PROPOSED GROOTVLEI 600MW SOLAR PV PLANT, BESS AND GRID CONNECTION, NEAR VENTERSDORP, DR KENNETH KAUNDA AND NGAKA MODIRI MOLEMA DISTRICT MUNICIPALITIES, NORTH WEST PROVINCE

SCOPING REPORT

AUTHORITY REFERENCE NO: *TBC*

DRAFT

JULY 2026

PREPARED FOR:

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Title and Approval Page

Project Name:	Proposed Grootvlei 600MW Solar PV Plant, BESS and Grid Connection, near Ventersdorp, Dr Kenneth Kaunda and Ngaka Modiri Molema District Municipalities, North West Province
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Amendments Page

Date:	Nature of Amendment	Amendment Number:
19/06/2026	Draft Scoping Report for Client Review	00
10/07/2026	Draft Scoping Report for Public and Authority Review	01

Executive Summary

A. PURPOSE OF THIS DOCUMENT

Nemai Consulting (Pty) Ltd was appointed by LTM Green Energies (Pty) Ltd (the "Applicant"), to conduct the Environmental Impact Assessment (EIA) for the Proposed Grootvlei 600MW Solar PV Plant, Battery Energy Storage System (BESS) and Grid Connection, near Ventersdorp, Dr Kenneth Kaunda and Ngaka Modiri Molema District Municipalities, North West Province (the "Project").

This document serves as the draft Scoping Report for the proposed Project.

B. PROJECT BACKGROUND AND MOTIVATION

The South African Government ratified the Paris Agreement in 2016, thereby demonstrating the country's commitment to contributing to the global effort to address climate change. Electricity generation sources need to be diversified to ensure security of supply and reduce the carbon footprint created by South Africa's (SA) current heavy reliance on coal for electricity production. Electricity demand is increasing in SA, and to meet that demand, there is a need to supply a diversified power generation mix that includes renewable energy technologies.

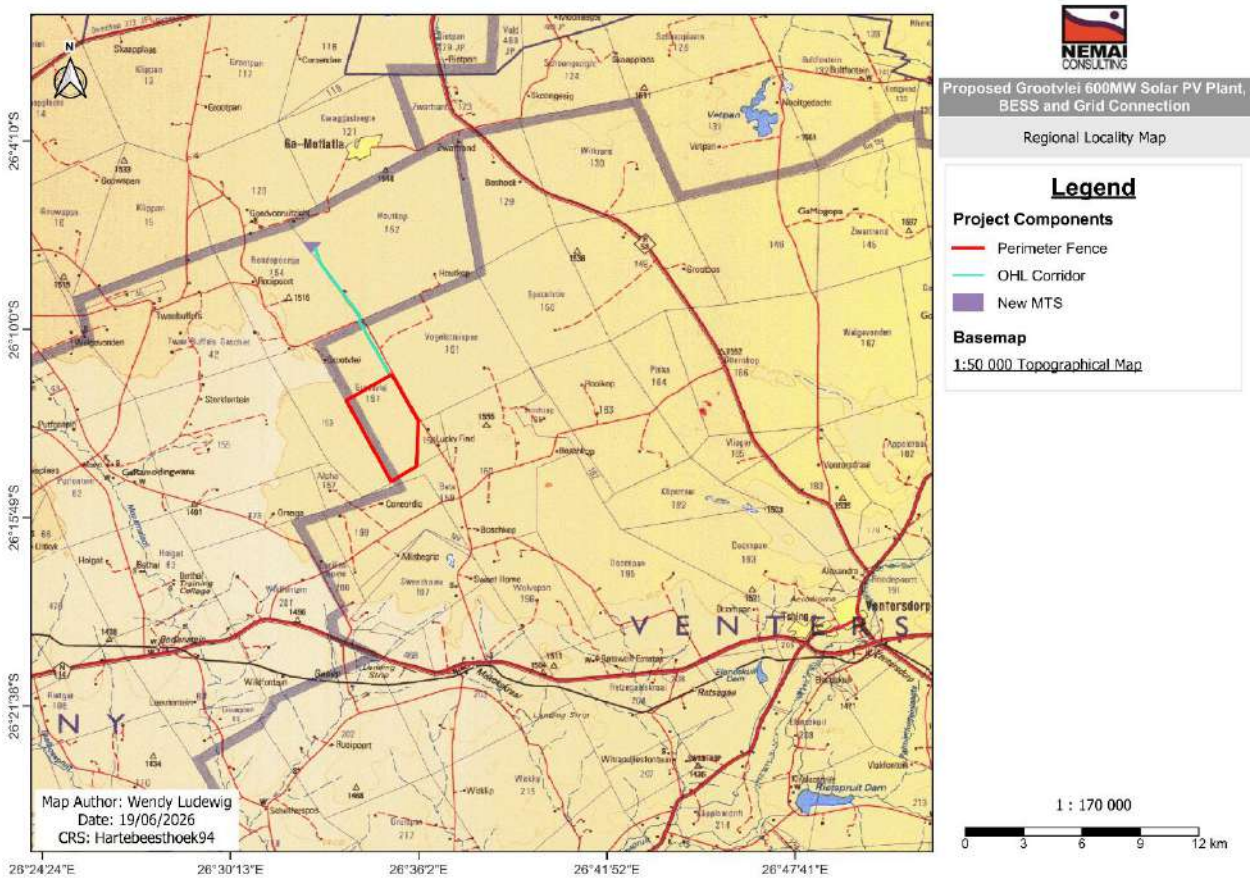
On 13 December 2023, the Applicant received Environmental Authorisation (EA) for the development of the Grootvlei 600MW Solar Plant, BESS and Grid Connection Project (DFFE Reference Number: 14/12/16/3/3/2/2386). Upon optimising the layout plan for the Proposed Grootvlei 600MW Solar PV Plant, BESS, and Grid Connection near Ventersdorp, North West Province, the Applicant determined that the previously secured land would be insufficient to accommodate the planned power capacity. To ensure that no incremental decision-making occurs, as guided by DFFE, the Applicant applied to amend the existing EA to lapse. The amendment was granted on 07 April 2026 (DFFE Reference Number: 14/12/16/3/3/2/2386/AM1). The Applicant is now applying for an EA for the entire Project site, including the originally authorised site and the expansion area.

The Applicant intends to bid for the current and future Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) bid windows and/or other renewable energy markets within SA.

C. PROJECT LOCATION

The Project is located approximately 20km to the north-west of Ventersdorp and falls within Ward 34 of the JB Marks LM and Ward 17 of the Ditsobotla LM in the North West Province.

The N14 runs approximately 10 km to the south of the Project site, with the R53 approximately 15 km to the east of the Project site. The Regional Locality Map is illustrated below.



Regional Locality Map for the Project Footprint

D. LEGISLATION AND GUIDELINES CONSIDERED

Pertinent legislation that has a possible bearing on the proposed Project from an environmental perspective is briefly discussed in this Scoping Report.

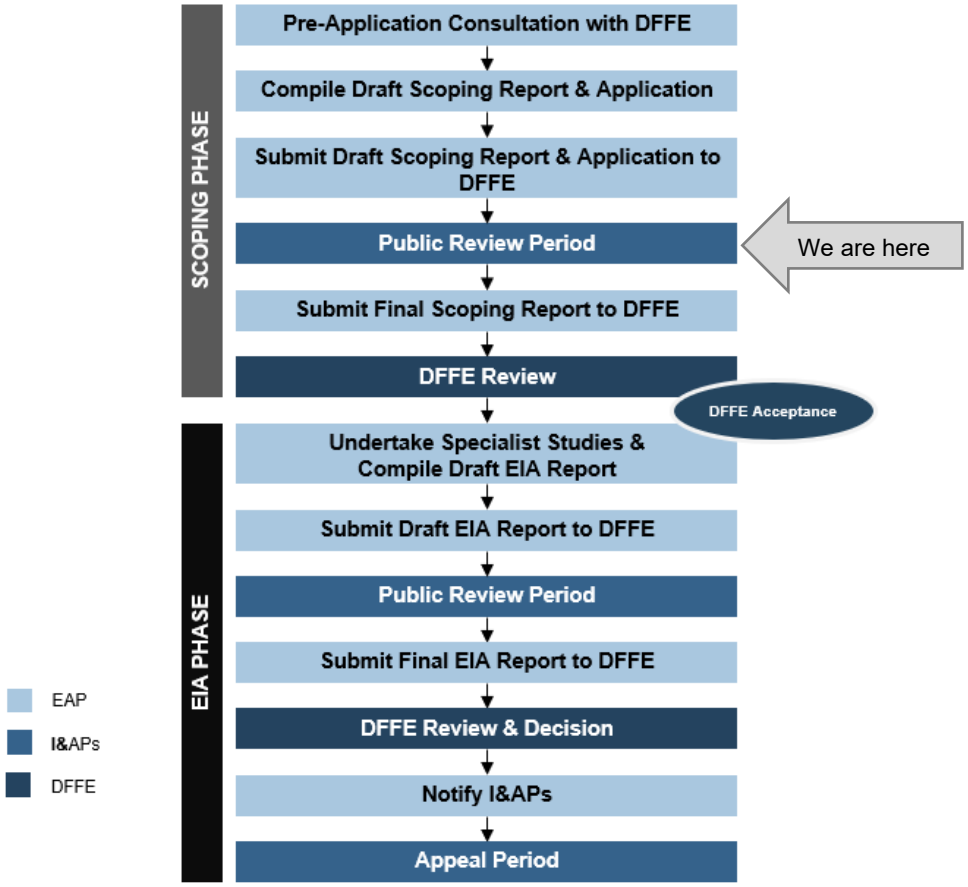
The relationship between the Project and the following key pieces of environmental legislation is also explained:

- National Environmental Management Act (Act No. 107 of 1998);
- National Water Act (Act No. 36 of 1998);
- National Environmental Management: Waste Act (Act No. 59 of 2008);
- National Environmental Management: Air Quality Act (Act No. 39 of 2004);
- National Environmental Management: Protected Areas Act (Act No. 57 of 2003);
- National Environmental Management: Biodiversity Act (Act No. 10 of 2004); and
- National Heritage Resources Act (Act No. 25 of 1999).

E. SCOPING AND EIA PROCESS

The process for seeking Environmental Authorisation for the Project under the National Environmental Management Act (Act No. 107 of 1998) (NEMA) is being undertaken in accordance with the EIA Regulations of 2014 (as amended). In terms of NEMA, the lead decision-making authority for this application is the Department of Forestry, Fisheries and the Environment (DFFE).

Based on the listed activities triggered, the requisite environmental assessment for the Project is a Scoping and Environmental Impact Reporting (S&EIR) Process. An outline of the process follows.



Outline of the Overall S&EIR Process for the proposed Project

F. PROJECT DESCRIPTION

The Project consists of the following systems, sub-systems or components (amongst others):

- 600MW PV solar panels or modules (arranged in arrays);
- Mounting structures to support the PV panels;

- DC-AC current inverters stations, transformers, and internal electrical reticulation (underground cabling);
- Transmission Line: The Project includes transmission infrastructure with an installed capacity at both distribution (132 kV) and transmission (2x 275 kV) levels, comprising an on-site 132/33 kV collector substation, an on-site 132 kV switching station, three 132 kV overhead lines linking the switching station to a new 400/132 kV substation located approximately 18 km north-west of the site on Portion 1 of the farm Houtkop 152 IP, and two 275 kV tie-in lines connecting to the existing Pluto-Watershed 275 kV line, thereby facilitating connection to the national grid with potential for electricity wheeling to off-site offtakers;
- New 400/132kV Main Transmission Substation;
- Administration Buildings (Offices);
- Workshop areas for maintenance and storage;
- Temporary laydown areas;
- Internal access roads and perimeter fencing of the footprint area;
- Lithium-ion BESS;
- Security Infrastructure; and
- Site access from unnamed gravel road via the N14 and/or R53.

An overview of the project life cycle and the resources required to execute the Project is provided in the Scoping Report.

The alternatives under consideration for the Project include design/layout alternatives, technology alternatives and the no-go option. The EIA phase will include a detailed comparative analysis of the Project's feasible alternatives that emanate from the Scoping exercise, including environmental (with specialist input) and technical evaluations.

G. PROFILE OF THE RECEIVING ENVIRONMENT

The Scoping Report provides a general description of the status quo of the receiving environment in the project area. This provides the context for the Scoping exercise. It also allows for an appreciation of sensitive environmental features and possible receptors of the effects of the proposed Project. A brief overview is also provided of how the environmental features may be affected by the proposed Project.

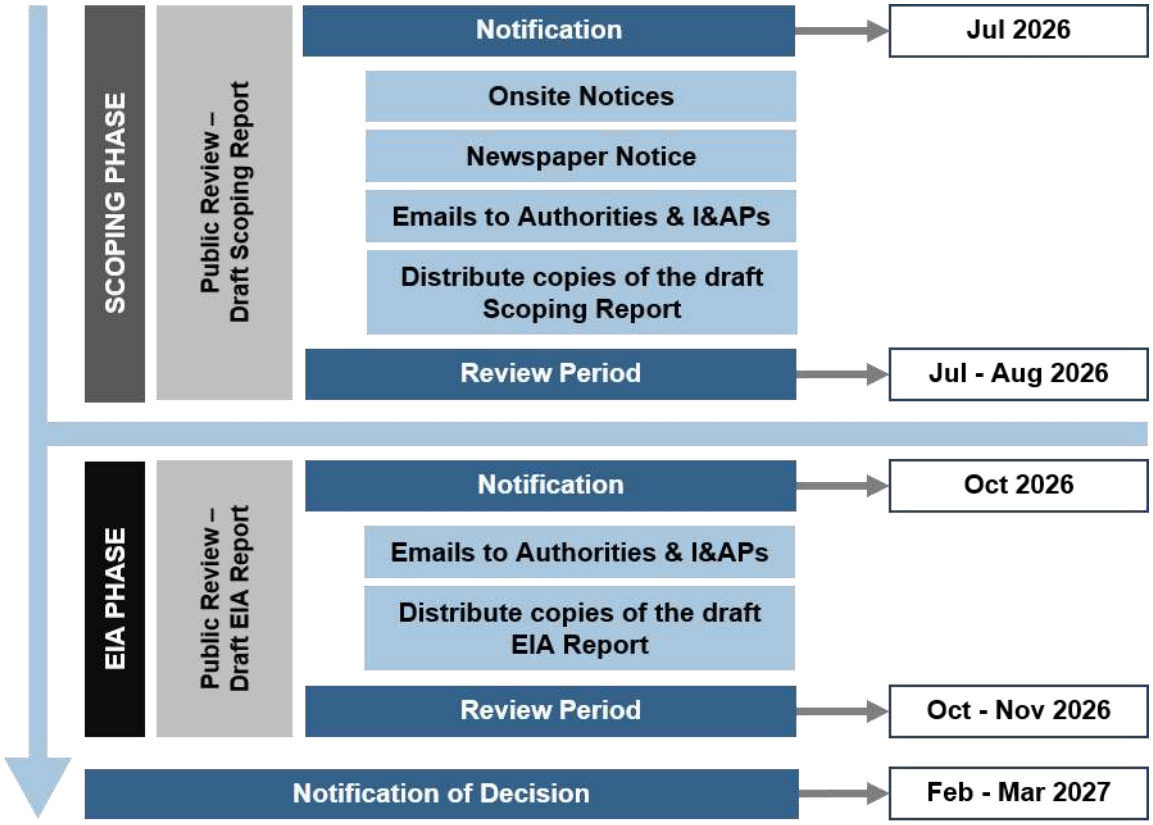
The following features of the receiving environment are discussed in the Scoping Report:

- Land Use
- Climate
- Geology, Soil and Geohydrology
- Topography
- Surface Water
- Terrestrial Biodiversity
- Noise and Vibration
- Agriculture
- Planning
- Waste
- Transportation
- Heritage and Palaeontology

- Socio-Economic Environment
- Air Quality
- Visual Quality
- Existing Structures and Infrastructures
- Health

H. PUBLIC PARTICIPATION

The following diagram outlines the public participation process for the Scoping Phase (current) and the EIA Phase (pending).



Note: *Dates may change throughout the EIA process*

Outline of the Overall Public Participation Process to be followed for the proposed Project (*Note dates are subject to change*)

The Scoping Report explains the following public participation tasks:

- Compiling the database of Interested and Affected Parties (I&APs);
- Review of draft Scoping Report:
  - Period to review the draft Scoping Report;
  - Notification of Review of draft Scoping Report;
  - Accessing the draft Scoping Report; and
  - Comment on the draft Scoping Report.

I. POTENTIALLY SIGNIFICANT ENVIRONMENTAL ISSUES

Pertinent environmental issues, which will receive specific attention during the EIA Phase through a detailed quantitative assessment and relevant specialist studies (where deemed necessary), are listed in the table below.

Potentially Significant Environmental Issues for Prioritisation during the EIA Phase

Environmental Factor	Construction Phase Potential Issues / Impacts	Operational Phase Potential Issues / Impacts	Investigations / EIA Provisions
Land Use	▪ Disturbance to existing land use during the construction. ▪ Risks to livestock posed by construction activities.	▪ Sterilisation of land for agricultural land uses. ▪ Servitude restrictions.	▪ Agricultural Compliance Statement ▪ Terrestrial Biodiversity Impact Assessment. ▪ Optimisation of layouts to account for land use restrictions. ▪ EMPr
Climate	▪ Emission of GHG during construction.	▪ Climate change may impact in various ways, including increased temperature affecting the PV modules. However, this can be mitigated based on the design of the PV module chosen by the Engineering team during the detailed design phase. ▪ There is also a positive impact as the increase in renewable energy on the existing grid assists in reducing SA's overall reliance on coal as the only energy resource.	▪ EMPr.
Geology, Soil and Geohydrology	▪ Erosion, if stormwater is not managed properly. ▪ Use of heavy equipment during the construction phase may result in compaction of soil. ▪ Soil could be contaminated through inadequate storage and handling of hazardous materials, spillages from equipment and plant and poor management of waste, wastewater and cement mixing. ▪ Groundwater could be contaminated through inadequate storage and handling of hazardous materials, spillages from equipment, and poor management of waste,	▪ Erosion, if stormwater is not continuously managed properly. ▪ Groundwater could be contaminated through inadequate storage and handling of hazardous materials, leaks from the BESS and poor management of waste and wastewater.	▪ Geotechnical Assessment ▪ Agricultural Compliance Statement. ▪ EMPr.

Environmental Factor	Construction Phase Potential Issues / Impacts	Operational Phase Potential Issues / Impacts	Investigations / EIA Provisions
	wastewater and cement mixing. ▪ Topsoil may be lost if not properly stripped and stockpiled for use during rehabilitation.		
Topography	▪ Grading of the site to achieve design slopes for drainage and panel mounting could cause an impact on the topography of the site. ▪ Erosion may occur in areas cleared for construction purposes. ▪ Visual impacts may be caused by the transformation of the landscape.	▪ The development of the Project will alter the drainage on the site and cause an increase in the runoff. ▪ Visual impacts may be caused by the transformation of the landscape.	▪ Geotechnical Assessment ▪ Visual Impact Assessment. ▪ EMPr.
Surface Water	▪ Damage to riparian corridors or destabilisation of morphology as a result of construction activities in proximity to the watercourses on the Solar Site and along the power line. ▪ Reduction of water quality through sedimentation (e.g., silt from the construction site transported via runoff) and poor construction practices (e.g., improper management of wastewater, incorrect storage of material, spillages, etc.). ▪ Temporary alteration of flow and the structure (i.e. bed and banks) of the watercourse on the PV Site as a result of poor management of stormwater. ▪ Alteration of site drainage	▪ Sedimentation through silt-laden runoff, caused by inadequate stormwater management. ▪ Damage to the facility from major flood events. ▪ Water resources could be contaminated through inadequate storage and handling of hazardous materials, leaks from the BESS and poor management of waste and wastewater. ▪ Water use requirements of the Project need to be satisfied. ▪ Alteration of site drainage.	▪ Wetland Impact Assessment. ▪ EMPr
Terrestrial Biodiversity	▪ Clearance of vegetation for site preparation, along access roads, and other areas to be disturbed. This could result in habitat loss/fragmentation. The significance of habitat loss will need to consider the total area of habitat affected, the habitat's uniqueness, and the sensitivity and conservation status of the habitat and its associated species.	▪ Habitat fragmentation (e.g., barriers to animal movement). ▪ Reflection of sunlight from the solar panels could adversely affect birds, including those species that use the watercourses on the site and surrounding areas. ▪ Landscaping, re-seeding and vegetation control are required to remove the risk of vegetation shading modules and reducing the	▪ Terrestrial Biodiversity Impact Assessment. ▪ EMPr.

Environmental Factor	Construction Phase Potential Issues / Impacts	Operational Phase Potential Issues / Impacts	Investigations / EIA Provisions
	▪ Potential loss, disturbance or displacement of protected fauna and flora species. ▪ Human - animal conflicts. ▪ Noise and vibration. ▪ Night lights may affect nocturnal faunal species. ▪ Illegal harvesting and poaching of faunal and floral species by construction workers. ▪ Pollution of the biophysical environment from poor construction practices. ▪ Proliferation of invasive alien species in disturbed areas.	performance of the facility. ▪ Chemical pollution associated with cleaning the PV panels. ▪ Shading out of plants by solar panels. ▪ Proliferation of invasive alien species in disturbed areas	
Socio-Economic Environment	▪ Influx of people seeking employment and associated impacts (e.g., foreign workforce, cultural conflicts, squatting, demographic changes, anti-social behaviour, and incidence of HIV/AIDS). ▪ Safety and security of the local community during construction. ▪ Use of the local road network by construction vehicles. ▪ Nuisance from dust, noise, vibration and light pollution. ▪ Consideration of local labourers and suppliers in the area – stimulation of the local economy (positive impact). ▪ Transfer of skills (positive impact).	▪ Once established, the operation of the Solar PV Plant would result in direct and indirect economic opportunities. ▪ Visual impacts on surrounding communities.	▪ Social Impact Assessment ▪ EMPr
Air Quality	▪ Air quality deterioration as a result of the following: o Dust from the use of dirt roads by construction vehicles; o Dust from bare areas that have been cleared for construction purposes; o Emissions from construction equipment and machinery; and o Tailpipe emissions from construction vehicles.	▪ The efficiency of the solar plant could be reduced if the modules are soiled (covered) by particulates/dust. ▪ Impacts to air quality caused by the operation and maintenance of the facility included dust from the use of dirt roads and tailpipe emissions from vehicles	▪ EMPr
Visual	▪ Clearing of vegetation. ▪ Construction-related activities.	▪ Visual impact associated with the changing of the landscape to include the Solar PV Plant.	▪ Visual Impact Assessment ▪ EMPr

Environmental Factor	Construction Phase Potential Issues / Impacts	Operational Phase Potential Issues / Impacts	Investigations / EIA Provisions
	▪ Inadequate waste management and housekeeping. ▪ Inadequate reinstatement and rehabilitation of areas affected by construction activities, outside of the permanent development footprint	▪ Visual impact of operational, safety and security lighting of the facility at night on observers residing in close proximity to the Project. ▪ Solar panels are designed to absorb, not reflect, irradiation. However, glint and glare may have an impact from an aviation perspective. ▪ Inadequate housekeeping and waste management during operations.	
Noise & Vibration	▪ Localised increases in noise may be caused by: o Construction equipment, machinery and vehicles; o Construction material delivery vehicles; o General activities at the construction camp; and o Noise created by the labour force.	▪ Solar PV facilities produce electricity during the daytime hours, when the sun's rays are collected by the panels. When irradiance is low or non-existent, the equipment's noise is significantly reduced. The main sources of noise from the Project will be the rack-mounted inverters and the central step-up transformer, which are expected to be audible only to operational staff who come into close proximity to these components. ▪ Operation and maintenance of vehicles and activities.	▪ EMPr.
Agriculture	▪ Loss of agricultural land use due to direct occupation by the development footprint. This will remove affected portions of land from agricultural production. ▪ Soil erosion by wind or water due to alteration of the land surface characteristics. ▪ Alteration of surface characteristics may be caused by construction-related land surface disturbance, vegetation removal, panel surfaces and the establishment of hard-standing areas, surfaces and roads. Erosion will cause loss and deterioration of soil resources.	▪ Loss of agricultural land use due to direct occupation by the development footprint. This will remove affected portions of land from agricultural production. ▪ Soil erosion by wind or water due to alteration of the land surface characteristics.	▪ Agricultural Compliance Statement. ▪ EMPr.

Environmental Factor	Construction Phase Potential Issues / Impacts	Operational Phase Potential Issues / Impacts	Investigations / EIA Provisions
	▪ Loss of topsoil due to poor topsoil management (burial, erosion, etc.) during construction-related soil profile disturbance (levelling, excavations, road surfacing, etc.) and resultant decrease in that soil's capability for supporting vegetation. ▪ Risk of harm to livestock from construction activities (e.g., open excavations).		
Waste	Should inadequate waste management occur, the following environmental impacts could occur: ▪ Risk to human health (occupational and community health and safety); ▪ Soil pollution (spillages and leachate); ▪ Surface and groundwater pollution (spillages and leachate); ▪ Air pollution (e.g., smoke if set alight and emissions); ▪ Odours; ▪ Compromised aesthetics (e.g., poor storage, windblown litter); and ▪ Vermin.		▪ EMPr
Transportation	▪ Transportation of materials and construction personnel to the Project site. ▪ Impacts to road conditions. ▪ Speeding and reckless driving by construction personnel. ▪ Construction vehicles accessing and leaving the site via the secondary roads that lead to the R53 or N14. ▪ Use of oversized vehicles/abnormal loads, as required	▪ Safe off-ramp exit for abnormal loads and oversized vehicles, taking into consideration the high-speed environment along the R53 and N14. ▪ Safe access to the site, considering the condition of the secondary roads that surround the Project site. ▪ Transportation of maintenance materials and operational and maintenance staff to the Project site	▪ EMPr
Heritage and Palaeontological Features	▪ Possible direct impacts on below-ground archaeological deposits and fossils as a result of ground disturbance. ▪ Possible impacts to the cultural landscape as a result of the introduction of incompatible structures and infrastructure to the rural landscape.	-	▪ Phase 1 Heritage Impact Assessment ▪ Palaeontological Impact Assessment.
Existing Structures & Infrastructure	▪ Restrictions regarding servitudes of existing infrastructure	▪ Restrictions regarding servitudes of existing infrastructure	▪ EMPr
Health	▪ Hazards related to construction work with potential occupational injuries and diseases, as well as risks to community health and safety.	▪ Hazards related to operation and maintenance work. ▪ Fire and explosion risks during BESS operation.	▪ EMPr

Environmental Factor	Construction Phase Potential Issues / Impacts	Operational Phase Potential Issues / Impacts	Investigations / EIA Provisions
	▪ Increased levels of dust and particulate matter. ▪ Increased levels of noise. ▪ Water (surface and ground) contamination. ▪ Poor water and sanitation. ▪ Communicable diseases. ▪ Psychosocial disorder (e.g. social disruptions) ▪ Safety and security. ▪ Lack of suitable health services.		

J. PLAN OF STUDY FOR THE EIA

The Scoping Report is concluded with a Plan of Study, which explains the approach to be adopted to conduct the EIA for the proposed Project in accordance with the following pertinent tasks and considerations:

- ❖ Assessing potentially significant environmental issues identified during the Scoping Phase;
- ❖ Specialist studies to be undertaken;
- ❖ Public Participation process to be undertaken for the EIA Phase;
- ❖ Contents of the EIA Report;
- ❖ Consultation with DFFE; and
- ❖ The timeframes associated with the EIA process.

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List of Acronyms and Abbreviations

AC	Alternating Current
AEL	Atmospheric Emission License
AGIS	Agricultural Geo-Referenced Information System
AOI	Area Of Interest
BESS	Battery Energy Supply System
BPEO	Best Practicable Environmental Option
BSP	Biodiversity Sector Plan
CARA	Conservation of Agricultural Resources Act (Act No. 43 of 1983)
CBA	Critical Biodiversity Area
CBD	Central Business District
CRR	Comments and Response Report
CPV	Concentrated Photovoltaics
DARD	Department of Agriculture and Rural Development
DC	Direct Current
DEA	Department of Environmental Affairs
DEDECT	Department of Economic Development, Environment, Conservation and Tourism
DFFE	Department of Forestry, Fisheries and the Environment
DMPR	Department of Mineral and Petroleum Resources
DWS	Department of Water and Sanitation
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
EAPASA	Environmental Assessment Practitioners Association of South Africa
EHS	Environmental, Health, and Safety
EIA	Environmental Impact Assessment
EMPr	Environmental Management Programme
ESA	Ecological Support Areas
EWULAAS	Electronic Water Use License Application and Authorisation System
GA	General Authorisation
GCCA	Grid Connection Capacity Assessment
GHG	Greenhouse Gas
GIS	Geographical Information Systems
GN	Government Notice
I&APs	Interested and Affected Parties
IDP	Integrated Development Plan
IFC	International Finance Corporation
IPP	Independent Power Producer
LILO	Loop In-Loop Out

LM	Local Municipality
LSU	Large Stock Unit
MSc	Master of Science
MVPS	Medium Voltage Power Station
NaS	Sodium-Sulphur
NPAES	National Protected Area Expansion Strategy
NEMA	National Environmental Management Act (Act No. 107 of 1998)
NEM:AQA	National Environmental Management: Air Quality Act (Act No. 39 of 2004)
NEM:BA	National Environmental Management: Biodiversity Act (Act No. 10 of 2004)
NEM:PAA	National Environmental Management: Protected Areas Act (Act No. 57 of 2003)
NEM:WA	National Environmental Management: Waste Act (Act No. 59 of 2008)
NHRA	National Heritage Resources Act (Act No. 25 of 1999).
NWA	National Water Act (Act No. 36 of 1998)
NWM5	National Wetland Map 5
O&M	Operation and Maintenance
OHS	Occupational Health and Safety
PHRA-NW	Provincial Heritage Resources Authority-North West
PAOI	Project Area of Influence
PS	Performance Standards
REDZ	Renewable Energy Development Zone
REEA	Renewable Energy EIA Application
REIPPPP	Renewable Energy Independent Power Producer Procurement Programme
SA	South Africa
SACNASP	South African Council for Natural Scientific Professions
SANRAL	South African National Roads Agency SOC Limited
S&EIR	Scoping and Environmental Impact Reporting
SAHRA	South African Heritage Resources Agency
SANBI	South African National Biodiversity Institute
SAPAD	South African Protected Area Database
SDF	Spatial Development Framework
SEA	Strategic Environmental Assessment
SEI	Site Ecological Importance
SIPs	Strategic Integrated Projects
SOTER	Soil and Terrain
SSV	Site Sensitivity Verification
ToR	Terms of Reference
VFB	Vanadium Flow Battery
VRB	Vanadium Redox Battery
WMA	Water Management Area
WUL	Water Use License

1 PURPOSE OF THIS DOCUMENT

Nemai Consulting was appointed by LTM Green Energies (Pty) Ltd (the "Applicant"), to conduct the Environmental Impact Assessment (EIA) for the **Proposed Grootvlei 600MW Solar PV Plant, Battery Energy Supply System (BESS) and Grid Connection, near Ventersdorp, Dr Kenneth Kaunda and Ngaka Modiri Molema District Municipalities, North West Province** (the "Project").

The EIA is being undertaken according to the process prescribed in the EIA Regulations of 2014, published under Government Notice (GN) No. 982 in Gazette No. 38282 of 4 December 2014 and amended by GN 326 of 7 April 2017 published in Gazette No. 40772 (the "EIA Regulations"). The EIA Regulations were promulgated in terms of the National Environmental Management Act (Act No. 107 of 1998) (NEMA).

This document serves as the **draft Scoping Report** for the proposed Project. The purpose of the Scoping phase, which constitutes the first phase of the overall Scoping and Environmental Impact Reporting (S&EIR) Process, includes the following (but is not limited to):

- Identify the legal framework in terms of the proposed Project;
- Identify and engage with Interested and Affected Parties (I&APs) and allow for adequate participation in the S&EIR Process;
- Assess the receiving environment in terms of current state and potential positive or negative impacts;
- Consider alternatives for achieving the Project's objectives;
- Identify significant issues to be investigated further during the execution of the EIA Phase;
- Determine the scope of the ensuing EIA Phase, in terms of specialist studies, public participation, assessment of impacts and appraisal of alternatives; and
- Allow for informed decision-making with regard to the S&EIR Process.

The draft Scoping Report will be lodged for Public Review to I&APs for a 30-day review period from **10 July 2026 to 11 August 2026**. The comments received during the Public Review Process will be addressed, and the draft Scoping Report will be updated to its final version, incorporating and addressing the comments received. Following this, the final Scoping Report and Plan of Study for the EIA will be submitted to the Department of Forestry, Fisheries and the Environment (DFFE), which is the competent authority to decide on the application in terms of Section 24C of NEMA.

2 DOCUMENT ROADMAP

At a minimum, this Scoping Report aims to satisfy the requirements set out in Appendix 2 of the EIA Regulations. **Table 1** presents the document's composition in terms of the aforementioned regulatory requirements.

Table 1: Scoping Report Roadmap

Chapter	Title	Correlation with GN No. R 982, Appendix 2	Description of content of GN No. R 982, Appendix 2
1	Purpose of this document	–	–
2	Document Roadmap	–	–
3	Project Background and Motivation	2(1)(f)	A motivation for the need and desirability for the proposed development.
4	Project Location	2(1)(b) & 2(1)(c)	A description of the location of the activity.
5	Legislation and Guidelines Considered	2(1)(e)	A description of the policy and legislative context within which the development is proposed.
6	S&EIR Process	2(1)(a)	Details of the Environmental Assessment Practitioner (EAP) who prepared the report and the expertise of the EAP.
7	Assumptions and Limitations	–	–
8	Need and Desirability	2(1)(f)	A motivation for the need and desirability for the proposed development.
9	Project Description	2(1)(c) & 2(1)(d)	A description of the scope of the proposed activity.
10	Alternatives	2(1)(g)(i)	Details of all the alternatives considered.
		2(1)(g)(vii)	Positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected.
11	Profile Of the Receiving Environment	2(1)(g)(iv)	Environmental attributes associated with the alternatives.
		2(1)(g)(vii)	Positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected.
12	Public Participation	2(1)(g)(ii)	Details of the public participation process.
		2(1)(g)(iii)	A summary of the issues raised by I&APs.
13	Potentially Significant Environmental Issues	2(1)(g)(v)	Impacts and risks identified for each alternative.
		2(1)(g)(vii)	Positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected.
		2(1)(g)(vi)	The methodology used in identifying and ranking the potential environmental impacts and risks associated with the alternatives.
14	Plan of Study for the EIA	2(1)(h)	A plan of study for undertaking the environmental impact assessment process.
15	Conclusions	-	-
Appendix E		2(1)(i) and 2(1)(j)	An undertaking under oath or affirmation by the EAP.
N/A		2(1)(k)	Where applicable, any specific information required by the competent authority.

Chapter	Title	Correlation with GN No. R 982, Appendix 2	Description of content of GN No. R 982, Appendix 2
N/A		2(1)(l)	Any other matter required in terms of section 24(4)(a) and (b) of the Act.

Note that the following sections of Appendix 2 of the EIA Regulations will be investigated further and reported on in the EIA Report, following the execution of the relevant specialist studies and targeted public participation:

- Section 2(1)(g)(v) - *The impacts and risks identified for each alternative, including the nature, significance, consequence, extent, duration and probability of the impacts, including the degree to which these impacts-*

  (a) can be reversed;

  (b) may cause irreplaceable loss of resources; and

  (c) can be avoided, managed or mitigated.

  The impacts and risks which have informed the identification of each alternative, including the nature, significance, consequence, extent, duration and probability of such identified impacts, including the degree to which these impacts -

  (a) can be reversed;

  (b) may cause irreplaceable loss of resources; and

  (c) can be avoided, managed or mitigated.
- Section 2(1)(g)(vii) - *Positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects.*
- Section 2(1)(g)(viii) - *The possible mitigation measures that could be applied and level of residual risk.*
- Section 2(1)(g)(ix) - *The outcome of the site selection matrix.*
- Section 2(1)(g)(xi) - *A concluding statement indicating the preferred alternatives, including preferred location of the activity.*

3 PROJECT BACKGROUND AND MOTIVATION

The South African Government ratified the Paris Agreement in 2016, thereby demonstrating the country's commitment to contributing to the global effort to address climate change. Electricity generation sources need to be diversified to ensure security of supply and reduce the carbon footprint created by South Africa's (SA) current heavy reliance on coal for electricity production. Electricity demand is increasing in SA, and to meet that demand, there is a need to supply a diversified power generation mix that includes renewable energy technologies.

On 13 December 2023, the Applicant received Environmental Authorisation (EA) for the development of the Grootvlei 600MW Solar Plant, BESS and Grid Connection Project (DFFE Reference Number: 14/12/16/3/3/2/2386). Upon optimising the layout plan for the Proposed Grootvlei 600MW Solar PV Plant, BESS, and Grid Connection near Ventersdorp, North West Province, the Applicant determined that the previously secured land would be insufficient to accommodate the planned power capacity. To ensure that no incremental decision-making occurs, as guided by DFFE, the Applicant applied to amend the existing EA to lapse. The amendment was granted on 07 April 2026 (DFFE Reference Number: 14/12/16/3/3/2/2386/AM1). The Applicant is now applying for an EA for the entire Project site, including the originally authorised site and the expansion area.

The Applicant intends to bid for the current and future Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) bid windows and/or other renewable energy markets within SA.

4 PROJECT LOCATION

4.1 Location of Project relative to Solar Yield Area

The location of the Project in relation to SA's PV power potential is shown in **Figure 1** below. The Project Area is considered to have favourable solar irradiation levels, making it ideal for producing solar power via PV Panels.

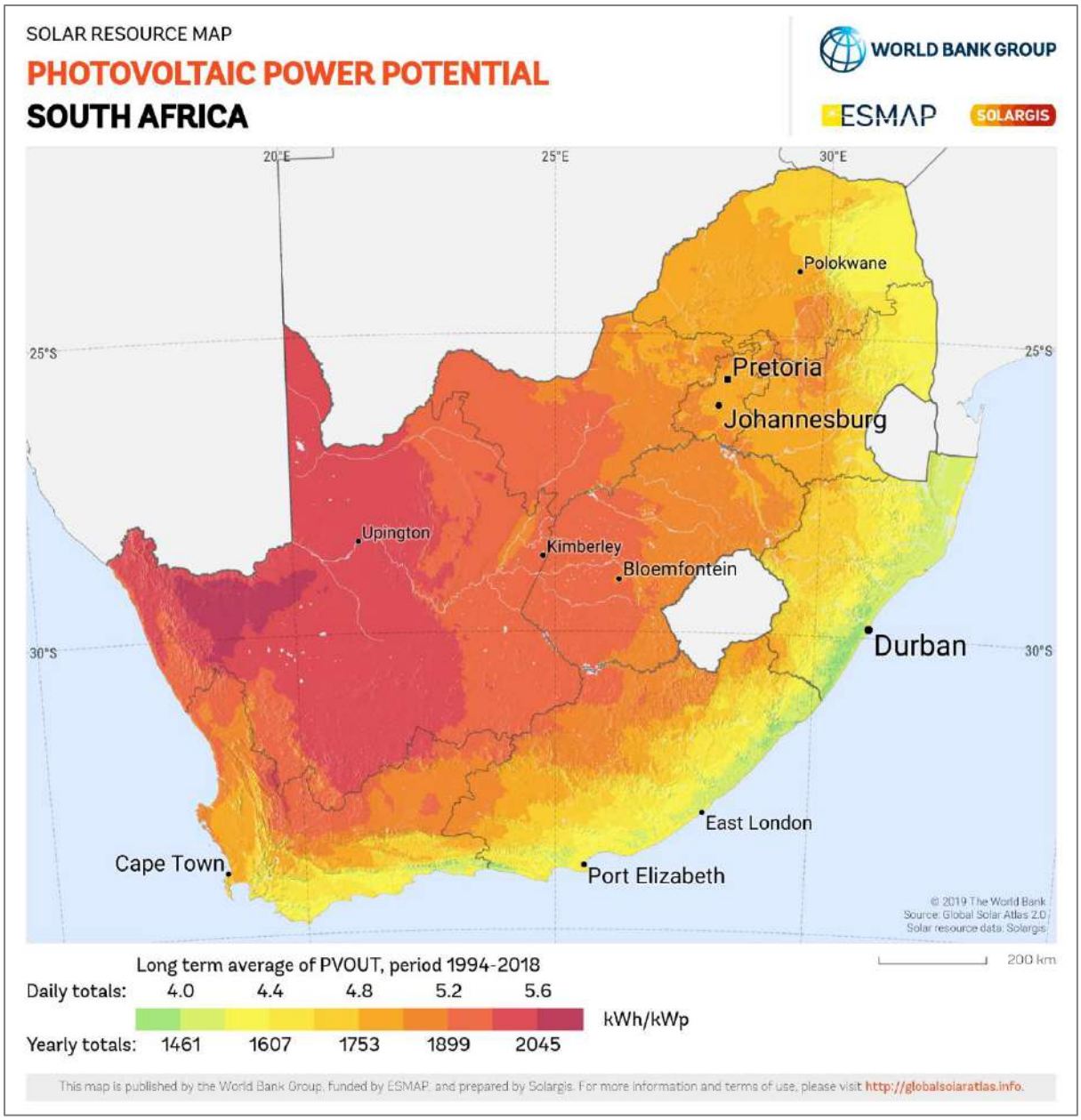


Figure 1: Location of the Project relative to PV Power Potential

(© 2019 The World Bank, Source: Global Solar Atlas 2.0, Solar resource data: Solargis)

4.2 Geographical Context

The Project is located approximately 20km to the north-west of Ventersdorp and falls within Ward 34 of the JB Marks LM and Ward 17 of the Ditsobotla LM in the North West Province. The N14 runs approximately 10 km to the south of the Project site, with the R53 approximately 15 km to the east of the Project site. The Regional Locality Map is in **Figure 2** and in **Appendix A**.

The Project site is approximately 1 300 ha, with the power line to the grid connection approximately 8.5 km long. The details of the affected properties are provided in **Table 2** and shown in **Figure 3**.

Table 2: Details of affected properties

Farm Details	21-digit Surveyor General No.
Solar PV Plant Site	
Portion 0 of Farm Grootvlei 161 IP	T0IP00000000016100000
Powerline Route	
Portion 0 of Farm Grootvlei 161 IP	T0IP00000000016100000
Portion 1 of Farm Roodepoortje 154 IP	T0IP00000000015400001
Portion 12 of Farm Houtkop 152 IP	T0IP00000000015200012
Portion 11 of Farm Houtkop 152 IP	T0IP00000000015200011
Portion 9 of Farm Houtkop 152 IP	T0IP00000000015200009
Portion 1 of Farm Houtkop 152 IP	T0IP00000000015200001
MTS	
Portion 1 of Farm Houtkop 152 IP	T0IP00000000015200001

The coordinates of the Project are provided in **Table 3** and shown in **Figure 4**. The coordinates of the approximate centre point of the site are 26˚12'56,12"S 26˚35'9,18"E.

