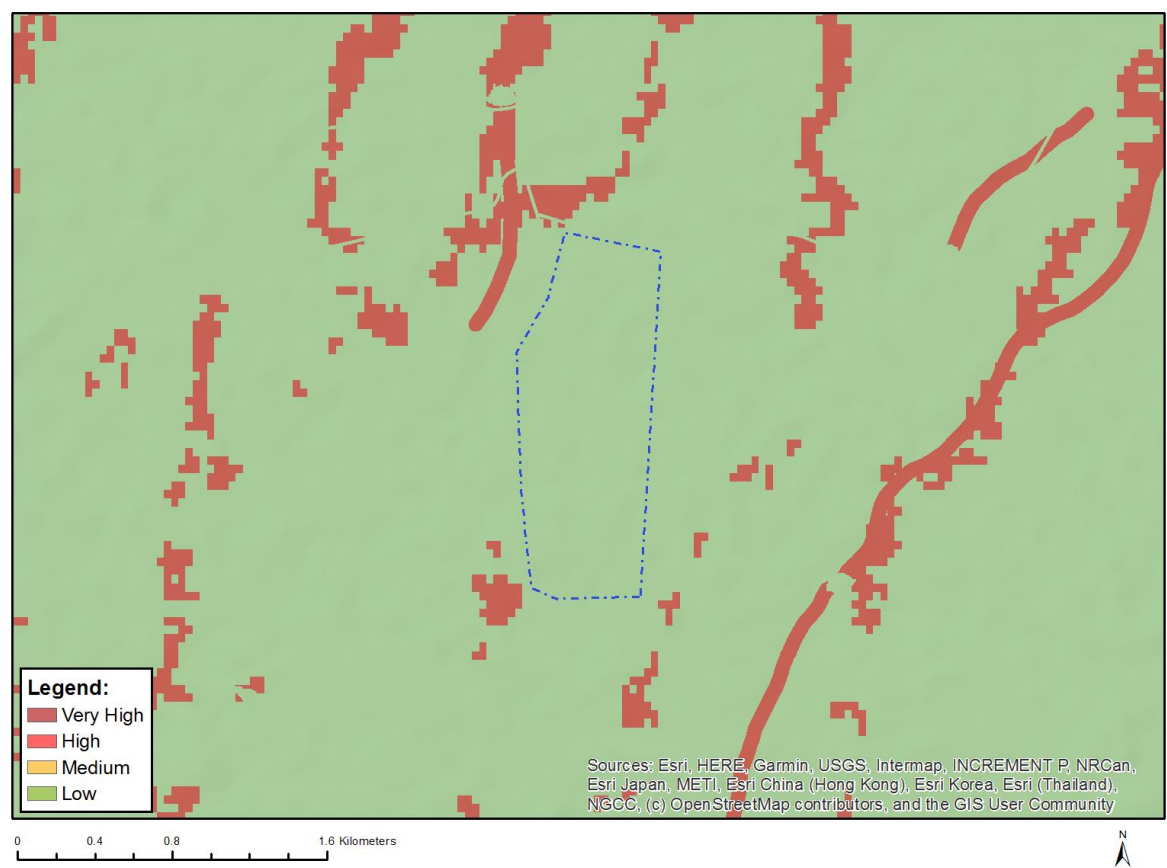
Where only a sensitive plant unique number or sensitive animal unique number is provided in the screening report and an assessment is required, the environmental assessment practitioner (EAP) or specialist is required to email SANBI at eiadatarequests@sanbi.org.za listing all sensitive species with their 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-Afrotis afra
Medium	Reptilia-Chersobius boulengeri

MAP OF RELATIVE AQUATIC BIODIVERSITY THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low sensitivity

MAP OF RELATIVE ARCHAEOLOGICAL AND CULTURAL HERITAGE THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low sensitivity

MAP OF RELATIVE AVIAN THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity

MAP OF RELATIVE CIVIL AVIATION (SOLAR PV) THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	No major or other types of civil aviation aerodromes

MAP OF RELATIVE DEFENCE THEME SENSITIVITY

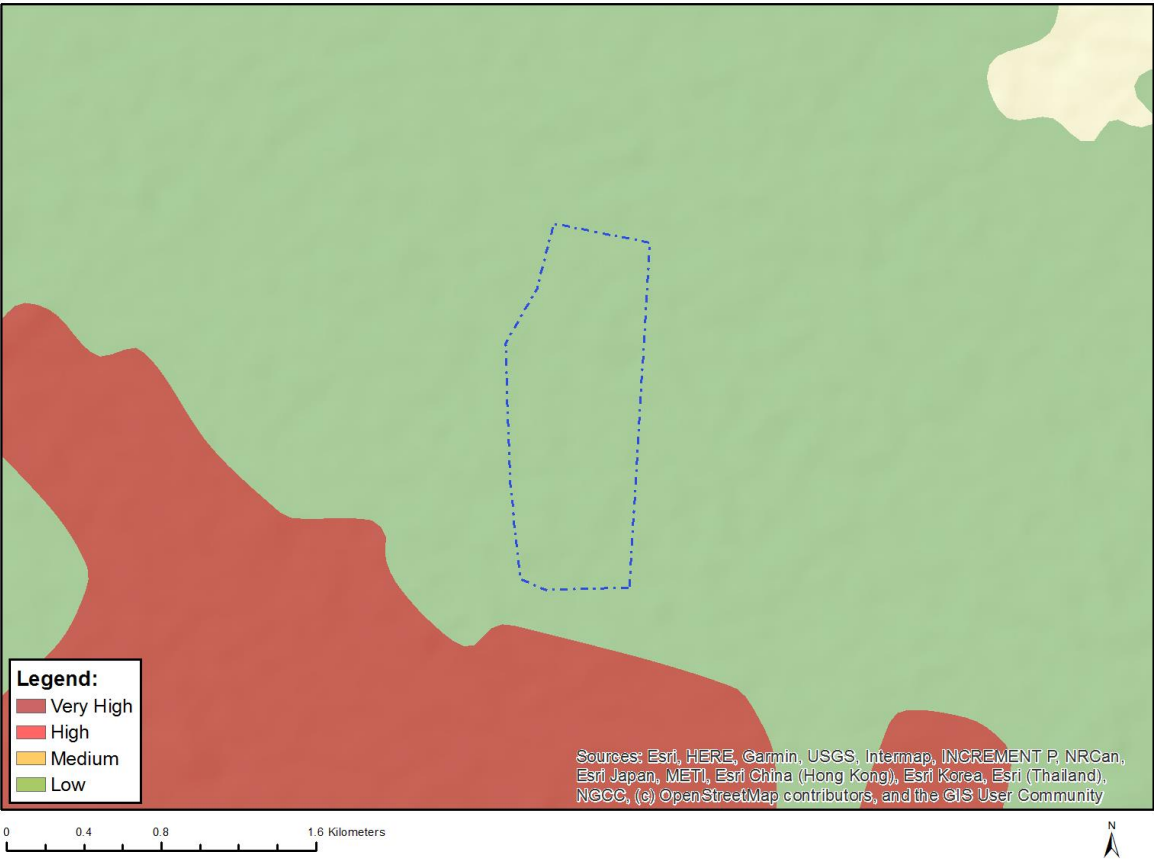


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low sensitivity

MAP OF RELATIVE PALEONTOLOGY THEME SENSITIVITY

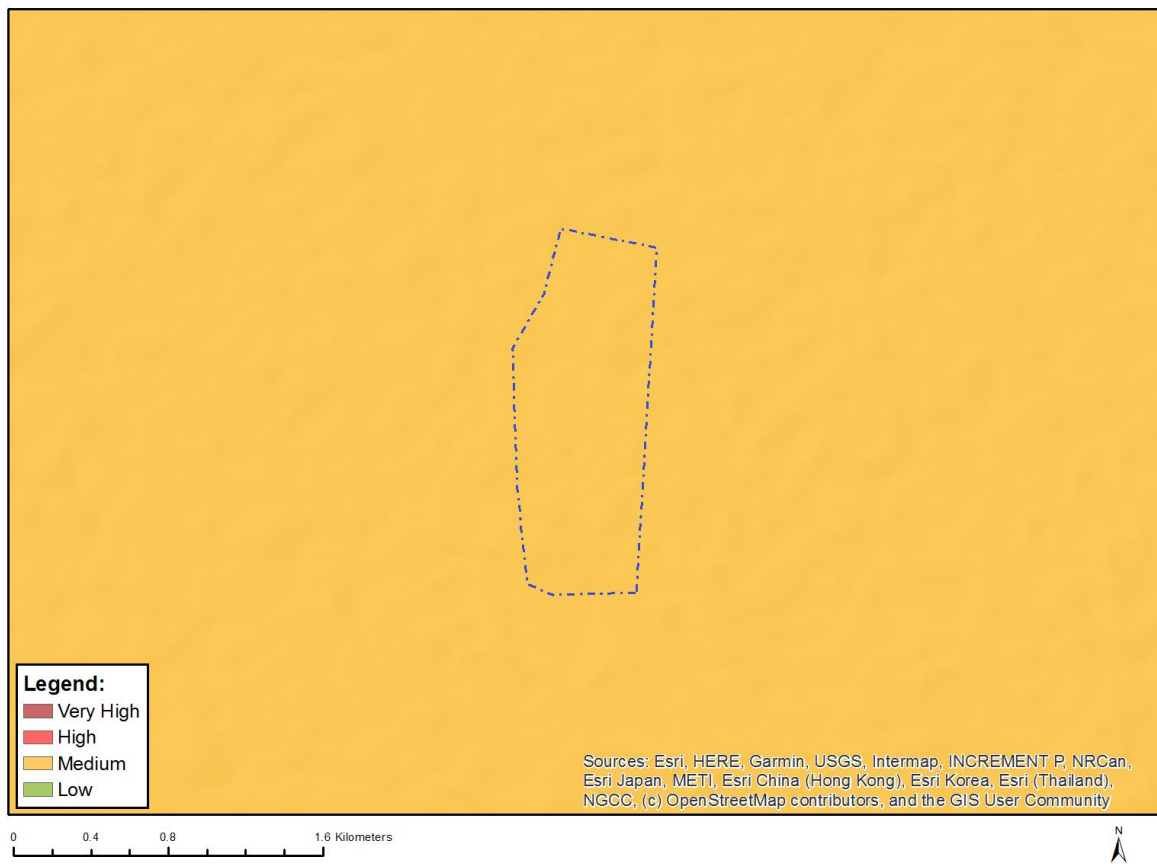


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Features with a Low paleontological sensitivity

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)
Medium	Ruschia beaufortensis
Medium	Sensitive species 383
Medium	Peersia frithii
Medium	Sensitive species 1212

MAP OF RELATIVE RFI THEME SENSITIVITY

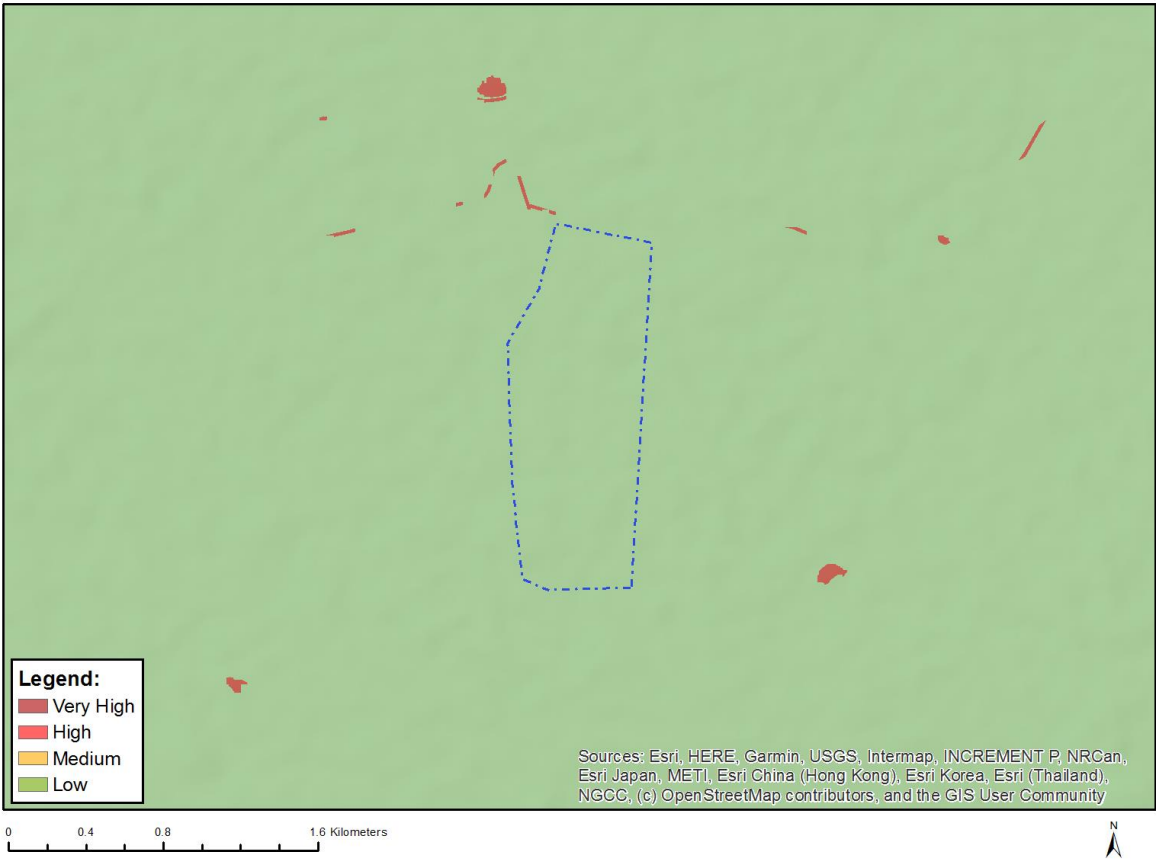


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low sensitivity

MAP OF RELATIVE TERRESTRIAL BIODIVERSITY THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity

MENCO

Name: Michelle Thompson
Tel: 012 004 0362
Cell: 071 869 9042
Date: 18 September 2023
Ref: SiVEST/2023/85a/Rhino SSV

SiVEST Environmental Division
SiVEST
12 Autumn St
Rivonia
2128

Attention: Ms Zikhona Wana

SITE SENSITIVITY VERIFICATION REPORT PRECEDING THE TERRESTRIAL AND AQUATIC BIODIVERSITY IMPACT ASSESSMENT FOR THE RHINO PV ENERGY FACILITY NEAR BEAUFORT WEST, WESTERN CAPE.

A fauna and flora, exclusive of avifauna, and an aquatic ecological study are to be conducted by M² Environmental Connections (Pty) Ltd to assess the possible impacts on the local biodiversity related to the establishment of a PV energy facility. These studies are in support of an Environmental Authorisation Process as required by the National Environmental Management Act, 1998 (Act No. 107 of 1998).

The proposed area for the development of the PV facility is located approximately 25 km north east of Beaufort West within the Beaufort West Local Municipality, in the Central Karoo District Municipality (**Figure 1**).

The project will entail the development of a PV facility within the following locality classifications:

Table 1: Structure to be developed

Structure No	Structure Type	QDG ¹	Pentad ²
PV	Photovoltaic Energy Facility	3222BB	3210_2250 3210_2245

¹ Quarter Degree Grid cell wherein the structure is located

² Southern African Bird Atlas Project 2



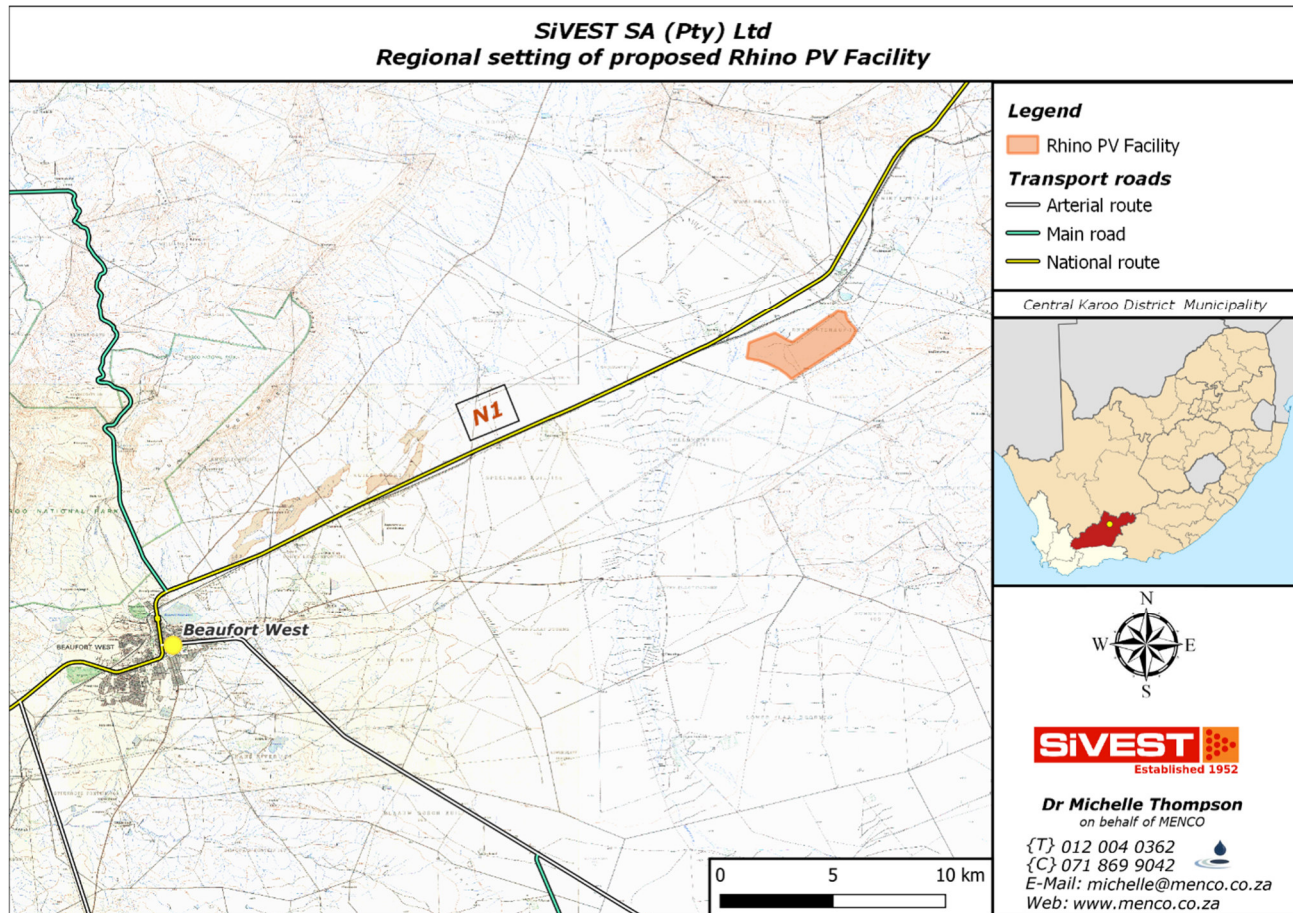


Figure 1: Regional setting of project

The key activities that require environmental authorisation relate to the development of the PV infrastructure and road networks required to effectively access infrastructure. The structure in question and the project as a whole triggered themes and sensitivities (**Table 2**) and Site Sensitivity Verification, followed by the relevant level of environmental assessment.