Table 3: Coordinates of proposed Project

Feature	Latitude (S)	Longitude (E)
Solar PV Plant Site		
Point 1a	26˚11'23,49"S	26˚35'12,38"E
Point 1b	26˚12'49,03"S	26˚36'1,22"E
Point 1c	26˚14'13,11"S	26˚35'58,28"E
Point 1d	26˚14'41,5"S	26˚35'11,72"E
Point 1e	26˚12'11,19"S	26˚33'47,86"E
Powerline		
Point 2a	26˚11'26,96"S	26˚35'10,83"E
Point 2b	26˚9'44,29"S	26˚34'12,29"E
Point 2c	26˚9'35,32"S	26˚34'13,48"E
Point 2d	26˚7'57,38"S	26˚33'0,75"E

Feature	Latitude (S)	Longitude (E)
Point 2e	26˚7'29,53"S	26˚32'50,26"E
Point 2f	26˚32'47.63"E	26˚7'23.65"S
Point 2g	26˚32'50.65"E	26˚7'16.02"S
Point 2h	26˚32'49.39"E	26˚7'24.93"S
Point 2i	26˚32'52.97"E	26˚7'16.08"S
MTS		
Point 3a	26˚7'18,41"S	26˚33'0,48"E
Point 3b	26˚7'37,5"S	26˚32'42,91"E
Point 3c	26˚7'17,85"S	26˚32'28,2"E

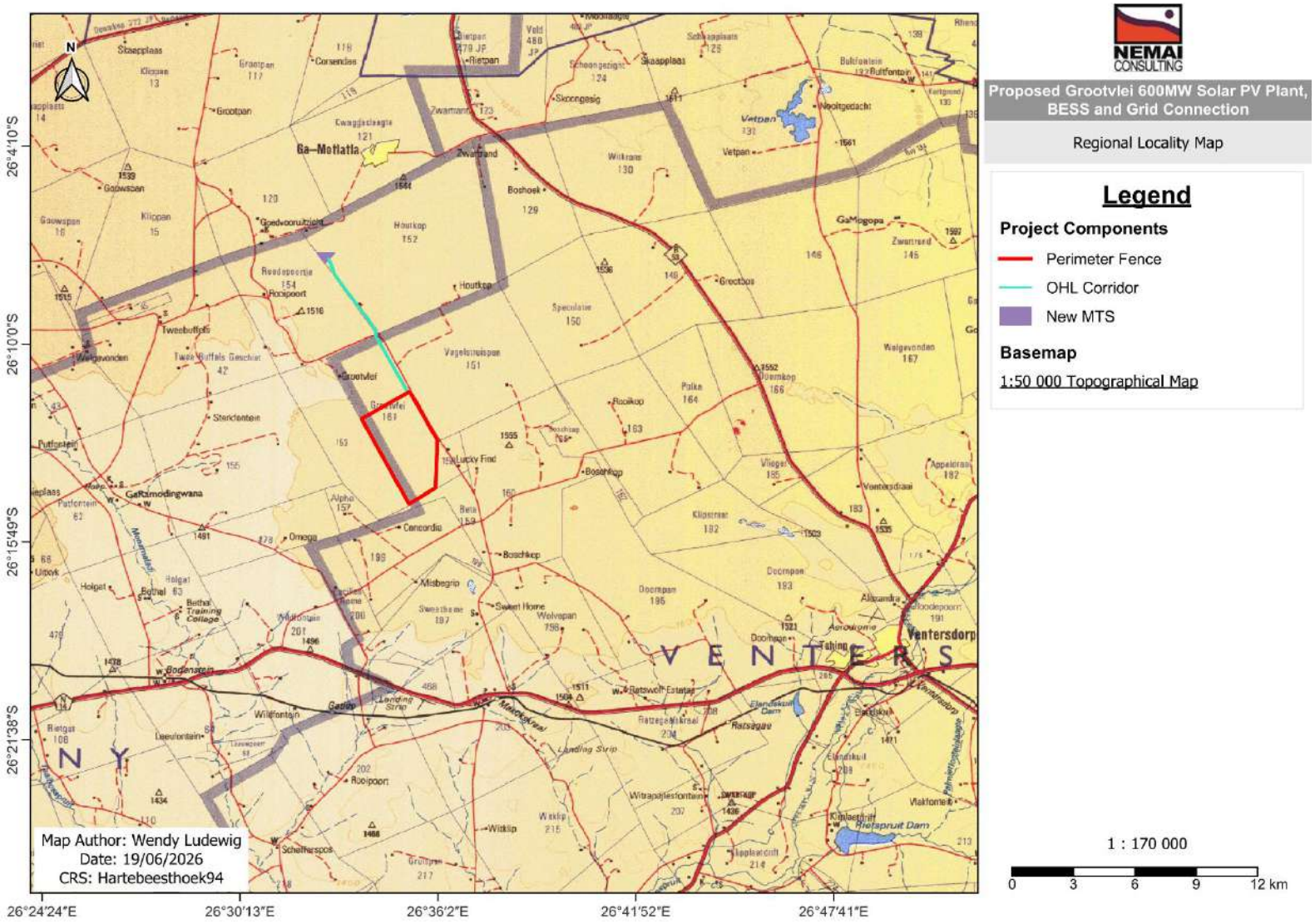


Figure 2: Regional Locality Map

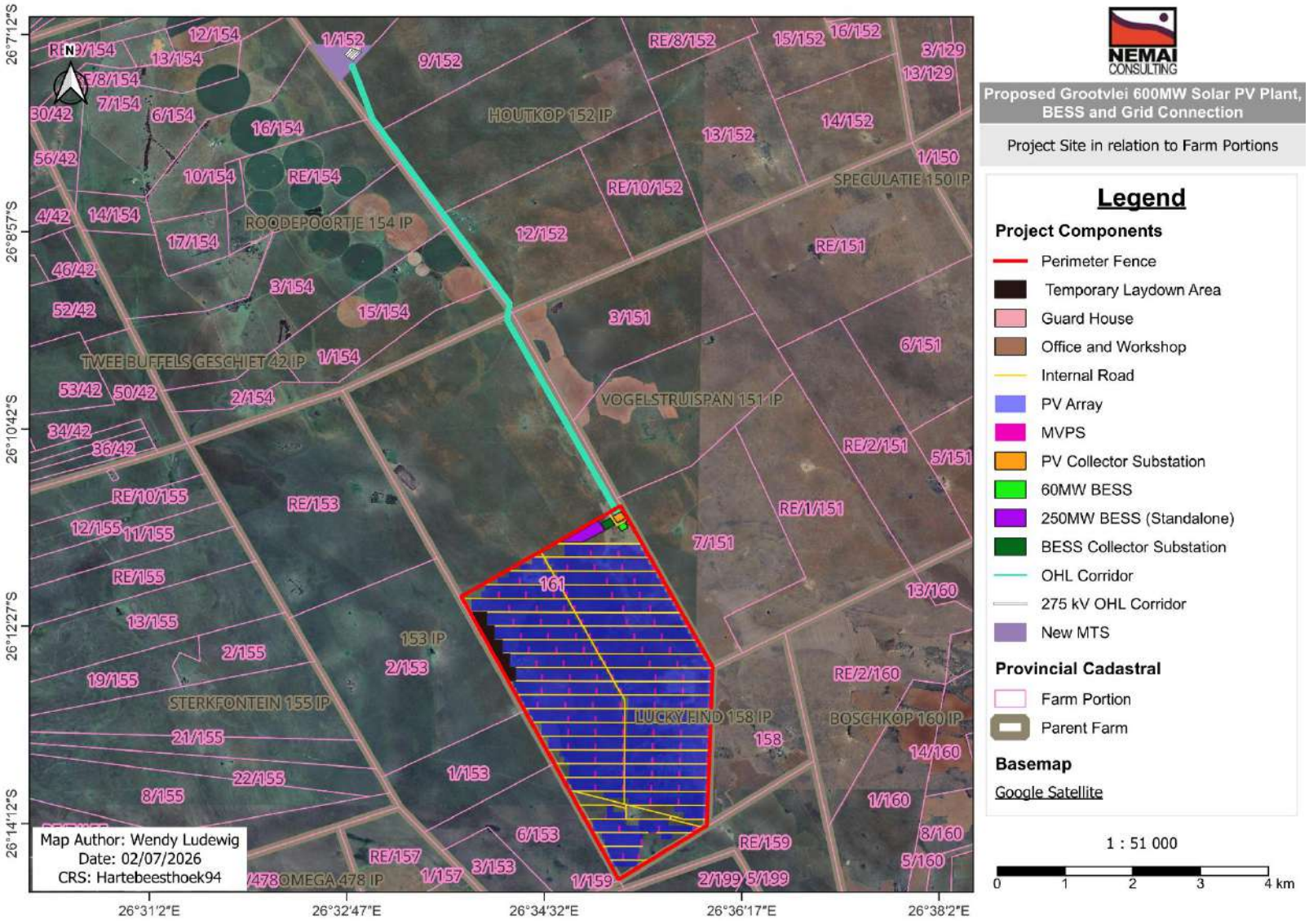


Figure 3: Locality Map for Cadastral Information

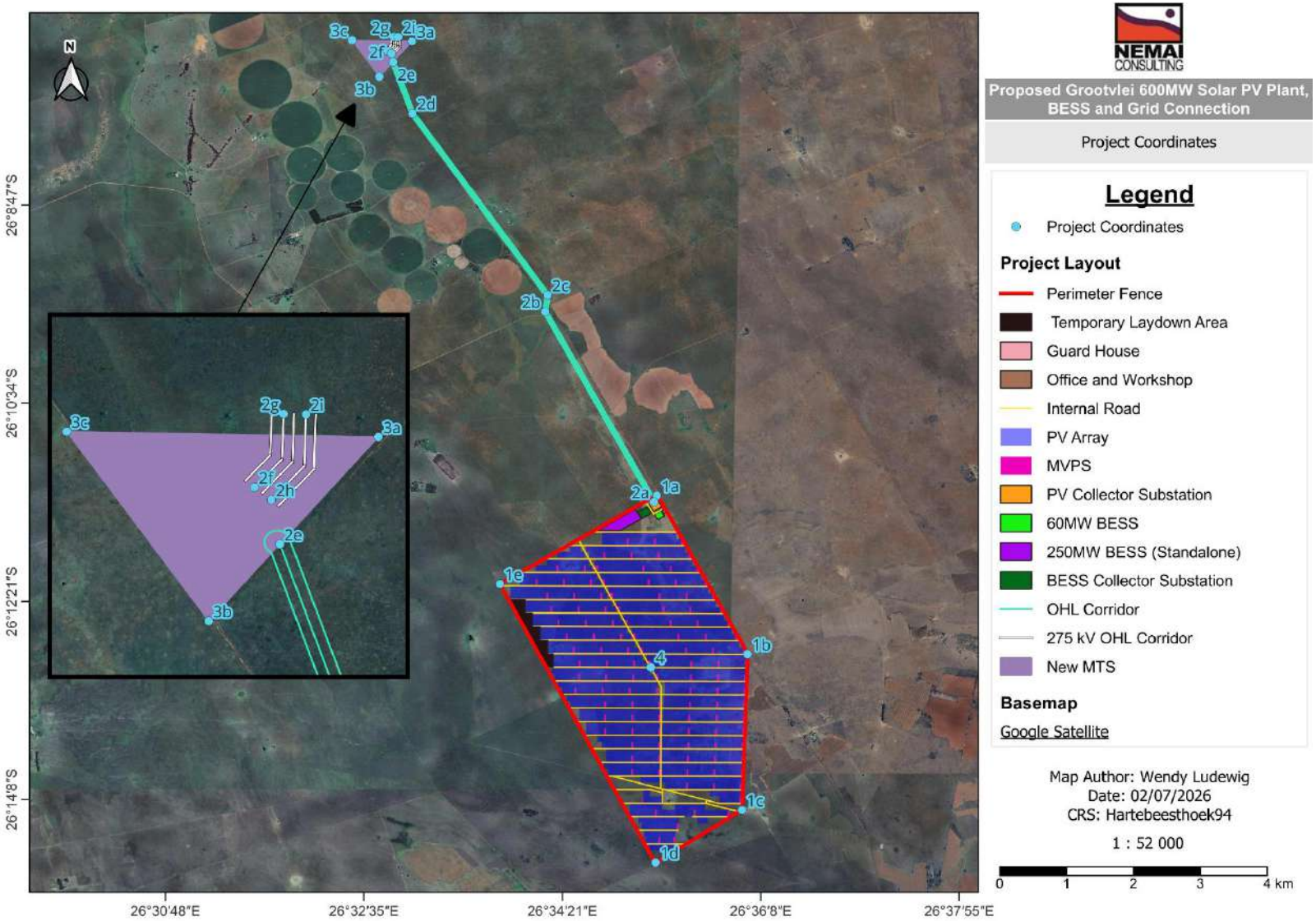


Figure 4: Aerial view of the proposed Project site coordinates points

5 LEGISLATION AND GUIDELINES CONSIDERED

5.1 International Finance Corporation – Performance Standards & Guidelines

Where relevant, the Project would strive to satisfy and incorporate the International Finance Corporation (IFC) Performance Standards (PS), which serve as an international benchmark for identifying and managing environmental and social risks.

The IFC PS offer a framework for understanding and managing environmental and social risks for high-profile, complex, international and potentially high-impact projects. The IFC PS encompass the following eight topics:

- Performance Standard 1: Assessment and Management of Environmental and Social Risks and Impacts;
- Performance Standard 2: Labour and Working Conditions;
- Performance Standard 3: Resource Efficiency and Pollution Prevention;
- Performance Standard 4: Community Health, Safety, and Security;
- Performance Standard 5: Land Acquisition and Involuntary Resettlement;
- Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources;
- Performance Standard 7: Indigenous Peoples; and
- Performance Standard 8: Cultural Heritage.

IFC's Environmental, Health, and Safety (EHS) Guidelines provide technical guidelines with general and industry-specific examples of good international industry practice to meet IFC PS.

5.2 Legislation

5.2.1 Environmental Statutory Framework

The legislation that has a possible bearing on the proposed Project from an environmental perspective is captured in **Table 4**. **Note:** *This does not attempt to provide an exhaustive explanation, but rather represents an identification of some of the most appropriate sections from pertinent pieces of legislation.*

Table 4: Environmental Statutory Framework

Legislation	Description and Relevance
Constitution of the Republic of South Africa, (No. 108 of 1996)	▪ Chapter 2 – Bill of Rights. ▪ Section 24 – Environmental Rights.
National Environmental Management Act (Act No. 107 of 1998) (NEMA)	▪ Key sections (amongst others): o Section 2 – Principles. o Section 24 – EA (control of activities which may have a detrimental effect on the environment). o Section 28 – Duty of care and remediation of environmental damage.

<table>
<tr><th>Legislation</th><th colspan="2">Description and Relevance</th></tr>
<tr><td></td><td colspan="2">▪ Authorisation type – EA (required for the Project).
▪ Authorities – DFFE (national) (Competent Authority for this Application) and North West Department of Economic Development, Environment, Conservation and Tourism (DEDECT) (provincial).</td></tr>
<tr><td>GN No. 326 of 7 April 2017 (EIA Regulations)</td><td colspan="2">▪ Purpose - regulate the procedure and criteria as contemplated in Chapter 5 of NEMA relating to the preparation, evaluation, submission, processing and consideration of, and decision on, applications for EA's for the commencement of activities, subjected to EIA, in order to avoid or mitigate detrimental impacts on the environment, and to optimise positive environmental impacts, and for matters pertaining thereto.</td></tr>
<tr><td rowspan="3">GN No. 327 of 7 April 2017 (Listing Notice 1)</td><td colspan="2">▪ Purpose - identify activities that would require EA's prior to commencement of that activity and to identify competent authorities in terms of sections 24(2) and 24D of NEMA.
▪ The investigation, assessment and communication of potential impact of activities must follow a Basic Assessment process, as prescribed in regulations 19 and 20 of the EIA Regulations. However, according to Regulation 15(3) of the EIA Regulations, an S&EIR Process must be applied to an application if the application is for two or more activities as part of the same development for which S&EIR must already be applied in respect of any of the activities.
▪ Activities under Listing Notice 1 that are relevant to this Project follow.</td></tr>
<tr><td>GN No. R. 327 – Activity 11(i):
The development of facilities or infrastructure for the transmission and distribution of electricity
(i) outside urban areas or industrial complexes with a capacity of more than 33 but less than 275 kilovolts; or
(ii) inside urban areas or industrial complexes with a capacity of 275 kilovolts or more,
excluding the development of bypass infrastructure for the transmission and distribution of electricity where such bypass infrastructure is
(a) temporarily required to allow for maintenance of existing infrastructure;
(b) 2 kilometres or shorter in length;
(c) within an existing transmission line servitude; and
(d) will be removed within 18 months of the commencement of development.</td><td>The proposed Project includes a Grid Connection with an installed capacity of up to 132 kV and a total line length of approximately 8.5 km.</td></tr>
<tr><td>GN No. R.327 – Activity 12(ii):
The development of
(i) dams or weirs, where the dam or weir, including infrastructure and water surface area, exceeds 100 square metres; or
(ii) infrastructure or structures with a physical footprint of 100 square metres or more,
where such development occurs
(a) within a watercourse;
(b) in front of a development setback; or
(c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse,
excluding
(aa) the development of infrastructure or structures within existing ports or harbours that will not increase the development footprint of the port or harbour;
(bb) where such development activities are related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies;
(cc) activities listed in activity 14 in Listing Notice 2 of 2014 or activity 14 in Listing Notice 3 of 2014, in which case that activity applies;
(dd) where such development occurs within an urban area;</td><td>Three depression wetlands were delineated by a wetland specialist near the Project site. The construction of the Project site may occur within the watercourses and within the 32 m buffer of these watercourses; therefore, this activity will be triggered and included as part of the application.</td></tr>
</table>

Legislation	Description and Relevance	
	(ee) where such development occurs within existing roads road reserves or railway line reserves; or *(ff) the development of temporary infrastructure or structures where such infrastructure or structures will be removed within 6 weeks of the commencement of the development and where indigenous vegetation will not be cleared.*	
	GN No. R. 327 – Activity 28(ii): *Residential, mixed, retail, commercial, industrial or institutional developments where such land was used for agriculture, game farming, equestrian purposes or afforestation on or after 01 April 1998 and where such development:* *(i) will occur inside an urban area, where the total land to be developed is bigger than 5 hectares; or* *(ii) will occur outside an urban area, where the total land to be developed is bigger than 1 hectare;* *excluding where such land has already been developed for residential, mixed, retail, commercial, industrial or institutional purposes*	*The Project Footprint is on land that was previously used for agricultural purposes, outside of an urban area.*
GN No. 325 of 7 April 2017 (Listing Notice 2)	▪ Purpose - identify activities that would require EA's prior to commencement of that activity and to identify competent authorities in terms of sections 24(2) and 24D of NEMA. ▪ The investigation, assessment and communication of potential impact of activities must follow a S&EIR Process, as prescribed in regulations 21 - 24 of the EIA Regulations. ▪ Activities under Listing Notice 2 that are relevant to this Project follow.	
	GN No. R.325 – Activity 1: *The development of facilities or infrastructure for the generation of electricity from a renewable resource where the electricity output is 20 megawatts or more, excluding where such development of facilities or infrastructure is for photovoltaic installations and occurs* *(a) within an urban area; or* *(b) on existing infrastructure.*	*The proposed Project is for the development of a 600MW Solar PV Site that is outside an urban area and not on existing infrastructure.*
	GN No. R.325 – Activity 9: *The development of facilities or infrastructure for the transmission and distribution of electricity with a capacity of 275 kilovolts or more, outside an urban area or industrial complex, excluding the development of bypass infrastructure for the transmission and distribution of electricity where such bypass infrastructure is* *(a) temporarily required to allow for maintenance of existing infrastructure;* *(b) 2 kilometres or shorter in length;* *(c) within an existing transmission line servitude; and* *(d) will be removed within 18 months of the commencement of development.*	*The proposed Project includes the development of 2 x 275 kV lines to tie into the existing grid via the Pluto-Watershed 275 kV line.*
	GN No. R.325 – Activity 15: *The clearance of an area of 20 hectares or more of indigenous vegetation, excluding where such clearance of indigenous vegetation is required for* *(i) the undertaking of a linear activity; or* *(ii) maintenance purposes undertaken in accordance with a maintenance management plan*	*The proposed Project site is approximately 1300 hectares and is situated on vegetated land.* *According to the Terrestrial Site Sensitivity Verification (SSV) Report, the site contains both natural and disturbed grassland. The extent of clearance of indigenous vegetation will be*

Legislation	Description and Relevance	
		determined upon completion of the Terrestrial Biodiversity Impact Assessment.
GN No. 324 of 7 April 2017 (Listing Notice 3)	▪ Purpose - list activities and identify competent authorities under sections 24(2), 24(5) and 24D of NEMA, where EA is required prior to commencement of that activity in specific identified geographical areas only. ▪ The investigation, assessment and communication of potential impact of activities must follow a Basic Assessment process, as prescribed in regulations 19 and 20 of the EIA Regulations. However, according to Regulation 15(3) of the EIA Regulations, an S&EIR must be applied to an application if the application is for two or more activities as part of the same development for which an S&EIR must already be applied in respect of any of the activities. ▪ Activities under Listing Notice 2 that are relevant to this Project follow.	
	GN No. R.324 – Activity 4(h)(iv): The development of a road wider than 4 metres with a reserve less than 13.5 metres. (h) North West (i) A protected area including municipal or provincial nature reserves as contemplated by NEMPAA or other legislation; (ii) Sensitive areas as identified in an environmental management framework as contemplated in Chapter 5 of the Act and as adopted by the competent authority; (iii) Sites or areas identified in terms of an international convention; (iv) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority; (v) Core areas in biosphere reserves; (vi) Areas within 5 kilometres from protected areas identified in terms of NEMPAA or from a biosphere reserve; (vii) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose; or (viii) All Heritage Sites proclaimed in terms of National Heritage Resources Act, 1999 (Act 25 of 1999).	*New roads will be required for the Project (construction and operational phases):* ▪ *The internal roads will be up to 6m wide; and* ▪ *The main access road will be less than or equal to 6m wide.* *These roads occur within a CBA2 according to the North West BSP.*
	GN No. R.324 – Activity 12(h)(iv)&(vi): The clearance of an area of 300 square metres or more of indigenous vegetation, except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan. (h) North West (i) World Heritage Sites; core of biosphere reserve; or sites or areas identified in terms of an international convention; (ii) A protected area including municipal or provincial nature reserves as contemplated by NEMPAA or other legislation; (iii) All Heritage Sites proclaimed in terms of National Heritage Resources Act, 1999 (Act 25 of 1999); (iv) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority; (v) Sensitive areas as identified in an environmental management framework as contemplated in Chapter 5 of the Act and as adopted by the competent authority; or	*The clearance of areas of indigenous vegetation will occur as part of the proposed Project within CBA2 according to the North West BSP.* *According to the Aquatic SSV Report, three depression wetlands have been delineated and occur within the southern portion of the Project site. Therefore, the PV Panels and internal roads will occur within 100 m of these wetlands.*

Legislation	Description and Relevance
	(vi) Areas within a watercourse or wetland, or within 100 metres from the edge of a watercourse or wetland.
National Water Act (Act No. 36 of 1998) (NWA)	▪ Key sections (amongst others): o Chapter 3 – Protection of water resources. o Section 19 – Prevention and remedying effects of pollution. o Section 20 – Control of emergency incidents. o Chapter 4 – Water use. ▪ Authorisation type – General Authorisation (GA) / Water Use License (WUL) (*required for this Project).* ▪ Authority – Department of Water and Sanitation (DWS).
National Environmental Management Air Quality Act (Act No. 39 of 2004) (NEM:AQA)	▪ Key sections (amongst others): o Chapter 2 – National Framework and National, Provincial and Local Standards. o Chapter 4 – Air Quality Management Measures. o Chapter 5 – Licensing of Listed Activities. ▪ Authorisation type – Atmospheric Emissions License (AEL) (*not required for this Project*) ▪ Authority – DFFE (national) and DEDECT (provincial)
National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) (NEM:BA)	▪ Management and conservation of the country's biodiversity. ▪ Protection of species and ecosystems. ▪ Authorisation type – Permit (*not required for this Project).* ▪ Authority – DFFE (national) and DEDECT (provincial)
National Environmental Management: Protected Areas Act (Act No. 57 of 2003) (NEM:PAA)	▪ Protection and conservation of ecologically viable areas representative of South Africa's biological diversity and natural landscapes. ▪ Key sections (amongst others): o Chapter 2 – System of protected areas in SA. o Chapter 3 – Declaration of protected areas. o Chapter 4 – Management of protected areas. ▪ Management authorities include the organ of state or other institution or person in which the authority to manage the protected area is vested
National Environmental Management: Waste Act (Act No. 59 of 2008) (NEM:WA)	▪ Key sections (amongst others): o Part 2 – General duty on the holder of waste in respect of waste management. o Part 3 – Reduction, re-use, recycling and recovery of waste. o Part 4 – Regulation of waste management activities. o Part 5 – Storage, collection and transportation of waste. o Part 6 – Treatment, processing and disposal of waste. o Part 8 – Legal mechanism for managing contaminated land. ▪ Authorisation type – Waste Management Licence *(not required for this Project).* ▪ Authority – DFFE (national) and DEDECT (provincial)
National Forests Act (Act No. 84 of 1998)	▪ Supports sustainable forest management and the restructuring of the forestry sector, as well as the protection of indigenous trees in general. ▪ Key sections (amongst others): o Chapter 3 – Special Measures to Protect Forests and Trees. ▪ Authorisation type – License *(not required for this Project).* ▪ Authority – DFFE.
Minerals and Petroleum Resources Development Act (Act No. 28 of 2002)	▪ Equitable access to and sustainable development of the nation's mineral and petroleum resources and to provide for matters related thereto. ▪ Key sections (amongst others): o Section 22 – Application for mining right. o Section 27 – Application for, issuing and duration of mining permit. o Section 53 – Use of land surface rights contrary to objects of Act. ▪ Authorisation types: o Mineral resources – Reconnaissance Permit, Prospecting Right, Mining Permit, or Mining Right (*not required for the Project*). o Petroleum resources – Exploration Right or Production Right (*not required for the Project*). ▪ Authority – Department of Mineral and Petroleum Resources (DMPR).
Occupational Health & Safety Act (Act No. 85 of 1993)	▪ Provisions for Occupational Health & Safety. ▪ Authority – Department of Employment and Labour (DEL).

Legislation	Description and Relevance
	▪ Relevant regulations, such as Electrical Installation Regulations, Construction Regulations, etc.
National Heritage Resources Act (Act No. 25 of 1999) (NHRA)	▪ Protect and promote good management of SA's heritage resources, and encourage and enable communities to nurture and conserve their legacy so it is available to future generations. ▪ Key sections: o Section 34 – protection of structure older than 60 years. o Section 35 – protection of heritage resources. o Section 36 – protection of graves and burial grounds. o Section 38 – Heritage Impact Assessment for linear development exceeding 300m in length; development exceeding 5 000m^2 in extent, etc. ▪ Authorisation types: o Approval of HIA (*required for this* Project); o Permit *(relevance to this Project is to be confirmed).* ▪ Authority – South African Heritage Resources Agency (SAHRA) and Provincial Heritage Resources Authority-North West (PHRA-NW).
Conservation of Agricultural Resources Act (Act No. 43 of 1983)	▪ Control measures for erosion. ▪ Control measures for alien and invasive plant species. ▪ Authority – North West Department of Agriculture and Rural Development (DARD).

The relationship between the Project and certain key pieces of environmental legislation is discussed in the subsections to follow.

5.2.2 National Environmental Management Act, 1998

5.2.2.1 Overview

NEMA is the framework legislation regulating the environment in SA and it provides for cooperative governance and establishes principles for decision-making on matters affecting the environment, such as:

- ❖ People and their needs must be placed at the forefront of environment management;
- ❖ Development must be sustainable and therefore requires avoidances of pollution and degradation of the environment, disturbances of landscapes and sites of cultural heritage;
- ❖ The integrated nature of the environment and that responsibility for environmental management exists throughout the life cycle of an activity (from cradle to grave);
- ❖ Public Participation;
- ❖ Transparent decision making; and
- ❖ Intergovernmental co-ordination and harmonization of policies, legislation and actions.

Some key definitions from NEMA include:

- ❖ "Environment" - the surroundings within which humans exist and that are made up of –

  (i) The land, water and atmosphere of the earth;

  (ii) Micro-organisms, plant and animal life;

  (iii) Any part or combination of (i) and (ii) and the interrelationships among and between them; and

  (iv) The physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being.

- "Pollution" - any change in the environment caused by –
  (i) substances;
  (ii) radioactive or other waves; or
  (iii) noise, odours, dust or heat;
  emitted from any activity, including the storage or treatment of waste or substances, construction and the provision of services, whether engaged in by any person or an organ of state, where that change has an adverse effect on human health or well-being or on the composition, resilience and productivity of natural or managed ecosystems, or on materials useful to people, or will have such an effect in the future.

Section 2(4)(p) of NEMA requires that costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects are paid for by those responsible for harming the environment.

Section 28(1) of NEMA imposes a duty of care and remediation for environmental damage and requires that "*every person who causes, has caused or may cause significant pollution or degradation of the environment must take reasonable measures to prevent such pollution or degradation from occurring, continuing or recurring, or, in so far as such harm to the environment is authorised by law or cannot reasonably be avoided or stopped, to minimise and rectify such pollution or degradation of the environment*".

Section 24 of NEMA provides for the consideration, investigation, assessment and reporting of the potential consequences for, or impacts on, the environment of listed activities (or specified activities) to the Competent Authority. The EIA Regulations were promulgated to regulate the procedure and criteria as contemplated in Section 24 of NEMA relating to the preparation, evaluation, submission, processing and consideration of, and decision on, applications for EAs for the commencement of activities, subjected to an EIA, in order to mitigate detrimental impacts on the environment, and to optimise positive environmental impacts. The EIA Regulations were published under GN No. 982 in Gazette No. 38282 of 4 December 2014 and amended by GN 326 of 7 April 2017 published in Gazette No. 40772.

The EIA Regulations consist of the following:

- GN No. 326 of 7 April 2017 – EIA procedure;
- GN No. 327 of 7 April 2017 (Listing Notice 1) – activities that need to be subjected to a Basic Assessment process, as prescribed in Regulations 19 and 20 of the EIA Regulations;
- GN No. 325 of 7 April 2017 (Listing Notice 2) – activities that need to be subjected to a S&EIR Process, as prescribed in Regulations 21 - 24 of the EIA Regulations; and
- GN No. 324 of 7 April 2017 (Listing Notice 3) – activities in specific identified geographical areas that need to be subjected to a Basic Assessment process, as prescribed in Regulations 19 and 20 of the EIA Regulations.

5.2.2.2 Relevance to the Project

The Project triggers activities under Listing Notices 1, 2 and 3, and thus needs to be subjected to an S&EIR process. The listed activities are explained within the context of the Project in **Table 4** above.

Note that the dimensions of the Project's proposed infrastructure and components should be regarded as approximates due to the dynamic nature of the planning and design process. As a conservative approach, all possible activities that could be triggered by the Project were included in the Application Form (contained in **Appendix B**), which will be submitted to the DFFE with the draft Scoping Report. A refinement of these activities will take place as the EIA process unfolds, as necessary.

5.2.3 National Environmental Management: Waste Act, 2008

5.2.3.1 Overview

Amongst others, the purpose of the NEM:WA includes the following:

- To reform the law regulating waste management in the country by providing reasonable measures for the prevention of pollution and ecological degradation and for securing ecologically sustainable development;
- To provide for institutional arrangements and planning matters;
- To provide for specific waste management measures;
- To provide for the licensing and control of waste management activities;
- To provide for the remediation of contaminated land; and
- To provide for compliance and enforcement.

Some key definitions from this Act include:

- "*Disposal*" – the burial, deposit, discharge, abandoning, dumping, placing or release of any waste into, or onto, any land.
- "*General waste*" means waste that does not pose an immediate hazard or threat to health or to the environment, and includes -
  - domestic waste;
  - building and demolition waste;
  - business waste; and
- inert waste.
- *"Hazardous waste"* – any waste that contains organic or inorganic elements or compounds that may, owing to the inherent physical, chemical or toxicological characteristics of that waste, have a detrimental impact on health and the environment.
- *"Storage"* – the accumulation of waste in a manner that does not constitute treatment or disposal of that waste.
- *"Waste"* – any substance, whether or not that substance can be reduced, re-used, recycled and recovered -
  - That is surplus, unwanted, rejected, discarded, abandoned or disposed of;

- Which the generator has no further use of for (he purposes of production;
- That must be treated or disposed of; or
- That is identified as a waste by the Minister by notice in the Gazette, and includes waste generated by the mining, medical or other sector, but -
- A by-product is not considered waste; and
- Any portion of waste, once re-used, recycled and recovered, ceases to be waste.

GN No. R. 921 of 29 November 2013 (as amended) contains a list of waste management activities that have, or are likely to have, a detrimental impact on the environment. If any of the waste management activities are triggered in Category A and Category B, a Waste Management Licence is required. Activities listed in Category C need to comply with the relevant National Norms and Standards.

5.2.3.2 Relevance to the Project

No authorisation will be required in terms of NEM:WA, as the Project will not include any listed waste management activities. The following is noted with regard to waste management for the Project:

- Construction Phase –
  - Temporary waste storage facilities will remain below the thresholds contained in the listed activities under Schedule 1 of NEM:WA; and
  - The Environmental Management Programme (EMPr) will make suitable provision for waste management, including the storage, handling and disposal of waste.
- Operational Phase –
  - Minimum waste will be generated during the operational phase; and
  - Waste generated during maintenance works will be disposed of at a licensed waste disposal site.

5.2.4 National Water Act, 1998

5.2.4.1 Overview

The purpose of the NWA is to ensure that the nation's water resources are protected, used, developed, conserved, managed and controlled in ways which take into account, amongst other factors:

- Meeting the basic human needs of present and future generations;
- Promoting equitable access to water;
- Redressing the results of past racial and gender discrimination;
- Promoting the efficient, sustainable and beneficial use of water in the public interest;
- Facilitating social and economic development;
- Providing for growing demand for water use; protecting aquatic and associated ecosystems and their biological diversity;
- Reducing and preventing pollution and degradation of water resources;
- Meeting international obligations;

- Promoting dam safety; and
- Managing floods and droughts.

DWS is the custodian of South Africa's water resources.

Some key definitions from this Act and associated regulations include:

- "*Pollution*" – the direct or indirect alteration of the physical, chemical or biological properties of a water resource so as to make it (a) less fit for any beneficial purpose for which it may reasonably be expected to be used; or (b) harmful or potentially harmful;
- "Regulated area of a watercourse" means:
  - (a) The outer edge of the 1 in 100-year flood line or delineated riparian habitat, whichever is the greatest distance, measured from the middle of the watercourse of a river, spring, natural channel, dams and lakes;
  - (b) In the absence of a determined 1 in 100-year flood line or riparian area as contemplated in (a) above the area within 100m distance from the edge of a watercourse where the edge of the watercourse (excluding flood plains) is the first identifiable annual bank fill flood bench (subject to compliance to section 144 of NWA); and
  - (c) In respect of a wetland: a 500 m radius around the delineated boundary (extent) of any wetland (including pans).
-
- "*Waste*" – includes any solid material or material that is suspended, dissolved or transported in water (including sediment) and which is spilled or deposited on land or into a water resource in such volume, composition or manner as to cause, or to be reasonably likely to cause, the water resource to be polluted;
- "*Water resource*" – includes a watercourse, surface water, estuary, or aquifer;
- "*Watercourse*" - a river or spring, natural channel in which water flows regularly or intermittently, a wetland, lake or dam into which, or from which, water flows; and collection of water which the Minister may, by notice in the Gazette, declare to be a watercourse, and a reference to a watercourse include, where relevant, its bed and banks; and
- *"Wetland"* - land which is transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is periodically covered with shallow water, and which land in normal circumstances supports or would support vegetation typically adapted to life in saturated soil.

Section 19 of the NWA addresses pollution prevention, in particular, situations in which pollution of a water resource occurs or may occur as a result of activities on land. The person who owns, controls, occupies or uses the land in question is responsible for taking measures to prevent pollution of water resources.

Section 20 of the NWA addresses pollution of water resources following an emergency incident, such as an accident involving the spillage of a harmful substance that has entered or

may enter a water resource. The responsibility for remedying the situation rests with the person responsible for the incident or the substance involved.

Sections 21(a) to (k) of the NWA list eleven types of water uses, which include taking and storing water, activities which reduce stream flow, waste discharges and disposals, controlled activities (activities which impact detrimentally on a water resource), altering a watercourse, removing water found underground for certain purposes, and recreation that must be authorised under a tiered authorisation system. This authorisation system includes scheduled uses that are subject to registration or licensing, as well as general authorisations (Section 39). In general, a water use must be licensed unless it is listed in Schedule 1, is an existing lawful use, is permissible under a general authorisation, or if a responsible authority waives the need for a license.

5.2.4.2 Relevance to the Project

Based on the Aquatic SSV Report (refer to **Section 11.6** and **Appendix F**), three Depression wetlands have been delineated on the southern side of the Project site. Therefore, the Solar PV Panels, internal roads, Medium Voltage Power Stations (MVPS), and boundary fence fall within the 500 m buffer zone of these Depression wetlands, which are the regulated area of a watercourse. Therefore, the following water uses in terms of Section 21 of NWA are triggered by the development:

- Section 21 (c) – Impeding or diverting the flow of water in a water course; and,
- Section 21 (i) – Altering the bed, banks, course or characteristics of a watercourse.

An initial profile of the surface water of the receiving environment is conducted in **Section 11.6**, based on an SSV Report that was compiled by an Aquatic Specialist. During the EIA Phase, the aquatic specialist will compile a Wetland Impact Assessment. Based on the outcome of the Wetland Impact Assessment, either a WUL or General Authorisation will be applied for from DWS using the DWS online Electronic Water Use License Application and Authorisation System (EWULAAS).

5.2.5 National Environmental Management: Air Quality Act, 2004

5.2.5.1 Overview

The purpose of the NEM:AQA is to reform the law regulating air quality by providing measures for the prevention of pollution and ecological degradation and for securing ecologically sustainable development. This Act aims to promote justifiable economic and social development; to provide for national norms and standards regulating air quality monitoring, management and control by all spheres of government, and for specific air quality measures.

Some key definitions from this Act include:

- *"Air pollution"* – any change in the composition of the air caused by smoke, soot, dust (including fly ash), cinders, solid particles of any kind, gases, fumes, aerosols and odorous substances.

- *"Atmospheric emission"* or *"emission"* – any emission or entrainment process emanating from a point, non-point or mobile source that results in air pollution.
- *"Non-point source"* – a source of atmospheric emissions which cannot be identified as having emanated from a single identifiable source or fixed location, and includes veld, forest and open fires, mining activities, agricultural activities and stockpiles.
- *"Point source"* – single identifiable source and fixed location of atmospheric emission, and includes smokestacks and residential chimneys.

Section 21 of the NEM:AQA provides for the listing of activities that result in atmospheric emissions that pose a threat to health or the environment, as set out in GN 893 of 22 November 2013. No person may, without an AEL, conduct any such listed activity.

National Dust Control Regulations (GN No. R. 827 of 1 November 2013), as amended, were gazetted in terms of NEM:AQA. The purpose of the regulations is to prescribe general measures for controlling dust in all areas. These Regulations prescribe acceptable dust fallout rates.

5.2.5.2 Relevance to the Project

A profile of the air quality of the receiving environment is conducted in **Section 11.9**. However, no AEL is required for the Project. Provision will be made in the EMPr to manage impacts to air quality that may be caused by the Project.

5.2.6 National Environmental Management: Protected Areas Act

5.2.6.1 Overview

The aim of the NEM:PAA is to provide for the protection and conservation of ecologically viable areas representative of South Africa's biological diversity and natural seascapes. The purpose of a Protected Environment is, among other things, to protect a specific ecosystem outside a special nature reserve, world heritage site, or nature reserve, and to ensure that the use of the area's natural resources is sustainable.

5.2.6.2 Relevance to the Project

An initial profile of the terrestrial biodiversity of the receiving environment is conducted in **Section 11.7**, based on the Terrestrial Biodiversity SSV Report compiled by the terrestrial specialist. It is noted that the proposed Project is located within 10 km of the Klipstraat and the Makokskraal Private Nature Reserve. However, both reserves fall outside of any known important bird and biodiversity areas. The NEM:PAA will be further considered in the Terrestrial Biodiversity Impact Assessment for inclusion in the EIA Report.

5.2.7 National Environmental Management: Biodiversity Act, 2004

5.2.7.1 Overview

The purpose of NEM:BA is to provide for the management and conservation of SA's biodiversity within the framework of NEMA.

Some key definitions from this Act include:

- "Alien species" –
  - A species that is not an indigenous species; or
  - An indigenous species translocated or intended to be translocated to a place outside its natural distribution range in nature, but not an indigenous species that has extended its natural distribution range by natural means of migration or dispersal without human intervention.
- "Biological diversity" or "biodiversity" – the variability among living organisms from all sources including, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part and also includes diversity within species, between species, and of ecosystems.
- "Indigenous species" – a species that occurs, or has historically occurred, naturally in a free state in nature within the borders of the Republic but excludes a species that has been introduced in the Republic as a result of human activity.
- "Invasive species" – any species whose establishment and spread outside of its natural distribution range –
  - Threaten ecosystems, habitats or other species or have demonstrable potential; and
  - May result in economic or environmental harm or harm to human health.
- "Species" – a kind of animal, plant or other organism that does not normally interbreed with individuals of another kind, and includes any sub-species, cultivar, variety, geographic race, strain, hybrid or geographically separate population.

This Act allows for the publication of provincial and national lists of ecosystems that are threatened and in need of protection. The list should include:

- Critically Endangered Ecosystems, which are ecosystems that have undergone severe ecological degradation as a result of human activity and are at extremely high risk of irreversible transformation.
- Endangered Ecosystems, which are ecosystems that, although they are not critically endangered, have nevertheless undergone ecological degradation as a result of human activity.
- Vulnerable Ecosystems, which are ecosystems that have a high risk of undergoing significant ecological degradation.
- Protected Ecosystems, which are ecosystems that are of a high conservation value or contain indigenous species at high risk of extinction in the wild in the near future.

Similarly, the NEM:BA allows for the listing of endangered species, including critically endangered, endangered, vulnerable, and protected species. A person may not carry out a restricted activity (including trade) involving listed threatened or protected species without a permit.

The Regulations on the management of Listed Alien and Invasive Species were promulgated on 1 August 2014. The Listed Invasive Species were also published on this date and were subsequently amended in GN 864 of 29 July 2016 and 2020.

5.2.7.2 Relevance to the Project

The implications of the NEMA for the Project *inter alia* include requirements for managing invasive and alien species, protecting threatened ecosystems and species, and rehabilitating areas affected by the Project (outside the development's physical footprint).

The biodiversity of the Project area will be discussed further in **Section 11.7**. Terrestrial Biodiversity and Wetland Impact Assessments will be undertaken for the Project and included in the EIA Report.

5.2.8 National Heritage Resources Act, 1999

5.2.8.1 Overview

The purpose of the NHRA is to protect and promote good management of SA's heritage resources, and to encourage and enable communities to nurture and conserve their legacy so it is available to future generations.

Some key definitions from this Act include:

- ''Cultural significance'' – aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance.
- ''Development'' – any physical intervention, excavation, or action, other than those caused by natural forces, which may in the opinion of a heritage authority in any way result in a change to the nature, appearance or physical nature of a place, or influence its stability and future well-being, including -
  - Construction, alteration, demolition, removal or change of use of a place or a structure at a place;
  - Carrying out any works on or over or under a place;
  - Subdivision or consolidation of land comprising, a place, including the structures or airspace of a place;
  - Constructing or putting up for display signs or hoardings;
  - Any change to the natural or existing condition or topography of land; and
  - Any removal or destruction of trees, or removal of vegetation or topsoil.
- ''Heritage resource'' – any place or object of cultural significance.

In terms of Section 38 of the NHRA, certain listed activities require authorisation from provincial agencies:

- The construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300 m in length;
- The construction of a bridge or similar structure exceeding 50 m in length;
- Any development or other activity which will change the character of a site -
  - Exceeding 5 000 m^2 in extent; or

- Involving three or more existing erven or subdivisions thereof; and
- The re-zoning of a site exceeding 10 000 m^2 in extent.

The SAHRA is the national heritage resources authority, with the PHRA-NW being the provincial heritage resources authority.

5.2.8.2 Relevance to the Project

A Heritage SSV Report was undertaken and is incorporated in **Section 11.16** and **Appendix F** of this Scoping Report. Based on the outcome of the Heritage SSV Report, a Phase 1 Heritage Impact Assessment will be undertaken for the Project and included in the EIA Report. These reports will be submitted to SAHRA via the South African Heritage Resources Information System (SAHRIS) during the various public participation phases of the Project, to enable SAHRA to provide comments on the affected heritage resources. The Project will need to apply for a permit if any heritage sites or graves are to be directly affected.

5.3 Governance of Energy in SA

SA has expressed and entrenched its commitment to promoting the use of renewable energy and implementing Energy Efficiency through the following (amongst others):

- SA is a signatory to various international treaties and conventions relating to climate change and greenhouse gas (GHG), such as –
  - United Nations Framework Convention on Climate Change;
  - Kyoto Protocol; and
  - Paris Agreement.
- SA has developed the following related policy frameworks –
  - White Paper on Energy Policy (1998);
  - White Paper on Renewable Energy (2003);
  - Integrated Energy Plan (2003);
  - IRP 2010;
  - IRP 2019
  - National Climate Change Response White Paper (2011);
  - Post-2015 National Energy Efficiency Strategy;
  - The National Development Plan (2030);
  - Climate Change Bill (2018); and
  - Carbon Tax Bill (2019).
- SA has developed the following related legal frameworks –
  - Electricity Regulation Act (Act No. 4 of 2006);
  - National Energy Act (Act No. 34 of 2008); and
  - Income Tax Act (1962) - tax incentive provided for Section 12L.
- The former Department of Environmental Affairs (DEA), which is now known as DFFE, developed EIA Guideline for Renewable Energy Projects (2015).
- SA's related voluntary instruments include –

- South African National Standard (SANS) 941 energy-efficiency of electrical and electronic equipment; and
- SANS 50001 energy management standard.

5.4 Guidelines

The following guidelines were considered during the preparation of the Scoping Report:

- Integrated Environmental Management Information Series, in particular Series 2 – Scoping (DEAT, 2002);
- Guideline on Alternatives, EIA Guideline and Information Document Series (DEA&DP, 2010a);
- Guideline on Need and Desirability (DEA, 2017);
- Integrated Environmental Management Guideline Series 7: Public Participation in the EIA Process (DEA, 2010);
- EIA Guideline for Renewable Energy Projects (DEA) (DEA, 2015); and
- Guidelines for Involving Specialists in the EIA Processes Series (Brownlie, 2005).

5.5 National and Regional Plans

The following regional plans were considered during the execution of the Scoping Phase (amongst others):

- Dr Kenneth Kaunda District Municipality Integrated Development Plan (IDP);
- Ngaka Modiri Molema DM IDP;
- JB Marks Local Municipality (LM) IDP and Spatial Development Framework (SDF);
- North West Biodiversity Sector Plan (BSP) (2025); and
- Relevant national, provincial, district and local policies, strategies, plans and programmes.

5.6 Renewable Energy Development Zones & Strategic Transmission Corridors

A Strategic Environmental Assessment (SEA) was undertaken by the former DEA, now known as DFFE, to identify geographical areas most suitable for the rollout of wind and solar PV energy projects and the supporting electricity grid network. These areas are referred to as Renewable Energy Development Zones (REDZs), in which development will be incentivised and streamlined. The proposed Project footprint in relation to the REDZs is shown in **Figure 5** below. It is noted that the Project does not occur within any REDZ.

As shown in **Figure 5**, the Project is located within the Northern Corridor of the Strategic Transmission Corridors, in terms of GN No. 113 of 16 February 2018. The Strategic Transmission Corridors were identified through the SEA for Electricity Grid Infrastructure in SA. These corridors are important for the rollout of the supporting large-scale electricity

transmission and distribution infrastructure in terms of Strategic Integrated Project 10: Electricity Transmission and Distribution.

According to GNR 114 of 16 February 2018, where an Application for EA for large-scale wind or solar PV facilities is made, and these facilities fall outside the REDZs, such applications will be considered in terms of the requirements of the EIA Regulations.

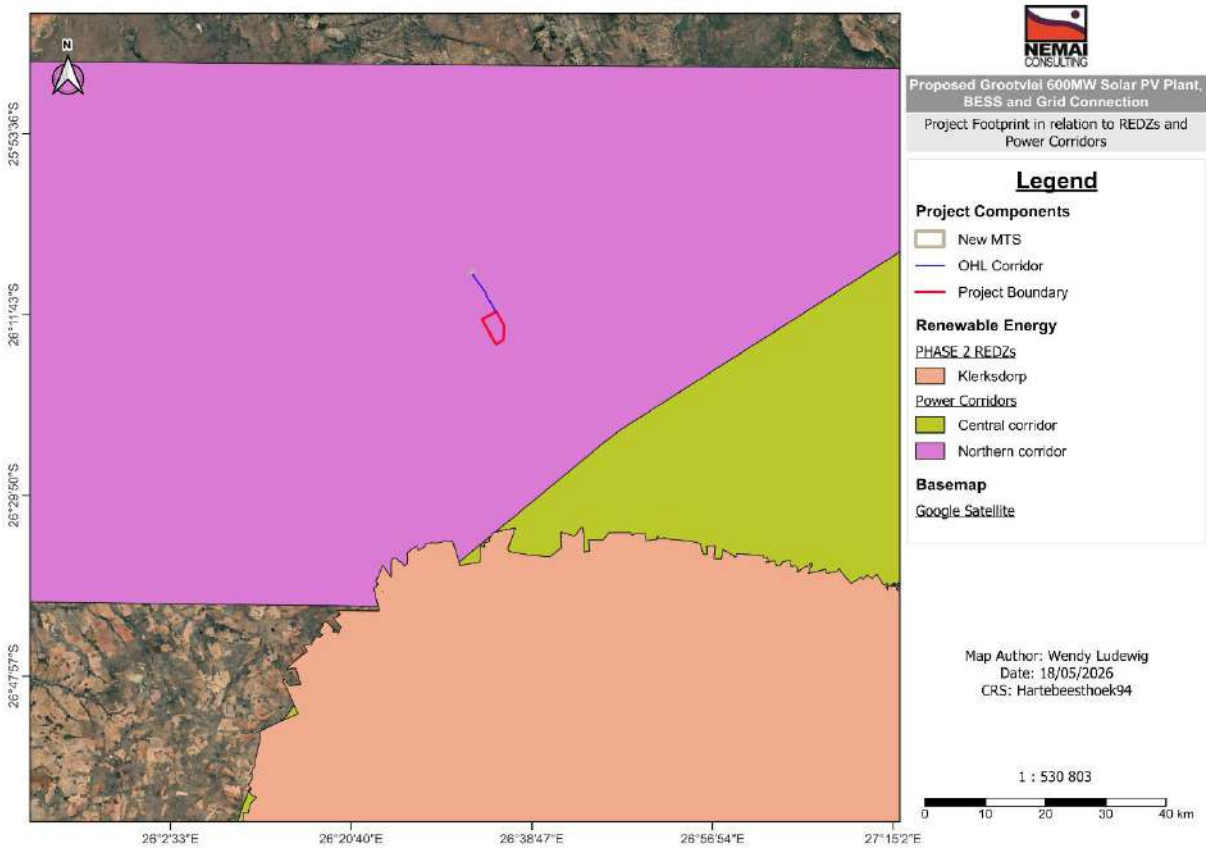


Figure 5: Project Footprint in relation to the REDZs and Power Corridors

6 S&EIR PROCESS

6.1 Competent Authority

In terms of NEMA, the DFFE is the Competent Authority to decide on the application for the Project. DEDECT is a key commenting authority under NEMA during the execution of the S&EIR Process, and all documentation will thus be copied to this party (amongst others).

Various other authorities with jurisdiction over elements of the receiving environment or project activities (refer to **Section 5.2** above) will also be consulted during the S&EIR Process. Refer to the database of I&APs contained in **Appendix C** for a list of the government departments.

6.2 Environmental Assessment Practitioner

Nemai Consulting was appointed as the independent EAP to undertake the S&EIR Process for the proposed Project.

In accordance with Appendix 2, Section 2(1)(a) of the EIA Regulations, this section provides an overview of Nemai Consulting and the company's experience with EIAs, as well as the details and experience of the EAPs that form part of the S&EIR team.

Nemai Consulting is an independent, specialist environmental, social development and Occupational Health and Safety (OHS) consultancy. The company is 100% black female-owned and holds a level 1 BBBEE rating. The company is directed by a team of experienced and capable environmental engineers, scientists, and specialists. The company has offices in Randburg (Gauteng) and Durban (KwaZulu-Natal).

The core members of Nemai Consulting who are involved with the S&EIR process for the Project are listed in **Table 5**. The Curriculum Vitae and oath of the registered EAP are contained in **Appendix D** and **Appendix E**, respectively.

Table 5: S&EIR Process Core Team Members

Name	Qualifications	Registration	Selected Experience for Solar PV Projects
D Henning (25 years of experience)	Master of Science (MSc) (River Ecology)	▪ South African Council for Natural Scientific Professions (SACNASP): Professional Natural Scientist (400108/17) ▪ Environmental Assessment Practitioners Association of South Africa (EAPASA): Registered EAP (2020/1217)	▪ Matjhabeng 400 MW Solar PV Power Plant with 80 MW (320 MWh) Battery Energy Storage Systems, Free State Province, SA. ▪ Beaufort West 75MW Solar PV Project, Western Cape, SA. ▪ Extraction of Gas and Electric Power Production Plant in the Rubavu District, Rwanda. ▪ Impompomo Hydropower Plant, Mpumalanga, SA. ▪ Hydropower Plant within Hydraulic Network at Rand Water's Zoekfontein Site, Gauteng Province, SA.

Name	Qualifications	Registration	Selected Experience for Solar PV Projects
			▪ uMkhomazi Water Project Phase 1 with hydropower facilities, KwaZulu-Natal, SA. ▪ Neptune-Poseidon Transmission Line, including 200km of 400 kV transmission line, Eastern Cape, SA. ▪ Makalu B (Igesi) Substation and Associated Transmission Loop-In Lines, Free State Province, SA. ▪ Anderson Dinaledi Transmission Line, including 80km of 132 kV transmission line with substations, North-West Province, SA.
WL Ludewig (2-3 years of experience)	MSc (Geographical Information Systems (GIS) and Remote Sensing)	▪ SACNASP: Candidate Natural Scientist (169572) ▪ EAPASA: Candidate EAP (2024/8548)	▪ Proposed Damara 1 up to 240 MW Solar Energy Facility, up to 960 MWh BESS and 33/132 kV Independent Power Producer Substation, Namakwa District Municipality, Northern Cape ▪ Proposed Altina 120 MW Solar PV & 40 MW BESS, Free State Province ▪ Proposed Paradise 100MW Solar PV & 40MW BESS, Free State Province

6.3 Environmental Screening

According to GN 960 of 5 July 2019, an application for EA must be accompanied by the report generated by the National Web-Based Environmental Screening Tool ("Screening Tool"), as contemplated in Regulation 16(1)(b)(v) of the EIA Regulations.

The aims of the Screening Tool include the following:

- To screen a proposed site for any environmental sensitivity;
- To provide site specific S&EIR Process and review information;
- To identify related exclusions and/or specific requirements, including specialist studies applicable to the proposed site and/or development, based on the national sector classification and the environmental sensitivity of the site; and
- To allow for a Screening Report to be generated.

The Screening Report for the proposed Project is appended to the Application Form, which is included in **Appendix B.**

6.4 Environmental Assessment Triggers

The process for seeking authorisation under NEMA is undertaken in accordance with the EIA Regulations, promulgated in terms of Chapter 5 of NEMA. Based on the type of activity involved, the requisite environmental assessment for the Project is an S&EIR Process. Refer to **Section 5** for the Project's legal framework and specifically the activities triggered by the

Project in terms of Listing Notices 1, 2 and 3 of the EIA Regulations. A copy of the Application Form is contained in **Appendix B**.

6.5 S&EIR Process

6.5.1 Formal Process

An outline of the S&EIR Process for the proposed Project is provided in **Figure 6**. The objectives of the Scoping phase, based on the EIA Regulations, are captured in **Section 1**.

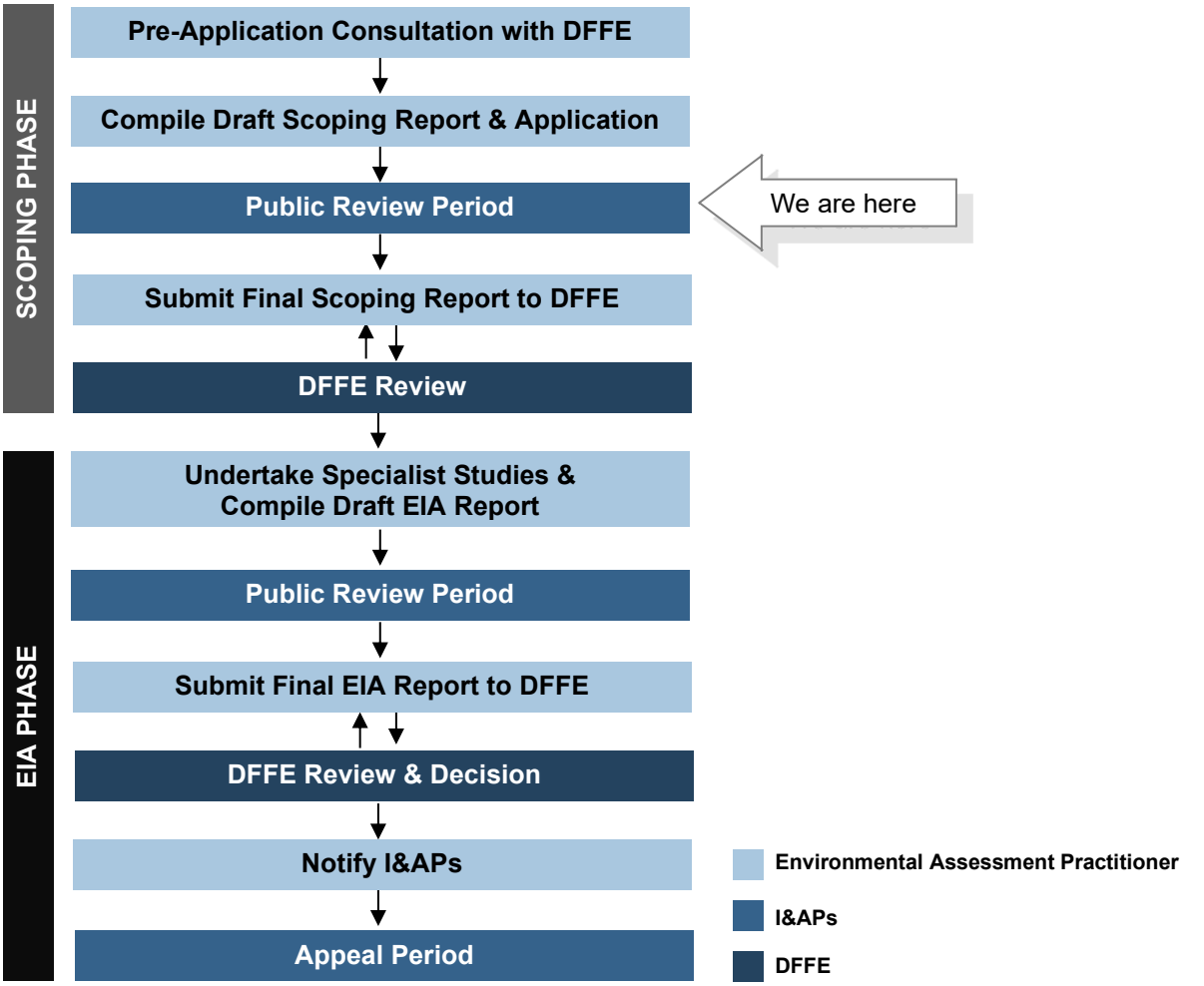


Figure 6: S&EIR Process Outline

6.5.2 DFFE Pre-Application Consultation

A Pre-Application Meeting was held with DFFE on 27 February 2026 (refer to the minutes of the meeting appended to the Application Form in **Appendix B**). The purpose of the meeting included the following:

- To present an overview of the Project to DFFE;
- To seek clarification regarding certain matters that pertain to the S&EIR Process; and
- To determine DFFE's requirements.

6.5.3 Landowner Consent & Landowner Notification

According to Regulation 39(1) of the EIA Regulations, if the Applicant is not the owner or person in control of the land on which the activity is to be undertaken, the Applicant must, before applying for an EA in respect of such activity, obtain the written consent of the landowner or person in control of the land to undertake such activity on that land. This requirement does not apply, inter alia, to linear developments (e.g., pipelines, power lines, roads) or to Strategic Integrated Projects (SIPs) as contemplated in the Infrastructure Development Act, 2014.

The written consent of the landowner affected by the proposed Project is appended to the Application Form, which is included in **Appendix B**.

6.5.4 Application Form

A copy of the Application Form, which will be submitted to DFFE together with the draft Scoping Report, is provided in **Appendix B.**

The Application Form provides for all activities associated with the Project's life cycle. The activities triggered in terms of Listing Notice 1, 2 and 3 were confirmed based on the following:

- An understanding of the Project description and receiving environment;
- The findings from the Screening Tool;
- Technical input received from the Applicant and Engineering team; and
- Consultation with DFFE.

6.5.5 Screening of Alternatives

Alternatives are different ways a project can be executed to achieve its objectives. Examples could include carrying out a different type of action, choosing an alternative location or adopting a different technology or design for a project.

A write-up on alternatives is provided in **Section 10**. A motivation for the Best Practicable Environmental Option (BPEO) will be provided in the EIA Report.

6.5.6 Impact Prediction

The potential environmental impacts associated with the proposed Project were identified during the Scoping Phase through an appraisal of the following (amongst others):

- Proposed footprint of the Project infrastructure and components in relation to the receiving environment;
- Activities associated with the Project life-cycle (i.e. pre-construction, construction, operation and decommissioning);
- Profile of the receiving environment and the potential sensitive environmental features and attributes; and
- Legal and policy context.

The Scoping exercise aimed to identify and qualitatively predict potentially significant environmental issues for further consideration and prioritisation during the EIA Phase (see **Section 13**). Note that "significance" relates to whether the effect (i.e. change to the environmental feature / attribute) is of sufficient importance that it ought to be considered and have an influence on decision-making.

During the EIA Phase, a detailed quantitative impact assessment will be conducted via contributions from the Project team and requisite specialist studies, and through the application of the impact assessment methodology contained in **Section 13**. Suitable mitigation measures will be identified to manage (i.e. prevent, reduce, rehabilitate and/or compensate) the environmental impacts, and will be included in the EMPr.

6.6 Other Applications in the Project Area

DFFE has created the SA Renewable Energy EIA Application (REEA) Database, which contains spatial data for renewable energy applications for EA. It includes spatial and attribute information for both active (in process and with valid authorisations) and non-active (lapsed or replaced by amendments) applications.

According to the REEA Database (REEA Quarter 1 of 2026), the following renewable energy applications have been made for properties that are located within a 30 km radius of the PV Site (refer to **Figure 7** below):

- The proposed Kiara PV1 Facility and associated Infrastructure, near Lichtenburg, North West Province (Application Reference (Ref) No.: 14/12/16/3/3/2/2171) (Status: Approved);
- The proposed Kiara PV2 Facility and associated Infrastructure, near Lichtenburg, North West Province (Application Ref. No.: 14/12/16/3/3/2/2172) (Status: Approved);
- The proposed Kiara PV3 Facility and associated Infrastructure, near Lichtenburg, North West Province (Application Ref. No.: 14/12/16/3/3/2/2173) (Status: Approved);
- The proposed Kiara PV4 Facility and associated Infrastructure, near Lichtenburg, North West Province (Application Ref. No.: 14/12/16/3/3/2/2174) (Status: Approved);
- The proposed Kiara PV5 Facility and associated Infrastructure, near Lichtenburg, North West Province (Application Ref. No.: 14/12/16/3/3/2/2175) (Status: Approved);
- The proposed Kiara PV6 Facility and associated Infrastructure, near Lichtenburg, North West Province (Application Ref. No.: 14/12/16/3/3/2/2176) (Status: Approved);
- The proposed Kiara PV7 Facility and associated Infrastructure, near Lichtenburg, North West Province (Application Ref. No.: 14/12/16/3/3/2/2177) (Status: Approved);
- Proposed Establishment Of A Photovoltaic (Pv) Installation At The Bloemfontein Airport, Free State Province (Application Ref. No.: 12/12/20/2149) (Status: Approved);

- Proposed Establishment Of A Photovoltaic (Pv) Installation At The Bloemfontein Airport, Free State Province (Application Ref. No.: 12/12/20/2149/A3) (Status: Approved); and
- The proposed development of Biochemical refinery plant, a 130MW PV solar plant and associated infrastructure JB Marks local municipality, Dr Kenneth Kaunda District, North West Province (Application Ref. No.: 14/12/16/3/3/2/2184) (Status: Approved).

In **Figure 7**, it appears that the Project is located on an already approved PV site. However, the REEA database includes the current Project as approved, before the EA was amended in order for the larger Project footprint to be applied for (refer to **Section 3** for further details). Therefore, there is currently no PV Project that is approved within this Project's footprint.

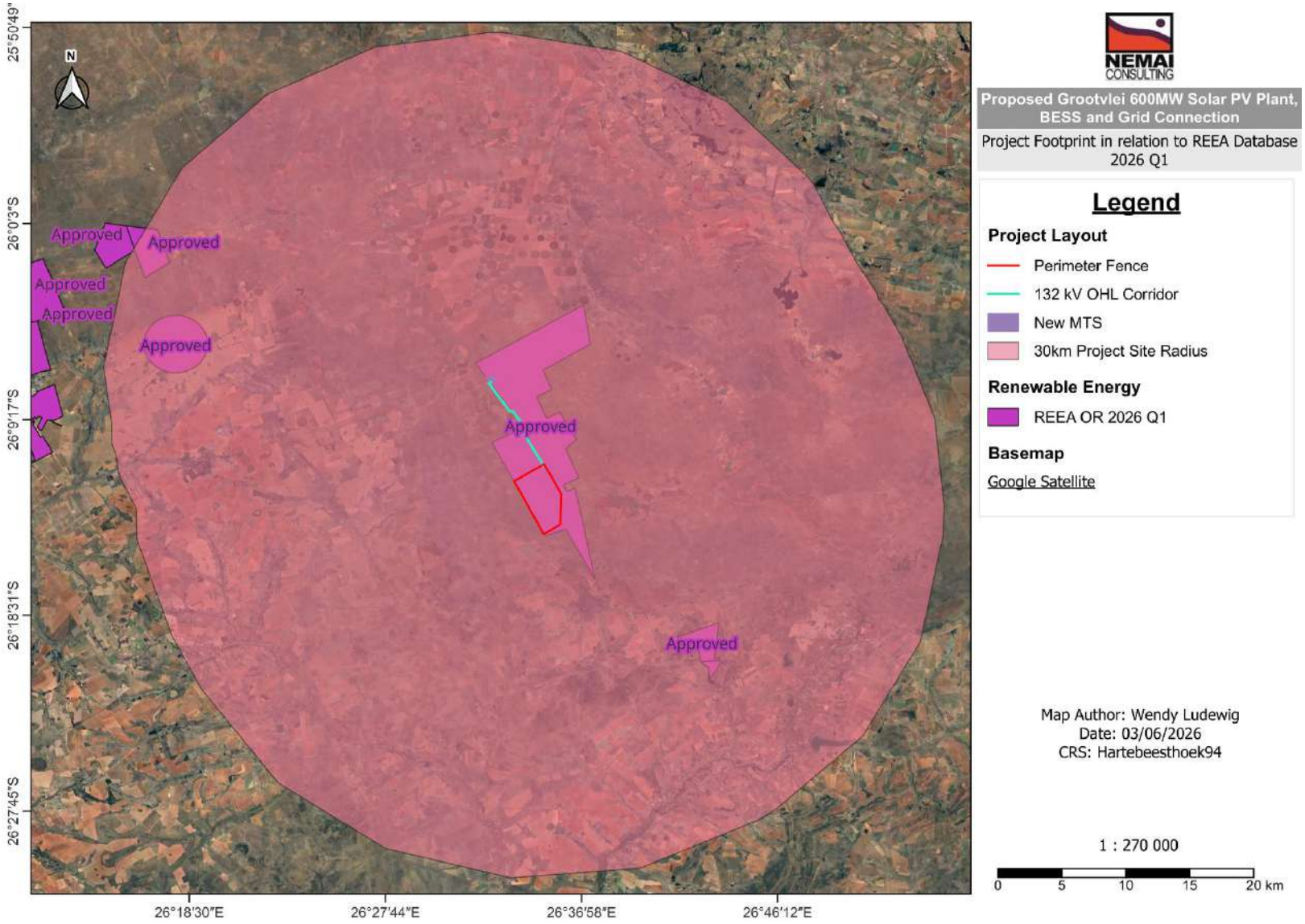


Figure 7: Renewable Energy Applications in relation to the Project (within a 30 km radius)

7 ASSUMPTIONS AND LIMITATIONS

The following assumptions and limitations accompany the Scoping exercise:

- The Scoping report does include specialist investigations on the receiving environment, where available at the time of drafting the Scoping report. A detailed summary and inclusion of the Specialist Studies will only form part of the EIA Phase. The environment in the Project area was primarily assessed in the Scoping Phase through a site visit and appraisals, desktop screening, incorporating existing information from existing studies, and input received from authorities and I&APs. Refinement of all maps will also be undertaken during the EIA Phase, if necessary.
- As the design of the Project components is still in the initial stages, Project modifications that emanate from discussions with the I&APs, findings from specialist studies and technical considerations will be conveyed during the public participation of the EIA Phase and will be incorporated into the Draft EIA Report, which will be lodged in the public domain.
- The following assumptions and limitations accompany the SSV Reports that were compiled by the specialists:
  - Aquatic SSV Report (Hoosen, 2026):
    - The fieldwork component of the assessment comprised one (1) day of site work, during the wet season on 27 March 2026;
    - No detailed layout was provided by the client, and only the property boundary and the 500m investigation area were assessed by the specialist;
    - A transitional gradient occurs within rivers/wetlands from the saturated permanent zone to dry terrestrial areas. This gradient makes it difficult to determine the exact boundary of river/wetland features, and some differences in opinion on river/wetland boundaries may therefore occur. The delineation as presented in this report is, however, considered to be a best estimate of the outer boundary of the riparian zone/temporary zone as determined by a wetland specialist with extensive experience in the wetland delineation techniques advocated by the DWS;
    - Wetland and/or riparian boundaries are essentially based on GPS coordinate waypoints taken on-site of soil sampling points and of important morphological features. Variations in GPS precision will ultimately affect the accuracy of GPS waypoints and, consequently, the accuracy of recorded freshwater resource boundaries. All sampling waypoints were recorded using a Garmin Montana 650 GPS (estimated accuracy of 3-5 metres) and captured, analysed, and geo-processed utilising a Geographic Information System (GIS) (i.e., QGIS and ArcGIS);
    - The SSV report does not contain details of a full Aquatic Biodiversity Impact Assessment Report/Wetland Impact Assessment Report; and

- Deriving a 100% factual report based on field collecting and observations can only be done over several years and seasons to account for fluctuating environmental conditions and migrations. Since environmental impact studies deal with dynamic natural systems, additional information may come to light at a later stage.

- Terrestrial Biodiversity SSV Report (Paul, 2026):
  - A 20m Project Area of Influence (PAOI) has been determined for the nature and scale of this Project;
  - The fieldwork for this assessment was undertaken over one (1) day on 27 March 2026;
  - No detailed layout was provided at the time of compiling this report, and it is assumed that the design will only be confirmed at the time of compiling the terrestrial biodiversity impact assessment report;
  - The verification report does not contain details of a full Terrestrial Biodiversity Impact Assessment Report;
  - The vegetation units identified at a desktop level will differ from those observed in-situ as the site has historically been transformed by activities related to agricultural practices and grazing;
  - Plant species display a range of morphological and physiological attributes that determine their growth, reproduction and survival. It is therefore unlikely that all plant species identified on site will remain the same over temporal and spatial scales; and
  - To accurately record the species on site, long-term field assessments would have to be conducted to consider seasonal and temporal variations and provide more accuracy. This assessment, however, is considered appropriate for the scale and nature of the proposed development.

8 NEED AND DESIRABILITY

This section describes the need for and desirability of the proposed Project in terms of 2(1)(f) of Appendix 2 of the EIA Regulations. The format contained in the Guideline on Need and Desirability (DEA, 2017) was used in **Table 6**.

Table 6: Need for and desirability of the proposed Project

Question No.	Response
1. How will this development (and its separate elements/aspects) impact on the ecological integrity of the area? *1.1. How were the following ecological integrity considerations taken into account?:* *1.1.1. Threatened Ecosystems.* *1.1.2. Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands, and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure.* *1.1.3. Critical Biodiversity Areas ("CBAs") and Ecological Support Areas ("ESAs").* *1.1.4. Conservation targets.* *1.1.5. Ecological drivers of the ecosystem.* *1.1.6. Environmental Management Framework.* *1.1.7. Spatial Development Framework.* *1.1.8. Global and international responsibilities relating to the environment (e.g. RAMSAR sites, Climate Change, etc.).*	Refer to the following sections of the Scoping Report: ▪ **Section 11.6**– Surface Water; and, ▪ **Section 11.7**– Terrestrial Biodiversity. The following Specialist studies will be undertaken to assess the impacts of the Project on the ecological integrity of the area: ▪ Wetland Impact Assessment; ▪ Terrestrial Biodiversity, Animal and Plant Impact Assessment; and ▪ Avifaunal Assessment. The findings of these studies will be presented in the EIA Report. Management objectives will be included in the EIA Report and EMPr to safeguard the sensitive ecological features. One of the goals identified in the municipal IDP (JB Marks LM, 2022) to domesticate the Sustainable Development Goals is to promote renewable energy development. This IDP further states that the JB Marks LM uses large amounts of energy and will face increased energy demand due to climate change and population growth. The IDP notes that the energy sector is already embattled, and despite increased focus on greener energy, the country remains heavily dependent on fossil fuels. The Applicant intends to bid for the current and future REIPPPP bid windows and/or other renewable energy markets within SA. The REIPPPP is a competitive tender process designed to facilitate private-sector investment in grid-connected renewable energy generation in SA.
1.2. How will this development disturb or enhance ecosystems and/or result in the loss or protection of biological diversity? What measures were explored to firstly avoid these negative impacts, and where these negative impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?	Potential direct disturbances to ecosystems may include the following (amongst others): ▪ Poor practices during the construction and operational phases may pollute the biophysical environment; ▪ Clearance of large areas of indigenous vegetation associated with the construction footprint of the Project; ▪ Potential loss of sensitive environmental features; ▪ Pollution of watercourses; ▪ Soil destabilisation and subsequent erosion; and ▪ Proliferation of alien and invasive species. Refer to response to question no. 1.1 above.
1.3. How will this development pollute and/or degrade the biophysical environment? What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the	The Project may cause surface water, groundwater, soil, air, noise and light pollution during the construction and operational phases. The above impacts will be assessed during the EIA Phase. Mitigation measures will be included in the EIA Report and EMPr to manage these impacts.

Question No.	Response
impacts? What measures were explored to enhance positive impacts?	

1.4. What waste will be generated by this development? What measures were explored to firstly avoid waste, and where waste could not be avoided altogether, what measures were explored to minimise, reuse and/or recycle the waste? What measures have been explored to safely treat and/or dispose of unavoidable waste?	The waste to be generated by the Project will be dealt with in the following manner (amongst others):
	▪ Construction –
	  ○ Waste generated from site preparations (e.g. plant material), domestic waste, surplus and used building material, and hazardous waste (e.g. chemicals, oils, soil contaminated by spillages, diesel rags). Solid waste generated during the construction phase will be temporarily stored at suitable locations (e.g., at the construction camp) and removed at regular intervals for disposal at approved waste disposal sites. All the waste disposed of will be recorded.
	  ○ Wastewater will include sewage, water used for washing purposes and drainage over contaminated areas.
	▪ Operation –
	  ○ Refuse (domestic waste) generated during the operational phase will be removed on a weekly basis and will be disposed of at a permitted waste disposal facility.
	
	Mitigation measures to manage all waste and wastewater generated during the construction and operational phases will be included in the EMPr.

1.5. How will this development disturb or enhance landscapes and/or sites that constitute the nation's cultural heritage? What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?	Refer to **Section 11.16** of the Scoping Report for details of the baseline receiving environment for heritage, informed by the Heritage SSV Report (Kitto, 2026). Potential disturbances to cultural heritage may include the following: ▪ Possible direct impacts to graves, heritage resources and on below-ground archaeological deposits and fossils as a result of ground disturbance; and ▪ Possible impacts to the cultural landscape as a result of the introduction of incompatible structures and infrastructure to the rural landscape. A Phase 1 Heritage Impact Assessment will be undertaken during the EIA Phase, and the findings will be presented in the EIA Report.
1.6. How will this development use and/or impact on non-renewable natural resources? What measures were explored to ensure responsible and equitable use of the resources? How have the consequences of the depletion of the non-renewable natural resources been considered? What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?	During the construction phase, electricity will be obtained from diesel generators and/or a temporary supply via cables from the site power grid. No alternative energy sources were considered for electricity generation. Electricity will be generated from a renewable energy source, namely the sun. During the operational phase, electricity will be sourced from this renewable energy-generation facility itself and/or from the existing electrical infrastructure on the property.
1.7. How will this development use and/or impact on renewable natural resources and the ecosystem of which they are part? Will the use of the resources and/or impact on the ecosystem jeopardise the integrity of the resource and/or system taking into account carrying capacity restrictions, limits of acceptable change, and thresholds? What measures were explored to firstly avoid the use of resources, or if avoidance is not possible, to minimise the use of resources? What measures were taken to ensure responsible and equitable use of the resources?	The Solar Plant generates electricity from a renewable energy resource, namely the sun. The total generation capacity of the Project will be 600MW of renewable solar energy. Impacts on the receiving environment will be assessed during the EIA Phase and presented in the EIA Report. Opportunity costs are associated with the net benefits forgone for the development alternative. This will be assessed further during the EIA Phase.

Question No.	Response
What measures were explored to enhance positive impacts? *1.7.1. Does the proposed development exacerbate the increased dependency on increased use of resources to maintain economic growth or does it reduce resource dependency (i.e. de-materialised growth)? (note: sustainability requires that settlements reduce their ecological footprint by using less material and energy demands and reduce the amount of waste they generate, without compromising their quest to improve their quality of life).* *1.7.2. Does the proposed use of natural resources constitute the best use thereof? Is the use justifiable when considering intra- and intergenerational equity, and are there more important priorities for which the resources should be used (i.e. what are the opportunity costs of using these resources this the proposed development alternative?)* *1.7.3. Do the proposed location, type and scale of development promote a reduced dependency on resources?*	
1.8. How were a risk-averse and cautious approach applied in terms of ecological impacts? *1.8.1. What are the limits of current knowledge (note: the gaps, uncertainties and assumptions must be clearly stated)?* *1.8.2. What is the level of risk associated with the limits of current knowledge?* *1.8.3. Based on the limits of knowledge and the level of risk, how and to what extent was a risk-averse and cautious approach applied to the development?*	Refer to response to question no. 1.1. above.

1.9. How will the ecological impacts resulting from this development impact on people's environmental right in terms following:
1.9.1. Negative impacts: e.g. access to resources, opportunity costs, loss of amenity (e.g. open space), air and water quality impacts, nuisance (noise, odour, etc.), health impacts, visual impacts, etc. What measures were taken to firstly avoid negative impacts, but if avoidance is not possible, to minimise, manage and remedy negative impacts?
1.9.2. Positive impacts: e.g. improved access to resources, improved amenity, improved air or water quality, etc. What measures were taken to enhance positive impacts?
	Refer to the response to question no. 1.1. above regarding the ecological integrity of the area.
	
	Potential impacts to the social environment include the following:
	▪ Construction phase –
	  ○ Influx of people seeking employment and associated impacts (e.g. foreign workforce, cultural conflicts, squatting, demographic changes);
	  ○ Safety and security;
	  ○ Use of the local road network;
	  ○ Nuisance from dust and noise;
	  ○ Consideration of local labourers and suppliers in the area – stimulation of the local economy (positive impact); and
	  ○ Transfer of skills (positive impact).
	▪ Operational phase –
	  ○ Direct and indirect economic opportunities as a result of the Project; and
	  ○ Threats to human and animal health from electromagnetic fields.
	
	A Social Impact Assessment will be undertaken during the EIA Phase, and the findings will be presented in the EIA Report.

Question No.	Response
	Mitigation methods and recommendations will be included in the EMPr.
1.10. Describe the linkages and dependencies between human wellbeing, livelihoods and ecosystem services applicable to the area in question and how the development's ecological impacts will result in socio-economic impacts (e.g. on livelihoods, loss of heritage site, opportunity costs, etc.)?	Refer to the response to questions 1.1 and 1.9. above. The areas affected by the proposed Project footprint are rural in nature. The Project is located approximately 20 km north west of Ventersdorp's Central Business District (CBD). There is evidence that the Project Site was previously used for agricultural purposes, which is discussed further in the baseline receiving environment under **Section 11.12**, which was informed by the Agricultural SSV Report (Mchunu, 2026). An Agricultural Compliance Statement will be undertaken as part of the EIA Phase, and the findings will be presented in the EIA Report.
1.11. Based on all of the above, how will this development positively or negatively impact on ecological integrity objectives/targets/considerations of the area?	Refer to the response to question 1.1. above regarding the ecological integrity of the area.
1.12. Considering the need to secure ecological integrity and a healthy biophysical environment, describe how the alternatives identified (in terms of all the different elements of the development and all the different impacts being proposed), resulted in the selection of the "best practicable environmental option" in terms of ecological considerations?	Project options are presented in **Section 10** below. The BPEO will be identified in the EIA Report, taking into consideration of the specialists' findings.
1.13. Describe the positive and negative cumulative ecological/biophysical impacts bearing in mind the size, scale, scope and nature of the project in relation to its location and existing and other planned developments in the area?	Other renewable energy applications that have been made within a 30km radius of the Project Site, according to DFFE's REEA Database, are discussed in **Section 6.6** above. Potential cumulative impacts are discussed in **Section 13.4** below. The EIA Report will provide an assessment of cumulative impacts that incorporates the findings of the specialist studies.
2.1. What is the socio-economic context of the area, based on, amongst other considerations, the following considerations?: *2.1.1. The IDP (and its sector plans' vision, objectives, strategies, indicators and targets) and any other strategic plans, frameworks of policies applicable to the area,* *2.1.2. Spatial priorities and desired spatial patterns (e.g. need for integrated of segregated communities, need to upgrade informal settlements, need for densification, etc.),* *2.1.3. Spatial characteristics (e.g. existing land uses, planned land uses, cultural landscapes, etc.), and* *2.1.4. Municipal Economic Development Strategy ("LED Strategy").*	The socio-economic environment is discussed in **Section 11.8** below. The following is noted from a planning perspective: ▪ One of the goals identified in the municipal IDP (JB Marks LM, 2022) to domesticate the Sustainable Development Goals is to promote developments in renewable energy. ▪ The Project will contribute towards both National and Provincial targets for renewable energy and Eskom's target for Independent Power Producer (IPPs), as well as assist in meeting the increasing electricity demands in South Africa and specifically in the grid network. ▪ The Project falls within an area that is designated for crop farming in terms of the SDF (JB Marks LM, 2022). An Agricultural Compliance Statement will be undertaken during the EIA Phase, and the findings will be presented in the EIA Report. ▪ The Project Site and power line are located outside of the urban edge and should not impact future urban expansion. ▪ The Project's proposed overhead power line will be aligned alongside property boundaries and existing power lines as far as possible. ▪ According to the findings from the National Web-Based Environmental Screening Tool, the Project Site has low sensitivity in terms of the relative civil aviation theme.

Question No.	Response
2.2. Considering the socio-economic context, what will the socio-economic impacts be of the development (and its separate elements/aspects), and specifically also on the socio-economic objectives of the area? *2.2.1. Will the development complement the local socio-economic initiatives (such as local economic development (LED) initiatives), or skills development programs?*	The socio-economic environments and potential impacts are discussed in **Section 11.8** below. Also refer to the response to question 1.9. and 2.1.
2.3. How will this development address the specific physical, psychological, developmental, cultural and social needs and interests of the relevant communities?	
2.4. Will the development result in equitable (intra- and inter-generational) impact distribution, in the short- and long-term? Will the impact be socially and economically sustainable in the short- and long-term?	
2.5. In terms of location, describe how the placement of the proposed development will: *2.5.1. result in the creation of residential and employment opportunities in close proximity to or integrated with each other,* *2.5.2. reduce the need for transport of people and goods,* *2.5.3. result in access to public transport or enable non-motorised and pedestrian transport (e.g. will the development result in densification and the achievement of thresholds in terms public transport),* *2.5.4. compliment other uses in the area,* *2.5.5. be in line with the planning for the area,* *2.5.6. for urban related development, make use of underutilised land available with the urban edge,* *2.5.7. optimise the use of existing resources and infrastructure,* *2.5.8. opportunity costs in terms of bulk infrastructure expansions in non-priority areas (e.g. not aligned with the bulk infrastructure planning for the settlement that reflects the spatial reconstruction priorities of the settlement),* *2.5.9. discourage "urban sprawl" and contribute to compaction/densification,* *2.5.10. contribute to the correction of the historically distorted spatial patterns of settlements and to the optimum use of existing infrastructure in excess of current needs,* *2.5.11. encourage environmentally sustainable land development practices and processes,* *2.5.12. take into account special locational factors that might favour the specific location (e.g. the location of a strategic mineral resource, access to the port, access to rail, etc.),* *2.5.13. the investment in the settlement or area in question will generate the highest socio-economic returns (i.e. an area with high economic potential),* *2.5.14. impact on the sense of history, sense of place and heritage of the area and the socio-cultural and cultural-historic characteristics and sensitivities of the area, and* *2.5.15. in terms of the nature, scale and location of the development promote or act as a catalyst to create a more integrated settlement?*	2.5.1. The Project will result in increased economic activity, as well as increased opportunities for employment and for SMMEs. 2.5.2. Not deemed to be relevant, due to the nature of the development. 2.5.3. Not deemed to be relevant, due to the nature of the development. 2.5.4. Impacts on surrounding land uses will be assessed as part of the Agricultural Complicane Statement, Social Impact Assessment and Visual Impact Assessment (amongst others). 2.5.5. Refer to the response to question no. 2.1. regarding planning. 2.5.6. The Project site and powerline are located outside of the urban edge and should not impact future urban expansion, based on the SDF. 2.5.7. The resources and services required for construction and operation are discussed in **Section 9.10**. 2.5.8. The Project does not include the expansion of any bulk infrastructure. 2.5.9. Not deemed to be relevant, due to the nature of the development. 2.5.10. Not deemed to be relevant, due to the nature of the development. 2.5.11. Provision will be made in the EMPr to manage impacts associated with the Project. 2.5.12. Locational factors that favour the proposed site include favourable solar irradiation levels, a short distance to the grid connection point, flat topography, suitable site access, and availability of land. 2.5.13. The socio-economic benefits will be further investigated during the Project's EIA Phase. 2.5.14. Refer to the response to question no. 1.5. above. 2.5.15. Refer to the response to question no. 2.1. above regarding planning.
2.6. How were a risk-averse and cautious approach applied in terms of socio-economic impacts?	Mitigation measures and recommendations for Socio-Economic Impacts will be included in the EMPr during the EIA Phase.

Question No.	Response
2.6.1. What are the limits of current knowledge (note: the gaps, uncertainties and assumptions must be clearly stated)? *2.6.2. What is the level of risk (note: related to inequality, social fabric, livelihoods, vulnerable communities, critical resources, economic vulnerability and sustainability) associated with the limits of current knowledge?* *2.6.3. Based on the limits of knowledge and the level of risk, how and to what extent was a risk-averse and cautious approach applied to the development?*	Findings of the Social Impact Assessment will be included in the EIA Report.
2.7. How will the socio-economic impacts resulting from this development impact on people's environmental right in terms following: *2.7.1. Negative impacts: e.g. health (e.g. HIV-Aids), safety, social ills, etc. What measures were taken to firstly avoid negative impacts, but if avoidance is not possible, to minimise, manage and remedy negative impacts?* *2.7.2. Positive impacts. What measures were taken to enhance positive impacts?*	Refer to the responses to questions 1.9 above. These impacts will be assessed as part of the Agricultural Compliance Statement, Social Impact Assessment and Visual Impact Assessment (amongst others). Mitigation measures and recommendations for Socio-Economic Impacts will also be included in the EMPr.
2.8. Considering the linkages and dependencies between human wellbeing, livelihoods and ecosystem services, describe the linkages and dependencies applicable to the area in question and how the development's socio-economic impacts will result in ecological impacts (e.g. over utilisation of natural resources, etc.)?	Refer to the responses to questions 1.1, 1.7, 1.9, and 1.10. above.
2.9. What measures were taken to pursue the selection of the "best practicable environmental option" in terms of socio-economic considerations?	The Project options are presented in **Section 10** below. The BPEO will be identified in the EIA Report, taking into consideration of the specialists' findings.
2.10. What measures were taken to pursue environmental justice so that adverse environmental impacts shall not be distributed in such a manner as to unfairly discriminate against any person, particularly vulnerable and disadvantaged persons (who are the beneficiaries and is the development located appropriately)? *Considering the need for social equity and justice, do the alternatives identified, allow the "best practicable environmental option" to be selected, or is there a need for other alternatives to be considered?*	
2.11. What measures were taken to pursue equitable access to environmental resources, benefits and services to meet basic human needs and ensure human wellbeing, and what special measures were taken to ensure access thereto by categories of persons disadvantaged by unfair discrimination?	Refer to responses to questions no. 1.7., 1.9., and 2.1. above.
2.12. What measures were taken to ensure that the responsibility for the environmental health and safety consequences of the development has been addressed throughout the development's life cycle?	The findings of the Social Impact Assessment will be included in the EIA Report. Mitigation measures will be identified to manage impacts throughout the Project's life cycle and included in the EMPr.
2.13. What measures were taken to: *2.13.1. ensure the participation of all interested and affected parties,* *2.13.2. provide all people with an opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation,* *2.13.3. ensure participation by vulnerable and disadvantaged persons,* *2.13.4. promote community wellbeing and empowerment through environmental education, the raising of environmental awareness, the sharing of*	Section 12 below provides an overview of the public participation process undertaken to date, which includes the following: ▪ Compiling the database of I&APs; ▪ Notification of the Project and review of the draft Scoping Report; ▪ Means of accessing the draft Scoping Report; ▪ Supplying copies of the draft Scoping Report to authorities; and ▪ Commenting on the draft Scoping Report. Proof of Public Participation for the Project's Scoping Phase will be included in the final Scoping Report.