Table 2: Screening Tool outcomes

Theme/specialist assessment	Sensitivity	Rationale
Animal Species	High	Birds, Reptiles
Aquatic Biodiversity	Very high	ESA1, Rivers
Avifauna	Low	Low sensitivity
Plant Species	Medium	Sensitive species
Terrestrial Biodiversity	Very High	CBA1, ESA2

A prefeasibility assessment was conducted on the site a year prior (1 – 3 October 2022). In addition, prior to commencing with the current specialist assessment, the site under consideration was subjected to site sensitivity verification to understand the current use of the

land and confirm the potential environmental sensitivity as identified by the screening tool. This took place on the 10 - 12 October 2023. As part of the site sensitivity verification, a desktop analysis was done on the site and followed up by a preliminary on-site inspection.

In line with GN 1150, an applicant intending to undertake an identified activity on a site identified on the screening tool as being of “very high sensitivity” for terrestrial biodiversity, must submit a Terrestrial Biodiversity Specialist Assessment. Similarly, if the site is classed as having “very high sensitivity” according to GN 320 for aquatic ecology, the applicant must submit an Aquatic Ecological Specialist Assessment. The protocols also state that if any part of the proposed development footprint falls within an area of “very high” sensitivity, the assessment and reporting requirements prescribed for the “very high” sensitivity apply to the entire footprint. In the event that the site is classified by the screening tool as being of “low” or “very low sensitivity” for either theme, the applicant must submit Compliance Statements in accordance to the abovementioned regulations. In this particular case, the following has relevance:

Western Cape Biodiversity Spatial Plan for Beaufort West (WCBSP, 2017), presents the most updated Critical Biodiversity Areas Map for the region and delineates biodiversity priority areas as Critical Biodiversity Areas (CBA), Ecological Support Areas (ESA) and Protected Areas (PA). Critical Biodiversity Areas are key natural areas that are required to meet national biodiversity pattern and process targets. Areas housing critically endangered ecosystems as well as areas required for the continued existence and functioning of ecosystems and ecosystem services are also classified as CBAs. Ecological Support Areas include natural, near-natural, degraded or heavily modified areas required to be maintained in an ecologically functional state to support Critical Biodiversity Areas and/or Protected Areas, and are usually vital for supporting landscape connectivity and the delivery of ecosystem services. **Table 3** describes the relationship between the project area and the WCBSP.

Table 3: Western Cape Biodiversity Spatial Plan for Beaufort West (WCBSP, 2017) outcomes

Development site	Screening tool Criteria	Description
PV	Ecological Support Areas	ESA1 – all drainage lines ESA2 – modified drainage lines
	Critical Biodiversity Area	Bordered by a small CBA1 area

Justification of Sensitivity

Terrestrial Biodiversity

The sites are all situated within the Nama Karoo Biome, within the Lower Karoo Bioregion (Mucina and Rutherford, 2006). The Lower Karoo Bioregion is the lowest-altitude bioregion within the biome, receiving less rainfall (mean annual precipitation of 203 mm per annum) and less frost. The PV site also fringes on Southern Karoo Riviere vegetation, classified as Inland Azonal Vegetation.

Table 4: Relevant ecosystems and vegetation types

Bioregion	Vegetation Type	Threat Status
Lower Karoo	Gamka Karoo (NKI 1)	Least Threatened
	Southern Karoo Riviere (AZi 6)	Least threatened

The vegetation unit for the PV site is characteristic of the Gamka Karoo, a least threatened vegetation type of the Lower Karoo Bioregion. The Southern Karoo Riviere vegetation (also least threatened) is found on the northern boundary of the sites along the Platdoring River, which it intersects to the southwest of the project sites.

In terms of the current project, the majority of the site proposed is classified as “Other Natural Areas”, with medium plant sensitivity, medium – high animal biodiversity and low terrestrial biodiversity sensitivity 1 with several important sensitive features noted. All drainage lines intersecting site are classified as ESA1, where the drainage lines cross road infrastructure these are classified as ESA2. The site is bordered to the west by a small CBA1 area which slightly infringes the site boundary

When considering SANBI’s National Freshwater Ecosystem Priority Areas (NFEPA), it is found that a seasonal watercourse, the Platdoring River, lies to the north of the PV site (at a distance range of between 40 – 800 m from the site boundary). Several CBAs lie along this watercourse but will likely be unaffected by development. The 500 m regulated buffer area for a large NFEPA identified unchanneled valley-bottom wetland infringes the north east portion of the site.

In terms of fauna and flora species, a desktop study and Screening Tool revealed the following.

Plants

Very few plant species have been recorded in the QDG which encompasses the project site (3222BB), with only 34 species recorded. The neighbouring QDGs (3222BD, 3222BC), which consist of similar habitat, were included for a more comprehensive species list of potentially occurring species. Thus, a total 526 plant species have been recorded in the area encompassing and neighbouring the project area as a whole, of which no species had statuses higher than Near Threatened. The Screening Tool however identified five species to be investigated. As per the best practise guideline that accompanies the protocol and screening tool, the name of the sensitive species may not appear in the final EIA report nor any of the specialist reports released into the public domain.

Table 5: Sensitive species identified by the screening tool

Sensitivity	Sensitive plant species
Medium	<i>Anisodonteia malvastroides</i>
Medium	<i>Hereroa concava</i>
Medium	<i>Peersia frithii</i>
Medium	Sensitive species 383
Medium	Sensitive species 945

Mammals

Only 8 mammal species have been recorded in the quarter degree grid cells encompassing the project site (3222BB). Of the species, none are listed as SCC. Species lists from neighbouring QDGs (3222BC, 3222BD) were also considered for a more comprehensive historical species list. Therefore, a total 74 species are known to occur in the project area QDG and neighbouring QDGs. From this list five species are flagged as SCCs. No SCCs were flagged by the screening tool.

It should be noted that African Elephant and Roan Antelope will not occur on site as these species are only found in conserved/protected areas. The habitat on site was assessed for the potential presence of Riverine Rabbits *Bunolagus monticularis* (CR) which, although not identified as present by the screening tool may have been present due to patchy habitat selection. However, the sites were determined to not contain any major drainage lines or extensive tracts of riparian vegetation that could potentially house this species.

Table 6: Mammal SCC known to occur from previous records in the QDGs encompassing and neighbouring the project site

Family	Scientific name	Common name	IUCN	
			Global	Regional
Leporidae	<i>Bunolagus monticularis</i>	Riverine Rabbit	CR C2a(i)	CR C2a(i)
Felidae	<i>Felis nigripes</i>	Black-footed Cat	VU C2a(i)	VU C2a(i)
Bovidae	<i>Hippotragus equinus</i>	Roan Antelope	LC	EN
Elephantidae	<i>Loxodonta africana</i>	African Bush Elephant	EN A2bd	VU

Avifauna

The proposed site is of low sensitivity for the avian theme according to the screening tool. There are no IBAs in the nearby area, with the closest being the Karoo National Park IBA located ~26km to the west. As per the amended Environmental Impact Assessment Regulations, promulgated under sections 24(5) and 44 of the National Environmental Management Act, 1998 (Act No. 107 of 1998), a separate avifaunal specialist report must be prepared when applying for environmental authorisation for onshore solar voltaic energy generation facilities where the output exceeds 20MW (GN320).

Reptiles

A list of 56 reptile species found in the quarter degree squares encompassing and neighbouring the proposed site (3222BB, 3222BC and 3222BD) is presented Appendix 4. None of these species are listed as SCC.

As per the requirements for the environmental application process, species identified as SCC by the screening tool must also be investigated. A single SCC species with medium sensitivity was flagged by the screening tool.

Table 8: Reptile or Amphibian species identified by the screening tool

Scientific Name	Common Name	IUCN
<i>Chersobius boulengeri</i>	Karoo Padloper	EN A4ace

Amphibians

The restricted nature of amphibian habitats (seasonal pans and drainage lines) and the generally arid nature of the sites translates to an overall low abundance of amphibians. Only eleven species have previously been recorded in the QDGs surrounding the project site, with only five of these being recorded in the QDG which encompasses the site (3222BB). None of these species are listed as SCCs, nor were any SCCs flagged by the screening tool

Due to the lack of unsuitable habitat and general absence of amphibian species, the long-term impact on amphibians is likely to be minimal.

Aquatic Biodiversity

In terms of aquatic ecology, the project area falls within the "L" (L1) Drainage Region within the Fish to Tsitsikamma Water Management Area. The applicable quaternary catchment area, L11F, falls within a Class C Moderately Modified category, while the Best Attainable Ecological Class is also set at a Class C. The Platdoring River (River Order 1) borders the north eastern corner of the property area. This River system is classified as a non-perennial tributary system with limited flow throughout the year. Considering the low seasonal rainfall occurring within the surrounding areas, the surface water within this river system is very limited in quantity. Additionally there are no observed impacts or developments, apart from the N1 road within close proximity to the property area.