Question No.	Response
knowledge and experience and other appropriate means, *2.13.5. ensure openness and transparency, and access to information in terms of the process,* *2.13.6. ensure that the interests, needs and values of all interested and affected parties were taken into account, and that adequate recognition were given to all forms of knowledge, including traditional and ordinary knowledge, and* *2.13.7. ensure that the vital role of women and youth in environmental management and development were recognised and their full participation therein were be promoted?*	
2.14. Considering the interests, needs and values of all the interested and affected parties, describe how the development will allow for opportunities for all the segments of the community (e.g.. a mixture of low-, middle-, and high-income housing opportunities) that is consistent with the priority needs of the local area (or that is proportional to the needs of an area)?	The findings of the Social Impact Assessment will be included in the EIA Report. Also refer to the response to question no. 1.9., 2.1., and 2.5. above.
2.15. What measures have been taken to ensure that current and/or future workers will be informed of work that potentially might be harmful to human health or the environment or of dangers associated with the work, and what measures have been taken to ensure that the right of workers to refuse such work will be respected and protected?	Health and safety-related risks associated with the Project during the construction and operational phases will be assessed in the EIA Report. These risks will be addressed through mitigation measures included in the EMPr. Additional management requirements will be included in the Project's OHS system.
2.16. Describe how the development will impact on job creation in terms of, amongst other aspects: *2.16.1. the number of temporary versus permanent jobs that will be created,* *2.16.2. whether the labour available in the area will be able to take up the job opportunities (i.e. do the required skills match the skills available in the area),* *2.16.3. the distance from where labourers will have to travel,* *2.16.4. the location of jobs opportunities versus the location of impacts (i.e. equitable distribution of costs and benefits), and* *2.16.5. the opportunity costs in terms of job creation (e.g. a mine might create 100 jobs, but impact on 1000 agricultural jobs, etc.).*	The Project will have a beneficial impact on local employment during the construction and operational phases. Further information will be included in the EIA Report.
2.17. What measures were taken to ensure: *2.17.1. that there were intergovernmental coordination and harmonisation of policies, legislation and actions relating to the environment, and* *2.17.2. that actual or potential conflicts of interest between organs of state were resolved through conflict resolution procedures?*	The relevant legislation and guidelines that were considered are outlined in **Section 5** above. SA's commitment to renewable energy is reflected in its ratification of the Paris Agreement and the country's long-term energy planning iterations. Solar power is a major component of the diversification needed for SA's electricity system. According to the Department of Energy (2017), energy is, by nature, an intergovernmental issue, cutting across energy security, economic prosperity, employment, and the environment, among others. In recognising these benefits, clean energy has been incorporated into the broader policy framework. The White Paper on Renewable Energy of 2003 is one of SA's policy documents that laid the foundation for promoting renewable energy technologies such as solar, hydro, biomass, and wind (http://www.energy.gov.za/files/renewables_frame.html). This policy document sets a ten-year target for how

Question No.	Response
	renewable energy technologies could diversify the country's energy mix and secure cleaner energy. The Applicant intends to bid for the current and future REIPPPP bid windows and/or other renewable energy markets within SA. The REIPPPP is a competitive tender process designed to facilitate private-sector investment in grid-connected renewable energy generation in SA. The S&EIR Process and the associated specialist studies aim to consider the various policies, strategies, plans, and programmes that bear on the Project. Various organs of state, as listed in the I&AP Database that will be contained in the final Scoping Report, will be notified of the Project and have the opportunity to comment on the Project during the Public Participation Process Phases of the review of the draft Scoping Report and then the review of the draft EIA Report.
2.18. What measures were taken to ensure that the environment will be held in public trust for the people, that the beneficial use of environmental resources will serve the public interest, and that the environment will be protected as the people's common heritage?	The Solar Plant proposes to generate electricity from a renewable resource, namely the sun. The total generation capacity of the Project will be 600MW of renewable solar energy. Some of the electricity generated from the renewable energy source will be stored in the BESS, which will generate electricity during peak evening hours when the sun goes down. During electricity distribution, as the energy source is renewable, no GHG Emissions, such as Carbon Dioxide, will be released into the atmosphere, thus providing a clean environment for the local community and the public in general. Impacts to the receiving environment will be assessed through various specialist studies during the EIA Phase. The EIA Report will contain the mitigation measures identified for the Project. The intention is for the mitigation measures included in the EIA Report and EMPr to be realistic, and for the residual risks to be managed to an acceptable level.
2.19. Are the mitigation measures proposed realistic and what long-term environmental legacy and managed burden will be left?	
2.20. What measures were taken to ensure that the costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects will be paid for by those responsible for harming the environment?	
2.21. Considering the need to secure ecological integrity and a healthy bio-physical environment, describe how the alternatives identified (in terms of all the different elements of the development and all the different impacts being proposed), resulted in the selection of the best practicable environmental option in terms of socio-economic considerations?	The Project options are presented in **Section 10** below. The BPEO will be identified in the EIA Report, taking into consideration the specialists' findings.
2.22. Describe the positive and negative cumulative socio-economic impacts bearing in mind the size, scale, scope and nature of the project in relation to its location and other planned developments in the area?	Other renewable energy applications that have been made within a 30km radius of the Project Site, according to DFFE's REEA Database, are discussed in **Section 6.6** above. Potential cumulative impacts are discussed in **Section 13.4** below. The EIA Report will provide an assessment of cumulative impacts that incorporates the findings of the specialist studies.

9 PROJECT DESCRIPTION

9.1 Overview of Technical Details

The technical details of the proposed Project are captured in **Table 7** below.

Table 7: Overview of the technical details of the proposed Project

No.	Component	Description / Dimensions
1	Height of PV panels	4.5m (at maximum tilt)
2	Facility generation capacity (MW)	662.4MWp/ 600MWac
3	Total area of Project (ha)	1300 ha
4	Area of PV Array	1060 ha
5	Area and capacity of substations	▪ PV Collector Substation: 1.67 ha/640 MVA ▪ MTS: 4.00 ha/1000 MVA
6	Area occupied by both permanent and construction laydown areas	19.8 ha
7	Area and Capacity of BESS	▪ 60MW BESS: o Area: 1.15 ha o Capacity: 60MW/240MWh ▪ 250MW BESS: o Area: 9.2 ha o Capacity: 250MW/1000MWh o Collector Substation: 2.12ha/300MVA
8	Area occupied by buildings	▪ Office & Workshop: 0.29 ha ▪ Guard House: 0.02 ha
9	Length of internal roads	77.2 km
10	Width of internal roads	6 m
11	Proximity to grid connection	8.4 km
12	Height of fencing	3 m
13	Type of fencing	Type will vary around the site, welded mesh, palisade and electric fencing

9.2 Solar Technology

Solar energy facilities convert solar energy into a useful form (i.e. electricity). Using solar energy for electricity generation is a non-consumptive use of a natural resource and requires no fuel to continue operating. Solar power produces an insignificant quantity of greenhouse gases over its lifecycle compared with conventional coal-fired power stations. The operational phase of a solar facility does not produce carbon dioxide, sulphur dioxide, mercury, particulates, or any other form of air pollution, unlike fossil-fuel power generation technologies.

9.3 Photovoltaic

PV technology produces direct current (DC), which is then converted to alternating current (AC) via power electronic inverters. The main technology categories are crystalline modules

(mono- or poly-crystalline), thin-film, and concentrated photovoltaics (CPV). **Figure 8** below provides an overview of a Solar PV Power Plant.

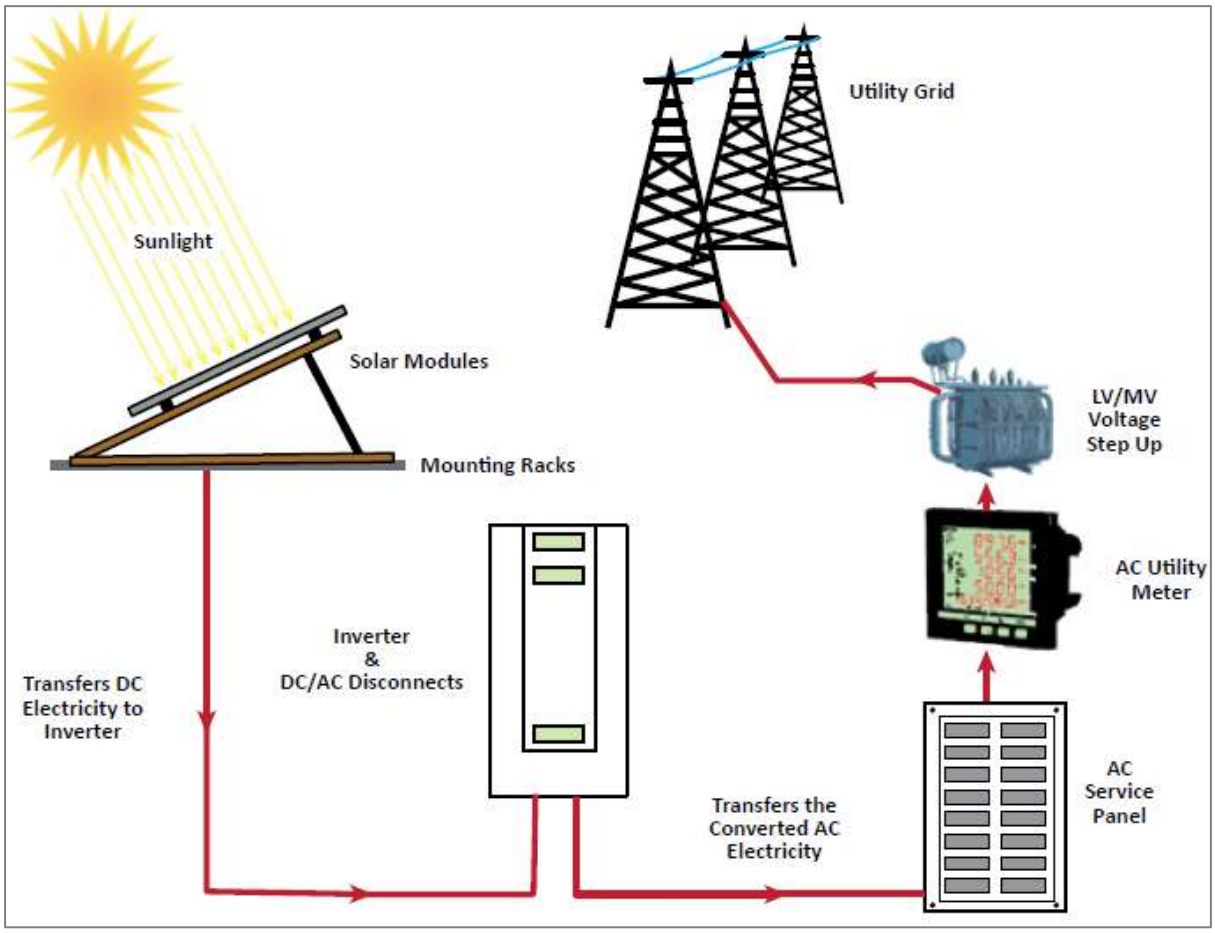


Figure 8: Overview of Solar PV Power Plant (IFC, 2015)

9.4 Project Layout

The layout of the proposed Project is illustrated in **Figure 9**. The desirability of the proposed development site for the proposed Project is due to the following key characteristics:

- **Solar Radiation**: The feasibility of a solar facility is dependent on the direct solar irradiation levels (refer to **Figure 1**).
- **Topography**: The suitability of the surface area is an important characteristic for the construction and operation of solar facilities. Most of the site has a low gradient slope and is suitable for this development
- **Grid capacity and connection**: In terms of the Grid Connection Capacity Assessment (GCCA) 2025, which is a report that presents the results of available generation connection capacity of all the transmission substations in all the supply areas in all the provinces of South Africa, the Project is located within the North West Supply Area. Based on the latest GCCA released by Eskom in October 2023, the GCCA confirms that the North West Supply Area currently has 1660MW of generation connection

capacity available. The Project Site is located approximately 14km from the Loop In-Loop Out (LILO) of the Pluto – Watershed 275kV power line and 2.8km from the Makokskraal Substation.

- **Extent of site**: The overall extent of the sites is sufficient for the installation of the PV facility, and allows for the avoidance of site sensitivities.
- **Site access and road infrastructure**: The site can be accessed via an unnamed gravel road off the N14 to the south and/or R53 to the east of the Project site.

The following factors were considered in determining the layouts (amongst others):

- Requirements of the Solar Plant;
- Preliminary understanding of sensitive features on the site (e.g., watercourses and heritage sites from the specialists SSV Reports). This will be refined based on the findings from the specialist studies during the EIA Phase; and
- Existing servitudes and infrastructure.

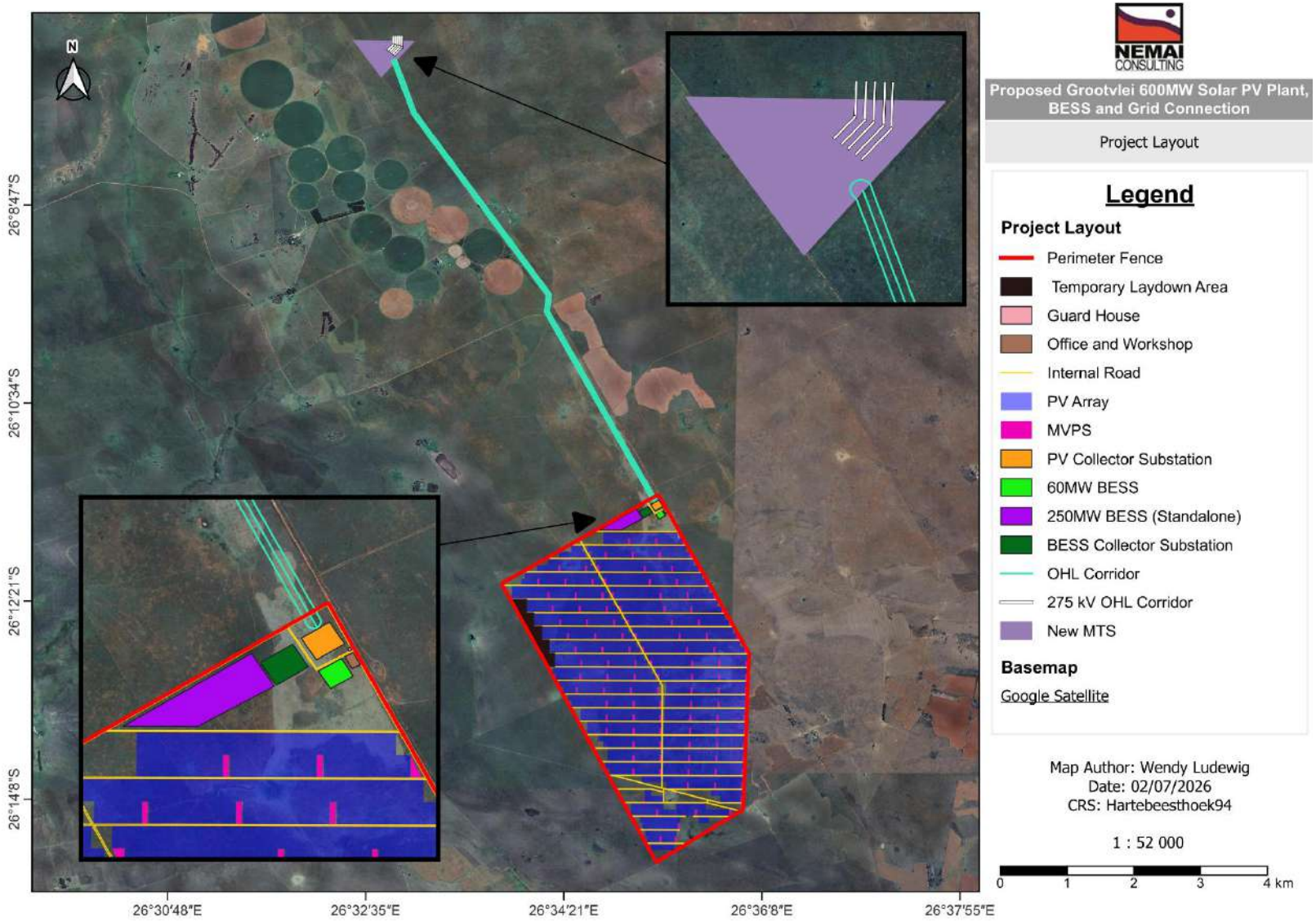


Figure 9: Overall Project Layout

9.5 Components of Proposed Solar PV Facility

The Project consists of the following systems, sub-systems or components (amongst others):

- 600MW PV solar panels or modules (arranged in arrays);
- Mounting structures to support the PV panels;
- DC-AC current inverters stations, transformers, and internal electrical reticulation (underground cabling);
- Transmission Line: The Project includes transmission infrastructure with an installed capacity at both distribution (132 kV) and transmission (2x 275 kV) levels, comprising an on-site 132/33 kV collector substation, an on-site 132 kV switching station, three 132 kV overhead lines linking the switching station to a new 400/132 kV substation located approximately 18 km north-west of the site on Portion 1 of the farm Houtkop 152 IP, and two 275 kV tie-in lines connecting to the existing Pluto-Watershed 275 kV line, thereby facilitating connection to the national grid with potential for electricity wheeling to off-site offtakers.
- New 400/132kV Main Transmission Substation;
- Administration Buildings (Offices);
- Workshop areas for maintenance and storage;
- Temporary laydown areas;
- Internal access roads and perimeter fencing of the footprint area;
- Lithium-ion BESS;
- Security Infrastructure; and
- Site access from unnamed gravel road via the N14 and/or R53.

The components of the proposed Solar Facility are discussed below. Reference Source: Solar Power Plant - Types, Components, Layout and Operation (https://www.electricaltechnology.org/).

9.5.1 Solar PV Panels/Modules

The PV module comprises interconnected PV cells encapsulated between a transparent front layer (typically glass) and a backing material of either laminate or glass, and is either mounted within an aluminium frame or constructed as a frameless unit using durable tempered glass. The modules will typically appear dark blue or black and are designed to absorb solar radiation, thereby minimising reflection or glint. When glass is used on the rear surface, modules can capture reflected solar radiation from the ground, enabling bifacial operation. This bifacial module technology is widely available from various manufacturers and can be produced in either monocrystalline or polycrystalline form.

The proposed solar PV facility will utilise either monofacial or bifacial PV modules.

9.5.2 Mounting Structures

Solar PV modules will be mounted on support structures configured as either fixed-tilt or tracking systems (single- or double-axis), depending on the final design specifications. In tracking configurations, multiple PV modules are mounted on steel or aluminium racking systems that adjust their orientation to optimise solar irradiation throughout the day. Single-axis tracking systems allow the PV arrays to rotate along one axis, typically following the sun's movement from east to west, thereby reducing the angle of incidence and improving energy yield. The tracking movement is achieved through electrically powered motors and mechanical components, usually positioned at the end of each PV array, which control the tilt and alignment of the modules in response to the sun's position. Alternatively, fixed-tilt systems maintain a constant tilt and azimuth angle year-round. These mounting configurations are designed to maximise solar energy capture while remaining structurally stable under site-specific environmental conditions.

An example of PV modules mounted on a single-axis tracker is shown in **Figure 10** below.

Figure 10: Example of PV Module mounted on a Single Axis Tracker

9.5.3 Inverters

Inverters are installed to convert the DC electrical power generated by the PV modules into AC electrical power for use in the grid. In utility-scale PV plants, solar PV modules are connected in series to form PV strings that produce DC power at a low voltage (typically 1,000-1,500 V). This DC power is converted to AC using inverters, which also enable synchronisation

of the electricity with the grid frequency. The inverters control and maximise the conversion of power from the DC modules to low-voltage AC (i.e. less than 1,000 V).

There are three main inverter configurations, namely central inverters, string inverters, and micro inverters. String inverters have multiple inputs for connecting PV strings and are typically installed on steel structures beneath the PV modules. The final inverter design will be determined during the detailed design phase. Approximately 260 inverters are anticipated, each no more than 5 m tall.

9.5.4 Low Voltage AC Cabling

AC Cables are installed from the inverters to the distribution box adjacent to the medium-voltage transformers. These cables are installed underground in trenches.

9.5.5 Medium Voltage Step-Up Transformers

The purpose of medium-voltage transformers is to step up low-voltage power to medium voltage. To distribute the combined electrical power from a block of tracker rows, the voltage must be increased. Transformers will typically be in the order of 2.5MVA capacity and similar in appearance to the type shown in **Figure 11** below.

Figure 11: Example of Medium Voltage Transformer (Source: https://www.ulaginoli.com/)

Transformers are typically filled with oil to cool the windings. The cooling oil is circulated through radiator fins mounted on the side of the transformer. The oil remains in the transformer. Oil spills from transformers need to be contained with drip trays, and special care should be taken to clean up any spill.

9.5.6 Medium Voltage AC Cabling

Medium-voltage AC cabling from the transformers to the high-voltage substation is buried in underground trenches. The cables are protected from accidental damage by placing brightly coloured orange danger tape in the trench and, sometimes, on concrete slabs. Cable routes are marked with concrete cable markers on the ground at bends, road crossings, etc.

9.5.7 High Voltage Substrations

The medium-voltage cables are connected to a medium-voltage switchgear room located in a substation yard. High-voltage transformers step medium voltage up to high voltage.

A typical HV Substation will look like the substation shown in **Figure 12**, with large ground-mounted transformers and outdoor high voltage switchgear with overhead conductors and steel lattice structures. The yard is fenced off, and only authorised personnel are allowed inside the high-voltage yard (see the example shown in **Figure 13**).

Figure 12: Example of High Voltage Substation

Figure 13: Example of High Voltage Transformers

9.5.8 Guardhouses, Operation, Maintenance and Visitor Centre Buildings

Guardhouses, Operation and Maintenance, and Visitor Centre Buildings are required for the facility. Buildings will be single-story with a maximum height of 8m.

The purpose of the buildings is to provide space for on-site staff responsible for operating and maintaining the facilities, including storage for spare parts, tools, and related items. Computers will be installed to monitor electricity generation and report on the plant's condition. Toilets, kitchens, water, wastewater, and electricity will be required for staff and visitors. Note that no one will be living on-site during the construction and operational phases of the Project.

Sustainable building principles will be applied, including rainwater harvesting, energy-efficient lighting, and insulation.

9.5.9 Roads

The proposed development will make use of existing dirt roads on site, including an existing entrance road, which may require widening to ensure suitability for use. The main access road will be gravel-surfaced, with a width of up to 6 m and a length of up to 2 km. The access road corridor will have a maximum width of 100 m. Internal access roads within the site will also be gravel-surfaced and up to 6 m wide.

The basic layout consists of rows of PV modules with internal roads in between, similar to that shown in **Figure 14** below.

Figure 14: Example of roads between trackers and medium voltage substations (source: https://ecoinventos.com/)

9.5.10 Fencing, Security and Lighting

The site will be fenced, and access will be controlled through 24-hour security services (during the construction phase). The site may include a CCTV surveillance system to protect equipment, buildings, and personnel. Security lighting will be installed to illuminate the site during nighttime operations. The facility will be enclosed by either an electrified or non-electrified boundary fence with perimeter lighting. Access to the Solar PV Facility will be controlled through manned entry points.

9.5.11 Stormwater Infrastructure

Stormwater runoff from the Solar PV Facility will be collected in an open, V-shaped stormwater drain located along the edge of the site. The drain will discharge into a stormwater attenuation pond, from which stormwater will flow into the nearest drainage line. The Solar PV Facility is considered a ‘clean water’ area.

Road drainage will be collected in open, unlined channels or, where necessary, stone- or concrete-lined channels, and conveyed to natural discharge points. Where site topography or land use constraints prevent the use of open channels, stormwater will be directed to a concentration point and intercepted by a field inlet, from which it will be conveyed via concrete pipes to discharge points. Drift crossings will be considered the preferred road-crossing solution.

Surface drainage using open canals will be the primary approach, with safety, ease of maintenance, and operational considerations informing the design. The design principles include minimising alteration to the natural flow regime, simulating natural runoff conditions,

limiting stormwater convergence, promoting sheet flow, conserving the in-situ soil mantle, and addressing potential erosion associated with site activities. Energy dissipation measures, such as stone pitching, will be implemented where necessary, and open drainage channels will be protected and lined where required to limit erosion and water ingress.

The stormwater drainage system will be designed to accommodate a 50-year return period for internal drainage, the main access road, and external drainage.

9.6 Battery Energy Storage System

9.6.1 Types of Electrical Energy Storage Systems

Electrical Energy Storage Systems include mechanical, chemical, electrical, thermal, and electrochemical systems, as summarised in **Figure 15** below. For the proposed Project, an electrochemical (battery) storage system has been selected as the preferred solution to meet the Project requirements. The BESS can be broken into solid-state and flow battery systems.

Batteries are electrochemical devices composed of one or more cells with a positive terminal (cathode) and a negative terminal (anode). A range of battery chemistries exists, including lithium-ion and lead-acid, which are widely used in portable electronic devices and vehicles, as well as other solid battery types such as nickel-cadmium and sodium-sulphur. In addition, flow batteries utilise liquid electrolyte solutions, including vanadium redox, iron-chromium, and zinc-bromine chemistries, while zinc-air batteries represent an emerging technology.

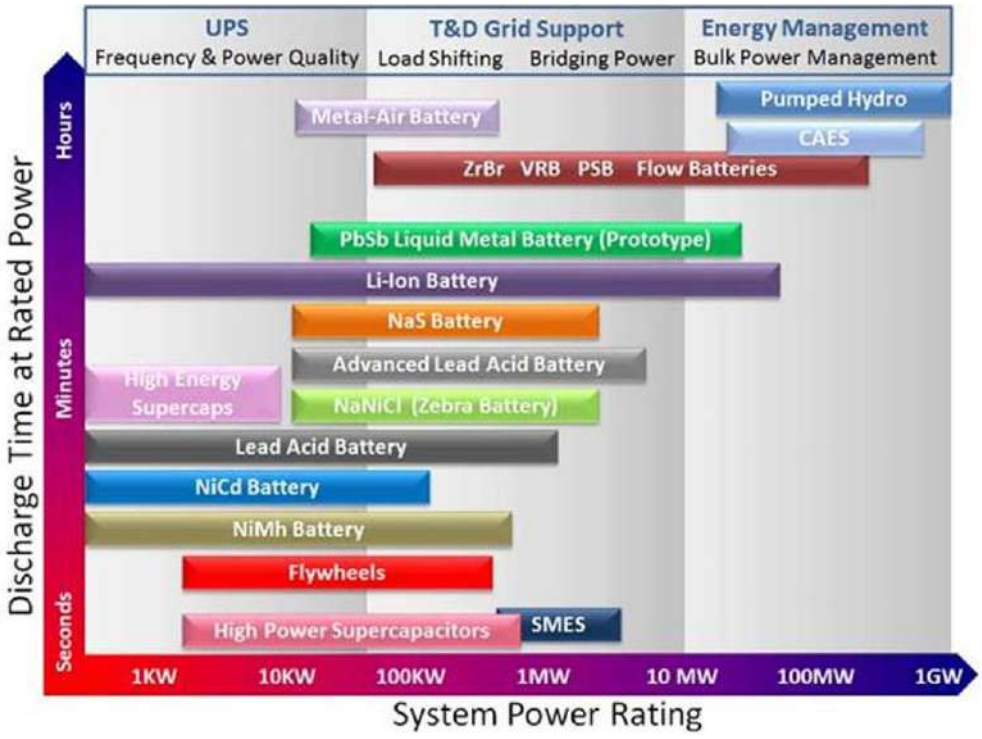


Figure 15: Grid Energy Storage Technologies and Applications (Adapted from Climate Policy Initiative for the Energy Transitions Committee)

9.6.1.1 Solid State Battery Systems

Solid-state batteries include lithium-ion and lead-acid batteries. Lithium-ion batteries are used extensively in electrical energy storage systems. Current estimates indicate that approximately 85% of the electrochemical systems installed use lithium-ion batteries. “Lithium-ion” refers to a wide array of chemistries in which lithium ions are transferred between the electrodes during the charge and discharge reactions. The construction/composition of lithium-ion batteries varies from manufacturer to manufacturer. Lithium-ion has the smallest installation footprint compared with technologies of similar energy capacity.

9.6.1.2 Flow Battery Systems

A flow or redox flow battery is a device in which chemical energy is supplied by two chemical components dissolved in liquids within the system, separated by a membrane. Typical systems use Vanadium or Zinc Bromine, which are further explained below:

- The vanadium redox battery (VRB), also known as the vanadium flow battery (VFB), is a rechargeable flow battery that employs vanadium ions in different oxidation states to store chemical potential energy. The battery consists of an assembly of cells in which the two electrolytes are separated by a proton exchange membrane; both half-cells are additionally connected to storage tanks and pumps so that the electrolytes can be circulated through the cell. The main advantages of the VRB are that it can offer almost unlimited energy capacity simply by using larger electrolyte storage tanks; it can be left completely discharged for long periods with no ill effects; if the electrolytes are accidentally mixed, the battery suffers no permanent damage; a single state of charge between the two electrolytes avoids the capacity degradation due to a single cell in non-flow batteries; the electrolyte is aqueous and inherently safe and non-flammable. The main disadvantage of vanadium redox technology is a relatively poor energy-to-volume ratio.
- Zinc Bromine flow battery uses a solution of Zinc bromide stored in two tanks. The electrolyte is pumped from one tank to the other during charging and discharging. The advantages and disadvantages listed for the vanadium redox flow battery are applicable to the zinc-bromine flow battery.
- Sodium-Sulphur (NaS) battery system is also an energy storage system based on electrochemical charge/discharge reactions that occur between a positive electrode (cathode) that is typically made of molten Sulphur and Sodium. The NaS battery has the general advantages of the Vanadium and Zinc-bromine batteries, i.e., long life, a high number of charge and discharge cycles, and the ability to discharge fully without affecting performance. The disadvantage is the low energy-to-size ratio.

9.6.2 The Projects BESS Infrastructure

The BESS will store surplus energy generated by the Solar PV site for later use, thereby helping balance electricity supply and demand. Stored energy will be utilised during peak demand periods, such as in the morning and evening. Energy generated by the PV panel array

is DC, which is converted to AC by the inverters and then transferred to the on-site substation. At the substation, a determination is made as to whether the energy is to be evacuated to the grid or transferred to the BESS for storage. When energy is required, it is drawn from the grid network, and when it is not, it is stored in the BESS for later use.

The BESS will comprise stacked containerised units or a multi-storey building configuration. Several battery technologies are being considered for the proposed Project, including solid-state and flow-type batteries. The BESS units are expected to be approximately 6 m tall, equivalent to two standard containers stacked vertically.

9.7 Grid Connection

The proposed development will include an on-site 132/33 kV collector substation and an on-site 132 kV switching station. The switching station will be connected via three 132 kV overhead power lines to a new 400/132 kV substation located approximately 18 km north-west of the project site on Portion 1 of the Farm Houtkop 152 IP. In addition, two 275 kV tie-in lines will connect to the Watershed–Pluto 275 kV transmission line.

These components will facilitate the connection of the Solar PV site to the national grid. The connection may also allow for a wheeling option, whereby electricity generated at the Solar PV site could be transferred to an off-site offtaker.

Examples of a 132kV transmission line, as well as a high voltage transmission line connecting to a substation, are shown in **Figure 16** and **Figure 17** below, respectively.

Figure 16: Example of a 132kV transmission line

Figure 17: Example of High Voltage Transmission Line Connecting to Substation

9.8 Project Life-Cycle

The project life-cycle for a typical Solar Plant includes the following primary activities (high-level outline only):

- Feasibility phase - This phase includes confirming the feasibility of the Project by evaluating and addressing the following (amongst others) –
  - Solar resource assessment;
  - Site selection;
  - Project land allocation;
  - Project yield assessment;
  - Permitting and licensing;
  - Legal agreements;
  - Socio-economic development;
  - Industrialisation and localisation;
  - Project cost determination;
  - Project financing; and
  - Risk analysis.
- Design phase - This phase includes the following (amongst others) –
  - Confirming key design features such as the type of PV module to be used, tilting angle, mounting and tracking systems, inverters, and module arrangement;
  - Confirming specifications for the components of the Solar Plant;
  - Preparing detailed designs (layout, civil, electrical);
  - Preparing construction plans;
  - Preparing the Project schedule; and
  - Preparing the commissioning plans.

- Construction phase – During the implementation of the Project, the following construction activities will be undertaken –
  - Pegging the footprint of the development;
  - Establishing access roads;
  - Preparing the site (fencing, clearing, levelling and grading, etc.);
  - Establishing the site office;
  - Establishing laydown areas and storage facilities;
  - Transporting equipment to the site;
  - Undertaking civil, mechanical and electrical work; and
  - Reinstating and rehabilitating working areas outside of the permanent development footprint.
- Operational phase - Once the solar park is up and running, the facility will be largely self- sufficient. Operational activities associated with the maintenance and control of the Solar Plant will include the following (amongst others) –
  - Testing and commissioning the facility's components;
  - Cleaning of PV modules;
  - Controlling vegetation;
  - Managing stormwater and waste;
  - Conducting preventative and corrective maintenance; and
  - Monitoring of the facility's performance.
- Decommissioning –

  Panels are guaranteed to produce at least 80% of their rated power for 20 to 30 years. In practice, panels will perform satisfactorily well beyond this timeframe. At the end of the 20 to 30-year lifespan, two scenarios exist for the panels:
  - The old, redundant panels can be disposed of (at a registered disposal facility designated for this purpose); or
  - The panels can be recycled by either using their components to fix or make new panels, or be donated for use elsewhere (e.g., for the electrification of rural schools and clinics).

It is unlikely that the Solar Plant will be decommissioned after 30 years. Instead, the facility will continually be reconditioned as the panels are recycled and replaced with more advanced technology as it becomes available.

In the event that the Solar Plant must be decommissioned, the decommissioning phase will include measures for complying with the prevailing regulatory requirements, rehabilitation and managing environmental impacts in order to render the affected area suitable for a future desirable use

9.9 Implementation Programme

Key milestones during the Project's implementation programme include the following:

- Phase 1: Site Establishment & Mobilisation (Months 1 to 3);

- Phase 2: Civil & Infrastructure Works – PV Plant & BESS Sites (Months 2 to 10);
- Phase 3: Mechanical & Electrical Installation (Months 60 to 16);
- Phase 4: Commissioning & Grid Integration (Months 14-20); and
- Phase 5: Handover & Commercial Operation (Months 20-24).

9.10 Resources and Services Required for Construction and Operation

This section briefly outlines the resources required to execute the Project. Note that the EMPr will include provisions to manage impacts associated with the aspects listed below, as relevant.

9.10.1 Raw Materials

Construction

Material required for construction, including fencing and other materials (e.g., cement, sand, aggregate), will be sourced from suitable suppliers. The PV modules and other components of the facility will also be sourced from accredited suppliers.

Operation

During the operational phase, few raw materials will be required. Materials such as consumable spares will be used to operate the facility.

9.10.2 Water

Construction

Water during the construction phase will be sourced from boreholes, the locations of which are still to be identified, with all possible options reflected in the permit drawings. Water will be conveyed to the Solar PV Plant either via pipelines or by trucking. The water will be stored in storage tanks and used to meet the demands of construction activities, including drinking, ablution facilities, access road construction, dust suppression, firefighting reserve, facility cleaning, and the construction of foundations for PV panel mounting structures and the substation. The estimated annual water consumption during construction is 60 000 m³.

Details regarding the sourcing of water for use in panel cleaning will be determined as the project design progresses. The potential impact of wash-water on these features will be considered during the EIA phase.

Operation

During the operational phase, water will be supplied from boreholes through abstraction. The estimated annual water consumption during operation is 15 000 m³. Water will be used for drinking, ablution facilities, fire-fighting reserve, and cleaning of facilities. PV panels will typically be cleaned using dry brush techniques; however, water cleaning may be used under certain circumstances to remove surface contaminants. No chemicals will be used to clean

the PV modules, and cleaning is expected to occur primarily during the rainy season, when rainfall necessitates cleaning.

The methods used to wash the panels would affect the erosion mitigation requirements. Mitigation, if required, could be in the form of phasing the washing of panels or optimising the method used. The overall effect on natural watercourses is expected to be very low, provided the cleaning water is free of detergents or contains approved biodegradable substances.

9.10.3 Sanitation

Construction

Wastewater generated by workers in temporary sanitation and ablution facilities during the construction phase will be collected in temporary septic or conservancy tanks. This wastewater will be transported by sewage trucks to a licensed wastewater treatment or disposal facility. Approximately ≤20 000 m³ per annum of effluent may be generated during this phase. A Service Level Agreement will be established with the Ditsobotla Local Municipality for the collection of sewage from the project site using a honey sucker truck, with disposal at the nearest wastewater treatment works during the 18-month construction period.

Operation

During the operational phase, wastewater generated from the guard house and operation and maintenance (O&M) buildings will be collected in the conservancy tanks. These will be sized to accommodate a monthly emptying and disposal cycle, or may be treated on-site. Alternatively, wastewater may be connected to the mine's existing sewage system. Approximately ≤120 m³ per annum of wastewater may be generated during this phase.

9.10.4 Waste

Construction

General waste generation during construction is expected to be ≤500 m³ per quarter (90 days) and will include packaging materials (cardboard, plastic, and wood), building rubble (discarded bricks, wood, and concrete), domestic waste from workers and contractors, and organic waste from site-clearing activities. Waste will be collected in bins located in contractor yards and across work areas, with routine site clean-ups undertaken. Waste will be temporarily stored in a weather-shielded central waste area and removed by the Contractor for disposal at a registered waste disposal facility.

Temporary portable chemical toilets will be provided at work sites and will be emptied and cleaned regularly. Wastewater associated with these facilities will be collected and transported off-site for treatment or disposal, with an estimated volume of approximately 300 m³ per annum. Hazardous waste generation is expected to be ≤80 m³ per quarter (90 days) and may include used tins, oils, grease, fuel, and lubricants. In the event of leaks from transformers or containers, the material will be removed by a registered hazardous waste service provider and disposed of at an appropriate licensed facility.

Operation

General waste generated during operation will include food waste, packaging, and office consumables, with relatively small quantities expected (less than 500 m³ per quarter). Waste will be temporarily stored in containers such as wheelie bins and skips and collected by a third-party contractor for disposal at a licensed landfill site. Waste will be sorted off-site, with recyclable materials such as metal, paper, plastic, and cardboard recovered for recycling.

Small quantities of hazardous waste, including used oil and fuel, may be generated during the operation phase as a result of maintenance activities involving hydraulic oils, grease, and other lubricants.

9.10.5 Roads

Construction

Temporary access roads will be created during the construction phase. The areas affected by temporary roads will be reinstated, as they will not be used permanently in the operational phase.

Operation

The Project site is accessible via an unnamed gravel road off the N14 and/or R53.

9.10.6 Transportation

Construction Phase

It is anticipated that there will be an average of 10 to 20 trucks per day (approximately 2 000 trucks in total) during the construction phase of the Project to deliver project components, machinery, and labour. The transportation routes have not yet been finalised and will be confirmed following the procurement process once all suppliers have been appointed.

Operation Phase

During the operational phase, traffic volumes are expected to decrease significantly, with only a limited number of vehicles travelling to and from the project site for operations and maintenance.

9.10.7 Stormwater

Construction

Stormwater runoff during the construction phase will be managed using open, V-shaped stormwater drains along the site edge, which will discharge into a stormwater attenuation pond. From the attenuation pond, stormwater will flow into the nearest drainage line. The Solar PV Plant is considered a ‘clean water’ area. Road drainage will be managed through open, unlined channels or, where necessary, stone- or concrete-lined channels, and conveyed to natural discharge points. Where site topography or land-use constraints prevent the use of

open channels, stormwater will be directed to a concentration point, intercepted by a field inlet, and conveyed via concrete pipes to discharge points. Drift crossings will be considered the preferred road-crossing solution. Surface drainage using open canals will be the primary approach, with safety, ease of maintenance, and operational considerations informing the design.

Best environmental practices will be implemented during construction to manage stormwater. These measures will be included in the EMPr.

Operation

During the operational phase, stormwater runoff from the Solar PV Plant will continue to be managed via open, V-shaped stormwater drains along the site boundary, which feed into a stormwater attenuation pond before discharge into the nearest drainage line. The Solar PV Plant is considered a 'clean water' area. Road drainage will continue to be managed through open, unlined or lined channels, or through field inlets and concrete pipe systems where required. Surface drainage via open canals will remain the primary solution, with safety, ease of maintenance, and operation given due consideration. The stormwater management system will be designed to minimise alteration of the natural flow regime, simulate natural runoff conditions, limit stormwater convergence, promote sheet flow, conserve the in-situ soil mantle, and address potential erosion. Energy dissipation measures, such as stone pitching, will be implemented where necessary, and drainage channels will be protected and lined where required to limit erosion and water ingress. The stormwater drainage system will be designed to accommodate a 50-year flood return period for internal drainage, the main access road, and external drainage.

9.10.8 Electricity

Construction

The EPC Contractor will be responsible for supplying electricity during construction. The electricity supply will be obtained from diesel generators and/or temporary supply via cables from the site power grid (11 kV or 22 kV feeder line).

Operation

The electricity will be supplied by the plant during daylight hours (off-peak times – 07:00 to 17:00). The BESS will supply electricity during night hours (peak times – 05:00 to 07:00 and 17:00 to 19:00). During other times, electricity will be supplied from the power grid.

9.10.9 Laydown Areas

Construction

A laydown area will be required during the construction phase for the temporary storage of equipment and supplies. The proposed temporary laydown area of approximately 19.8 ha will be required (refer to **Figure 9** above).

9.10.10 Construction and Operation Workers

Construction

The appointed Contractor will primarily use skilled labour to construct the facility and its associated infrastructure. In those instances where casual labour is required, the Applicant will request that such persons be sourced from local communities, as far as possible.

During the construction phase, at least 300 employment opportunities are anticipated. The number of personnel employed at any given time may vary depending on the specific contracts and subcontracts active during different stages of the Project.

Operation

During the operational phase, at least 23 people are expected to be employed. These personnel will primarily be responsible for the daily operations, security, and maintenance of the Project.

10 ALTERNATIVES

10.1 Introduction

Alternatives are different ways the Project can be executed to achieve its objectives. Examples could include carrying out a different type of action, choosing an alternative location or adopting a different technology or design for a project. This section presents the Project's alternatives, as considered during the Scoping Phase.

The EIA process will provide a detailed comparative analysis of feasible alternatives from environmental (including specialist input) and technical perspectives. By conducting the comparative analysis, the BPEO can be selected with technical and environmental justification. Münster (2005) defines BPEO as the alternative that "*provides the most benefit or causes the least damage to the environment as a whole, at a cost acceptable to society, in the long term as well as in the short term*".

10.2 Site Alternatives

No site alternatives are proposed for this Project. Favourable location factors for the PV Site include suitable solar irradiation levels, short distance to the grid connection point, flat topography, suitable site access and availability of land.

10.3 Layout / Design Alternatives

An initial layout for the Solar PV Facility was previously developed, and EA was granted in December 2023. However, based on specialist delineations, it was determined that the extent of the authorised Solar PV site was insufficient to both avoid identified wetland areas and accommodate the required number of PV modules for the planned Project capacity. As a result, the existing EA was allowed to lapse (refer to **Section 3** for further detail), and the extent of the Solar PV site was subsequently expanded.

To inform the revised layout, specialists conducted site visits to delineate sensitive environmental features prior to finalising it. This approach ensured that environmentally sensitive areas were identified and avoided during the design process. As such, no alternative site layouts are presented, as the final layout was developed iteratively based on specialist input to avoid sensitive features on the site.

The layout presented in **Figure 9** above reflects this process. Should any additional sensitivities be identified during the EIA phase, further refinements to the layout may be undertaken at that stage.

10.4 Technology Alternatives

10.4.1 Solar PV Technology

Solar PV technology consists of monofacial or bifacial solar panels mounted on fixed or tracking systems.

10.4.2 BESS Technology

The BESS can be broken into solid-state and flow battery systems. Refer to **Section 9.6** above for the advantages and disadvantages associated with the types of BESS. A single battery technology, or a combination of two or more technology alternatives, may be implemented for the Project

10.5 No-Go Option

As standard practice and to satisfy regulatory requirements, the option not to proceed with the Project is included in the alternative evaluation. The no-go alternative serves as the baseline against which the Project's impacts are evaluated. This implies that the current status and conditions of the proposed Project footprint will serve as the benchmark for assessing potential changes (impacts) associated with the Project.

In contrast, should the proposed Project not proceed, any potentially significant environmental issues would be irrelevant, and the status quo of the local receiving environment would not be affected by Project-related activities.

The no-go alternative will be assessed during the EIA Phase, taking into consideration the findings of the specialist studies and the outcomes of public participation (amongst others).

11 PROFILE OF THE RECEIVING ENVIRONMENT

11.1 Introduction

This section provides a general description of the status quo of the receiving environment in the project area. This provides the context in which the scoping exercise was conducted. It also allows for an appreciation of sensitive environmental features and possible receptors of the effects of the proposed Project. It further provides a baseline against which impacts can be determined.

A brief overview is also provided of the way the environmental features may be affected (positively and negatively) by the proposed Project. Significant environmental issues are discussed further in **Section 13**. The preliminary impacts are discussed only briefly and qualitatively during the Scoping Phase. The EIA Report will provide a comprehensive evaluation of the potential impacts and will quantify the effects on the environment based on the methodology presented in **Section 13**.