The site in question was identified as having "very high sensitivities" following the site sensitivity verification, with the project area falling within an ESA1: Aquatic region as well as having a very high (Rivers_Z) classification. Although the River system is classified as a very sensitive feature it is classified as a River Con Z: which indicates that the Tributary condition modelled as not intact, according to natural land cover. The (NBA 2018) also further classifies the River system as non-free flowing. No NFEPA Wetlands were identified on-site with a small Unchanneled Valley Bottom Wetland being the only wetland system in close proximity to the study area.

The Ecological Sensitivity and Importance (EIS) of the Platdoring River is considered to be Medium while the L11F catchment has a Low EIS, with very minimal sensitive aquatic features identified in close proximity to the study area. The area is also listed as least concerned as far as threatened aquatic sub-catchments are concerned. Although the Platdoring River is considered as an important ESA River system the dry conditions with continual zero flow status justifies this River as a low priority status.

Aquatic macroinvertebrates commonly found in the 3222BB quaternary degree grid cell predominantly belong to the Odonata Family. Detailed information regarding the family and its respective species can be found in the table provided.

Table 9: Aquatic Macro Invertebrates found in the 3222BB

Family Name	Scientific Name	Common Name	IUCN
<i>Aeshnidae</i>	<i>Zosteraeschna minuscula</i>	<i>Friendly Hawker</i>	LC
<i>Libellulidae</i>	<i>Sympetrum fonscolombii</i>	<i>Red-veined Darter or Nomad</i>	LC
<i>Libellulidae</i>	<i>Trithemis kirbyi</i>	<i>Orange-winged Dropwing</i>	LC

Conclusion

Based on the information gathered from online databases, as well as a ground truthing site visit conducted on the 10 -12 October 2023, it is the opinion of the specialists that the habitat found on the sites can potentially house Species of Conservation Concern (SCCs). Further, the proposed site has sensitive areas identified by the WCBSP (2017), which need further investigation. As such the site was determined to be of medium sensitivity. In terms of Aquatic Biodiversity, the site was identified as having “very high sensitivities” following the Screening Tool Report however after the site sensitivity verification it is therefore recommended that an **Aquatic Biodiversity Compliance Statement** should be conducted in terms of the GN 320 of March 2020 protocols. In terms of the Terrestrial biodiversity, the protocols stated in GN 1150 of March 2020 should be followed and a **Terrestrial Biodiversity Specialist Assessment** should be conducted.

Yours Faithfully,



Reuhl Lombard
Environmental Specialist
M² Environmental Connections



Hanjo Fourie
Environmental Specialist
M² Environmental Connections

MENCO

Name: Michelle Thompson
Tel: 012 004 0362
Cell: 071 869 9042
Date: 27 September 2023
Ref: SIVEST/2023/85/Sunnyside SSV

SIVEST Environmental Division
SIVEST SA (Pty) Ltd
12 Autumn St
Rivonia
2128

Attention: Ms Zikhona Wana

SITE SENSITIVITY VERIFICATION REPORT PRECEDING THE TERRESTRIAL AND AQUATIC BIODIVERSITY IMPACT ASSESSMENT FOR THE SUNNYSIDE PV ENERGY FACILITY NEAR BEAUFORT WEST, WESTERN CAPE.

A fauna and flora, exclusive of avifauna, and an aquatic ecological study are to be conducted by M² Environmental Connections (Pty) Ltd to assess the possible impacts on the local biodiversity related to the establishment of a Photovoltaic (PV) energy facility. These studies are in support of an Environmental Authorisation Process as required by the National Environmental Management Act, 1998 (Act No. 107 of 1998) as amended (NEMA).

The proposed area for the development of the PV facility is located approximately 26 km east of Beaufort West within the Beaufort West Local Municipality, in the Central Karoo District Municipality (**Figure 1** below).

The project will entail the development of a PV facility within the following locality classifications:

Table 1: Structure to be developed

Structure No	Structure Type	QDG ¹	Pentad ²
PV	Photovoltaic Energy Facility	3222BD	3220_2250 3220_2245

¹ Quarter Degree Grid cell wherein the structure is located

² Southern African Bird Atlas Project 2



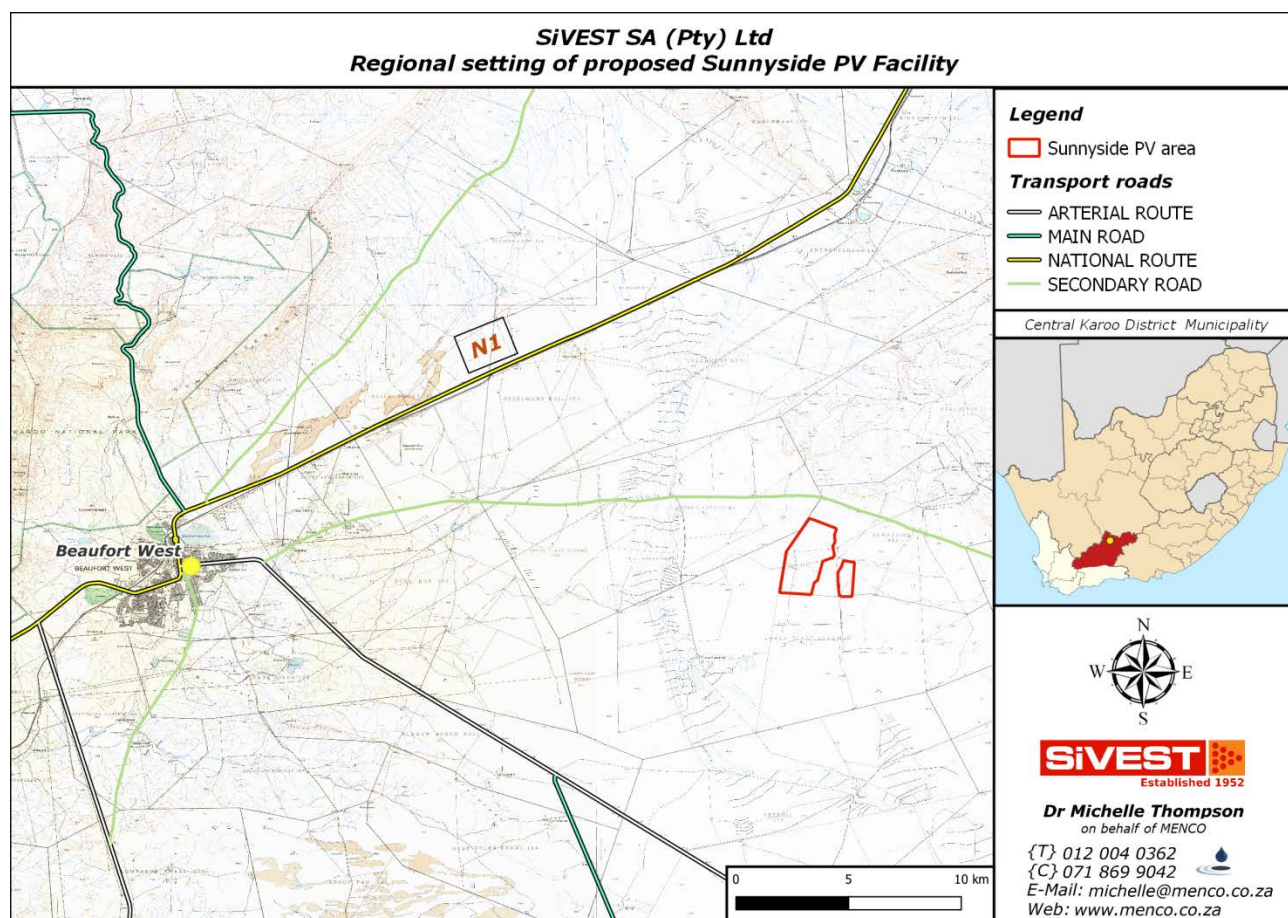


Figure 1: Regional setting of project

The key activities that require environmental authorisation relate to the development of the PV and associated infrastructure. The structure in question and the project as a whole triggered themes and sensitivities (**Table 2**) and Site Sensitivity Verification, followed by the relevant level of environmental assessment.

Table 2: Screening Tool outcomes

Theme/specialist assessment	Sensitivity	Rationale
Animal Species	High	Birds, Reptiles
Aquatic Biodiversity	Very high	ESA1
Avifauna	Low	Low sensitivity
Plant Species	Medium	Sensitive species
Terrestrial Biodiversity	Very High	ESA2

Prior to commencing with the specialist assessment, the site under consideration was subjected to site sensitivity verification to understand the current use of the land and confirm the potential environmental sensitivity as identified by the screening tool. This took place on the 10

- 12 October 2023. As part of the site sensitivity verification, a desktop analysis was done on the site and followed up by a preliminary on-site inspection.