11.2 Land Use

Status Quo

The Project is located approximately 20km to the north-west of the central business district of Ventersdorp and falls within Ward 34 of the JB Marks LM and Ward 17 of the Ditsobotla LM in the North West Province. The areas affected by the proposed Project footprint are rural in nature (**Figure 19**). The Project's PV Site is vacant and was historically used for agricultural purposes. Grazing is the dominant land use in the Project area (**Figure 18**). The following land uses are encountered around the Project's PV Site:

- Livestock production and cultivated land on the surrounding properties;
- The Schoonspruit Nature Reserve is located approximately 18km southeast of the site; and
- The National Road (N14) is located approximately 15km south of the site, which provides regional access to the area.

Figure 18: View of livestock on the Project site

Figure 19: Overall view of the Project site, showing the rural nature of the site

According to the National Land Cover Map for South Africa (2020) (refer to **Figure 20**), the Project site is predominantly classified as grassland, with portions of cultivated land and limited areas of forested and built-up land. This is consistent with the North West BSP Land Cover Map (refer to **Figure 21**), which reflects similar land cover characteristics across the Project site.

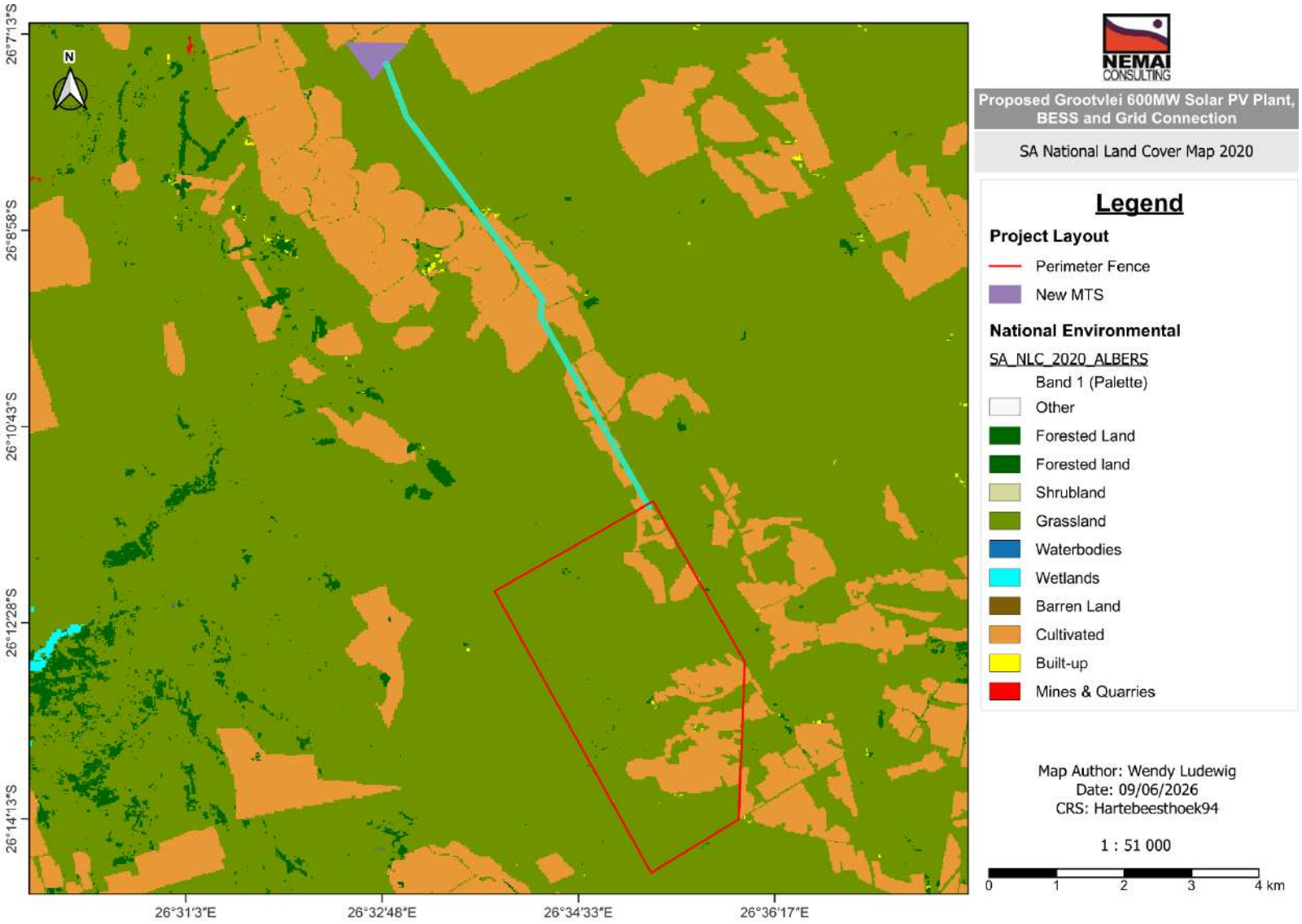


Figure 20: Project Site in relation to the SA National Land Cover Map 2020

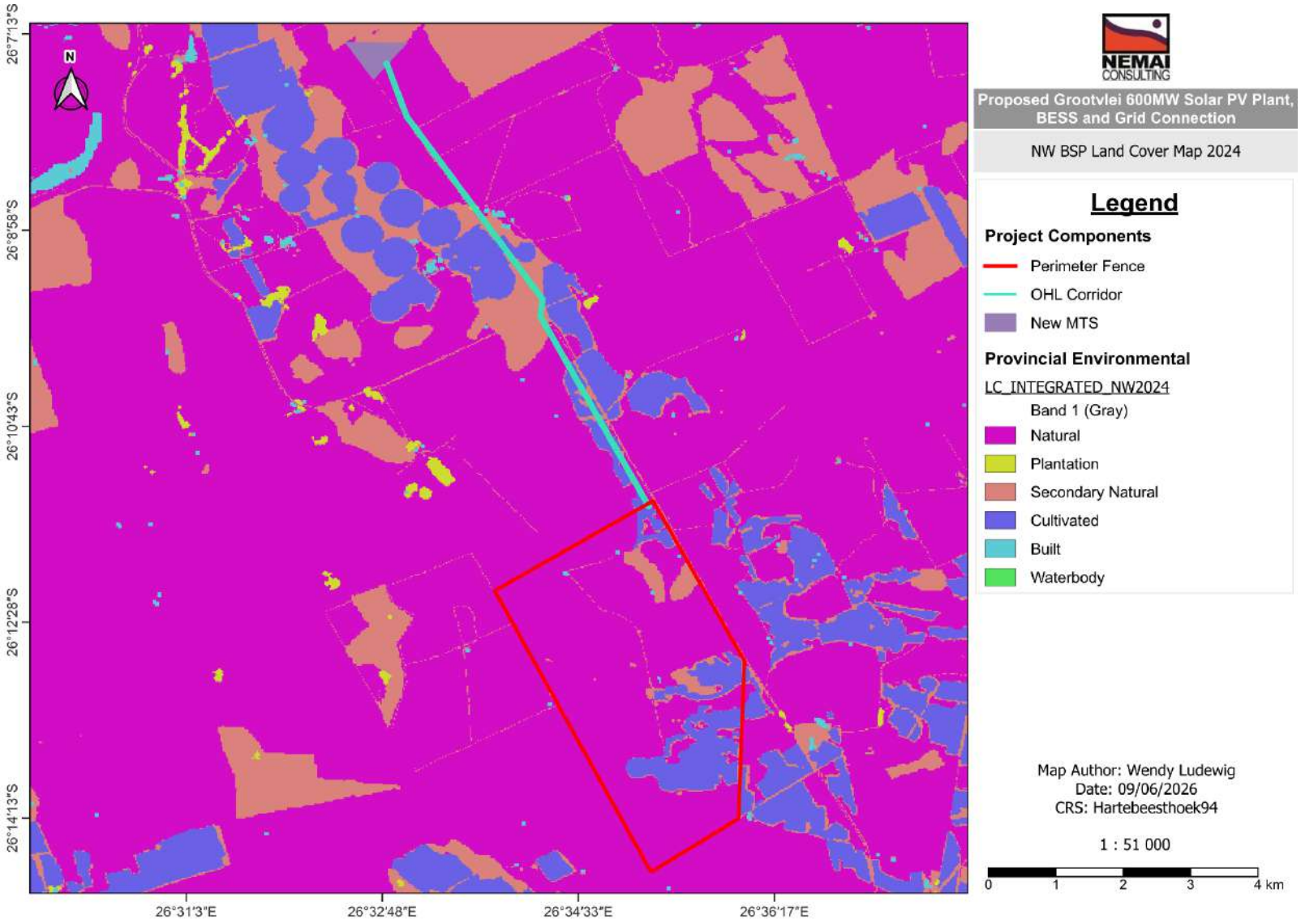


Figure 21: Project site in relation to the North West Biodiversity Sector Plan Land Cover Map 2024

Potential Impacts / Implications

- Disturbance to existing land use during construction.
- Risks to livestock posed by construction activities.

Specialist Study Triggered / Additional Investigations

The following specialist studies will be undertaken during the EIA Phase to assess the Project's impacts on land use:

- Agricultural Compliance Statement; and
- Social Impact Assessment.

11.3 Climate

Status Quo

11.3.1 Prevailing Climatic Conditions

The project site is located in a subtropical highland climate (Cwb) according to the Köppen-Geiger classification. The area is characterised as a warm-temperate, summer-rainfall region with an overall Mean Annual Precipitation MAP of 593 mm. Summer temperatures are high, and severe, frequent frost occurs in the winter (Mucina & Rutherford, 2006).

The Project site, located approximately 20 km from Ventersdorp, experiences a climate characterised by warm to hot summers and cooler winters. Summer temperatures (November to March) are relatively high, with average daily temperatures ranging from 20°C to 28°C and peak temperatures exceeding 30°C. During the winter months (May to August), temperatures decrease significantly, with average temperatures ranging from approximately 8°C to 18°C and occasional minimum temperatures approaching 0°C.

Rainfall is seasonal, with most precipitation occurring during the summer months (primarily between October and April). The highest rainfall events are observed during this period, with notable peaks in January, February, March and November. In contrast, the winter months (May to August) are characterised by very low to negligible rainfall, indicating a pronounced dry season.

Relative humidity varies throughout the year, generally remaining higher during the summer months and decreasing during winter, particularly around August and September, when lower humidity values are observed. Cloud cover follows a similar trend, with increased cloudiness during the wetter summer months and clearer conditions during the dry winter period.

Wind conditions are present throughout the year, with average wind speeds generally ranging from 10 to 20 km/h, and occasional higher gusts. Wind speeds appear to increase slightly during the late winter to early summer period (August to October).

Overall, the climatic conditions are characterised by a summer rainfall regime with warm, wetter summers and cooler, drier winters. **Figure 22** below illustrates the climatic conditions of the Project area.

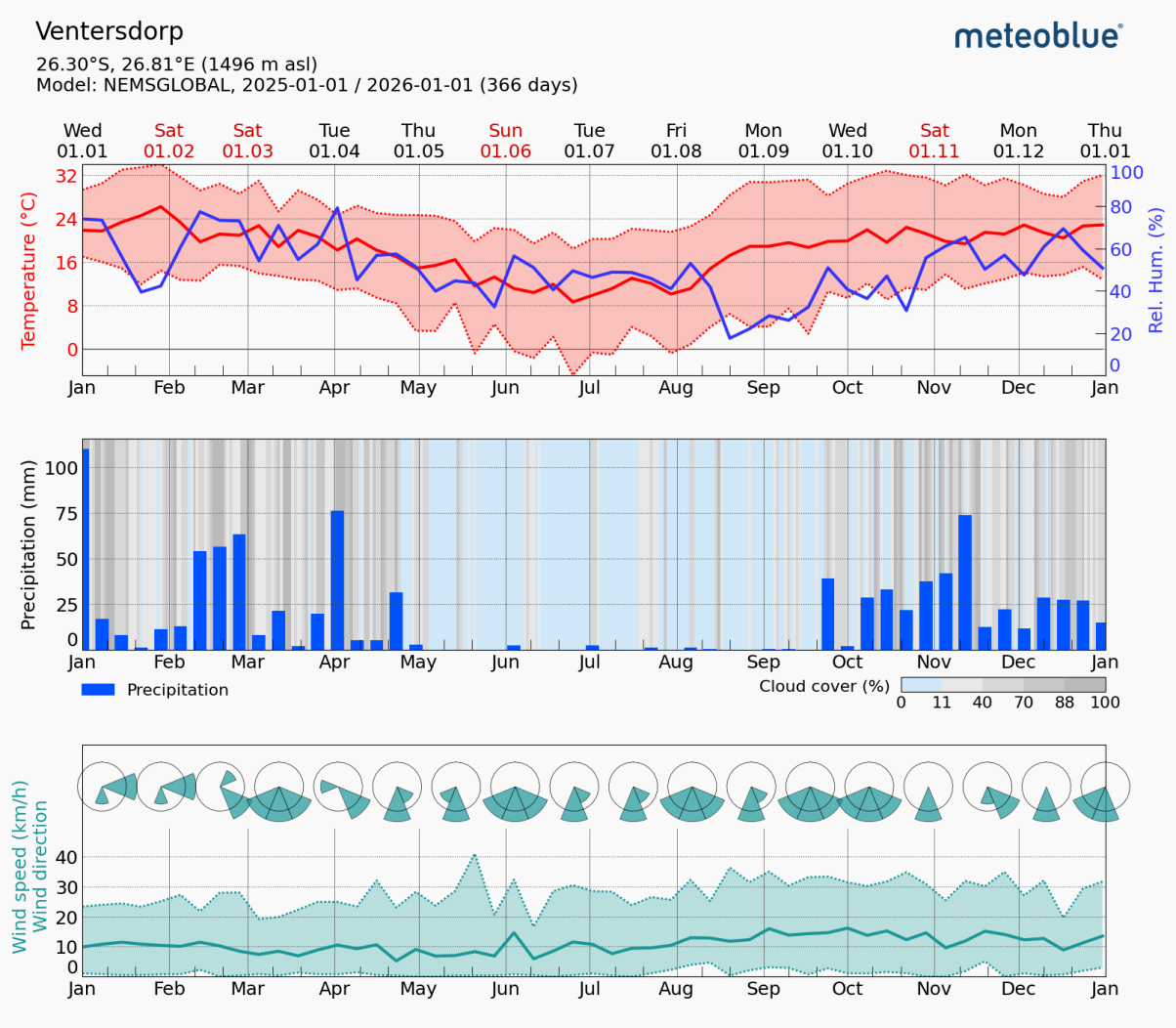


Figure 22: Temperature, humidity, precipitation, and wind speed and direction for Ventersdorp for 2025 (Meteoblue, 2026a)

11.3.2 Climate Change Considerations

Figure 23 illustrates the various environmental factors that influence Solar PV output (Bamisile *et al.*, 2025). Climate change is a key consideration for Solar PV facilities, as increasing temperatures can reduce PV efficiency by approximately 0.4–0.5% per degree Celsius (Bamisile *et al.*, 2025). A climate change model conducted by Meteoblue (Meteoblue, 2026b) indicates that the Project site has experienced a slight temperature increase of less than 2°C over the past 40 years (1979 to 2025).

Various studies have been undertaken to determine the most suitable PV module technologies for different climatic conditions, highlighting the importance of considering site-specific climate characteristics when selecting appropriate PV modules for the Project (Friesen and Micheli, 2025).

Figure 23: Environmental factors that affect Solar PV output (Bamisile et al., 2025)

South Africa is currently heavily reliant on coal for electricity generation. To mitigate the impacts of climate change, there is a need to diversify electricity generation sources to enhance security of supply and reduce the carbon footprint associated with reliance on coal. The proposed Project forms part of this broader initiative by contributing to the diversification of power generation through the incorporation of renewable energy technologies integrated into the existing grid.

The Applicant intends to participate in current and REIPPPP bid windows and/or other renewable energy markets within South Africa, with the aim of supporting the increased contribution of solar-generated power to the national electricity grid.

Potential Impacts / Implications

- Construction Phase
  - Emission of GHG during construction
- Operation Phase
  - Climate change may impact in various ways, including increased temperature affecting the PV modules. However, this can be mitigated based on the design of the PV module chosen by the Engineering team during the detailed design phase.
  - There is also a positive impact as the increase in renewable energy into the existing grid assists in reducing SA's overall reliance on coal as the only energy resource.

Specialist Study Triggered / Additional Investigations

No additional studies or investigations will be conducted during the EIA Phase.

11.4 Geology, Soil and Geohydrology

Status Quo

11.4.1 Geology

According to the 2626 West Rand – 1:250 000 Geological map series, the study area is underlain by the Precambrian dolomites and associated marine sedimentary rocks of the Monte Christo Formation of the Malmani Subgroup (Chuniespoort Group, Transvaal Supergroup) (refer to **Figure 24** below).

Figure 24: Extract of the 1:250 000 West Rand 2626 (1986) Geological Map indicating that the proposed development site is underlain by the Malmani Subgroup

11.4.2 Soils

Desktop data indicate that the Project site is predominantly characterised by Eutric Leptosols (LPe). These soils are typically very shallow, often underlain by continuous rock, and are characterised by a high content of coarse fragments. The term 'Leptosols' is derived from the Greek word leptos, meaning thin. These soil types generally occur at or near the surface as continuous rock or in extremely gravelly conditions and are commonly associated with areas of strongly dissected topography across a range of climatic zones (Mchunu, 2026). Refer to **Figure 25** below for the soil classes associated with the Project site.

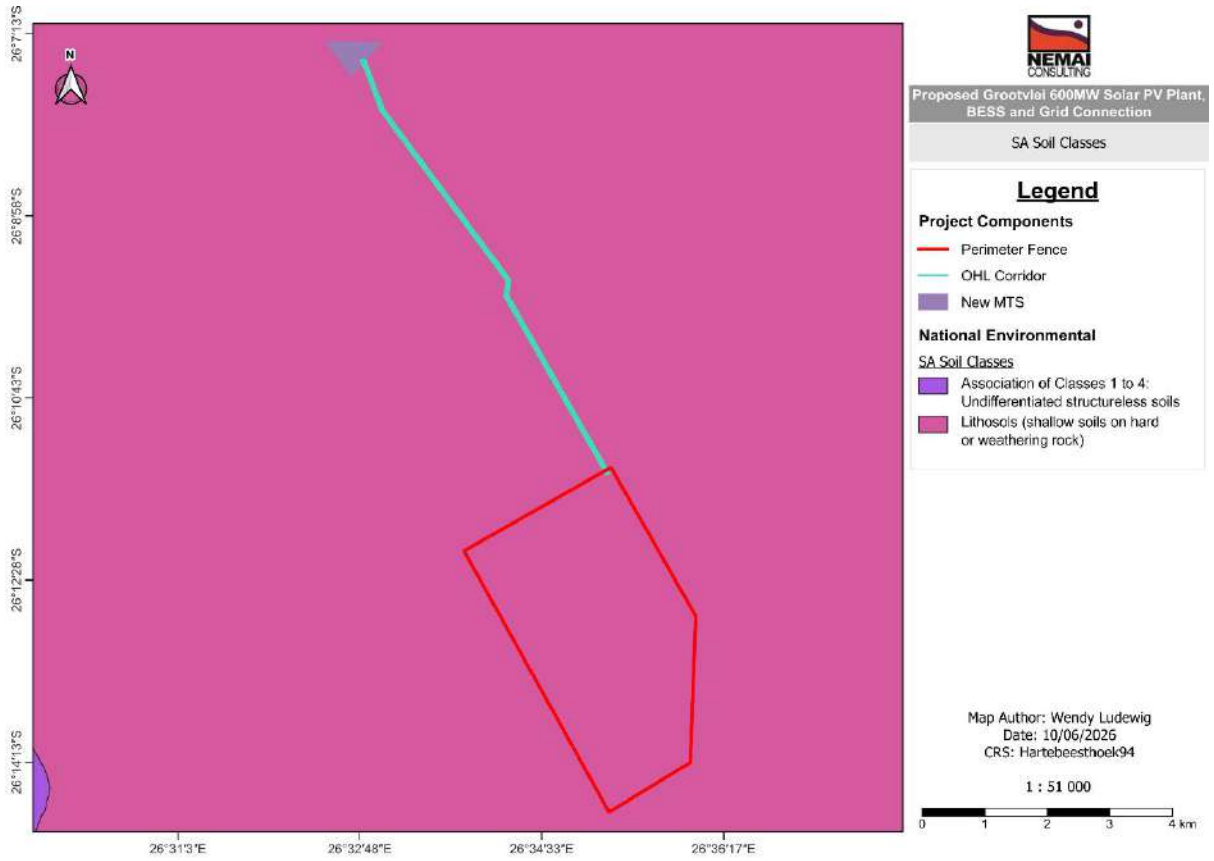


Figure 25: Project footprint in relation to SA soil classes

Site observations by the agriculture specialist indicate that the area is dominated by shallow Dresden, Mispah, Glenrosa, and Glencore (Type A) soil forms, with an effective rooting depth generally ranging between approximately 18 cm and 32 cm. In addition, a limited extent of moderately deep Glencore (Type B) soil was identified, with an effective rooting depth of approximately 35-48 cm (Mchunu, 2026).

11.4.3 Geohydrology

Groundwater is an important source of rural water supply within the JB Marks LM, and in the drier parts of the municipal area, groundwater constitutes the main source of water for rural domestic supplies and stock watering (JB Marks LM, 2025). Existing or new boreholes may be used as water sources for this Project. If this is not feasible, alternative options would be to tanker in the required water.

Potential Impacts / Implications

- Construction phase:
  - Erosion, if stormwater is not managed properly;
  - Use of heavy equipment during the construction phase may result in compaction of soil;

- Soil could be contaminated through inadequate storage and handling of hazardous materials, spillages from equipment and plant and poor management of waste, wastewater and cement mixing; and
- Groundwater could be contaminated through inadequate storage and handling of hazardous materials, spillages from equipment, and poor management of waste, wastewater and cement mixing.
- Topsoil may be lost if not properly stripped and stockpiled for use during rehabilitation.

❖ Operational phase:

- Erosion, if stormwater is not continuously managed properly.
- Groundwater could be contaminated through inadequate storage and handling of hazardous materials, leaks from the BESS and poor management of waste and wastewater.

Specialist Study Triggered / Additional Investigations

❖ The findings from a Geotechnical Assessment will be included in the EIA Report.
❖ Details regarding soil potential on the site will be provided in the Agricultural Compliance Statement, which will be included in the EIA Report.
❖ The EMPr will contain mitigation measures to manage the following:

- Impacts to soil (e.g., management of topsoil, preventing soil contamination during construction, managing erosion, etc.); and
- Impacts related to geotechnical considerations (e.g. managing stability of proposed Project, etc.) as determined in the Geotechnical Assessment.

11.5 Topography

Status Quo

11.5.1 General

The Project site elevation ranges from 1514 m to 1523 m above sea level. Across the entire Solar PV site, there is an elevation gain/loss of 24.5 m/-25.7 m with an average slope of 0.8%/-0.9%. This is illustrated in **Figure 26**. From east to west, the Project elevation ranges from 1524 m to 1509 m with an elevation gain/loss of 9.5 m/-19.0 m and an average slope of 0.8%/-1.1%.

The Project site's elevation is classified as level land that is a plain at a high level according to the Soil and Terrain (SOTER) Database (**Figure 27**).

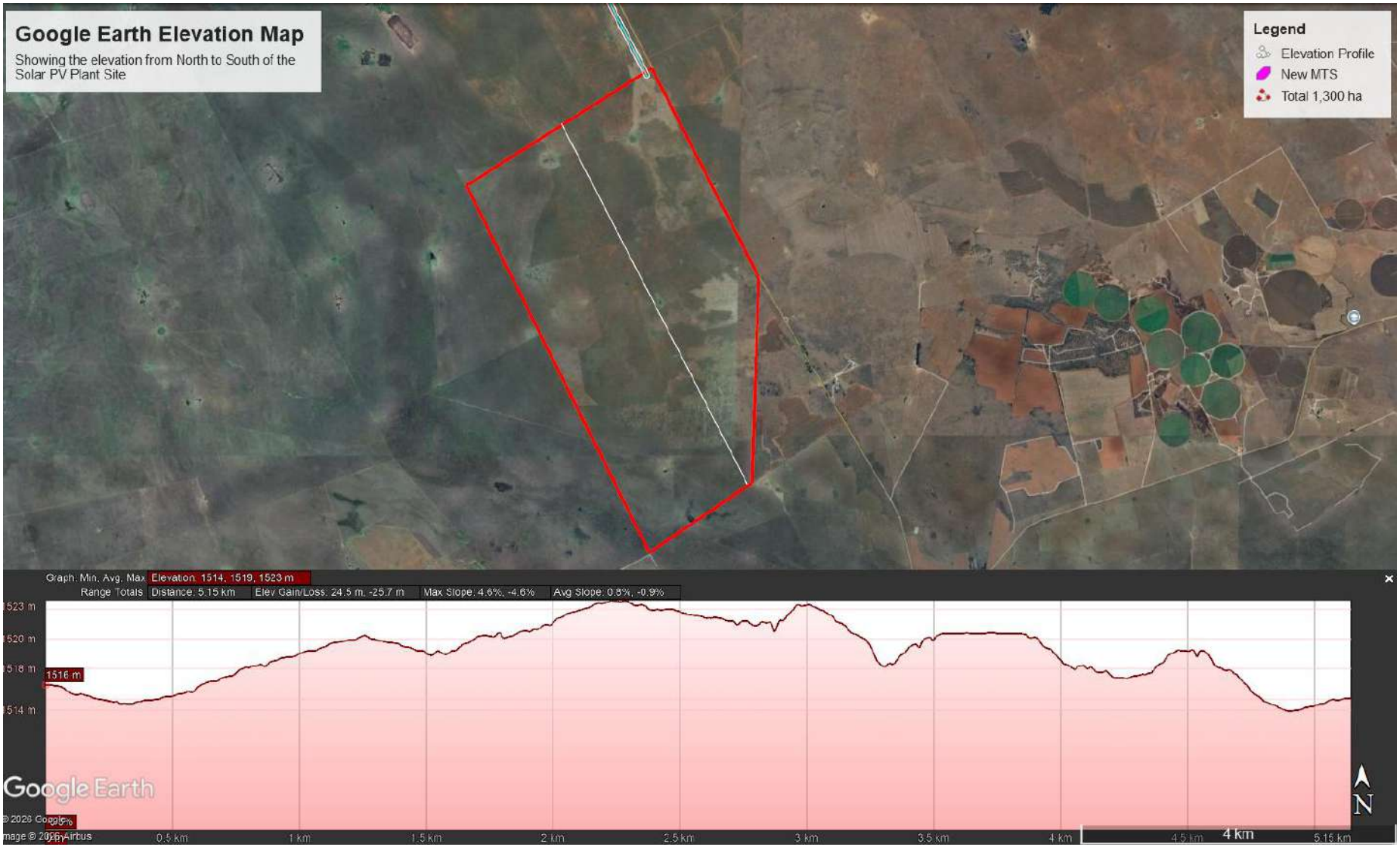


Figure 26: Elevation Profile of the Project site from Google Earth from north to south

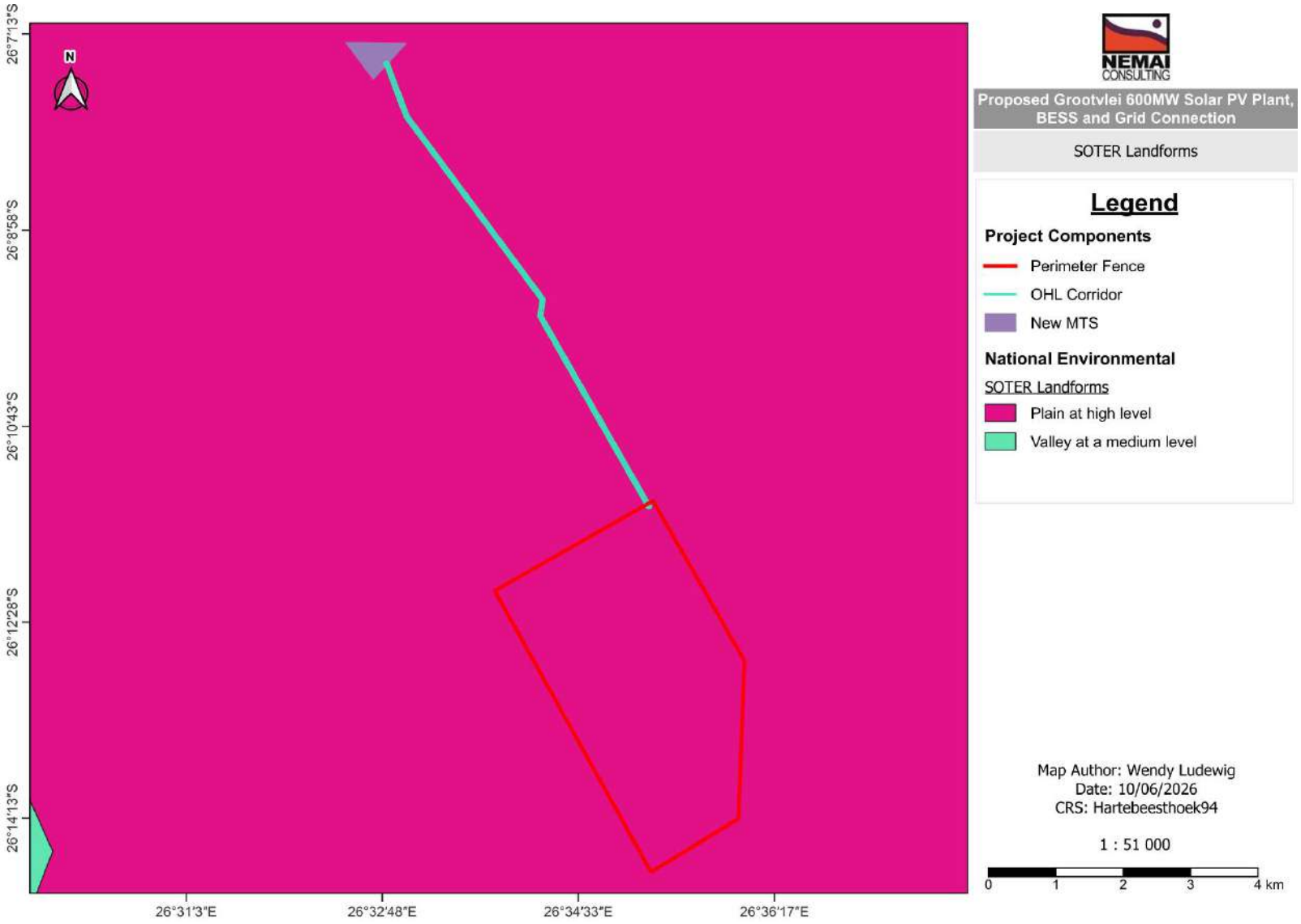


Figure 27: Topography of the Project site from the SOTER Landforms Database

11.5.2 The Screening Tool

According to the findings of the Screening Tool, the site consists of areas of very high sensitivity in terms of the relative landscape (solar) theme due to the occurrence of mountaintops and high ridges on the site (refer to **Figure 28** below).

Figure 28: Map of relative landscape (solar) theme sensitivity (Screening Tool)

Potential Impacts / Implications

- Construction phase:
  - Grading of the site to achieve design slopes for drainage and panel mounting could cause an impact on the topography of the site.
  - Erosion may occur in areas cleared for construction purposes.
  - Visual impacts may be caused by the transformation of the landscape.
- Operational phase:
  - The development of the Project will alter the drainage on the site and cause an increase in the runoff.
  - Visual impacts may be caused by the transformation of the landscape.

Specialist Study Triggered / Additional Investigations

- The findings from the Geotechnical Assessment will be included in the EIA Report.

- A Visual Impact Assessment will be undertaken, and the findings will be included in the EIA Report.
- The EMPr will make provisions for managing stormwater and preventing erosion.

11.6 Surface Water

Status Quo

11.6.1 Hydrological Setting

The Project site falls within Quaternary catchment C24F (refer to **Figure 29**) which forms part of the Vaal-Orange Water Management Area (WMA), WMA 4. This WMA includes major rivers such as the Wilge, Liebenbergsvlei, Mooi, Renoster, Vals, Sand, Vet, Harts, Molopo and Vaal. **Figure 29** maps the closest rivers, dams and the quaternary catchment of the Project site.

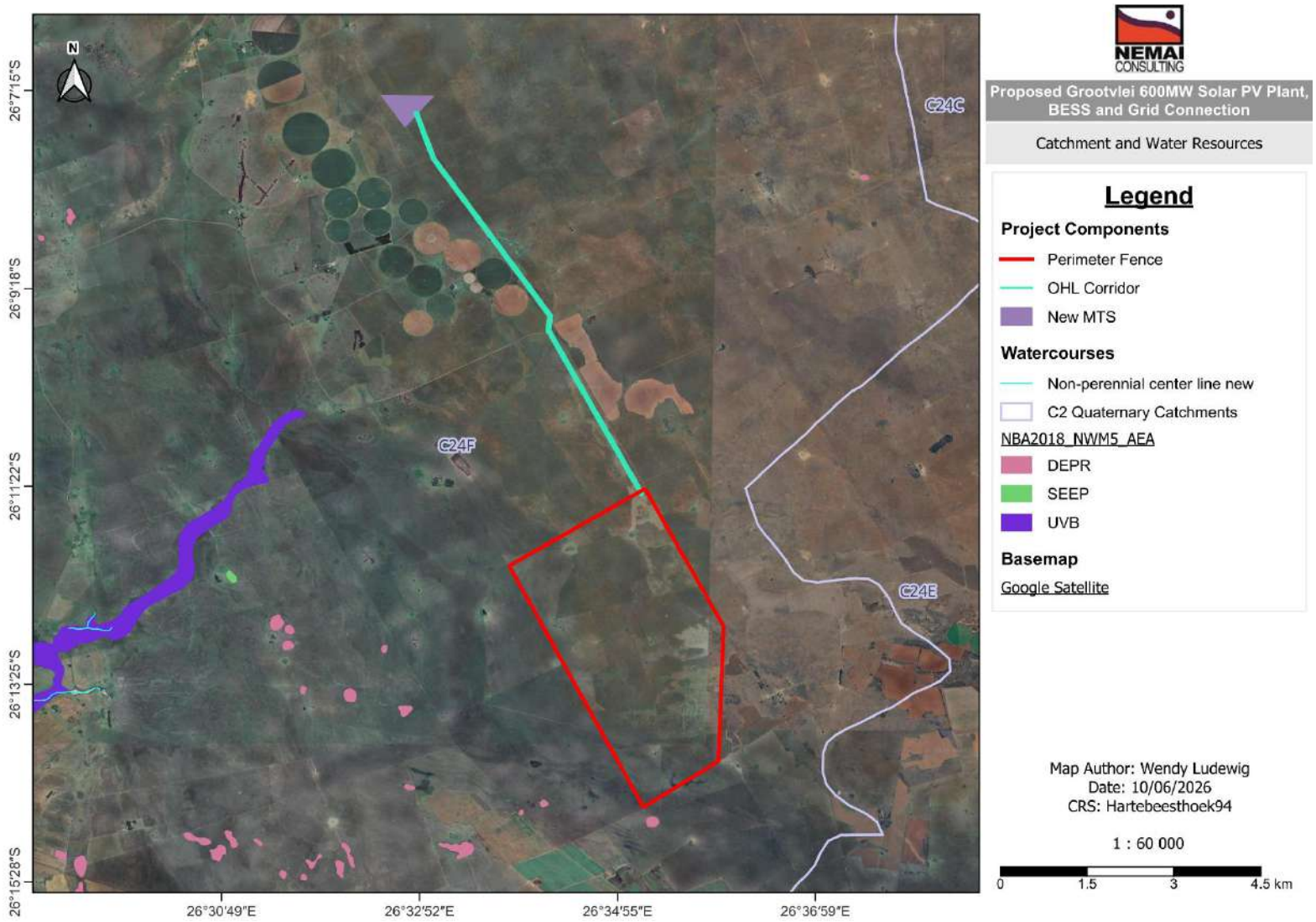


Figure 29: The Catchment, Rivers and NWM5 Wetlands near the Project site

11.6.2 Watercourses

The closest river to the Project site is a non-perennial watercourse located approximately 7 km away, which flows into the Taaibosspruit and ultimately drains into the Vaal River. No rivers occur within the Project site.

According to the National Wetland Map 5 (NWM5) (SANBI, 2018) and the North West BSP (Hawley *et al*., 2025), the Project site is located in proximity to a depression wetland and falls within areas classified as Wetland CBA1, ESA1, and ESA2 (refer to **Figure 29** and **Figure 30**).

The Aquatic SSV Report (Hoosen, 2026) identified four watercourses within the PAOI, defined as a 500 m buffer around the Project site (refer to **Figure 31**). Of these, one feature was identified as an artificial livestock-watering dam, while the remaining three were classified as natural-depression wetlands. This means that the Project site falls within the 500 m regulated area of a wetland (according to the NWA).

The depression wetlands were noted to have been historically disturbed by agricultural activities and are currently affected by sporadic farm dwellings, linear infrastructure (including dirt roads and overhead powerlines), and livestock grazing within the catchment. These activities have resulted in hydrological and geomorphological impacts. Vegetation within these areas comprises indigenous sedges (e.g. *Juncus spp*.) and hydrophilic grasses (e.g. *Imperata cylindrica*), as well as alien invasive species such as *Tagetes minuta*.

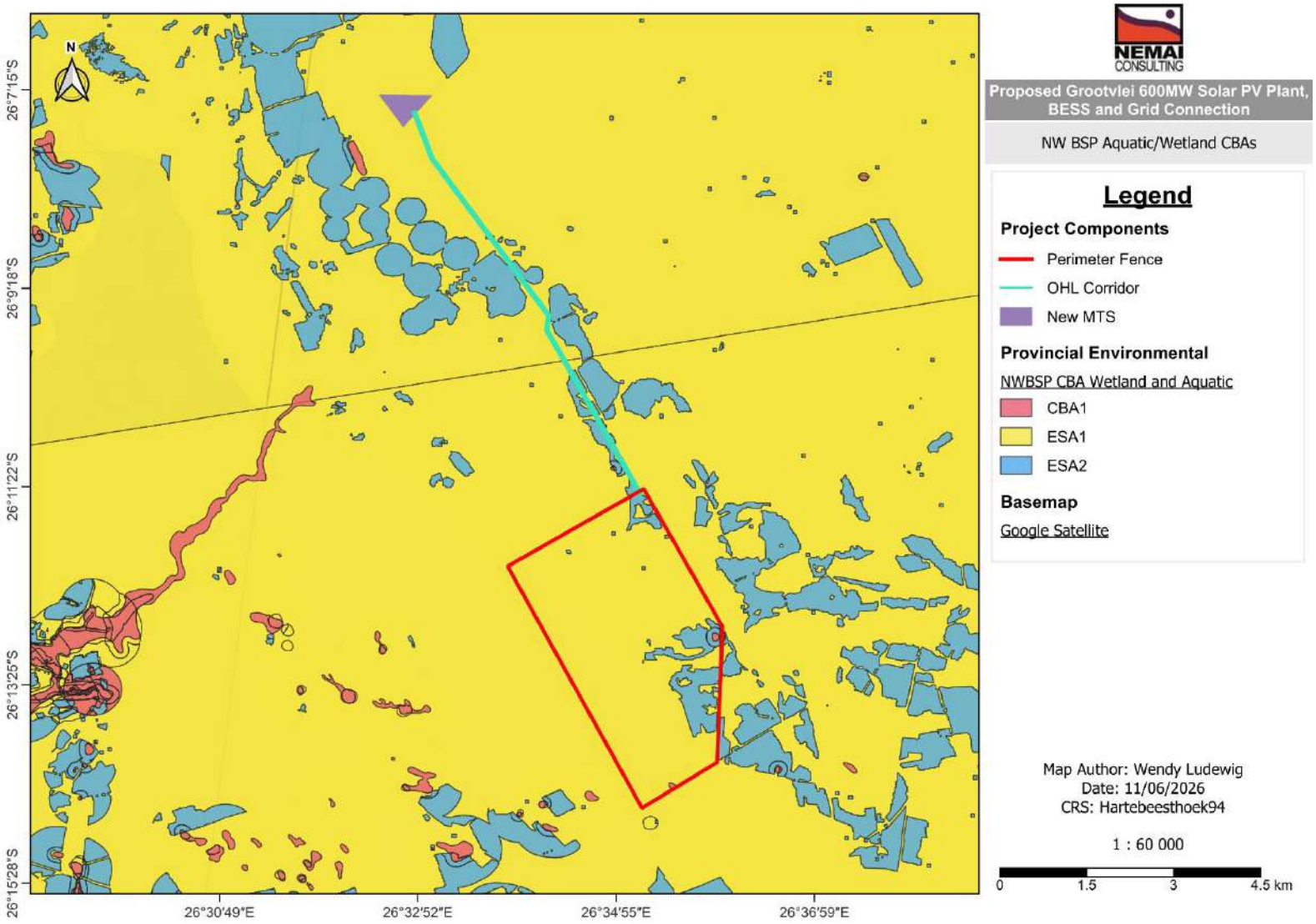


Figure 30: The North West BSP Aquatic/Wetland CBAs near the Project Site

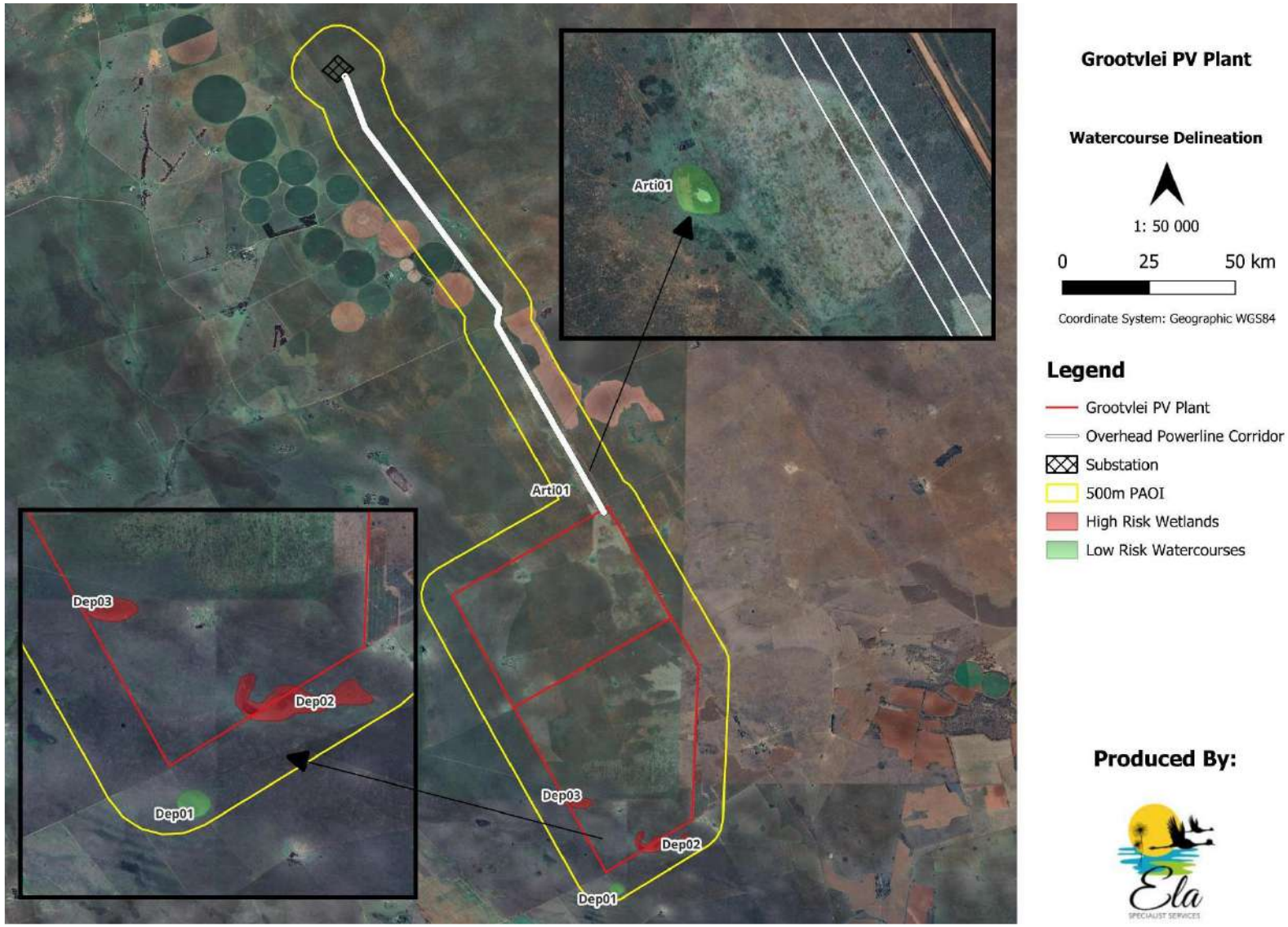


Figure 31: Delineated watercourses within the PAOI by the Aquatic Specialist (Hoosen, 2026)

11.6.3 The Screening Tool

According to the Screening Tool, most of the Project site occurs within a Very High Sensitivity area in terms of the Aquatic Biodiversity Theme, with only the southern section of the Project site occurring in a low sensitivity area (refer to **Figure 32**).

Figure 32: Map of relative Aquatic Biodiversity theme sensitivity for the Project Site (Screening Tool)

According to the SSV undertaken by an Aquatic specialist (**Appendix F**), the proposed Project is of very high sensitivity due to the depression wetlands falling within the proposed development footprint (refer to **Figure 31**). Therefore, a Wetland Impact Assessment will need to be undertaken as part of the EIA Phase.

Potential Impacts / Implications

- Construction Phase:
  - Damage to riparian corridors or destabilisation of morphology as a result of construction activities in proximity to the watercourses on the Solar Site and along the power line.
  - Reduction of water quality through sedimentation (e.g., silt from the construction site transported via runoff) and poor construction practices (e.g., improper management of wastewater, incorrect storage of material, spillages, etc.).
  - Temporary alteration of flow and the structure (i.e. bed and banks) of the watercourse on the PV Site as a result of poor management of stormwater.
  - Alteration of site drainage.
- Operational Phase:
  - Sedimentation through silt-laden runoff, caused by inadequate stormwater management.
  - Damage to the facility from major flood events.
  - Water resources could be contaminated through inadequate storage and handling of hazardous materials, leaks from the BESS and poor management of waste and wastewater.
  - Water use requirements of the Project need to be satisfied.
  - Alteration of site drainage.

Specialist Study Triggered / Additional Investigations

- A Wetland Impact Assessment will be compiled during the EIA Phase and included in the EIA Report.
- Mitigation measures from the Wetland Impact Assessment will be included in the EMPr.
- Should construction activities encroach into the regulated area of a watercourse (i.e. 1:100 year floodline / delineated riparian habitat, or 500 m of a wetland habitat), water use authorisation will be required in terms of Section 21 of the NWA.

11.7 Terrestrial Biodiversity

Status Quo

11.7.1 Biomes and Vegetation Types

The Project site is situated within the Grassland Biome. In South Africa, the Grassland Biome occurs mainly on the high central plateau (Highveld), the inland areas of the eastern seaboard, the mountainous areas of KwaZulu-Natal (KZN) and the central parts of the Eastern Cape (Mucina and Rutherford, 2006). However, grasslands can also be found below the Drakensberg, both in KwaZulu-Natal and the Eastern Cape, with floristic links to the high-altitude Drakensberg grassland (Mucina and Rutherford, 2006). The Project site is found in the Carletonville Dolomite Grassland vegetation bioregion (Mucina and Rutherford, 2006) (**Figure 33**).

A brief description of the Carletonville Dolomite Grassland Vegetation Type according to Mucina and Rutherford (2006) follows:

- Distribution: North-West (mainly) and Gauteng and marginally into the Free State Province: In the region of Potchefstroom, Ventersdorp and Carletonville, extending westwards to the vicinity of Ottoshoop, but also occurring as far east as Centurion and Bapsfontein in Gauteng Province.
- Vegetation and Landscape Features: Slightly undulating plains dissected by prominent rocky chert ridges. Species-rich grasslands form a complex mosaic pattern dominated by many species.

According to DFFE (2022), the conservation status of the vegetation type is as follows:

- The ecosystem is rated as Least Concern according to the 2022 Red List ecosystem data since there is 61% remaining of this ecosystem. It is not highly fragmented, and 6.1% is currently formally protected.

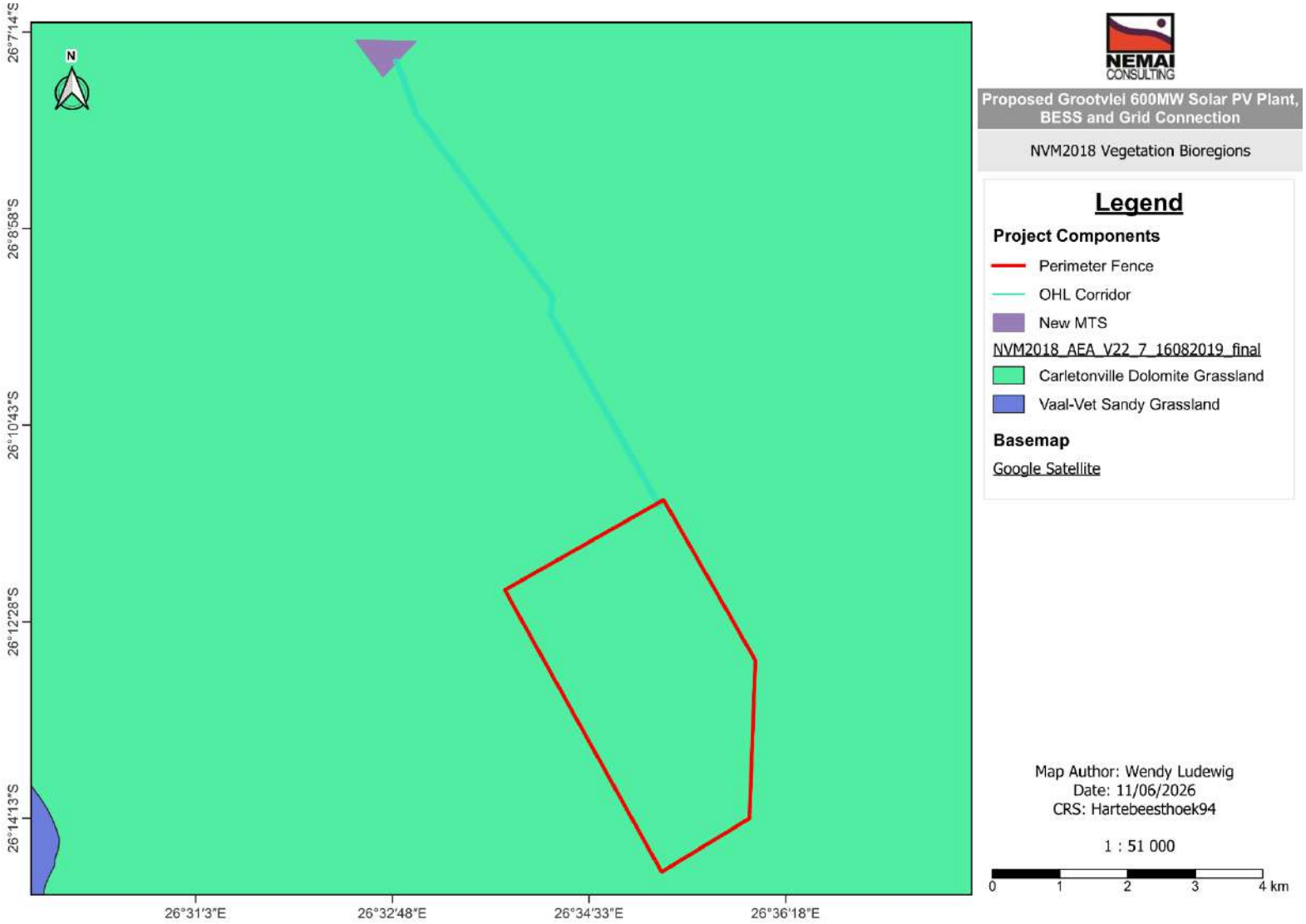


Figure 33: The vegetation bioregion associated with the Project area

11.7.2 Protected Areas

According to the spatial data from the South African Protected Area Database (SAPAD), the Klipstraat Private Nature Reserve and the Makokskraal Private Nature Reserve are located within 10 km of the site. As both reserves fall outside of any known important bird and biodiversity areas, this finding is unlikely to have a significant impact on the proposed development (**Figure 34**).

The site is also located within a Priority Focus Area in terms of the National Protected Area Expansion Strategy (NPAES) (**Figure 35**).

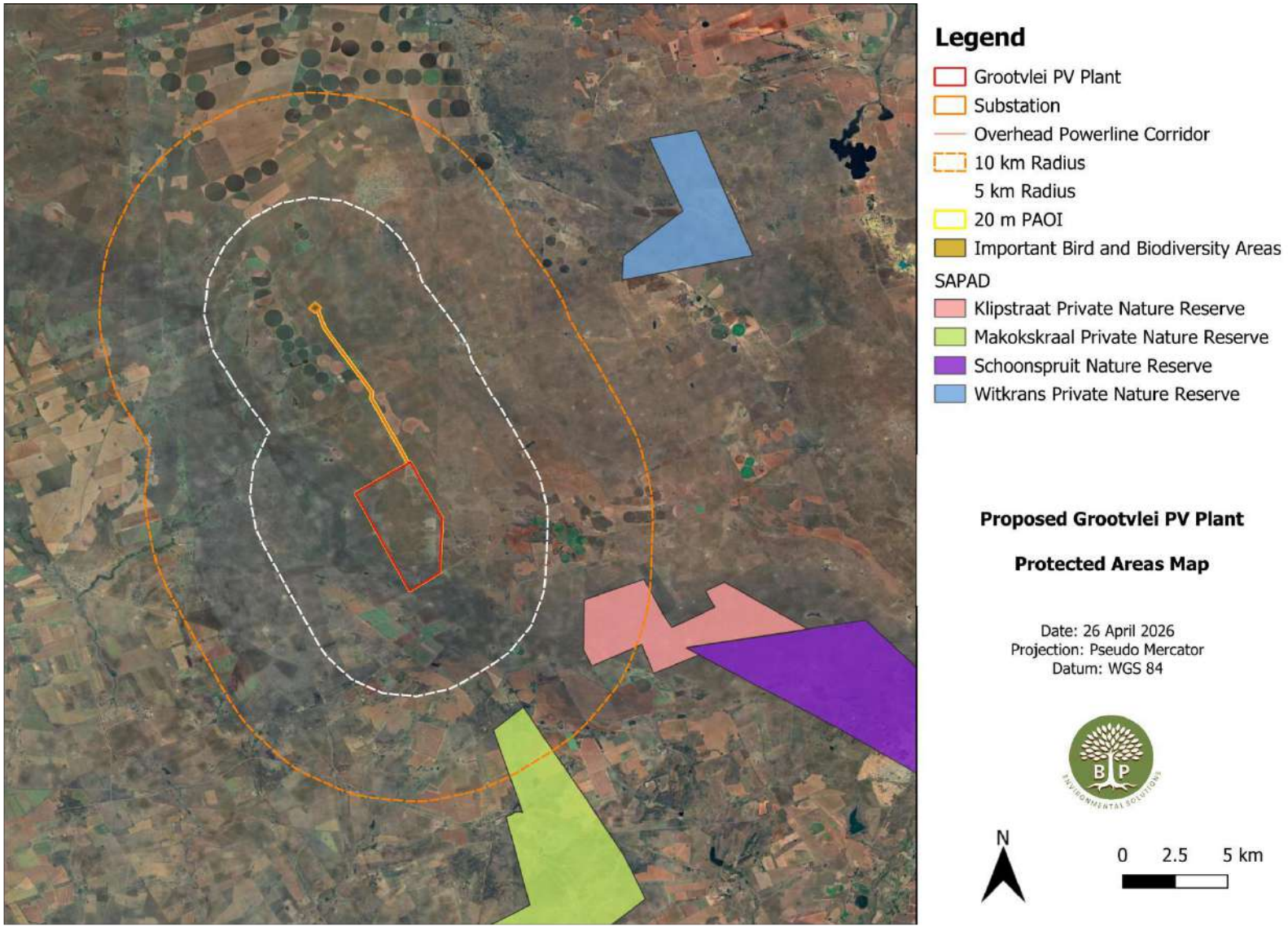


Figure 34: The Project area in relation to the nearest protected area (Paul, 2026)

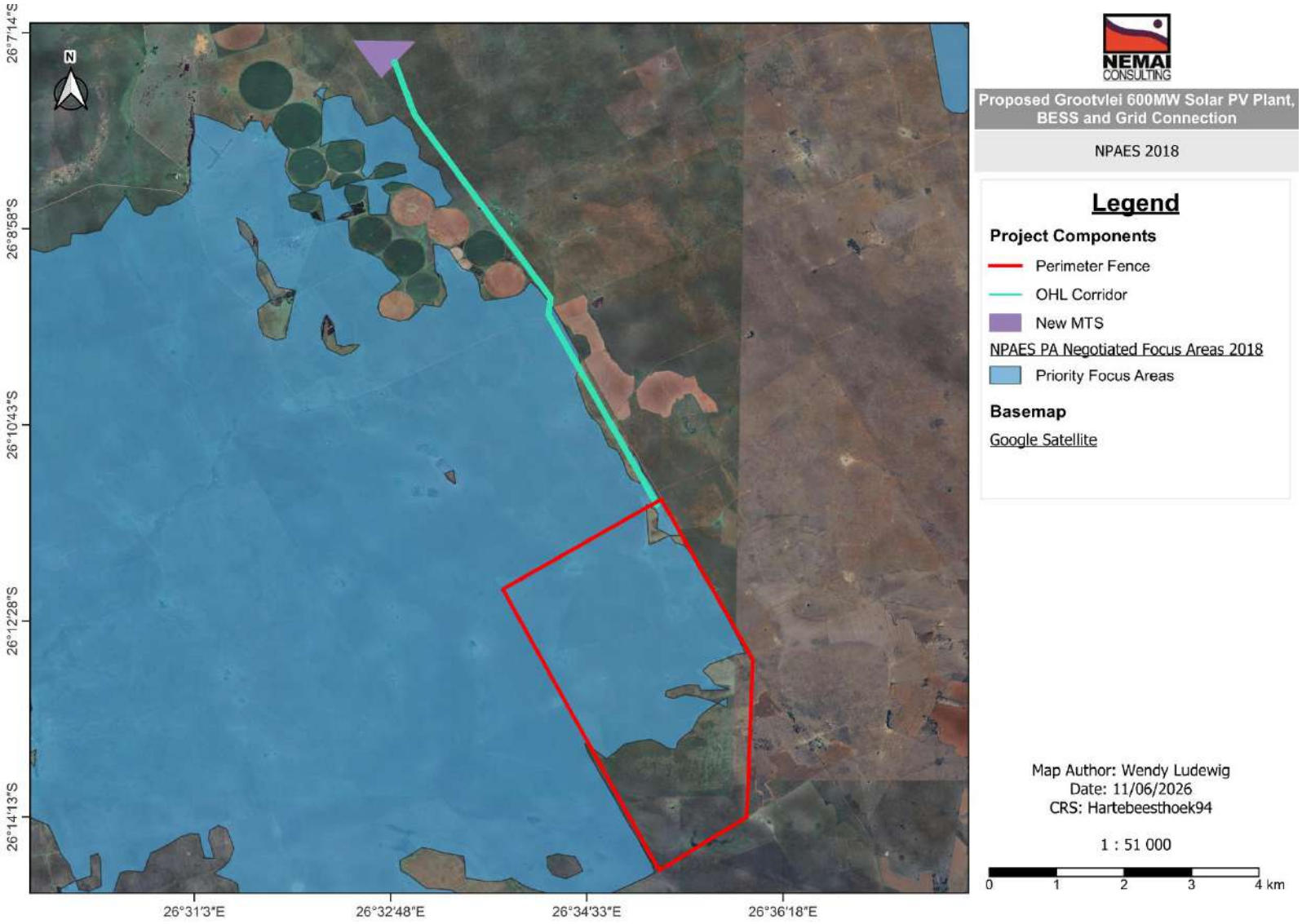


Figure 35: The Project area in relation to the NPAES of 2018

11.7.3 North West Biodiversity Sector Plan

According to the North West BSP Terrestrial CBAs, the Solar PV site falls within CBA2 and ESA1; sections of the Powerline fall within CBA1, CBA2, and ESA1; and the MTS falls within CBA1 (refer to **Figure 36** below).

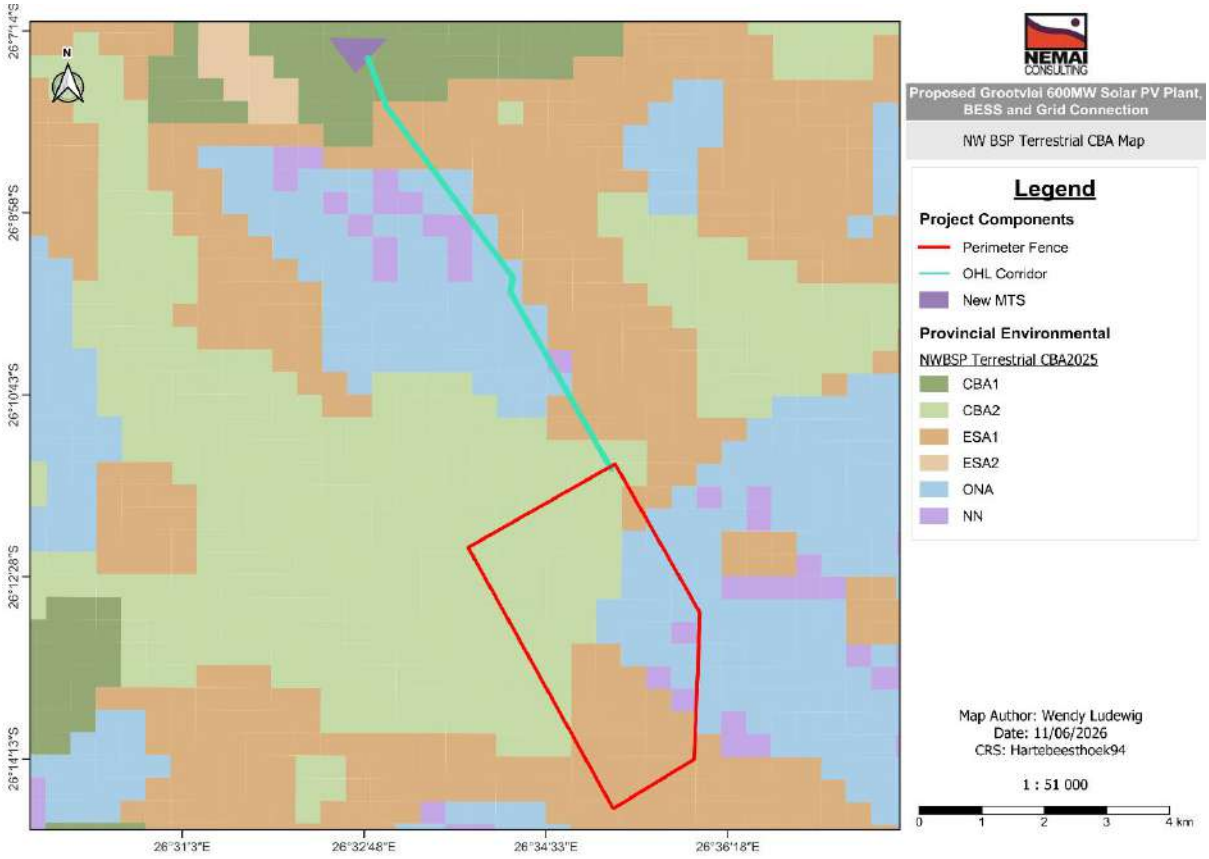


Figure 36: The Project site in relation to the North West BSP Terrestrial CBA Map

11.7.4 The Screening Tool

11.7.4.1 Animal Species Theme

According to the Screening Tool, most of the Project site falls within a Medium Sensitivity area in terms of the Animal Species Theme, with portions of the southern and northern sections of the Solar PV site and grid connection site occurring in a low sensitivity area (refer to **Figure 37**).

According to the SSV undertaken by a terrestrial specialist (**Appendix F**), the animal species theme sensitivity of the proposed Project ranges from very low to high sensitivity due to the presence of wetlands within the proposed development footprint (refer to **Figure 41**). Therefore, a Terrestrial Biodiversity Impact Assessment will need to be undertaken as part of the EIA Phase.

Figure 37: Map of relative Animal Species Theme Sensitivity for the Project Site (Screening Tool)

11.7.4.2 Plant Species Theme

According to the Screening Tool, most of the Project site falls within a Low Sensitivity area for the Plant Species Theme (refer to **Figure 38**).

According to the SSV undertaken by a terrestrial specialist (**Appendix F**), the plant species theme sensitivity of the proposed Project ranges from very low to high sensitivity due to the presence of wetlands within the proposed development footprint (refer to **Figure 41**). Therefore, a Terrestrial Biodiversity Impact Assessment will need to be undertaken as part of the EIA Phase.

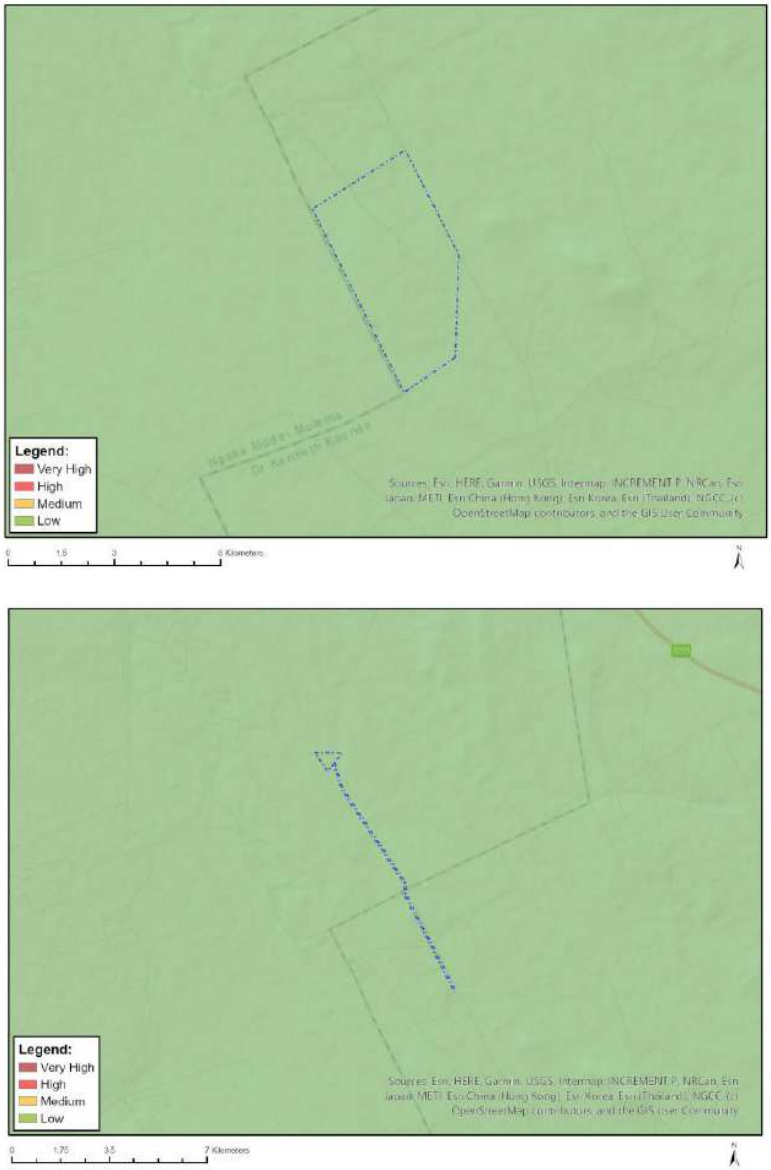


Figure 38: Map of relative Plant Species Theme Sensitivity for the Project Site (Screening Tool)

11.7.4.3 Terrestrial Biodiversity Theme

According to the Screening Tool, most of the Project site falls within a Very High Sensitivity area for the Terrestrial Biodiversity Theme, with portions of the southern and northern sections of the Solar grid connection site and portions of the southeastern section of the Solar PV site occurring in a low sensitivity area (refer to **Figure 39**).

According to the SSV undertaken by a terrestrial specialist (**Appendix F**), the terrestrial biodiversity theme sensitivity of the proposed Project ranges from very low to high sensitivity due to the presence of wetlands within the proposed development footprint (refer to **Figure 41**). Therefore, a Terrestrial Biodiversity Impact Assessment will need to be undertaken as part of the EIA Phase.

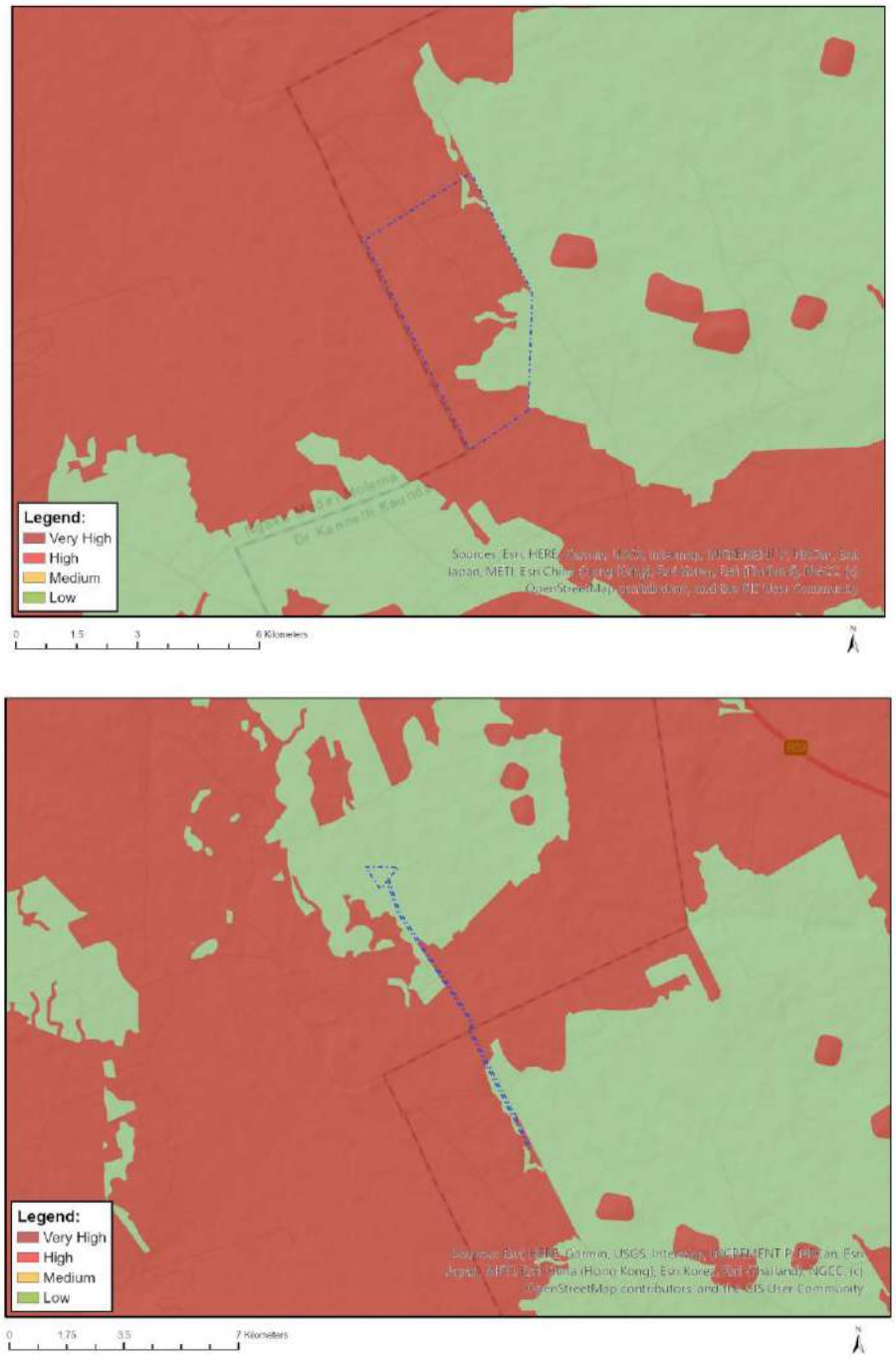


Figure 39: Map of relative Terrestrial Biodiversity Theme Sensitivity for the Project Site (Screening Tool)

11.7.4.4 Avian Theme

According to the Screening Tool, most of the Project site falls within a low sensitivity for the Avian Theme. However, the southern section of the Project site falls within a high sensitivity area, as it is located within 20 km of a known Cape Vulture restaurant site (refer to **Figure 40**).

According to the SSV undertaken by the terrestrial specialist (**Appendix F**), the site does not occur within any known important bird areas. However, this will be investigated further during the Terrestrial Biodiversity Impact Assessment, which will include the avian impact assessment to be undertaken as part of the EIA Phase.

Figure 40: Map of relative Avian Theme Sensitivity for the Project Site (Screening Tool)

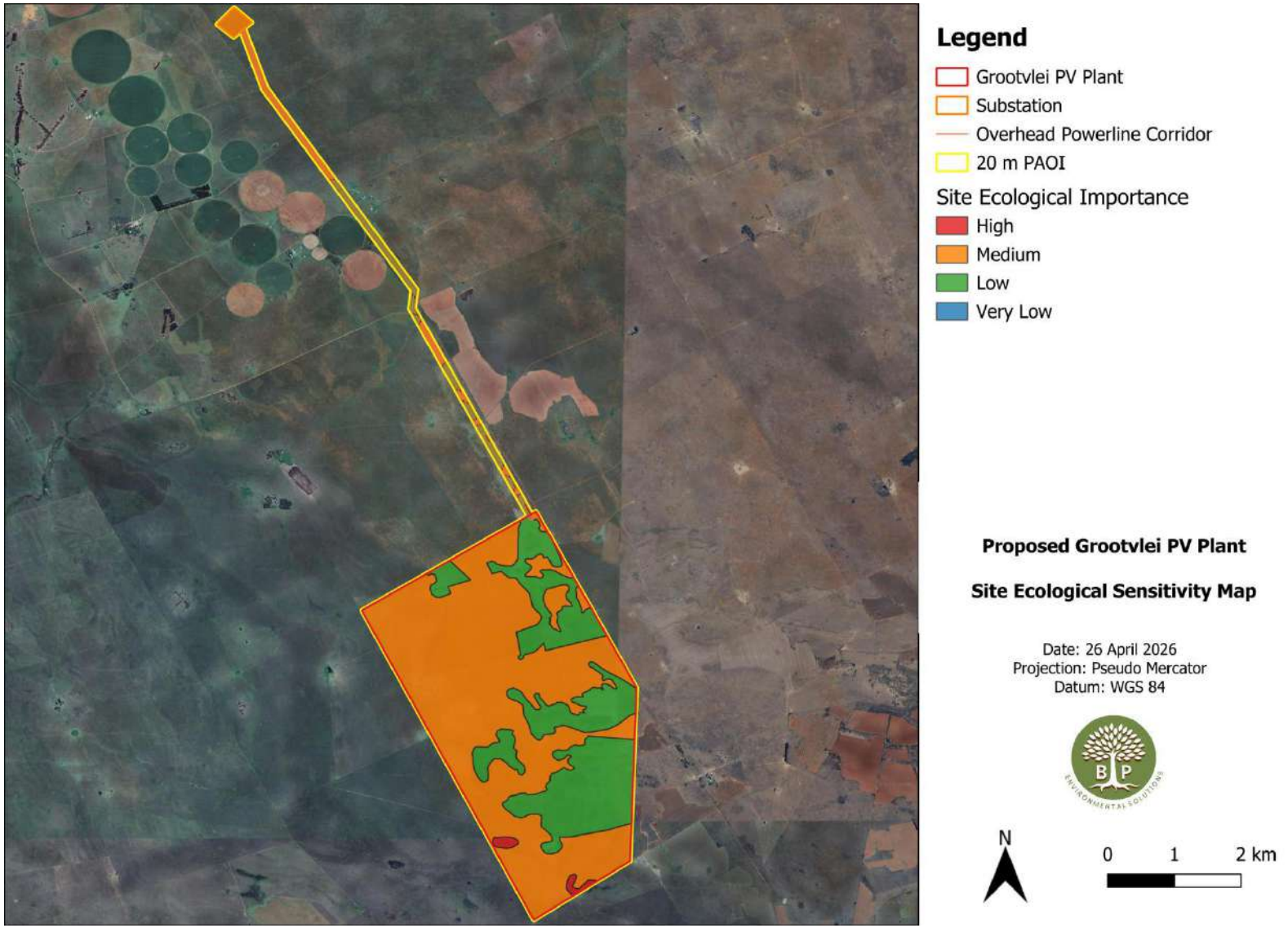


Figure 41: Site Ecological Importance (SEI) for the study area (Paul, 2026))

Potential Impacts / Implications

- Construction phase –
  - Clearance of vegetation for site preparation, along access roads, and other areas to be disturbed. This could result in habitat loss/fragmentation. The significance of habitat loss will need to consider the total area of habitat affected, the habitat's uniqueness, and the sensitivity and conservation status of the habitat and its associated species.
  - Potential loss, disturbance or displacement of protected fauna and flora species.
  - Human - animal conflicts.
  - Noise and vibration.
  - Night lights may affect nocturnal faunal species.
  - Illegal harvesting and poaching of faunal and floral species by construction workers.
  - Pollution of the biophysical environment from poor construction practices.
  - Proliferation of invasive alien species in disturbed areas.
- Operational phase –
  - Habitat fragmentation (e.g., barriers to animal movement).
  - Reflection of sunlight from the solar panels could adversely affect birds, including those species that use the watercourses on the site and surrounding areas.
  - Landscaping, re-seeding and vegetation control are required to remove the risk of vegetation shading modules and reducing the performance of the facility.
  - Chemical pollution associated with cleaning the PV panels.
  - Shading out of plants by solar panels.
  - Proliferation of invasive alien species in disturbed areas.

Specialist Study Triggered / Additional Investigations

- The compatibility of the project with the North West BSP and other environmental management and planning tools will be considered further during the EIA Phase.
- The Terrestrial Biodiversity Impact Assessment in the EIA Phase will assess the status of the sensitive ecological features. Suitable mitigation measures will be identified, and recommendations will be made to address potential impacts.
- The layout will be refined to incorporate the findings of the Terrestrial Biodiversity Impact Assessment and will take into consideration sensitive ecological features.
- Best practices to mitigate impacts to flora and fauna will be included in the EMPr.

11.8 Socio-Economic Environment

Status Quo

The Project Solar PV site and half of the power line are located within Ward 34 in the JB Marks LM, Dr Kenneth Kaunda DM. The rest of the powerline and the new MTS are located within Ward 17 of the Ditsobotla LM, Ngaka Modiri Molema DM.

11.8.1 JB Marks LM

JB Marks LM is a Category B municipality and the largest of the three in the district, making up almost half of the district's geographical area. The municipality was established by the amalgamation of the Ventersdorp and Tlokwe City Council LMs in August 2016.

The current socio-economic profile of the JB Marks LM reflects a relatively stable, moderately improving environment, characterised by a predominantly working-age population and gradual improvements in service delivery. As shown in **Table 8**, the demographic structure is dominated by individuals aged 15–64 years, indicating a strong economically active population, while the proportion of dependent age groups (children and the elderly) remains comparatively lower. This is further supported by a declining dependency ratio, which suggests a reduced economic burden on the working population. The population pyramid presented in **Figure 42** illustrates a broad-based but gradually stabilising age structure, with a slightly higher proportion of females across most age groups.

In terms of socio-economic conditions, there have been notable improvements in education and living standards. The proportion of individuals with no formal schooling has decreased, while access to higher education has remained relatively consistent. Household characteristics have remained stable, with only slight changes in the number of households and average household size. Importantly, access to basic services has improved significantly, with increases in formal housing, sanitation, piped water, electricity, and refuse removal, as reflected in **Table 8**.

The population is largely homogenous in terms of population group composition, with **Figure 43** indicating that the majority of the population is Black African, with relatively small proportions of other groups. Overall, the municipality demonstrates steady socio-economic progress, with ongoing improvements in infrastructure and service delivery that positively affect living conditions in the area.

Table 8: Key Statistics for the population in the JB Marks LM (Stats SA, 2026)

Name	2022 Census	2011 Census
Total population	212 670	219 463
Young children (0-14 years)	25,4%	27,4%
Working age population (15-64 years)	68,0%	66,8%
Elderly (65+ years)	6,5%	5,8%

Name	2022 Census	2011 Census
Dependency ratio	47,0	49,7
Sex ratio	93,3	99,1
No schooling (20+ years)	6,3%	9,4%
Higher education (20+ years)	11,0%	11,6%
Number of households	66 719	67 098
Average household size	3,2	3,3
Formal dwellings	84,4%	78,5%
Flush toilets connected to sewerage	80,2%	75,4%
Weekly refuse disposal service	75,1%	57,1%
Access to piped water in the dwelling	57,7%	48,9%
Electricity for lighting	89,8%	87,4%

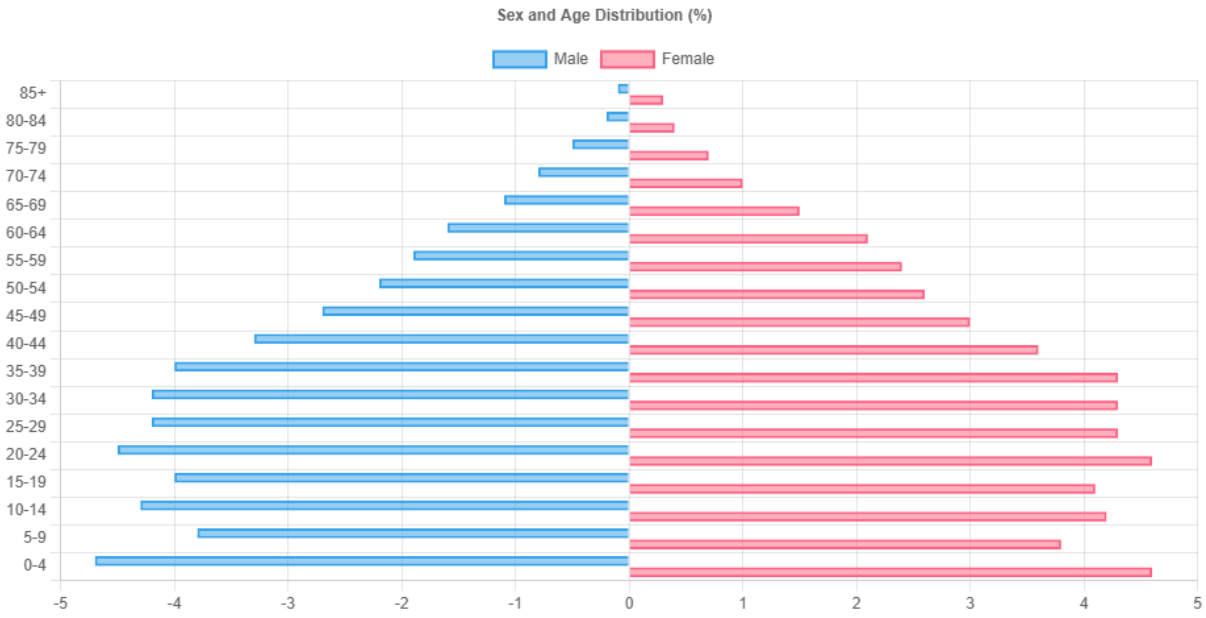


Figure 42: Sex & Age Distribution of the total population of the JB Marks LM (Stats SA, 2026)

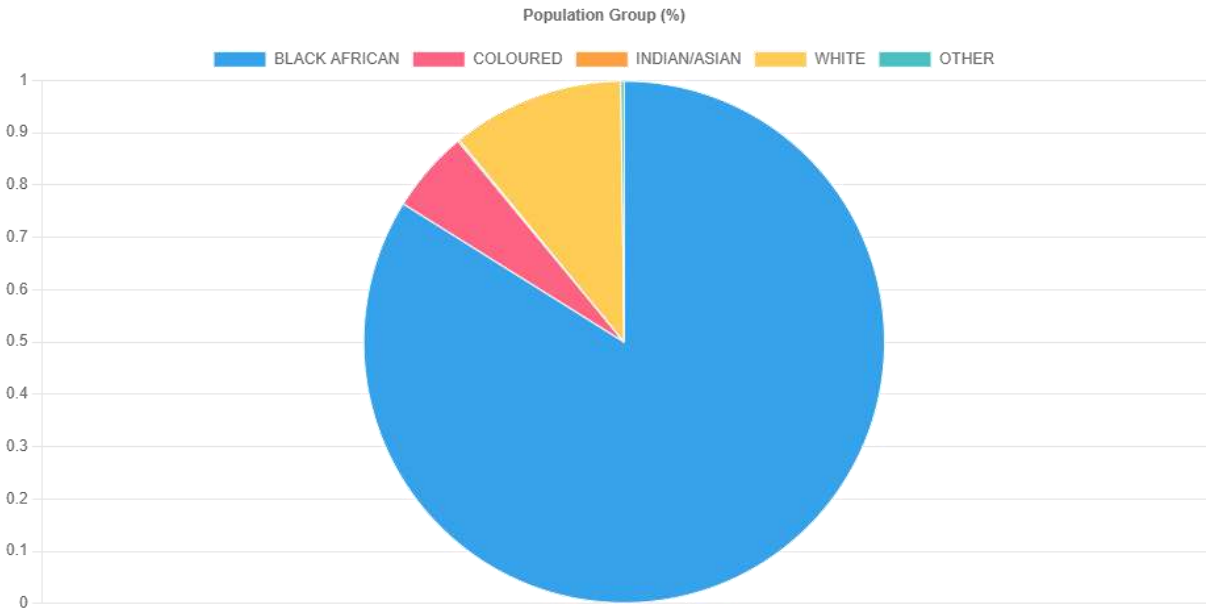


Figure 43: Population group ethnicity of the total population of the JB Marks LM (Stats SA, 2026)

11.8.2 Ditsobotla LM

Ditsobotla is one of five LMs in the Ngaka Modiri Molema DM, with the second-largest population in the DM (Ngaka Modiri Molema DM, 2025).

The current socio-economic environment of the Ditsobotla LM reflects a population that is gradually stabilising, with moderate improvements in service delivery alongside some persistent challenges. As presented in **Table 9**, the municipality is characterised by a predominantly working-age population, which increased from 61.9% in 2011 to 64.4% in 2022, while the proportion of young children has declined. The elderly population remains relatively small but shows a slight increase, contributing to a reduction in the dependency ratio, indicating a decreasing burden on the economically active population. The population pyramid in **Figure 44** further reflects a youthful but gradually maturing population structure, with females slightly outnumbering males across most age groups.

In terms of socio-economic conditions, there have been notable improvements in education and household living conditions. The proportion of individuals with no schooling has decreased significantly, while the proportion with higher education has remained stable. Household characteristics remain relatively consistent, although there is a slight decline in the total number of households and a marginal increase in average household size. Access to basic services shows mixed trends. While there have been improvements in access to formal housing, sanitation, piped water, and electricity, as reflected in **Table 9**, there has been a decline in weekly refuse removal services, indicating potential service delivery challenges in certain areas.

The population composition, as illustrated in **Figure 45**, is dominated by the Black African group, with minimal representation from other population groups. Overall, the municipality

demonstrates gradual socio-economic progress, particularly in infrastructure provision and education, although some service delivery gaps remain that may require targeted intervention.