In line with Government Notice (GN) 1150, an applicant intending to undertake an identified activity on a site identified on the screening tool as being of “very high sensitivity” for terrestrial biodiversity, must submit a Terrestrial Biodiversity Specialist (inclusive and Animal and Plant themes) Assessment. Similarly, if the site is classed as having “very high sensitivity” according to GN 320 for aquatic ecology, the applicant must submit an Aquatic Ecological Specialist Assessment. The protocols also state that if any part of the proposed development footprint falls within an area of “very high” sensitivity, the assessment and reporting requirements prescribed for the “very high” sensitivity apply to the entire footprint. In the event that the site is classified by the screening tool as being of “low” or “very low sensitivity” for either theme, the applicant must submit Compliance Statements in accordance to the abovementioned regulations. In this particular case, the following has relevance:

Western Cape Biodiversity Spatial Plan for Beaufort West (WCBSP, 2017), presents the most updated Critical Biodiversity Areas Map for the region and delineates biodiversity priority areas as Critical Biodiversity Areas (CBA), Ecological Support Areas (ESA) and Protected Areas (PA). CBAs are key natural areas that are required to meet national biodiversity pattern and process targets. Areas housing critically endangered ecosystems as well as areas required for the continued existence and functioning of ecosystems and ecosystem services are also classified as CBAs. ESAs include natural, near-natural, degraded or heavily modified areas required to be maintained in an ecologically functional state to support CBAs and/or PAs, and are usually vital for supporting landscape connectivity and the delivery of ecosystem services. **Table 3** describes the relationship between the project area and the WCBSP (see also **Figure 2**).

Table 3: Western Cape Biodiversity Spatial Plan for Beaufort West (WCBSP, 2017) outcomes

Development site	Screening tool Criteria	Description
PV	Ecological Support Areas	ESA – All drainage lines ESA2 – modified drainage lines

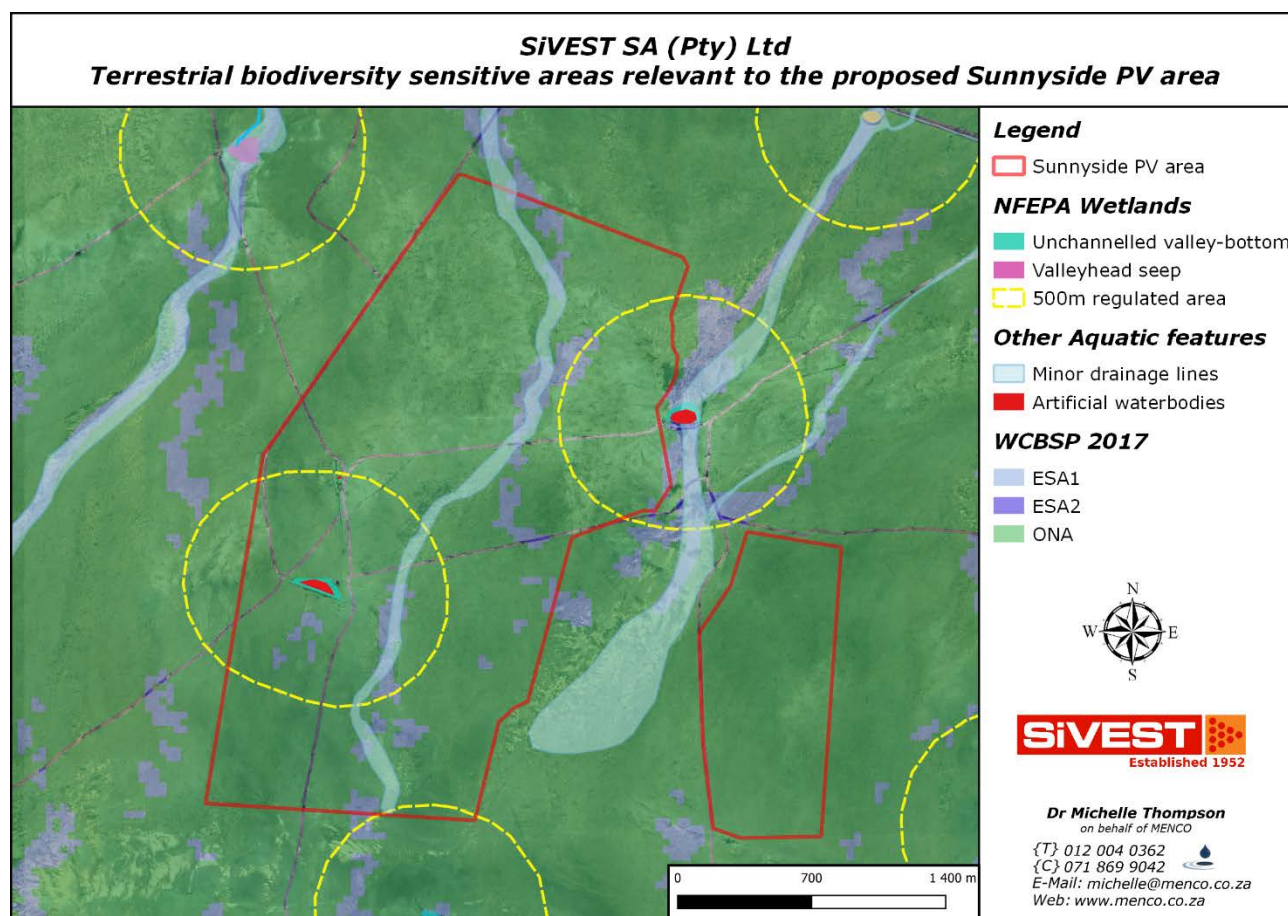


Figure 2: Terrestrial biodiversity sensitive areas relating to the Sunnyside PV area

Justification of Sensitivity

Terrestrial Biodiversity

The site is situated within the Nama Karoo Biome, within the Lower Karoo Bioregion (Mucina and Rutherford, 2006). The Lower Karoo Bioregion is the lowest-altitude bioregion within the biome, receiving less rainfall (mean annual precipitation of 203mm per annum) and less frost.

Table 4: Relevant ecosystems and vegetation types

Bioregion	Vegetation Type	Threat Status
Lower Karoo	Gamka Karoo (NKI 1)	Least Threatened

The vegetation unit for the PV site is characteristic of the Gamka Karoo, a least threatened vegetation type of the Lower Karoo Bioregion.

In terms of the current project, the majority of the site proposed is classified as “Other Natural Areas”, with medium plant sensitivity, medium – high animal biodiversity and low – very high

terrestrial biodiversity sensitivity. All drainage lines intersecting site are classified as ESA1. Where the drainage lines cross road infrastructure these are classified as ESA2 (**Figure 2**)

When considering South African National Biodiversity Institute's (SANBI) National Freshwater Ecosystem Priority Areas (NFEPA), it is found that a single unchanneled valley-bottom wetland is located south western quadrant of the site. The 500m regulated buffer area of this and several other unchanneled valley-bottom wetlands also infringe on the site, as does the 500m regulated area for a valleyhead seep wetland which lies to the north west of the site (**Figure 2**).

In terms of fauna and flora species, a desktop study and Screening Tool revealed the following.

Plants

Very few plant species have been recorded in the QDG which encompasses the project site (3222BB), with only 115 species recorded. The neighbouring QDGs (3222BB, 3222BC), which consist of similar habitat, were included for a more comprehensive species list of potentially occurring species. Thus, a total 526 plant species have been recorded in the area encompassing and neighbouring the project area as a whole, of which no species had statuses higher than Near Threatened. The Screening Tool however identified four species to be investigated. As per the best practise guideline that accompanies the protocol and screening tool, the name of the sensitive species may not appear in the final Environmental Impact Assessment report nor any of the specialist reports released into the public domain.

Table 5: Sensitive species identified by the screening tool

Sensitivity	Sensitive plant species
Medium	<i>Peersia frithii</i>
Medium	<i>Ruschia beaufortensis</i>
Medium	Sensitive species 1212
Medium	Sensitive species 383

Mammals

Only 8 mammal species have been recorded in the quarter degree grid cells encompassing the project site (3222BD). Of the species, none are listed as Species of Conservation Concern (SCC). Species lists from neighbouring QDGs (3222BC, 3222BD) were also considered for a more comprehensive historical species list. Therefore, a total 74 species are known to occur in the project area QDG and neighbouring QDGs. From this list five species are flagged as SCCs. No SCCs were flagged by the screening tool.

It should be noted that African Elephant and Roan Antelope will not occur on site as these species are only found in conserved/protected areas. The habitat on site was assessed for the potential presence of Riverine Rabbits *Bunolagus monticularis* (Critically Endangered) which, although not identified as present by the screening tool may have been present due to patchy habitat selection. However, the sites were determined to not contain any major drainage lines or extensive tracts of riparian vegetation that could potentially house this species.

Table 6: Mammal SCC known to occur from previous records in the ODGs encompassing and neighbouring the project site

Family	Scientific name	Common name	IUCN	
			Global	Regional
Leporidae	<i>Bunolagus monticularis</i>	Riverine Rabbit	CR C2a(i)	CR C2a(i)
Felidae	<i>Felis nigripes</i>	Black-footed Cat	VU C2a(i)	VU C2a(i)
Bovidae	<i>Hippotragus equinus</i>	Roan Antelope	LC	EN
Elephantidae	<i>Loxodonta africana</i>	African Bush Elephant	EN A2bd	VU
LC = Least Concern, VU = Vulnerable, EN = Endangered, CR = Critically Endangered				

Avifauna

The proposed site is of low sensitivity for the avian theme according to the screening tool. There are no Important Bird Areas (IBAs) in the nearby area, with the closest being the Karoo National Park IBA located ~23km to the west. As per the Environmental Impact Assessment Regulations 2014 as amended, promulgated under Sections 24(5) and 44 of the NEMA, 1998 (Act No. 107 of 1998), a separate avifaunal specialist report must be prepared when applying for environmental authorisation for onshore solar voltaic energy generation facilities where the output exceeds 20 megawatts (GN320).