Table 9: Key Statistics for the population in the Ditsobotla LM (Stats SA, 2026)

Name	2022 Census	2011 Census
Total population	164 176	168 902
Young children (0-14 years)	29,6%	32,6%
Working age population (15-64 years)	64,4%	61,9%
Elderly (65+ years)	6,0%	5,5%
Dependency ratio	55,3	61,5
Sex ratio	95,5	102,0
No schooling (20+ years)	9,7%	14,7%
Higher education (20+ years)	6,5%	6,5%
Number of households	42 416	44 500
Average household size	3,9	3,8
Formal dwellings	90,0%	74,2%
Flush toilets connected to sewerage	66,3%	47,3%
Weekly refuse disposal service	29,3%	37,6%
Access to piped water in the dwelling	44,5%	34,9%
Electricity for lighting	92,7%	74,0%

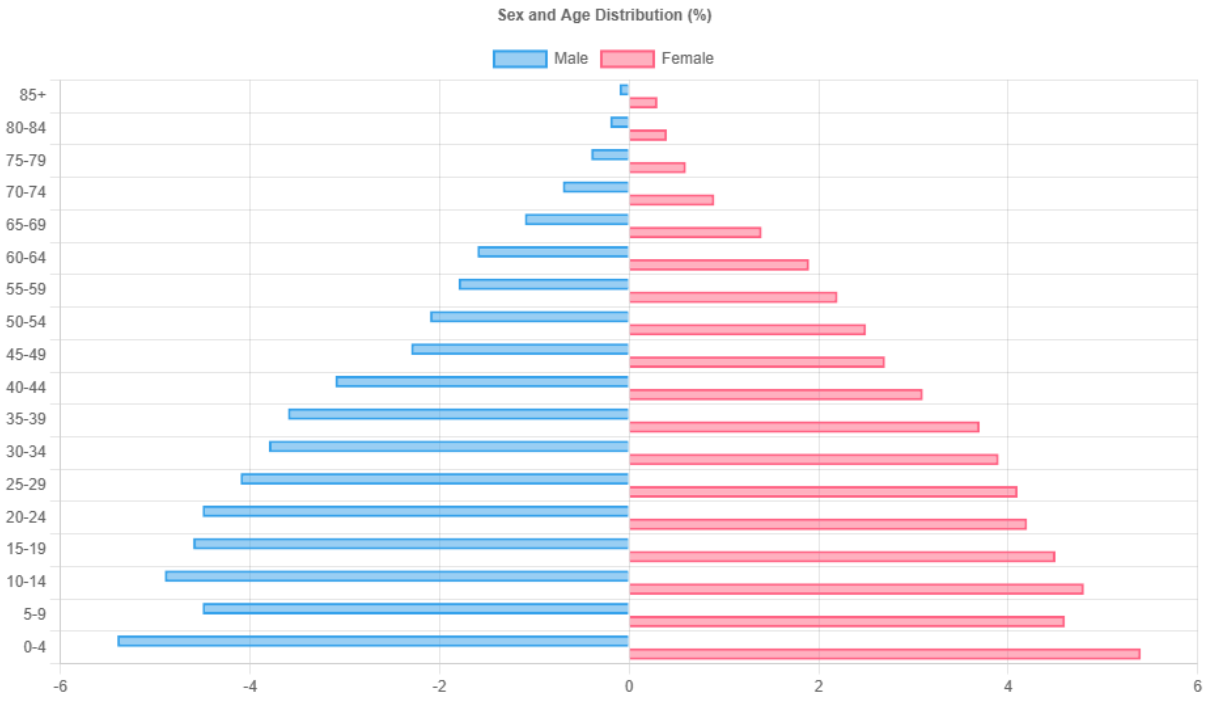


Figure 44: Sex & Age Distribution of the total population of the Ditsobotla LM (Stats SA, 2026)

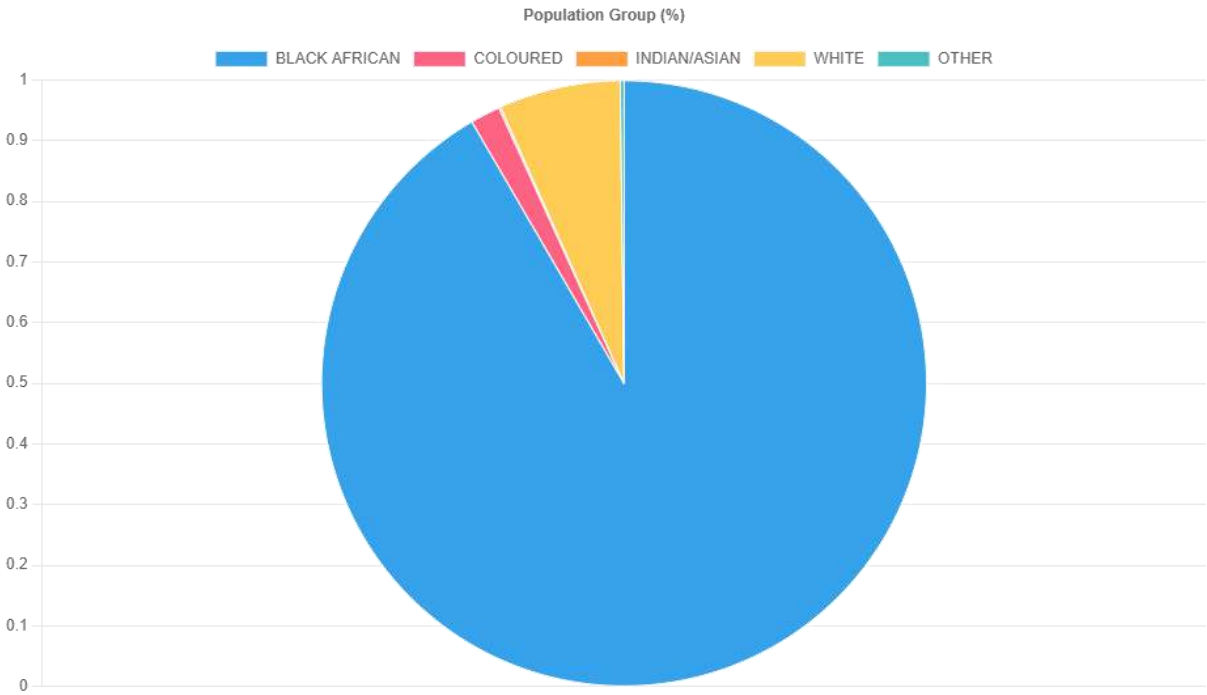


Figure 45: Population group ethnicity of the total population of the Ditsobotla LM (Stats SA, 2026)

Potential Impacts / Implications

- Construction phase:
  - Influx of people seeking employment and associated impacts (e.g., foreign workforce, cultural conflicts, squatting, demographic changes, anti-social behaviour, and incidence of HIV/AIDS).
  - Safety and security of the local community during construction.
  - Use of the local road network by construction vehicles.
  - Nuisance from dust, noise, vibration and light pollution.
  - Consideration of local labourers and suppliers in the area – stimulation of the local economy (positive impact).
  - Transfer of skills (positive impact).
- Operational phase:
  - Once established, the operation of the Solar PV Plant would result in direct and indirect economic opportunities.
  - Visual impacts on surrounding communities.

Specialist Study Triggered / Additional Investigations

A Social Impact Assessment will be undertaken, and mitigation measures will need to be identified to manage impacts to the local social environment. The findings will be included in the EIA Report.

11.9 Air Quality

Status Quo

The air quality in the vicinity of the project site is considered fair based on available information from AccuWeather (AccuWeather, 2026). Potential sources of air pollution in the region include fugitive dust emissions associated with agricultural activities, as well as vehicle exhaust emissions from traffic on both paved and unpaved roads, including the N12, R53, surrounding regional routes, and local roads within Ventersdorp. Additional contributors may include biomass burning, such as veld fires, domestic fuel combustion, and emissions from industrial and mining operations in the broader area. Waste treatment and disposal activities may also contribute to localised air pollution, alongside other sources of fugitive dust such as wind erosion from exposed surfaces.

Potential Impacts / Implications

- The Project proposes the use of a renewable resource (solar), which is a cleaner form of energy generation than using fossil fuels, with environmental benefits.
- Construction phase:
  - Dust from the use of dirt roads by construction vehicles;
  - Dust from bare areas that have been cleared for construction purposes;
  - Emissions from construction equipment and machinery; and
  - Tailpipe emissions from construction vehicles.
- Operational phase:
  - The efficiency of the solar plant could be reduced if the modules are soiled (covered) by particulates/dust.
  - Impacts to air quality caused by the operation and maintenance of the facility included dust from the use of dirt roads and tailpipe emissions from vehicles.

Specialist Study Triggered / Additional Investigations

- Mitigation measures will be included in the EMPr to ensure that the air quality impacts during the construction phase are suitably managed and that regulated thresholds are not exceeded.
- Soiling of modules will require an appropriate maintenance and cleaning plan.

11.10 Visual Quality

Status Quo

The visual character of the Project site is typical of a rural agricultural landscape, comprising predominantly open grassland, generally flat topography, and extensive views across the

surrounding area (**Figure 48**). The site is characterised by a mosaic of natural grass cover interspersed with disturbed or exposed soil, including visible vehicle tracks and compacted ground associated with farming activities. Livestock grazing is evident throughout the site, as indicated by the presence of reservoirs and feeding troughs (**Figure 46**). Additional visual features include scattered rocks and low stone-packed areas, as well as isolated farm-related infrastructure such as fencing and a small structure with solar panels (**Figure 47**). Vegetation is generally low-growing, with occasional trees and shrubs, contributing to the landscape's open, expansive character (**Figure 49**). Overall, the visual quality of the Project site is consistent with the surrounding agricultural environment.

Figure 46: Livestock grazing area on the Project site

Figure 47: Stone-packed areas and scattered rocks on the Project site

Figure 48: Open grassland, flat topography and extensive views of the surrounding landscape of the Project site

Figure 49: Clump of trees on the Project site

Potential Impacts / Implications

- Construction phase:
  - Clearing of vegetation.
  - Construction-related activities.
  - Inadequate waste management and housekeeping.
  - Inadequate reinstatement and rehabilitation of areas affected by construction activities, outside of the permanent development footprint.
- Operational phase:
  - Visual impact associated with the changing of the landscape to include the Solar PV Plant.
  - Visual impact of operational, safety and security lighting of the facility at night on observers residing in close proximity to the Project.
  - Solar panels are designed to absorb, not reflect, irradiation. However, glint and glare may have an impact from an aviation perspective.
  - Inadequate housekeeping and waste management during operations.

Specialist Study Triggered / Additional Investigations

A Visual Impact Assessment will be undertaken, and the findings will be included in the EIA Report.

11.11 Noise & Vibration

Status Quo

In terms of the local acoustical environment, the background noise levels are expected to be typical of a rural area. Noise in the greater area emanates primarily from farming operations (e.g., the use of farming equipment), vehicles on the surrounding road network, human activities in surrounding settlements, mining activities and trains passing along the railway.

According to the SSV (**Appendix F**), the proposed Project will not be a significant source of noise during the operational phase. Therefore, most of the noise impact from the Project is expected during the construction phase. The SSV determined the noise sensitivity to be low.

Potential Impacts / Implications

- Construction phase:
  - Localised increases in noise may be caused by:
    - Construction equipment, machinery and vehicles;
    - Construction material delivery vehicles;
    - General activities at the construction camp; and

- Noise created by the labour force.

❖ Operational phase:

- Solar PV facilities produce electricity during the daytime hours, when the sun's rays are collected by the panels. When irradiance is low or nonexistent, noise emitted by the equipment is significantly reduced. The main sources of noise from the Project will be the rack-mounted inverters and the central step-up transformer, which are expected to be audible only to operational staff who come into close proximity to these components.
- Operation and maintenance of vehicles and activities.

Specialist Study Triggered / Additional Investigations

Noise emanating from construction and operational activities will be addressed through targeted best-practice management measures in the EMPr. The associated regulatory standards must be adhered to.

11.12 Agriculture

Status Quo

11.12.1 General

The Project area is characterised by a generally low agricultural potential, with the prevailing soils classified as non-arable and assigned a Class VI land capability rating, indicating that the land is best suited to grazing at most (Mchunu, 2026) (refer to **Figure 50**). Furthermore, data from the Agricultural Geo-Referenced Information System (AGIS) indicate that the grazing capacity within the project area ranges from 5 to 7 hectares per Large Stock Unit (LSU). This reflects the extent of land required to sustain grazing for a standard LSU, defined in terms of the Conservation of Agricultural Resources Act (Act No. 43 of 1983) (CARA), (Regulation 10), as an animal weighing approximately 450 kg with a daily mass gain of 0.5 kg on forage with a digestible energy content of 55% (Mchunu, 2026).

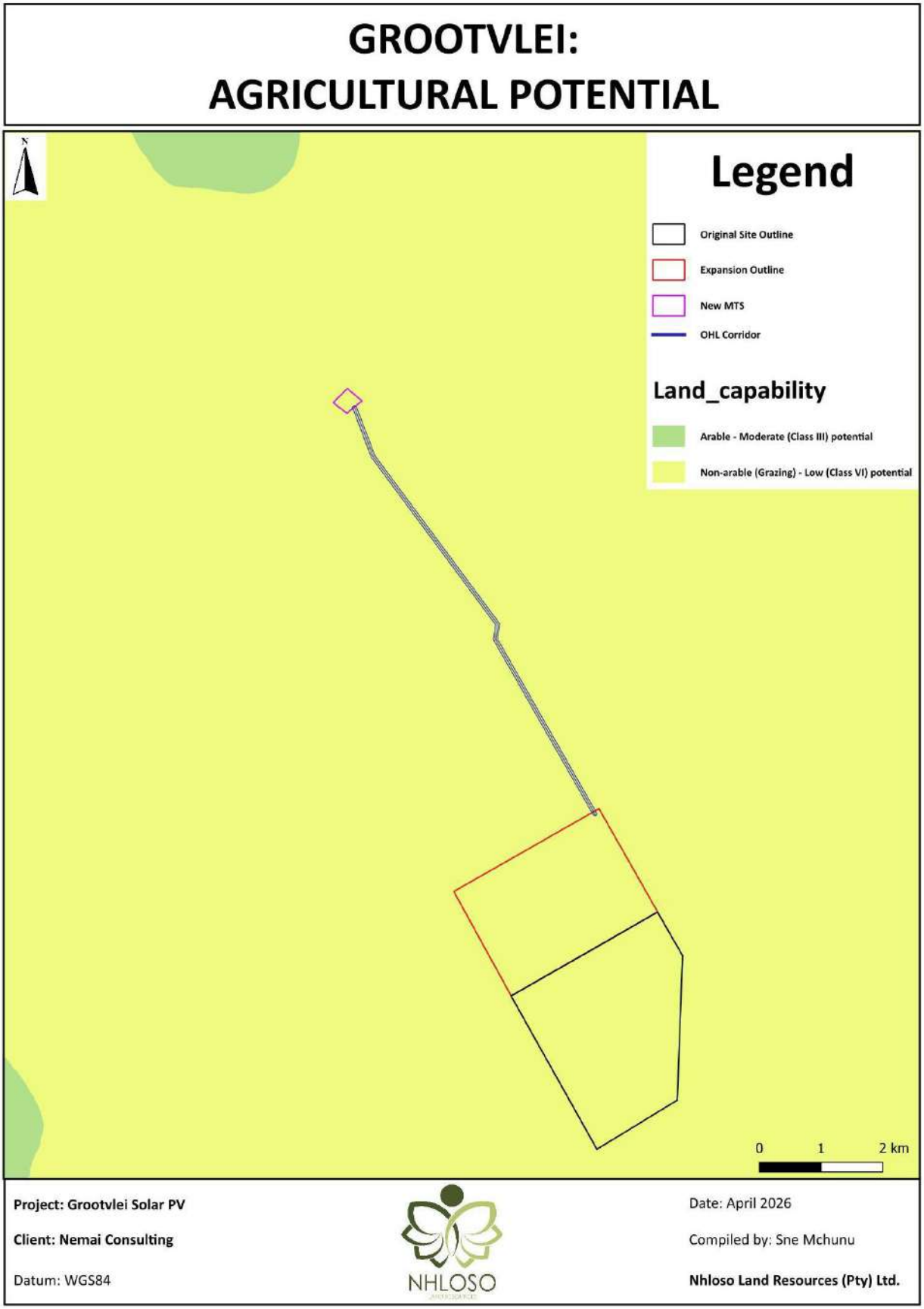


Figure 50: Land Capability in the vicinity of the Project site (Mchunu, 2026)

11.12.2 The Screening Tool

According to the Screening Tool, most of the Project site falls within a medium-sensitivity area for the Agriculture Theme, with scattered portions across the Project site within high-sensitivity areas (refer to **Figure 51**).

According to the SSV undertaken by an agricultural specialist (**Appendix F**), the agricultural theme sensitivity of the proposed Project is mostly low, with two small, isolated spots of medium sensitivity (refer to **Figure 52**). Therefore, it was determined that only an Agricultural Compliance Statement is required as part of the EIA Phase.

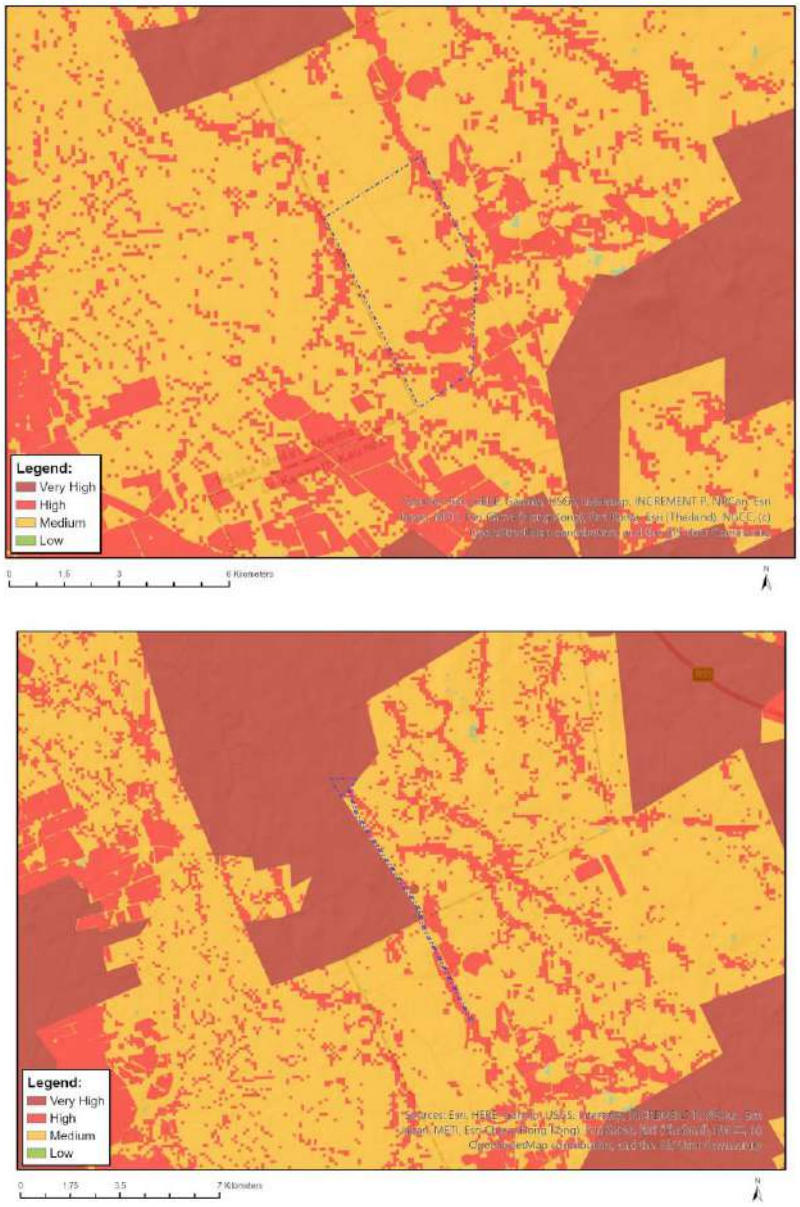


Figure 51: Map of relative Agriculture Theme Sensitivity for the Project Site (Screening Tool)

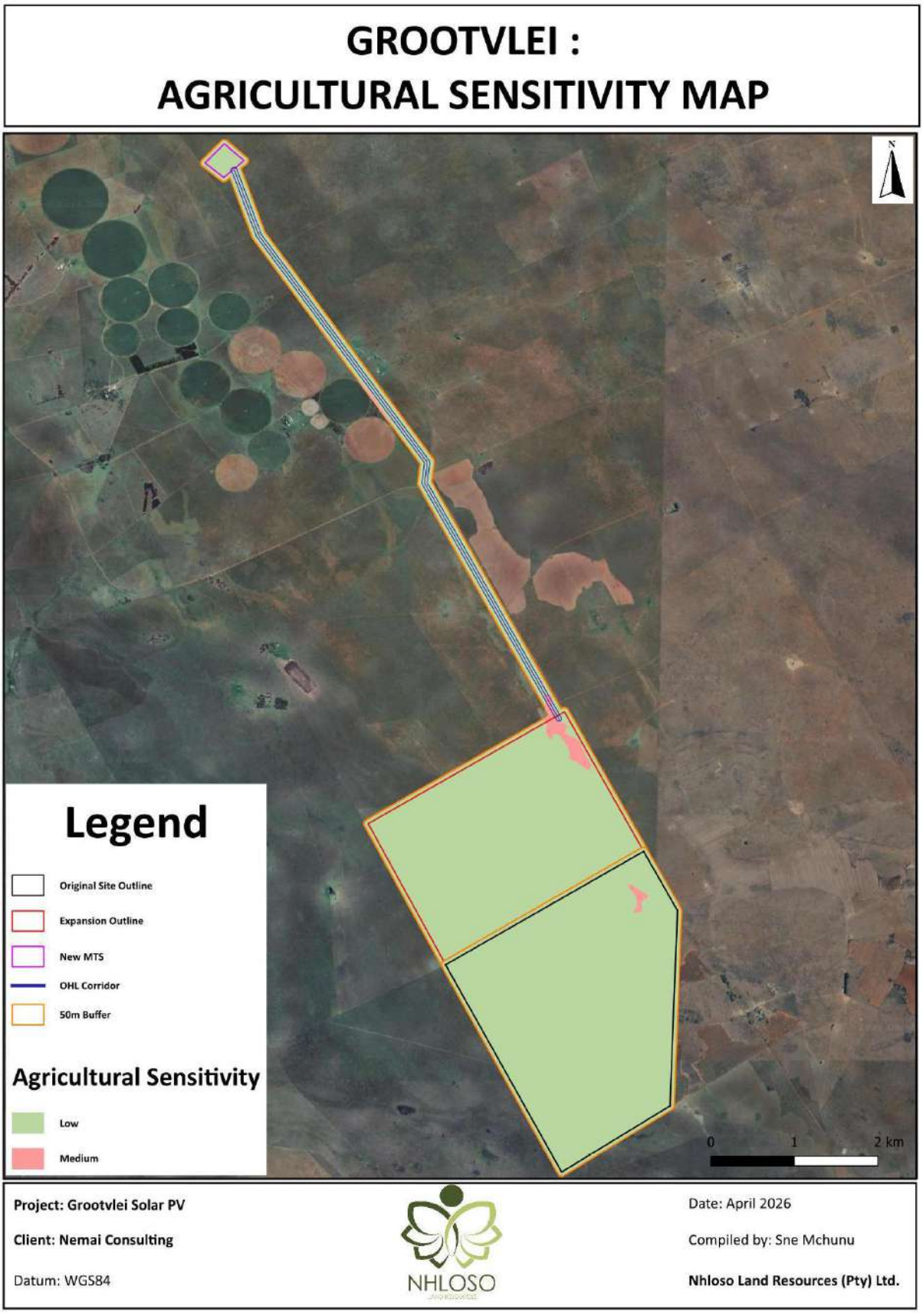


Figure 52: Agriculture Sensitivity within a 50 m buffer of the site (Mchunu, 2026)

Potential Impacts / Implications

- Construction phase:
  - Loss of agricultural land use due to direct occupation by the development footprint. This will remove affected portions of land from agricultural production.
  - Soil erosion by wind or water due to alteration of the land surface characteristics.
  - Alteration of surface characteristics may be caused by construction-related land surface disturbance, vegetation removal, panel surfaces and the establishment of hard-standing areas, surfaces and roads. Erosion will cause loss and deterioration of soil resources.
  - Loss of topsoil due to poor topsoil management (burial, erosion, etc.) during construction-related soil profile disturbance (levelling, excavations, road surfacing, etc.) and resultant decrease in that soil's capability for supporting vegetation.
  - Risk of harm to livestock from construction activities (e.g., open excavations).
- Operational phase:
  - Loss of agricultural land use due to direct occupation by the development footprint. This will remove affected portions of land from agricultural production.
  - Soil erosion by wind or water due to alteration of the land surface characteristics.

Specialist Study Triggered / Additional Investigations

Based on the findings of the SSV (**Appendix F**) and the Profile of the Receiving Environment, an Agricultural Compliance Statement will be undertaken during the EIA Phase, and the findings will be presented in the EIA Report:

11.13 Planning

Status Quo

The North West SDF (**Figure 53** and **Figure 54**) indicates that the Project site is located within identified Biodiversity Corridors and Corridor Nodes. This is consistent with the North West BSP, which classifies the area as comprising both Aquatic and Terrestrial CBAs and ESAs. Notwithstanding these sensitivities, the SDF further identifies the site as falling within a Green Economy Node. This designation supports the development of environmentally sustainable economic activities, including renewable energy infrastructure. In this context, the proposed Project is considered to align with the spatial development objectives of the SDF, insofar as it represents an appropriate green economy initiative within the identified node.

The Dr Kenneth Kaunda DM IDP identifies the expansion of solar energy infrastructure as a key objective to increase the contribution of renewable energy within the municipality, with the intention of transitioning towards solar power as a primary energy source. In this context, the proposed Solar PV development is considered aligned with the strategic objectives of the IDP,

as it supports diversifying the local energy mix and advancing renewable energy initiatives within the municipal area.

In addition, the following is noted from a planning perspective for the Project itself:

- The proposed power line follows property boundaries for most of its route.
- The proposed Solar Site and power line are located outside of the urban edge and should not impact future urban expansion.
- In the event that the Solar PV Plant must be decommissioned, the decommissioning phase will include measures for complying with the prevailing regulatory requirements, rehabilitation, and managing environmental impacts in order to render the affected area suitable for a future desirable use.
- Other renewable energy applications that have been made within a 30km radius of the PV Site, according to DFFE's REEA Database (refer to **Section 6.6** above). The nearest approved PV plant is located approximately 14 km to the southeast of the Project Area.

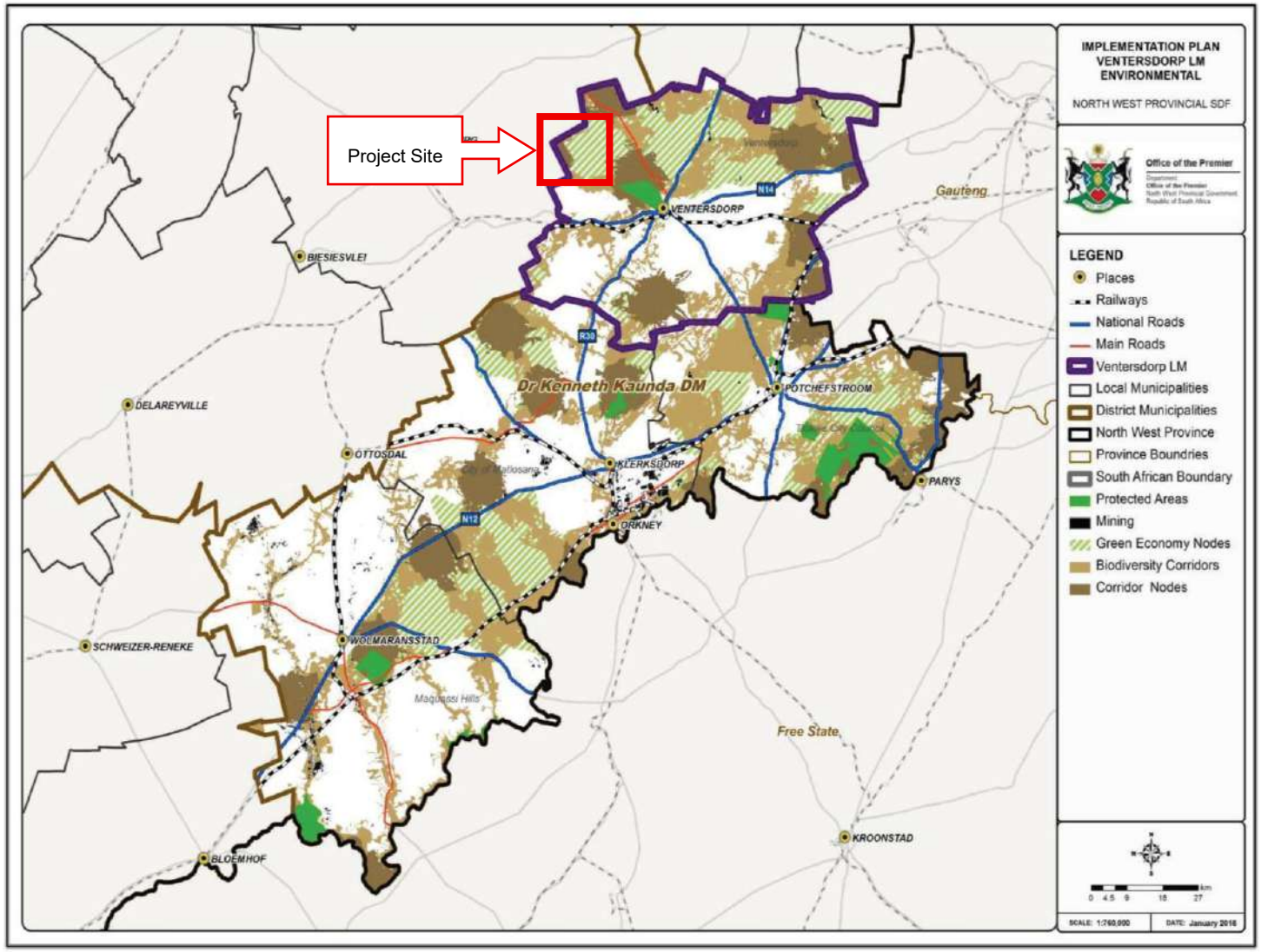


Figure 53: Dr Kenneth Kaunda DM Implementation Framework (Environmental) - Ventersdorp LM (North West SDF, 2017)

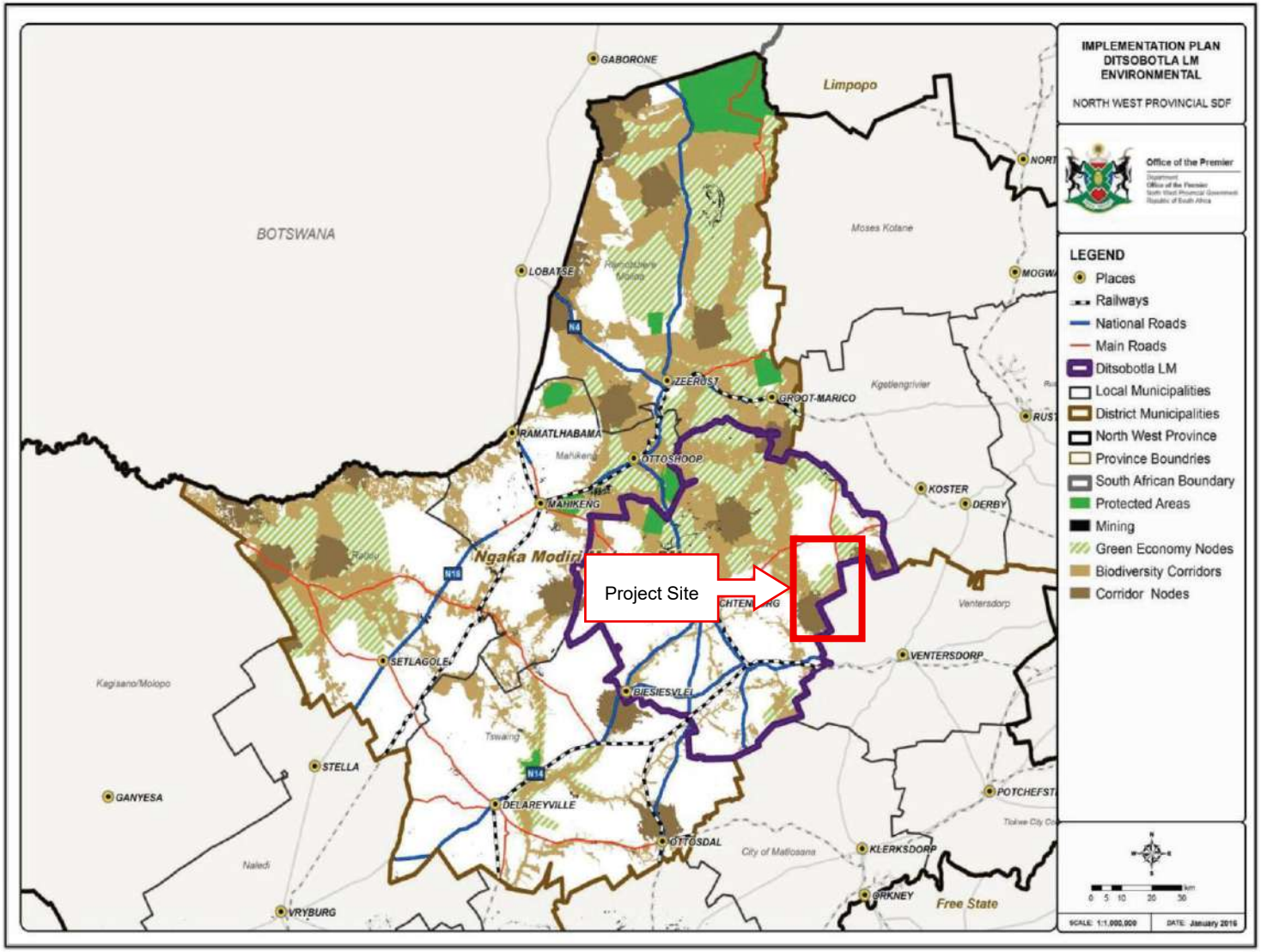


Figure 54: Ngaka Modiri Molema DM Implementation Framework (Environmental) – Ditsobotla LM (North West SDF, 2017)

Potential Impacts / Implications

- The Project aligns with the North West SDF as the Project is a renewable energy development occurring within an area identified as a Green Economy Node.
- The Project also aligns with the Dr Kenneth Kaunda DM IDP objectives to increase solar energy within the municipality.

Specialist Study Triggered / Additional Investigations

The Applicant will adhere to the regulatory planning requirements pertaining to the Project, as well as to the setbacks and conditions required by authorities.

11.14 Waste

Status Quo

According to Dr Kenneth Kaunda DM IDP, the majority of the landfill sites within the municipality are not compliant with their licensing conditions, with some requiring total closure and others needing to be upgraded. Therefore, the future approach to waste management has to take into account the potential to minimise waste transported to landfill sites by instead transporting it to recycling centres or transfer stations during the planning cycle. The municipality has planned projects to create new landfill sites, including within the JB Marks LM and roll out the new waste management facilities mentioned above.

Potential Impacts / Implications

Various types of waste will be generated during the Project's construction phase (see **Section 9.10.4**). The environmental impacts associated with inadequate waste management include the following:

- Risk to human health (occupational and community health and safety);
- Soil pollution (spillages and leachate);
- Surface and groundwater pollution (spillages and leachate);
- Air pollution (e.g., smoke if set alight and emissions);
- Odours;
- Compromised aesthetics (e.g., poor storage, windblown litter); and
- Vermin.

Specialist Study Triggered / Additional Investigations

Specific measures for the management of waste and wastewater will be provided in the EMPr, which will be included in the EIA Report.

11.15 Transportation

Status Quo

The municipality has a comprehensive road network comprising national, provincial, and secondary roads, as well as railway lines. The road network that surrounds the Project site is illustrated in **Figure 55**.

The site will be accessed from either the R53 or the N14, with the entrance gate on the eastern side of the Project boundary (refer to **Figure 56**).

The N14 is noted in the Ngaka Modiri Molema DM IDP as having the potential to be developed into a tertiary corridor, unlocking new development areas once the road is maintained (Ngaka Modiri Molema DM, 2025). According to Dr Kenneth Kaunda DM IDP, the N14 is designated a national provincial corridor, while the R53 (Ventersdorp-Potchefstroom-Parys) is designated a secondary transport corridor. The N14 is a Class 1 Important and Strategic transportation route, whereas the R53 is a Class 3 (Dr Kenneth Kaunda DM, 2025).

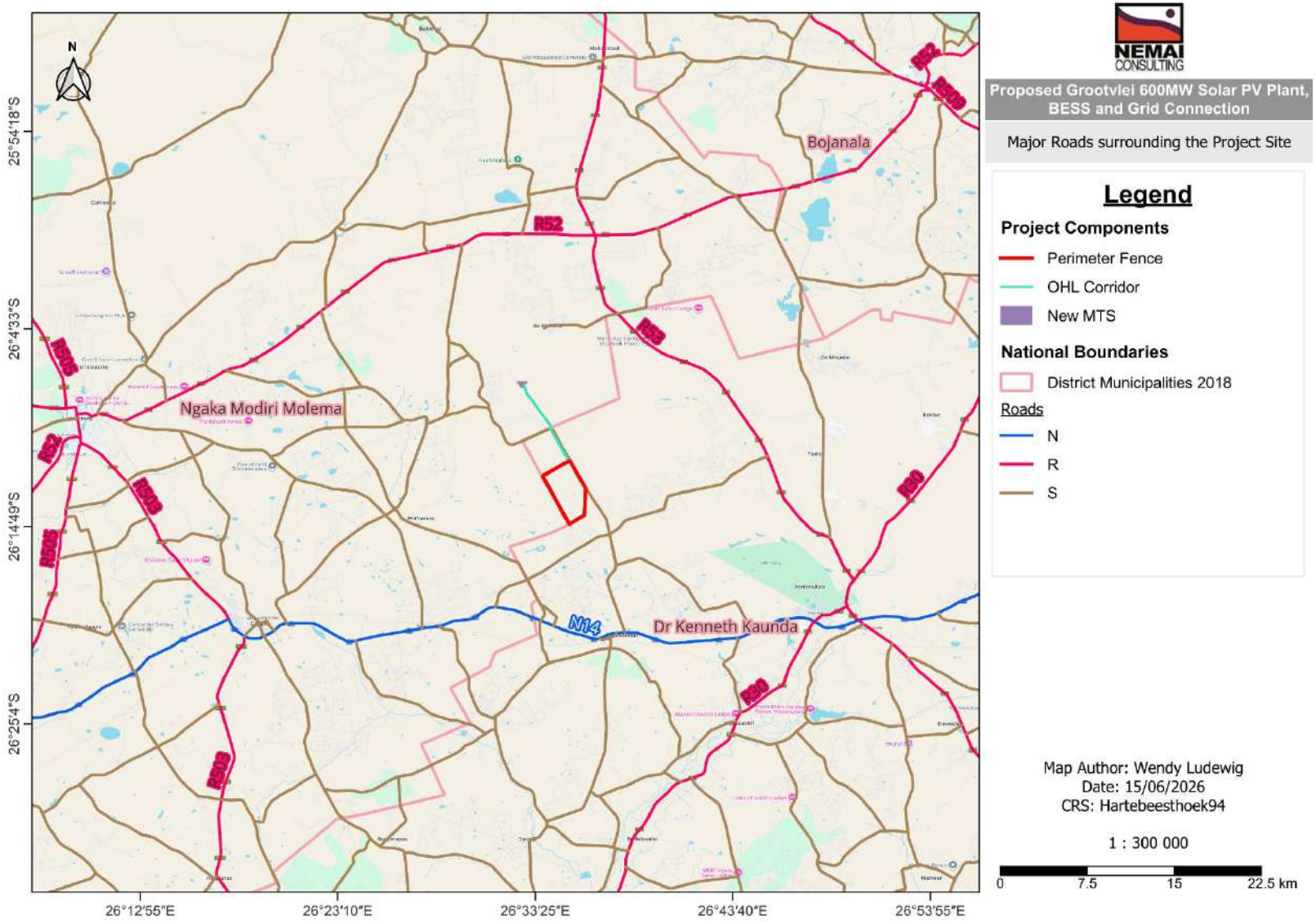


Figure 55: The road network surrounding the Project Site

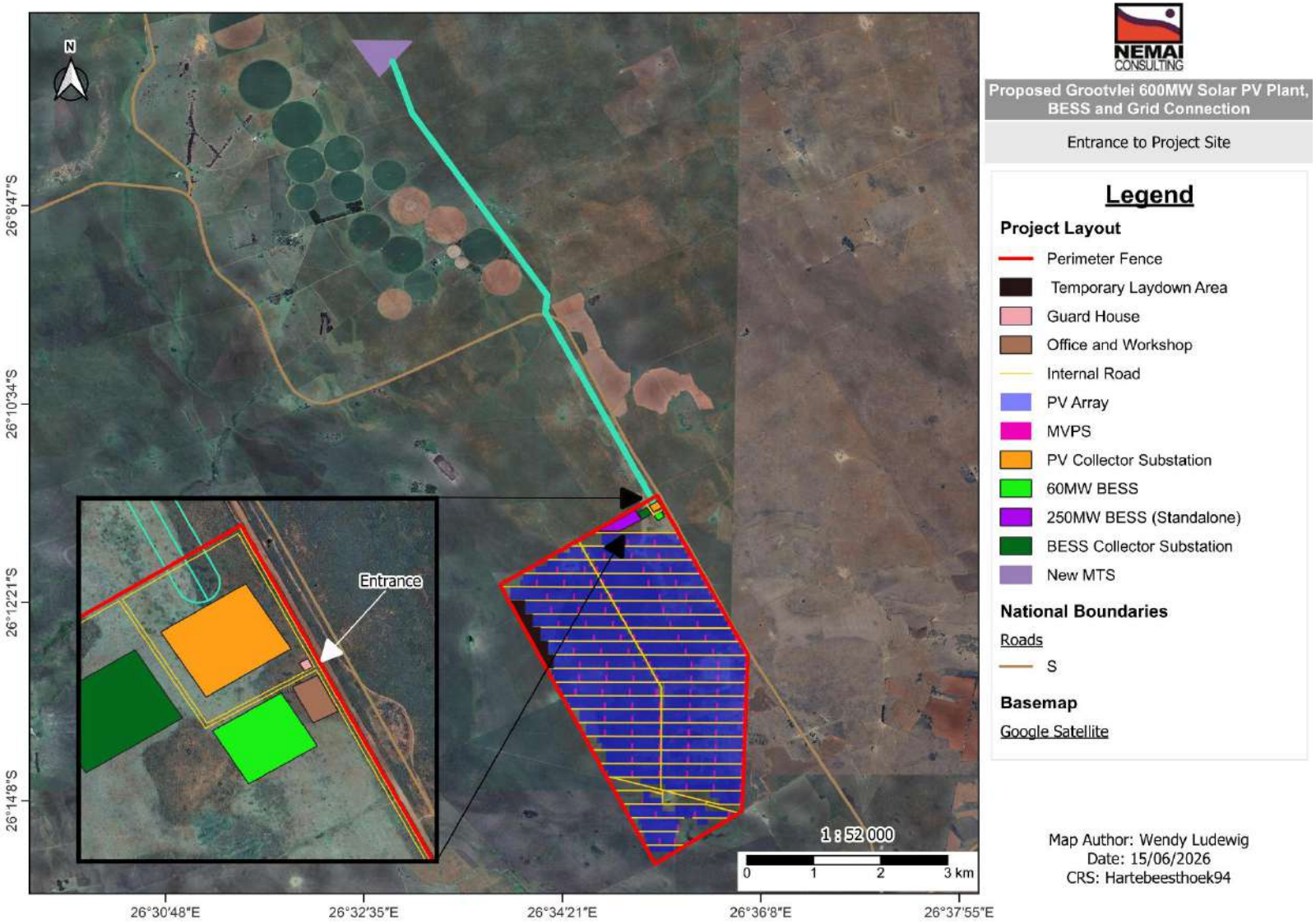


Figure 56: Entrance to the Project Site

Potential Impacts / Implications

- One of the factors considered in determining the suitability of the Project site was its accessibility in terms of the existing road network.
- Construction Phase:
  - Transportation of materials and construction personnel to the Project site.
  - Impacts to road conditions.
  - Speeding and reckless driving by construction personnel.
  - Construction vehicles accessing and leaving the site via the secondary roads that lead to the R53 or N14.
  - Use of oversized vehicles/abnormal loads, as required.
- Operational phase:
  - Safe off-ramp exit for abnormal loads and oversized vehicles, taking into consideration the high-speed environment along the R53 and N14.
  - Safe access to the site, considering the condition of the secondary roads that surround the Project site.
  - Transportation of maintenance materials and operational and maintenance staff to the Project site.

Specialist Study Triggered / Additional Investigations

- The Project will need to comply with the requirements of the South African National Roads Agency SOC Limited (SANRAL) for site access.
- Suitable mitigation measures in terms of traffic and the use of roads will be included in the EMPr.

11.16 Heritage and Palaeontology

Status Quo

11.16.1 Cultural Heritage

A review of historical 1:50 000 topographic mapping (Sheet 2626BA Zwartrand) was undertaken to identify potential heritage features within and surrounding the Project area (Kitto, 2026). The earliest available mapping, based on aerial imagery from the mid-1960s, indicates the presence of a limited number of features, including kraals, farmsteads, ruins and structures located within and adjacent to the Solar PV footprint and the proposed powerline corridor. Later map editions reflect some changes in land use, including areas of cultivation and disturbance. The most recent mapping shows that a small number of structures remain within and near the Project area, and that parts of the proposed overhead line corridor traverse previously cultivated land (Kitto, 2026). Examination of Google Earth satellite imagery also showed partial disturbance of the Project site by agricultural activities between 2014 and 2023.

An on-site heritage inspection was undertaken over multiple site visits between 2023 and 2026 to assess the Project footprint (by a heritage specialist) (Kitto, 2026). Due to dense vegetation cover, ground visibility was generally low; however, the site was inspected as comprehensively as possible. The surveys identified a limited number of heritage resources within and adjacent to the Project site, including a stone kraal, a possible informal grave, scattered stone artefacts and a modern stock ramp, with additional historical features located nearby. Based on these findings, the overall heritage sensitivity of the project area is considered low, except for two features of medium significance: the stone kraal and the possible grave (refer to **Figure 57** below) (Kitto, 2026).