Reptiles

A list of 56 reptile species found in the quarter degree squares encompassing and neighbouring the proposed site (3222BB, 3222BC and 3222BD). None of these species are listed as SCC.

As per the requirements for the environmental application process, species identified as SCC by the screening tool must also be investigated. A single SCC species with medium sensitivity was flagged by the screening tool.

Table 8: Reptile or Amphibian species identified by the screening tool

Scientific Name	Common Name	IUCN
<i>Chersobius boulengeri</i>	Karoo Padloper	EN A4ace

Amphibians

The restricted nature of amphibian habitats (seasonal pans and drainage lines) and the generally arid nature of the sites translates to an overall low abundance of amphibians. Only eleven species have previously been recorded in the QDGs surrounding the project site, with only five of these being recorded in the QDG which encompasses the site (3222BB). None of these species are listed as SCCs, nor were any SCCs flagged by the screening tool

Due to the lack of suitable habitat and general absence of amphibian species, the long-term impact on amphibians is likely to be minimal.

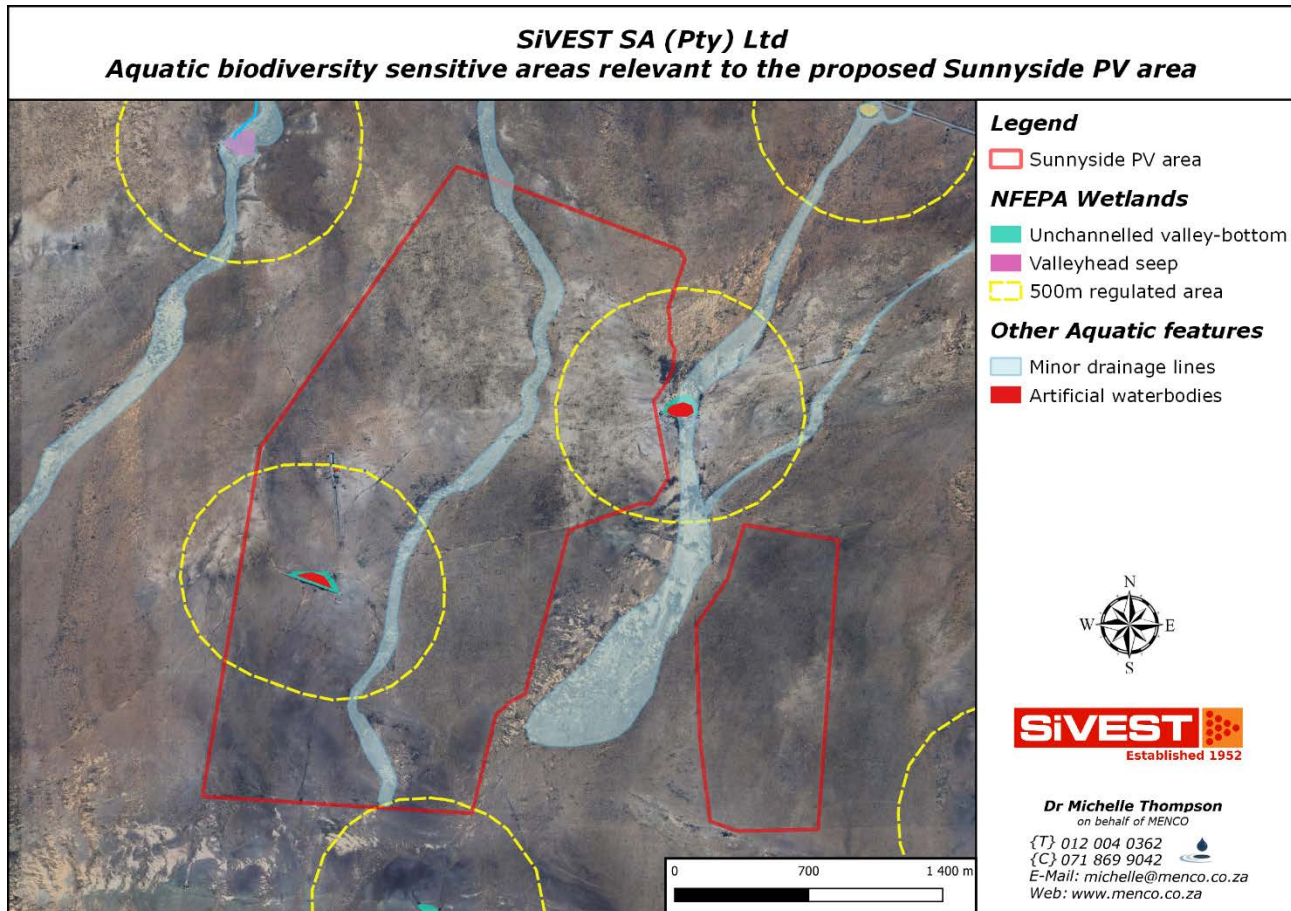


Figure 3: Aquatic sensitive areas relating to the Sunnyside PV area

Aquatic biodiversity

In terms of aquatic ecology, the project area falls within the “L” (L1) Drainage Region within the Fish to Tsitsikamma Water Management Area. The applicable quaternary catchment area, L11F, falls within a Class C Moderately Modified category, while the Best Attainable Ecological Class is also set at a Class C. The Platdoring River (River Order 1) is the main river within this catchment however this system drains approximately 3.8 km to the west of the project

boundary. There are four (4) minor non-perennial river drainage lines within the broader project area and three (3) artificial dam waterbodies relevant to the broader project area (one reservoir and two artificial dams), all that can be classified as having a low Ecological Importance and Sensitivity (EIS) Classification (**Figure 3**). The non-perennial tributary system has very limited flow throughout the year and considering the low seasonal rainfall occurring within the surrounding areas, the surface water within this river system is very limited in quantity. Additionally there are no observed impacts or developments within close proximity to the property area.

The screening tool identified the site as having “very high sensitivities”, with the project area falling within an ESA2. Although the Platdoring River system is classified as a very sensitive feature it is classified as a River Con Z: which indicates that the Tributary condition was modelled as not intact, according to natural land cover. There is one NFEPA Wetland identified on-site (Unchanneled Valley Bottom), however this aquatic feature can be seen as an Artificial Dam which is dry during most parts of the year. Together with this artificial dam there are 2 more artificial features as mentioned earlier (one reservoir and another artificial dam). The EIS of the Platdoring River is considered to be Medium while the L11F catchment has a Low EIS, with very minimal sensitive aquatic features identified in close proximity to the study area. The area is also listed as least concerned as far as threatened aquatic sub-catchments are concerned. Although the Platdoring River and its associated drainage lines are considered as an important ESA River system, the dry conditions with continual zero flow status justifies this River as a low priority status.

Aquatic macroinvertebrates commonly found in the 3222BD quaternary degree grid cell predominantly belong to the Odonata Family. Detailed information regarding the family and its respective species can be found in the table provided.

Table 9: Aquatic Macro Invertebrates found in the 3222BD & 3222BC

Family Name	Scientific Name	Common Name	IUCN
<i>Aeshnidae</i>	<i>Anax imperator</i>	<i>Blue Emperor</i>	LC
<i>Aeshnidae</i>	<i>Zosteraeschna minuscula</i>	<i>Friendly Hawker</i>	LC
<i>Coenagrionidae</i>	<i>Africallagma glaucum</i>	<i>Swamp Bluet</i>	LC
<i>Libellulidae</i>	<i>Crocothemis erythraea</i>	<i>Broad Scarlet</i>	LC
<i>Libellulidae</i>	<i>Pantala flavescens</i>	<i>Wandering Glider</i>	LC
<i>Libellulidae</i>	<i>Sympetrum fonscolombii</i>	<i>Red-veined Darter or Nomad</i>	LC
<i>Libellulidae</i>	<i>Trithemis arteriosa</i>	<i>Red-veined Dropwing</i>	LC
<i>Libellulidae</i>	<i>Trithemis kirbyi</i>	<i>Orange-winged Dropwing</i>	LC

Following site sensitivity verification, the site footprint is classified as having low sensitivity for aquatic biodiversity.

Conclusion

Based on the information gathered from online databases, as well as a ground truthing site visit conducted on the 10 – 12 October 2023 2023, it is the opinion of the specialists that the habitat found on the sites could potentially house SCCs and as such is overall of medium sensitivity for Terrestrial Biodiversity. The plant theme is confirmed as Low sensitivity and the Animal theme is characterised as medium sensitivity with the proposed site intersecting ESAs which play a support role to protect terrestrial biodiversity. In terms of Aquatic Biodiversity the site was identified as having “very high sensitivities” following the Screening Tool Report however after the site sensitivity verification the site is deemed to be of Low sensitivity and it is recommended that an **Aquatic Biodiversity Compliance Statement** should be conducted in terms of the GN 320 of March 2020 protocols. In terms of the Terrestrial biodiversity, the protocols stated in GN 320 of March 2020 should be followed and a **Terrestrial Biodiversity Specialist Assessment** should be conducted.

Yours Faithfully,



Reuhl Lombard
Environmental Specialist
M² Environmental Connections



Hanjo Fourie
Environmental Specialist
M² Environmental Connections



forestry, fisheries & the environment

Department:
Forestry, Fisheries and the Environment
REPUBLIC OF SOUTH AFRICA

Private Bag X447, Pretoria, 0001, Environment House, 473 Steve Biko Road, Pretoria, 0002 Tel: +27 12 399 9000, Fax: +27 86 625 1042

SPECIALIST DECLARATION FORM – AUGUST 2023

Specialist Declaration form for assessments undertaken for 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)

REPORT TITLE

BASIC ASSESSMENT PROCESS FOR THE SOLAR PHOTOVOLTAIC FACILITY, “RHINO” ON REMAINDER OF FARM RHENOSTERKOP 155 AND “SUNNYSIDE” ON FARM 400, BEAUFORT WEST

Kindly note the following:

1. This form must always be used for assessment that are in support of 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 August 2023. 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.dffe.gov.za/documents/forms>.
3. An electronic copy of the signed declaration form must be appended to all Draft and Final Reports submitted to the department for consideration.
4. The specialist must be aware of and comply with ‘*the 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 act, when applying for environmental authorisation - GN 320/2020*’, where applicable.

1. SPECIALIST INFORMATION


Title of Specialist Assessment	Aquatic Ecological Assessment
Specialist Company Name	M2 Environmental Connections (Pty) Ltd – (MENCO)
Specialist Name	Hanjo Fourie
Specialist Identity Number	9011125073088
Specialist Qualifications:	B.Sc Environmental Management
Professional affiliation/registration:	SACNASP: 125420; WISA: 40759; SASAqS: 0028 and NAEHMP Accredited for 9 years.
Physical address:	726 Wiedrigh Street Moreleta Park
Postal address:	0181
Postal address	PO Box 2047 Garsfontein 0060
Telephone	012 004 0362
Cell phone	078 345 3938
E-mail	hanjo@menco.co.za

SPECIALIST DECLARATION FORM – AUGUST 2023

2. DECLARATION BY THE SPECIALIST

I, Hanjo Fourie declare that –

- I act as the independent specialist in this application;
- I am aware of the procedures and requirements 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 (NEMA), 1998, as amended, when applying for environmental authorisation which were promulgated in Government Notice No. 320 of 20 March 2020 (i.e. “the Protocols”) and in Government Notice No. 1150 of 30 October 2020.
- 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 NEMA Act.



Signature of the Specialist

M2 Environmental Connections (Pty) Ltd – (MENCO)

Name of Company:

01 Feb 2024

Date

SPECIALIST DECLARATION FORM – AUGUST 2023

3. UNDERTAKING UNDER OATH/ AFFIRMATION

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



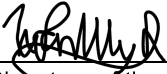
Signature of the Specialist

M2 Environmental Connections (Pty) Ltd – (MENCO)

Name of Company

01 February 2024

Date



Signature of the Commissioner of Oaths

01 Feb 2024

Date

COMMISSIONER OF OATHS
SAIT Member: WP van Wyk
Ex Officio - TT (SA)
Commissioner of Oaths (RSA)
490 Gert Potgieter street, Garsfontein
South Africa, 0081

Project	Responsibilities	Date of completion
<u>African Exploration Mining and Finance Corporation (AEMFC)</u> <ul style="list-style-type: none"> Klippoortjie Mine Vlakfontein Mine 	Undertake Aquatic Ecological Assessment in support of a Water Use License Application and EIA process for Klippoortjie; and Conduct compliance aquatic ecological assessments as part of Vlakfontein WUL conditions.	March 2014; May 2014 & June 2015
<u>AfriSam SA (Pty) Ltd: Quarries</u> <ul style="list-style-type: none"> Coedmore (KZN); Dudfield (Lichtenburg); Eikenhof (Gauteng); Ferro (Gauteng); Jukskei (Gauteng); Ladysmith (KZN); Newcastle (KZN); Olifantsfontein (Gauteng); Pietermaritzburg (KZN); Rooikraal (Gauteng); Sub-Nigel (KZN); Springvalley (Lichtenburg); Saldanha (WC); Umlaas (KZN); Verulam (KZN); Zeekoewater (Mpumalanga) 	<p>Conduct and undertook aquatic ecological assessments on all quarries mentioned in support of their Water Use License Applications in terms of Section 40 of the NWA. Later on, compliance aquatic monitoring took place as stipulated in the WUL conditions.</p> <p>As part of the DWS requirements an Environmental Audit pertaining to the 7x aspects was done in support of the WULA Process.</p> <ul style="list-style-type: none"> Water Quality; Bio-monitoring; VEGRAI; Geomorphology; FRAI; Flow regime. <p>In addition to these, conduction of supporting studies in the field of surface water assessment, wetland delineation and monitoring programme. In all of these aspects mentioned above, a project management role was fulfilled as well as fieldwork, GIS and report writing.</p>	2013 – June 2022
Apollo Brick (Pty) Ltd	Started conducting the bi-annual aquatic ecological assessments as per their WUL conditions since September 2012 and continued until May 2018.	Sep 2012 – May 2018.
<u>Astron Energy (Pty) Ltd</u>		
<ul style="list-style-type: none"> Port Elizabeth Depot 	Undertaking of a wetland assessment and General Authorisation	2022 – ongoing
<ul style="list-style-type: none"> Milly's Star Stop 	<p>Conducted a full water use license application and Basic assessment process in order to upgrade the existing WWTW at the Milly's Star Stop N4 garage.</p> <p>Monthly surface water monitoring and reporting to the IUCMA, and bi-annual wetland assessments and reporting is being done.</p>	2016 – ongoing
Avon Engineering (Pty) Ltd	Undertake a full water use license application, and conduct the aquatic ecological assessment in support of the WULA process.	June 2014

Project	Responsibilities	Date of completion
Benoni Gold Mining Company (Pty) Ltd	A full aquatic ecological assessment (FRAI included) was done in March 2022 in support of the WULA. Implemented a monthly surface water monitoring programme as the site area is located in close proximity to a RAMSAR Site. Monthly data is collected and reported on to the DWS authorities.	Sep 2021 - ongoing
JFS Housing: Blue Hills Development	Delineate the Wetlands as well as conduct a full aquatic ecological assessment in support of obtaining the relevant authorisations for the project.	May 2017
Zululand Anthracite Colliery (Pty) Ltd	Main responsibility involved with the project was to identify and quantify the pollution that was caused by a slurry coal dam that burst into the Mavlo River and Black Mfolozi River. A full aquatic ecological assessment (SASS5; FRAI, Toxicity; Geomorphology) was done in January 2022 and a follow up study in August 2022.	January 2022 – Ongoing
Coastal Fuels (Pty) Ltd	Aquatic Bio-monitoring assessments were done at Wikranz Colliery situated near Carolina, Mpumalanga. A total of 3x bio-monitoring reports were drafted in support of the licensee's WUL.	July 2014 – July 2015
<u>Eco Elementum (Pty) Ltd</u> <ul style="list-style-type: none"> • Diep Vaalbank Coal – Bethal • Doornrug Colliery; • Elgagen Chrome – Brits; • Kalabasfontein Colliery; • Kebra Fields – Hendrina; • Kleinfontein Colliery; • Londani Coal; • Tala Coal Mine; • Van Oudshoornstroom; • Witbank Brickworks. 	MENCO was appointed for various bio-monitoring assessments at all the projects mentioned. Conducted aquatic ecological assessments and field surveys.	2014 - 2019
<u>ESKOM</u> Matla Power Station; Grootvlei Power Station	Conducted aquatic ecological assessments as part of their WUL conditions for both power plants once during the wet season and once during the dry season.	2015 - 2017
<u>Geo Pollution Technologies (Pty) Ltd</u>		
<ul style="list-style-type: none"> • Fuchs Motor Oil 	Environmental oil spillages that occurred in December 2019 that resulted in massive oil spill in the tributary of the Jukskei River. Responsibility to determine the extent of the oil spill and assist the clean-up and rehabilitation teams by providing mitigation measures. 3x aquatic assessments and reporting have been done to determine the initial impact, halfway clean-up progress and one final assessment after all rehabilitation has taken place. A Close out report was drafted by me and my supervisor.	2019 - 2020

Project	Responsibilities	Date of completion
<ul style="list-style-type: none"> De Beers Namaqualand Mines 	Project involved the decommissioning of an old bridge crossing in the Buffels River. Conducted the full NEMA Specialist study as stipulated in GN 320 of March 2020. This study also involved the sampling of Diatom and interpreting the results into the aquatic assessment report.	Jun 2022
<u>Lichtenburg Projects</u> <ul style="list-style-type: none"> Lafarge Cement Loveday Quarry 	<p>The project involved the decommissioning of old diesel tanks that triggered a listed activity in terms of NEMA, listing Notice 1.</p> <p>Aquatic Compliance Statements was drafted in support of this activity.</p>	Jan 2023
<ul style="list-style-type: none"> Nedan Oil - Mokopane 	<p>Nedan Oil project was for spillages of food oil that occurred in the Dorps River. Responsibility was to determine the extent of the spill and conduct aquatic assessments along the stretch of the river to determine the impact of the spill.</p> <p>Liaising and site visits with LEDET and DWS and presented the results to these authorities. Departments have signed off on these reports.</p>	Dec 2020 – April 2021
<ul style="list-style-type: none"> Sasol Synfuels & Sasol Mining 	Compliance Aquatic Ecological Assessments and Wetland Assessments were done on all Sasol mining and synfuels complexes, together with FRAI Assessments and impact assessments.	2012 - 2017
Greyling Varkboerdery (Pty) Ltd	Conducted a full Aquatic Ecological Assessment as per of the WULA process in 2020.	July 2020
WPB Colliery (Pty) Ltd: Groenvlei Coal	<p>Main responsibility is to ensure full compliance to the granted environmental authorisations.</p> <p>Implemented a monitoring programme that is being followed and surface water and groundwater monitoring results is being submitted to the IUCMA together with monthly reporting. Bi-annual aquatic assessments are done to detect any potential impact that might occur in the Elandsfontein Spruit. Mitigation measures is provided and implemented to ensure that no environmental degradation takes place.</p>	2018 - ongoing
DWS: Harties-Metsi-A-Me Project	Menco was appointed to assist DWS on this project. Responsibility was to conduct daily sampling with the Auto sampler at Kalkheuwel and monthly surface water samples on the dam with the Vandoorn Sampler and in all rivers entering the Hartbeespoort dam. Capturing of data on the DWS internal system and presenting the results to the DWS committee.	2012 - 2015

Project	Responsibilities	Date of completion
Heineken Brewery (Pty) Ltd	<p>Main project manager on this project. Responsibilities and actions being performed are as follows:</p> <ul style="list-style-type: none"> - Conduct bi-annual Aquatic assessments; - Conduct monthly surface water monitoring; - Conduct quarterly groundwater monitoring; 	2012 – ongoing
Kego Mining (Pty) Ltd (Puleng Resources)	Conducted an aquatic ecological assessment as part of the WULA process.	Sep 2021
Macsteel (Pty) Ltd	<p>Macsteel has caused biodiesel spillages into the Natalspruit Wetland system. Responsibility was to assess the impact on the aquatic biodiversity and provide mitigation measures on how to rehabilitate this reach of wetland system.</p> <p>Follow up aquatic assessments was done in order to help with the closeout report.</p>	2017 - 2020
Vus'ithemba Project Solutions	Aquatic Ecological Assessment in the Dwars River a tributary of the Mokolo River was done to establish the baseline data for the piggery. This was done as part of the WUL conditions and to determine if the piggery have any impact on the receiving environment.	2018 – ongoing
Ibhubesi Ore Exploration: Middelpunt Project	<p>Conducted 3x aquatic ecological assessments as part of the application and as part of the conditions set out in the WUL.</p> <p>Assessed wetland systems on the project area and assisted in drafting the wetland report.</p>	2018 - 2020
REC (Pty) Ltd	<ul style="list-style-type: none"> • Amersfoort Piggery • Bergville Piggery • Biesjeskuil Piggery • INSA Coal Holdings • Kruitfontein Marine Shrine Church • Longside Piggery • Prestige College • SANRAL N17 <p>The entire project list above contained aquatic ecological assessments and reporting. For some projects this was done bi-annually while others were a once-off assessment in support of a WULA.</p>	2017 - 2019

Project	Responsibilities	Date of completion
Rietspruit Crushers	Conducting field assessment with wetland specialist and proving assistance in report writing (GIS Mapping). Conduct monthly and quarterly surface and groundwater monitoring and reporting as well as bi-annual aquatic bio-monitoring in support of the license conditions.	2013 – 2015; 2023 - ongoing
Savannah	Transalloys Smelter. Conducted an Aquatic ecological assessment in support of a WULAR and EIA process.	June 2016
SCIP Engineering	Fort West Development: Conducted bi-annual aquatic bio-monitoring as well as monthly ECO site visits and surface water monitoring.	2016 - 2018
JT Development	<ul style="list-style-type: none"> Alra Park Kirkeney X33 Mayfield X33 Dersley <p>Aquatic assessments were done in support of the WULA and Basic Assessments process.</p>	2014 - 2016
Samacor: ECM	<ul style="list-style-type: none"> Doornbosch & Steelpoort Jagdlust Lannex Lwala Mechlenburg Spitskop Tweefontein <p>Conducted aquatic ecological assessments for all mentioned projects above in support of the authorisation processes.</p>	2014 - 2018
Samancor: WCM	<ul style="list-style-type: none"> Phoenix Millsell Waterkloof Buffelsfontein <p>Conducted aquatic ecological assessments for all mentioned projects above in support of the authorisation processes.</p>	2016 - 2019
Ukufisa Mining / IPP Mining	Lefa Coal: Kaalplaat – Conducted monthly surface water monitoring and reporting to the IUCMA. Conducted bi-annual aquatic assessments as per their WUL conditions.	2015 - 2019

Project	Responsibilities	Date of completion
Golden Dividend: Vlakfontein	Aquatic ecological assessment inclusive of Fish Response Assessment Index (FRAI) in support of a WULA.	Sep 2022
Vunene Mining	Conducted aquatic ecological assessments together with Geomorphology in support a new mining right application and WULA.	2014 - 2016
Xanadu Eco Park	Conducted a WULA and bi-annual aquatic ecological assessments together with FRAI studies and wetland delineation.	2019 - 2022
Jones & Wagener	<ul style="list-style-type: none"> • Steelpoort: Phula Solar PV Facility; • Tutuka Solar PV Clusters <ul style="list-style-type: none"> ◦ Imvuselelo; ◦ Nalithuba; ◦ Grid Connections • Majuba Solar PV Clusters <ul style="list-style-type: none"> ◦ Nobuhle SEF ◦ Ncedisa SEF ◦ Vikela SEF ◦ Grid Connecitons • Hotazel: Gecko PV Facility 	March 2023 – On-going
SOLA	Welanga Solar PV Facility & Grid Connection – Aquatic Specialists Assessment Koppieskraal Solar PV Facility – Site Sensitivity Verification Report	May 2023 – November 2023
SiVest	Beaufort West: <ul style="list-style-type: none"> • Sunnyside PV Facility – Aquatic Compliance Statement • Rhino PV Facility – Aquatic Compliance Statement 	October 2023
GIBB	Mokolo Crocodile Water Augmentation Project Phase 2 – Aquatic Ecological Assessment and Sediment Discharge	September 2023
Kalkfontein Prospecting Right	Warden: Aquatic Ecological Assessment in support of a Prospecting Right Application	November 2023

PROJECT: Rhino & Sunnyside PV Facilities

Name of assessor: Hanjo Fourie & Johan Maré

Date of assessment: January 2024

***RISK ASSESSMENT MATRIX for Section 21 (c) and (i) Water Use activities: SUMMARY
ASSUMING THAT ALL PROPOSED IMPACT CONTROL ARE EFFECTIVELY
IMPLEMENTED***

Phase	Activity	Impact	Mitigation Measures	Risk Ratings after Mitigation
CONSTRUCTION and OPERATIONAL PHASES	Streambank Stabilisation	Erosion	Implementing measures to stabilise streambanks through vegetation planting to mitigate erosion and sedimentation, thereby safeguarding the integrity of the river ecosystem. Adequate stormwater management will be crucial to prevent runoff-induced erosion and the accumulation of potentially harmful substances, ensuring the preservation of aquatic habitats and preventing adverse impacts on local fauna. Special attention will be directed towards managing runoff in the few non-perennial drainage channels within the site to minimise ecological disturbances to the Platdoring River.	L (10.8)
	Water Quality Impact and Management	Contamination	Using low-impact construction techniques to reduce soil disturbances, thereby minimising adverse effects on aquatic habitats. All chemicals utilised throughout the construction process must be securely stored in bunded areas and subject to regular inspections to detect and prevent any seepages or spillages that could potentially contaminate water sources and jeopardize aquatic	L (12)

			ecosystems.	
	Sanitation Services	Pollution	Deploying portable toilets (at a ratio of 1 toilet per 20 users) at construction sites to ensure minimal impact on aquatic ecosystems by preventing human waste from contaminating natural water bodies. Workers will be actively encouraged to utilise these facilities instead of resorting to the surrounding environment. Placement of toilets will be carefully chosen to be situated away from watercourses, calculated buffer zones, and other natural water bodies such as rivers, streams, and wetlands. Waste from chemical toilets will be regularly and responsibly disposed of by licensed waste contractors to mitigate potential pollution risks to aquatic environments.	L (6)
	Habitat Restoration	Biodiversity	Restoring degraded or destroyed aquatic habitats, such as wetlands and riparian zones, to support the recovery of aquatic species. The focus of this measure should be on the access roads that crosses the Platdoring River.	L (14.4)
			Limiting the environmental footprint of construction activities exclusively to the designated Solar PV facility area. Construction operations will be confined within the project boundaries to mitigate the risk of hydrocarbon spillages from construction vehicles, thereby safeguarding the integrity of the groundwater aquifer from potential contamination.	L (6)

	Flow Management	Hydrology	Implementing measures to manage river flow, including measures such as minimising water withdrawals and controlled releases from reservoirs, aimed at preserving sufficient flow and water quality to sustain aquatic species. This proposal is particularly relevant for the primary Platdoring River system, especially as impaired drainage lines are slated for restoration. Additionally, instituting an Alien Invasive Species Management Program in both the drainage lines and Platdoring River can further aid in flow management efforts.	L (12)
			Effective stormwater management is imperative to prevent runoff-related erosion, such as rill erosion, and the accumulation of potentially harmful substances that may attract fauna. Special attention will be directed towards managing rainwater runoff in the limited non-perennial drainage channels intersecting the site to mitigate ecological disturbances and safeguard aquatic habitats.	L (18)
	Alien Invasive Management	Biodiversity	The AIP plan will need to be applied broadly to the entire footprint to effectively reduce alien invasive species and prevent their recolonisation of cleared areas	L (25.2)
	Construction of PV	Contamination	If viable and practicable, it is advisable to schedule construction and site establishment activities during the dry season. Construction impacts should be confined solely to the PV facility area. It is strongly recommended that all construction activities occur within the project site to mitigate the risk of hydrocarbon spillages from construction vehicles seeping into the groundwater aquifer.	L (25.2)