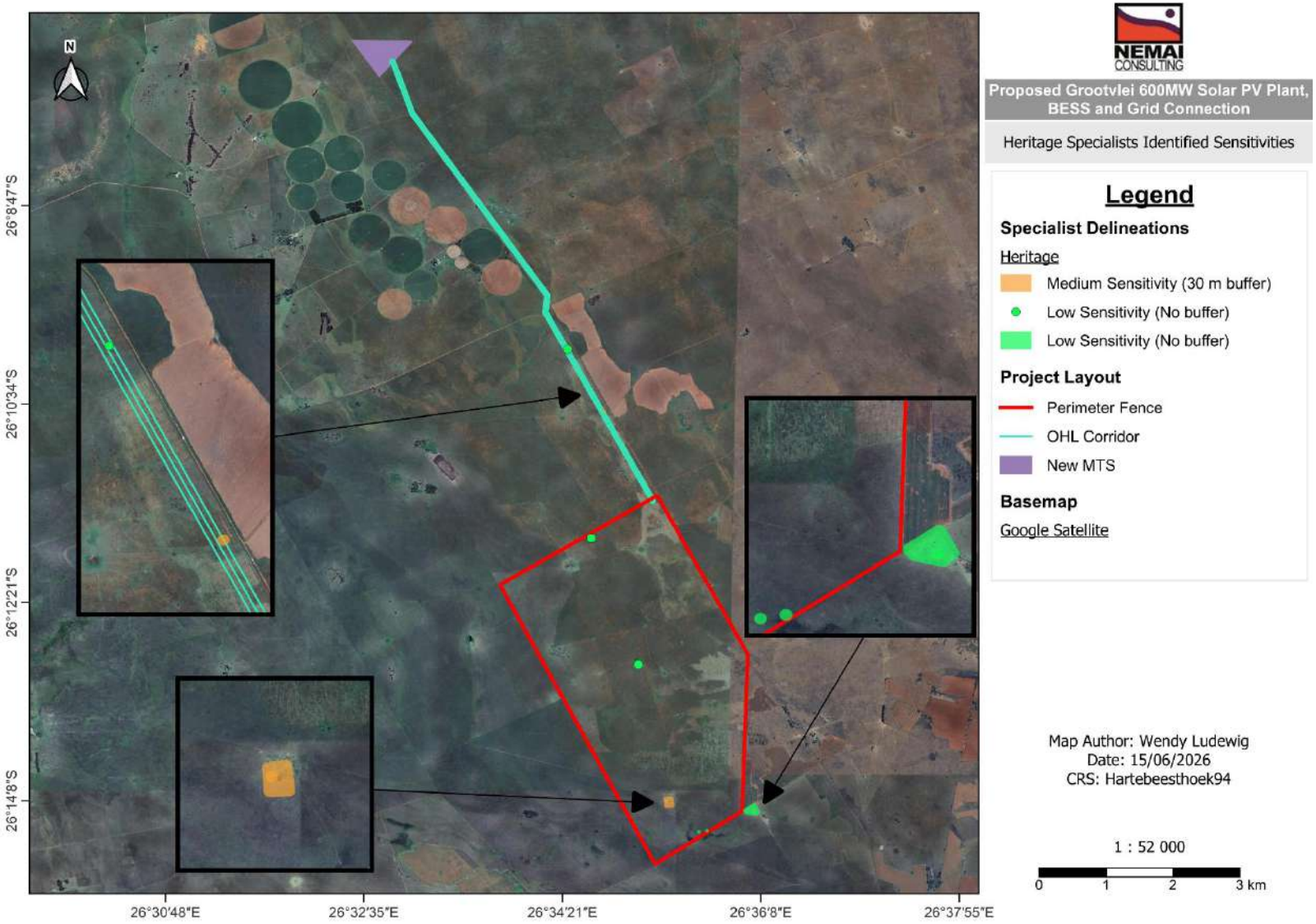


Figure 57: Sensitivities of heritage and archaeological features in relation to the Project site

11.16.2 Palaeontology

According to the SAHRIS database, South African Fossil Sensitivity Map, the Project footprint falls within an area with Very High fossil sensitivity (red) (refer to **Figure 58** below).

Figure 58: SAHRIS Palaeontological Sensitivity Map in relation to the Project Site

11.16.3 The Screening Tool

11.16.3.1 Archaeological and Cultural Heritage

According to the Screening Tool, the Project site falls within a low-sensitivity area for the Archaeological and Cultural Theme (refer to **Figure 59**).

According to the SSV undertaken by a heritage specialist (**Appendix F**), the archaeological and cultural theme sensitivity of the proposed Project is mostly low, with two small, isolated spots of medium sensitivity (refer to **Figure 57**). Therefore, it was determined that a Phase 1 Heritage Impact Assessment is required as part of the EIA Phase.

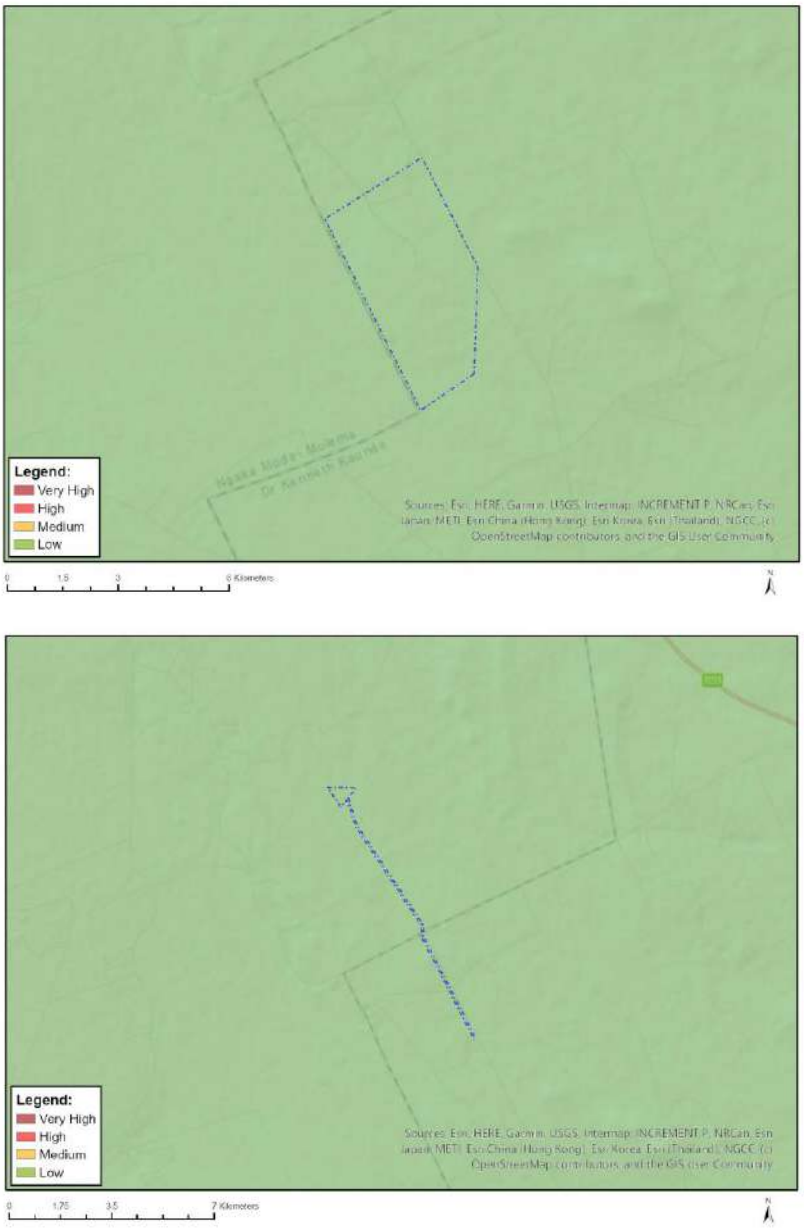


Figure 59: Map of relative Archaeological and Cultural Heritage Theme Sensitivity for the Project Site (Screening Tool)

11.16.3.2 Palaeontology

According to the Screening Tool, the Project site falls within a very high-sensitivity area for the Palaeontology Theme (refer to **Figure 60**).

According to the SAHRIS database, the palaeontology theme sensitivity of the proposed Project is mostly very high, likely as the Project site is within a dolomite area (refer to **Figure 58**). Therefore, it was determined that a Palaeontological Impact Assessment is required as part of the EIA Phase.

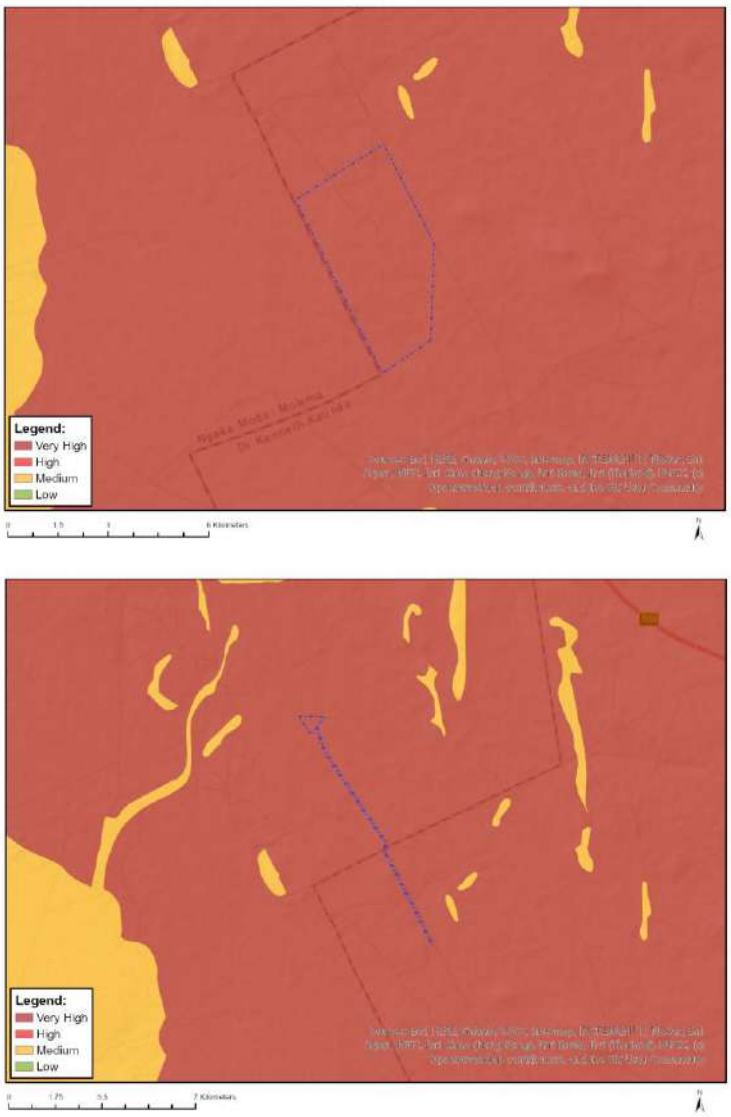


Figure 60: Map of relative Palaeontology Theme Sensitivity for the Project Site (Screening Tool)

Potential Impacts / Implications

- Construction phase:
  - Possible direct impacts on below-ground archaeological deposits and fossils as a result of ground disturbance.
  - Possible impacts to the cultural landscape as a result of the introduction of incompatible structures and infrastructure to the rural landscape.

Specialist Study Triggered / Additional Investigations

- A Heritage Impact Assessment will be undertaken during the EIA Phase and incorporated into the EIA Report.

- A Palaeontology Impact Assessment will be developed during the EIA Phase and incorporated into the EMPr.

11.17 Existing Structures and Infrastructure

Status Quo

The following is noted with regard to existing structures and infrastructure that occur within the Project's site:

- Powerlines traverse the site (**Figure 61**);
- Structures used for livestock grazing and feeding (**Figure 62**); and
- Internal access roads associated with the previous land uses traverse the site (**Figure 63**).

Figure 61: The existing powerline that traverses the Project Site

Figure 62: Example of one of the existing structures used for livestock feeding and grazing

Figure 63: Internal access roads within the Project Site

Apart from the above-mentioned infrastructure, other infrastructure may also be on the Project site.

Potential Impacts / Implications

The Project will need to comply with the requirements of the custodians of infrastructure that traverses the Solar Site or runs along the boundaries of the sites or are crossed by the powerline.

Specialist Study Triggered / Additional Investigations

- Safeguard existing infrastructure from construction and operational activities.
- Engage further with the owners, custodians and authorities associated with existing infrastructure, including Eskom and SANRAL (amongst others).
- Mitigation measures to be included in the EMPr to manage potential impacts to existing structures and infrastructure.
- Mitigation measures to be included in the EMPr to safeguard existing infrastructure from construction and operational activities.

11.18 Health

Status Quo

Healthcare services within the broader Project region are provided across the JB Marks and adjacent Ditsobotla Local Municipalities, supported by a network of primary, secondary and specialised facilities. Within JB Marks Local Municipality, Potchefstroom Hospital serves as a regional hospital offering general and specialist healthcare services, while facilities such as

Witrand Psychiatric Hospital provide specialised mental health and rehabilitation services (North West Department of Health, 2026). In addition, community-level healthcare is supported through facilities such as the JB Marks Community Health Centre in Ventersdorp, which provides primary healthcare and emergency services.

Within the Ditsobotla Local Municipality, healthcare services are primarily concentrated in Lichtenburg, the area's main service centre. The General De La Rey Memorial Hospital provides district-level healthcare services, including inpatient, outpatient and emergency care, supported by a network of clinics and other healthcare facilities within the municipality (Ditsobotla, 2026).

The nearest hospital to the proposed project site is Ventersdorp Hospital, a public healthcare facility located in Ventersdorp that provides general inpatient and outpatient services to the surrounding communities (SA Doctors, 2026).

Potential Impacts / Implications

- Construction phase:
  - Hazards related to construction work with potential occupational injuries and diseases, as well as risks to community health and safety.
  - Increased levels of dust and particulate matter.
  - Increased levels of noise.
  - Water (surface and ground) contamination.
  - Poor water and sanitation.
  - Communicable diseases.
  - Psychosocial disorder (e.g. social disruptions)
  - Safety and security.
  - Lack of suitable health services.
- Operational phase:
  - Hazards related to operation and maintenance work.
  - Fire and explosion risks during BESS operation.

Specialist Study Triggered / Additional Investigations

- The Project is to comply with the necessary design standards, with appropriate safety considerations taking into consideration factors such as placement criteria, access control to containers, fire and explosion preventative measures, emergency response requirements, etc.
- Health-related risks will be addressed through mitigation measures that will be identified under other environmental features, such as socio-economic environment, surface water, air quality, noise and vibration, climate, as well as best practices included in the EMPr.

- Additional management requirements associated with health will form part of the Project's Occupational Health and Safety System.

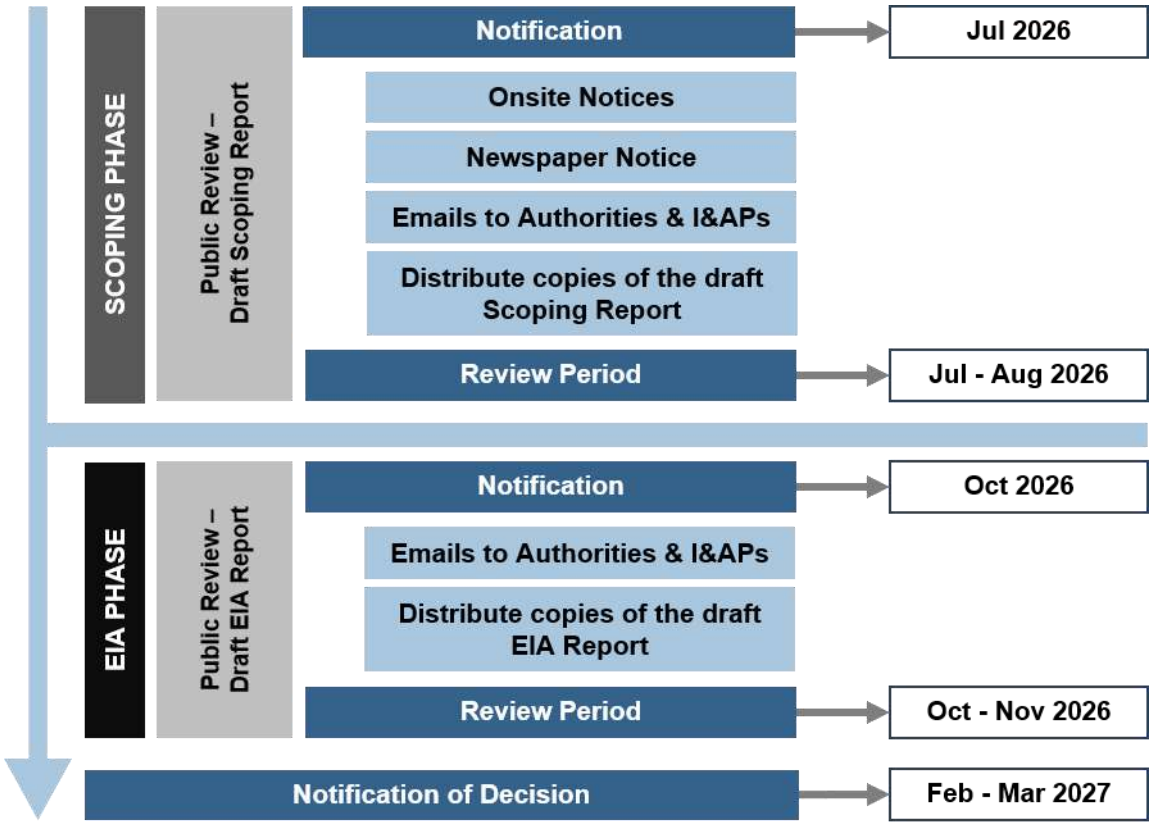
12 PUBLIC PARTICIPATION

12.1 Introduction

The purpose of public participation includes the following:

1. To provide I&APs with an opportunity to obtain information about the Project;
2. To allow I&APs to express their views, issues and concerns with regard to the Project;
3. To grant I&APs an opportunity to recommend measures to avoid or reduce adverse impacts and enhance positive impacts associated with the Project; and
4. To enable the Applicant to incorporate the needs, concerns and recommendations of I&APs into the Project, where feasible.

The public participation process that is being undertaken is governed by NEMA and the EIA Regulations. **Figure 64** outlines the public participation process for the Scoping Phase (current) and EIA Phase (pending). Note that the dates reflected in the diagram may change due to the dynamic nature of the S&EIR Process.



Note: *Dates may change throughout the EIA process*

Figure 64: Outline of Public Participation Process (note: dates are subject to change)

12.2 Database of I&APs

A database of I&APs, which includes authorities, different spheres of government (national, provincial and local), parastatals, Ward Councillors, stakeholders, landowners, interest groups and members of the general public, was prepared for the Project and is contained in **Appendix C**. This database will be updated and maintained during the EIA.

12.3 Landowner Consent

According to Regulation 39(1) of the EIA Regulations, if the proponent is not the owner or person in control of the land on which the activity is to be undertaken, the proponent must, before applying for an EA in respect of such activity, obtain the written consent of the landowner or person in control of the land to undertake such activity on that land. This requirement does not apply, *inter alia*, to linear developments (e.g., pipelines, power lines, roads) or to a SIP as contemplated in the Infrastructure Development Act, 2014.

The written consent of the landowner affected by the proposed Project is appended to the Application Form, which is included in **Appendix B**.

12.4 Review of draft Scoping Report

12.4.1 Period to Review the draft Scoping Report

In accordance with Regulation 43(1) of the EIA Regulations, I&APs are granted an opportunity to review and comment on the draft Scoping Report from **10 July 2026 to 11 August 2026**.

12.4.2 Notification of Review of draft Scoping Report

The Notification of the details of the review process for the draft Scoping Report will be done in the following manner:

- Notices will be placed in the Potchefstroom Herald Newspaper in English, Afrikaans and Setswana;
- Site notices will be placed along strategic points within and surrounding the Project area; and
- Emails will be sent to the Authorities and I&APs that are contained in the database.

12.4.3 Accessing the draft Scoping Report

The draft Scoping Report can be accessed as follows:

- A hard copy will be placed at the Ventersdorp Community Library (Van Tonder Crescent, Ventersdorp, 2710); and
- An electronic copy will be uploaded to the following website, for downloading purposes: https://nemai.co.za/downloads/.

12.4.4 Commenting on the draft Scoping Report

Comments on the draft Scoping Report need to be forwarded in writing to the contact person stated in **Table 10** within the review period stipulated in **Section 12.4.1** above (note that the Comment Sheet contained in **Appendix G** may be used for this purpose):

Table 10: Public Participation Contact Person Details

Contact Person:	Wendy Ludewig
Tel:	(011) 781 1730
Email:	wendyl@nemai.co.za
Postal Address:	PO Box 1673, Sunninghill, 2157

The Scoping Phase identifies and prioritises issues for further assessment during the EIA Phase. Accordingly, the comments received from authorities and I&APs during public participation as part of the Scoping Phase will be afforded due consideration and further investigation during the pending EIA stage. A Comments and Response Report (CRR) will be compiled to include the comments received and the response from the EAP and the Project Team. The CRR will be appended to the final Scoping Report that will be submitted to DFFE for decision-making.

13 POTENTIALLY SIGNIFICANT ENVIRONMENTAL ISSUES

13.1 Introduction

In accordance with the purpose of the Scoping exercise, as part of the overall environmental assessment, this section aims to identify potentially significant environmental issues for further consideration and prioritisation during the EIA Phase. This allows for a more efficient and focused impact assessment in the ensuing EIA Phase, where the analysis is largely limited to significant issues and reasonable alternatives. The EMPr accompanying the EIA Report will, however, provide a comprehensive list of mitigation measures to manage the Project's overall impact on the receiving environment.

13.2 Approach

13.2.1 Predicting Significant Environmental Issues

The potential environmental issues associated with the proposed Project were identified during the Scoping Phase through an appraisal of the following:

- Legal and policy context (see **Section 5**);
- Project-related components and infrastructure (see **Section 9**), including activities associated with the project life-cycle;
- Resources required for construction and operational purposes (see **Section 9.10**);
- Nature and profile of the receiving environmental and potentially sensitive environmental features and attributes (see **Section 11**); and
- Input received during public participation from authorities and I&APs.

Apart from explaining the receiving environment, **Section 11** succinctly discusses possible impacts during the construction and operational phases of the Project. The significant environmental issues were distilled from this information and are summarised in **Section 13.3**. Cumulative impacts that were identified during the Scoping Phase are presented in **Section 13.4**.

13.2.2 Mitigation of Impacts

During the EIA Phase, a detailed assessment will be conducted to evaluate potentially significant impacts, with input from the EAP, Project Team, requisite specialist studies and I&APs and through the application of the impact assessment methodology contained in **Section 14.3.2**.

Suitable mitigation measures will be identified to manage the environmental impacts according to the following hierarchy:

1. Initial efforts will strive to **prevent** the occurrence of the impact;

2. If this is not possible, mitigation will include measures that **reduce** or **minimise** the significance of the impact to an acceptable level;
3. **Remediation** and **rehabilitation** will take place if measures cannot suitably prevent or reduce the impacts, or to address the residual impacts; and
4. As a last measure, **compensation** will be employed as a form of mitigating the impacts associated with the Project.

The mitigation measures will be incorporated into the EMPr, which will form part of the EIA Report. The EMPr, together with the EA (if issued), can act as a standalone document that can be used, *inter alia*, to monitor the Project's compliance with its predetermined objectives, targets, and management actions.

13.3 Summary of Potentially Significant Environmental Issues

Pertinent environmental issues, which will receive specific attention during the EIA Phase through a detailed quantitative assessment and relevant specialist studies (where deemed necessary), are listed in **Table 11**.

Table 11: Potentially Significant Environmental Issues for Prioritisation during the EIA Phase

Environmental Factor	Construction Phase Potential Issues / Impacts	Operational Phase Potential Issues / Impacts	Investigations / EIA Provisions
Land Use	▪ Disturbance to existing land use during the construction. ▪ Risks to livestock posed by construction activities.	▪ Sterilisation of land for agricultural land uses. ▪ Servitude restrictions.	▪ Agricultural Compliance Statement ▪ Terrestrial Biodiversity Impact Assessment. ▪ Optimisation of layouts to account for land use restrictions. ▪ EMPr
Climate	▪ Emission of GHG during construction.	▪ Climate change may impact in various ways, including increased temperature affecting the PV modules. However, this can be mitigated based on the design of the PV module chosen by the Engineering team during the detailed design phase. ▪ There is also a positive impact as the increase in renewable energy on the existing grid assists in reducing SA's overall reliance on coal as the only energy resource.	▪ EMPr.
Geology, Soil and Geohydrology	▪ Erosion, if stormwater is not managed properly.	▪ Erosion, if stormwater is not continuously managed properly.	▪ Geotechnical Assessment

Environmental Factor	Construction Phase Potential Issues / Impacts	Operational Phase Potential Issues / Impacts	Investigations / EIA Provisions
	▪ Use of heavy equipment during the construction phase may result in compaction of soil. ▪ Soil could be contaminated through inadequate storage and handling of hazardous materials, spillages from equipment and plant and poor management of waste, wastewater and cement mixing. ▪ Groundwater could be contaminated through inadequate storage and handling of hazardous materials, spillages from equipment, and poor management of waste, wastewater and cement mixing. ▪ Topsoil may be lost if not properly stripped and stockpiled for use during rehabilitation.	▪ Groundwater could be contaminated through inadequate storage and handling of hazardous materials, leaks from the BESS and poor management of waste and wastewater.	▪ Agricultural Compliance Statement. ▪ EMPr.
Topography	▪ Grading of the site to achieve design slopes for drainage and panel mounting could cause an impact on the topography of the site. ▪ Erosion may occur in areas cleared for construction purposes. ▪ Visual impacts may be caused by the transformation of the landscape.	▪ The development of the Project will alter the drainage on the site and cause an increase in the runoff. ▪ Visual impacts may be caused by the transformation of the landscape.	▪ Geotechnical Assessment ▪ Visual Impact Assessment. ▪ EMPr.
Surface Water	▪ Damage to riparian corridors or destabilisation of morphology as a result of construction activities in proximity to the watercourses on the Solar Site and along the power line. ▪ Reduction of water quality through sedimentation (e.g., silt from the construction site transported via runoff) and poor construction practices (e.g., improper management of wastewater, incorrect storage of material, spillages, etc.). ▪ Temporary alteration of flow and the structure (i.e. bed and banks) of the watercourse on the PV	▪ Sedimentation through silt-laden runoff, caused by inadequate stormwater management. ▪ Damage to the facility from major flood events. ▪ Water resources could be contaminated through inadequate storage and handling of hazardous materials, leaks from the BESS and poor management of waste and wastewater. ▪ Water use requirements of the Project need to be satisfied. ▪ Alteration of site drainage.	▪ Wetland Impact Assessment. ▪ EMPr

Environmental Factor	Construction Phase Potential Issues / Impacts	Operational Phase Potential Issues / Impacts	Investigations / EIA Provisions
	Site as a result of poor management of stormwater. ▪ Alteration of site drainage		
Terrestrial Biodiversity	▪ Clearance of vegetation for site preparation, along access roads, and other areas to be disturbed. This could result in habitat loss/fragmentation. The significance of habitat loss will need to consider the total area of habitat affected, the habitat's uniqueness, and the sensitivity and conservation status of the habitat and its associated species. ▪ Potential loss, disturbance or displacement of protected fauna and flora species. ▪ Human - animal conflicts. ▪ Noise and vibration. ▪ Night lights may affect nocturnal faunal species. ▪ Illegal harvesting and poaching of faunal and floral species by construction workers. ▪ Pollution of the biophysical environment from poor construction practices. ▪ Proliferation of invasive alien species in disturbed areas.	▪ Habitat fragmentation (e.g., barriers to animal movement). ▪ Reflection of sunlight from the solar panels could adversely affect birds, including those species that use the watercourses on the site and surrounding areas. ▪ Landscaping, re-seeding and vegetation control are required to remove the risk of vegetation shading modules and reducing the performance of the facility. ▪ Chemical pollution associated with cleaning the PV panels. ▪ Shading out of plants by solar panels. ▪ Proliferation of invasive alien species in disturbed areas	▪ Terrestrial Biodiversity Impact Assessment. ▪ EMPr.
Socio-Economic Environment	▪ Influx of people seeking employment and associated impacts (e.g., foreign workforce, cultural conflicts, squatting, demographic changes, anti-social behaviour, and incidence of HIV/AIDS). ▪ Safety and security of the local community during construction. ▪ Use of the local road network by construction vehicles. ▪ Nuisance from dust, noise, vibration and light pollution. ▪ Consideration of local labourers and suppliers in the area – stimulation of the local economy (positive impact). ▪ Transfer of skills (positive impact).	▪ Once established, the operation of the Solar PV Plant would result in direct and indirect economic opportunities. ▪ Visual impacts on surrounding communities.	▪ Social Impact Assessment ▪ EMPr

Environmental Factor	Construction Phase Potential Issues / Impacts	Operational Phase Potential Issues / Impacts	Investigations / EIA Provisions
Air Quality	▪ Air quality deterioration as a result of the following: o Dust from the use of dirt roads by construction vehicles; o Dust from bare areas that have been cleared for construction purposes; o Emissions from construction equipment and machinery; and o Tailpipe emissions from construction vehicles.	▪ The efficiency of the solar plant could be reduced if the modules are soiled (covered) by particulates/dust. ▪ Impacts to air quality caused by the operation and maintenance of the facility included dust from the use of dirt roads and tailpipe emissions from vehicles	▪ EMPr
Visual	▪ Clearing of vegetation. ▪ Construction-related activities. ▪ Inadequate waste management and housekeeping. ▪ Inadequate reinstatement and rehabilitation of areas affected by construction activities, outside of the permanent development footprint	▪ Visual impact associated with the changing of the landscape to include the Solar PV Plant. ▪ Visual impact of operational, safety and security lighting of the facility at night on observers residing in close proximity to the Project. ▪ Solar panels are designed to absorb, not reflect, irradiation. However, glint and glare may have an impact from an aviation perspective. ▪ Inadequate housekeeping and waste management during operations.	▪ Visual Impact Assessment ▪ EMPr
Noise & Vibration	▪ Localised increases in noise may be caused by: o Construction equipment, machinery and vehicles; o Construction material delivery vehicles; o General activities at the construction camp; and o Noise created by the labour force.	▪ Solar PV facilities produce electricity during the daytime hours, when the sun's rays are collected by the panels. When irradiance is low or non-existent, the equipment's noise is significantly reduced. The main sources of noise from the Project will be the rack-mounted inverters and the central step-up transformer, which are expected to be audible only to operational staff who come into close proximity to these components. ▪ Operation and maintenance of vehicles and activities.	▪ EMPr.
Agriculture	▪ Loss of agricultural land use due to direct occupation by the development footprint. This will remove affected	▪ Loss of agricultural land use due to direct occupation by the development footprint. This will remove affected	▪ Agricultural Compliance Statement. ▪ EMPr.

Environmental Factor	Construction Phase Potential Issues / Impacts	Operational Phase Potential Issues / Impacts	Investigations / EIA Provisions
	portions of land from agricultural production. ▪ Soil erosion by wind or water due to alteration of the land surface characteristics. ▪ Alteration of surface characteristics may be caused by construction-related land surface disturbance, vegetation removal, panel surfaces and the establishment of hard-standing areas, surfaces and roads. Erosion will cause loss and deterioration of soil resources. ▪ Loss of topsoil due to poor topsoil management (burial, erosion, etc.) during construction-related soil profile disturbance (levelling, excavations, road surfacing, etc.) and resultant decrease in that soil's capability for supporting vegetation. ▪ Risk of harm to livestock from construction activities (e.g., open excavations).	portions of land from agricultural production. ▪ Soil erosion by wind or water due to alteration of the land surface characteristics.	
Waste	Should inadequate waste management occur, the following environmental impacts could occur: ▪ Risk to human health (occupational and community health and safety); ▪ Soil pollution (spillages and leachate); ▪ Surface and groundwater pollution (spillages and leachate); ▪ Air pollution (e.g., smoke if set alight and emissions); ▪ Odours; ▪ Compromised aesthetics (e.g., poor storage, windblown litter); and ▪ Vermin.		▪ EMPr
Transportation	▪ Transportation of materials and construction personnel to the Project site. ▪ Impacts to road conditions. ▪ Speeding and reckless driving by construction personnel. ▪ Construction vehicles accessing and leaving the site via the secondary roads that lead to the R53 or N14. ▪ Use of oversized vehicles/abnormal loads, as required	▪ Safe off-ramp exit for abnormal loads and oversized vehicles, taking into consideration the high-speed environment along the R53 and N14. ▪ Safe access to the site, considering the condition of the secondary roads that surround the Project site. ▪ Transportation of maintenance materials and operational and maintenance staff to the Project site	▪ EMPr

Environmental Factor	Construction Phase Potential Issues / Impacts	Operational Phase Potential Issues / Impacts	Investigations / EIA Provisions
Heritage and Palaeontological Features	▪ Possible direct impacts on below-ground archaeological deposits and fossils as a result of ground disturbance. ▪ Possible impacts to the cultural landscape as a result of the introduction of incompatible structures and infrastructure to the rural landscape.	-	▪ Phase 1 Heritage Impact Assessment ▪ Palaeontological Impact Assessment.
Existing Structures & Infrastructure	▪ Restrictions regarding servitudes of existing infrastructure	▪ Restrictions regarding servitudes of existing infrastructure	▪ EMPr
Health	▪ Hazards related to construction work with potential occupational injuries and diseases, as well as risks to community health and safety. ▪ Increased levels of dust and particulate matter. ▪ Increased levels of noise. ▪ Water (surface and ground) contamination. ▪ Poor water and sanitation. ▪ Communicable diseases. ▪ Psychosocial disorder (e.g. social disruptions) ▪ Safety and security. ▪ Lack of suitable health services.	▪ Hazards related to operation and maintenance work. ▪ Fire and explosion risks during BESS operation.	▪ EMPr

13.4 Cumulative Impacts

13.4.1 Introduction

A cumulative impact, in relation to an activity, means the past, current and reasonably foreseeable future impact of an activity, considered together with the impact of activities associated with that activity, that may not be significant, but may become significant when added to the existing and reasonably foreseeable impacts eventuating from similar or diverse activities.

Cumulative impacts can be identified by combining the potential environmental implications of the Project with the impacts of projects and activities that have occurred in the past, are currently occurring, or are proposed in the future within the Project's area of interest (AOI). It is noted that the accurate characterisation of the future state of the project area is inherently speculative to an extent, due to the dynamic nature of future decisions related to land use, water use (consumptive, waste-related and encroachments), protection of terrestrial and aquatic biological resources, etc.

According to the IFC Good Practice Handbook (Cardinale and Greig, 2013), cumulative impacts are contextual and encompass a broad spectrum of impacts at different spatial and

temporal scales. The spatial AOI encompasses the geographical area impacted by the Project. The timescale over which the Project is likely to cause impacts includes the construction and operational phases. Should decommissioning be required in the future, the activity will need to comply with the applicable environmental legislation and best practices in effect at that time.

13.4.2 Other Renewable Energy Projects in proximity to the Proposed Project site

Other renewable energy applications within a 30km radius of the Project are discussed in **Section 6.6** above. According to the REEA Database, ten renewable energy applications have been approved and will be considered in the cumulative impact assessment contained in the EIA Report.

From a desktop scan, it can be seen that these other renewable energy project sites are similar in nature to the proposed PV Site. Potentially cumulative impacts may be caused by these various developments, including loss of biodiversity and habitat fragmentation, visual and landscape character impacts, traffic disruptions, impacts to civil aviation, as well as pressures on local facilities, goods and services. These impacts in relation to the Project will be assessed in the EIA Report.

13.4.3 Negative Cumulative Impacts

The potential negative cumulative impacts associated with the Project, as identified during the Scoping Phase, are captured in **Table 12**. The impacts were identified based on the current understanding of the Project, its receiving environment, and existing developments. The EIA Report will contain a detailed assessment of cumulative impacts that incorporates the findings of the specialist studies and technical investigations.

Table 12: Potential negative cumulative impacts associated with the Project

Theme	Potential Negative Cumulative Impacts	Investigations / EIA Provisions
Geology, Soil and Geohydrology	▪ Contribution of poor construction and operational practices to soil pollution that is also being caused by other land uses (e.g., agricultural activities) ▪ The clearance of vegetative cover for the Project's development footprint will exacerbate erosion, which is already encountered in the greater area as a result of other land use disturbances.	▪ Agricultural Compliance Statement ▪ EMPr
Surface Water	▪ Contribution of poor construction and operational practices to reduction in water resource quality (water quality, aquatic biota, flow and habitat) that is also being caused by other land uses (e.g., agriculture) in the catchment.	▪ Wetland Impact Assessment ▪ EMPr
Terrestrial Biodiversity	▪ Potential additive negative effects of the Project activities to fauna, including disturbances (e.g., noise, light, dust, vibration) and contamination (surface water, groundwater, soil and air). ▪ Contribution of Project activities to cumulative loss of indigenous vegetation. ▪ Proliferation of invasive alien plants and noxious weeds due to clearing of areas during construction and inadequate rehabilitation.	▪ Terrestrial Biodiversity Impact Assessment ▪ Wetland Impact Assessment ▪ EMPr
Socio-Economic Environment	▪ Cumulative social disruption during the construction phase. ▪ Cumulative risks to community health and safety due to construction and operational activities.	▪ Social Impact Assessment ▪ EMPr

Theme	Potential Negative Cumulative Impacts	Investigations / EIA Provisions
	▪ Compounded effects of nuisances such as lighting, noise, traffic, pollution and dust emissions. ▪ Although the water use associated with the operation of a Solar Plant is relatively low, it could contribute towards cumulative impacts on water demand for developments in the area. ▪ Any developments that may be enabled by the proposed Project may place a strain on local infrastructure and services.	
Air Quality	▪ Contribution of Project activities to emissions (especially particulate matter) in the area.	▪ EMPr
Visual Quality	▪ Potential cumulative visual impacts with specific reference to the existing power line infrastructure traversing the Project's sites, as well as the construction of the Project.	▪ Visual Impact Assessment ▪ EMPr
Traffic	▪ The construction period may cause traffic-related impacts in terms of the local road network, which will be associated with heavy vehicle construction traffic for the delivery of material, transportation of construction workers and general construction-related traffic. This may compound traffic impacts if other large-scale projects are planned during the same period.	▪ EMPr

13.4.4 Positive Cumulative Impacts

There is a potential for positive cumulative economic effects from the construction of multiple developments in the area. Increased job creation and economic activity in local businesses would benefit local communities. In addition, the increase in renewable energy developments that integrate with the existing grid results in an overall decrease in South Africa's reliance on coal as its only energy source, which is a positive impact of increasing the renewable energy supply to South Africa's grid.

13.5 Methodology to Assess the Identified Impacts

The Scoping exercise identified potentially significant environmental and social risks for further assessment during the EIA Phase. The EIA Report will include a detailed qualitative and quantitative assessment of direct, indirect and cumulative impacts associated with the Project. The assessment will incorporate the findings of the specialist studies and technical investigations. The criteria listed in **Section 14.3.2** will be used to determine the significance of the Project's environmental and social impacts.

14 PLAN OF STUDY FOR THE EIA

14.1 Introduction

The EIA Phase will only commence if DFFE accepts the Scoping Report and the Plan of Study for the EIA. This Plan of Study, which explains the approach to be adopted to conduct the EIA for the proposed Project, was prepared in accordance with Appendix 2 of the EIA Regulations.

14.2 Objectives of the EIA Phase

According to the EIA Regulations, the objectives of the EIA Phase are to undertake the following, through a consultative process:

- Determine the policy and legislative context within which the activity is located and document how the proposed activity complies with and responds to the policy and legislative context.
- Describe the need and desirability of the proposed activity, including the need and desirability of the activity in the context of the development footprint on the approved site as contemplated in the accepted Scoping Report.
- Identify the location of the development footprint within the approved site as contemplated in the accepted Scoping Report based on an impact and risk assessment process, inclusive of cumulative impacts and a ranking process of all the identified development footprint alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects of the environment.
- Determine the -
  - Nature, significance, consequence, extent, duration and probability of the impacts occurring to inform identified preferred alternatives.
  - Degree to which these impacts –
    - Can be reversed;
    - May cause irreplaceable loss of resources; and
    - Can be avoided, managed or mitigated.
- Identify the most ideal location for the activity within the development footprint of the approved site as contemplated in the accepted Scoping Report based on the lowest level of environmental sensitivity identified during the assessment.
- Identify, assess, and rank the impacts the activity will impose on the development footprint on the approved site as contemplated in the accepted Scoping Report through the life of the activity.
- Identify suitable measures to avoid, manage or mitigate identified impacts.
- Identify residual risks that need to be managed and monitored.

14.3 Potentially Significant Environmental Issues Identified during Scoping Phase

14.3.1 General

The Scoping exercise aimed to identify and qualitatively predict potentially significant environmental issues for further consideration and prioritisation. During the EIA stage, a detailed quantitative impact assessment will be conducted via contributions from the EAP, Project Team and requisite specialist studies, and through the application of the impact assessment methodology contained in **Section 14.3.2**. Suitable mitigation measures will be identified to manage (i.e., prevent, reduce, rehabilitate, compensate and/or boost (positive)) the environmental and social impacts and will be incorporated into an EMPr.

14.3.2 Impact Assessment Methodology

The following criteria will be used to determine the significance of the Project's environmental and social impacts:

Nature (Status)
The project could have a positive, negative or neutral impact on the environment.

Extent
- Local - extend to the site and its immediate surroundings.
- Regional - impact on the region but within the province.
- National - impact on an interprovincial scale.
- International - impact outside of SA.

Magnitude
Degree to which impact may cause irreplaceable loss of resources.
- Low - natural and social functions and processes are not affected or minimally affected.
- Medium - affected environment is notably altered; natural and social functions and processes continue, albeit in a modified way.
- High - natural or social functions or processes could be substantially affected or altered to the extent that they could temporarily or permanently cease.

Duration
- Short term - 0-5 years.
- Medium term - 5-11 years.
- Long term - impact ceases after the operational life cycle of the activity, either because of natural processes or by human intervention.
- Permanent - mitigation either by natural process or by human intervention will not occur in such a way or in such a time span that the impact can be considered transient.

Probability
- Almost certain - the event is expected to occur in most circumstances.
- Likely - the event will probably occur in most circumstances.
- Moderate - the event should occur at some time.
- Unlikely - the event could occur at some time.
- Rare/Remote - the event may occur only in exceptional circumstances.

Significance
Provides an overall impression of an impact's importance and the degree to which it can be mitigated.
The range for significance ratings is as follows-
0 – Impact will not affect the environment. No mitigation necessary.
1 – No impact after mitigation.
2 – Residual impact after mitigation.

3 – Impact cannot be mitigated.

Pertinent environmental issues identified during Scoping, which will receive specific attention during the EIA Phase, are listed in **Section 13.3** (direct and indirect impacts) and **Section 13.4** (cumulative impacts).

14.4 Specialist Studies

14.4.1 Introduction

According to Münster (2005), a 'trigger' is *"a particular characteristic of either the receiving environment or the proposed project which indicates that there is likely to be an issue and/or potentially significant impact associated with that proposed development that may require specialist input"*.

The sections that follow provide information on the specialist studies identified in the Screening Report generated by the Screening Tool, the studies deemed necessary for the Project and to be undertaken as part of the EIA, and the Terms of Reference (ToR) for these studies.

For the inclusion of the findings of the specialist studies into the EIA Report, the following guideline will be used: *Guideline for the review of specialist input in EIA processes* (Keatimilwe and Ashton, 2005). Key considerations will include:

- Ensuring that the specialists have adequately addressed I&APs' issues and specific requirements prescribed by environmental authorities;
- Ensuring that the specialists' input is relevant, appropriate and unambiguous; and
- Verifying that information regarding the receiving ecological, social and economic environments has been accurately reflected and considered.

14.4.2 Specialist Studies Identified by the Screening Tool

As mentioned in **Section 6.3**, the Screening Report for the Project was compiled by means of the Screening Tool, which is appended to the Application Form (contained in **Appendix B**).

Table 13 lists the specialist studies that were identified in the Screening Report and notes the relevance of these studies to the Project following SSV. The SSV Report is contained in **Appendix F**. Also note the descriptions of the relevant features of the receiving environment in **Section 11** above that relate to the various themes listed in **Table 13**.

Table 13: Relevance of specialist studies identified in the Screening Report based on SSV

No.	Specialist Study identified in Screening Report	Relevance to the Project following Site Sensitivity Verification
1.	**Agricultural Impact Assessment**	According to the Screening Tool, most of the Project site falls within a medium-sensitivity area for the Agriculture Theme, with scattered portions across the Project site within high-sensitivity areas. Based on the SSV findings, an Agricultural Compliance Statement will be compiled during the EIA Phase of the S&EIR Process.

No.	Specialist Study identified in Screening Report	Relevance to the Project following Site Sensitivity Verification
2.	**Landscape/Visual Impact Assessment**	Although the Screening Tool indicates the need for a Visual Impact Assessment, it did not identify visual/landscape sensitivity for the study area. Based on the SSV findings, a Visual Impact Assessment will be compiled during the EIA Phase of the S&EIR Process.
3.	**Archaeological and Cultural Heritage Impact Assessment**	According to the Screening Tool, the site is located in an area of low sensitivity for the Archaeological and Cultural Heritage Theme. Based on the SSV findings, a Phase 1 Heritage Impact Assessment will be compiled during the EIA Phase of the S&EIR Process.
4.	**Palaeontology Impact Assessment**	According to the Screening Tool, the site occurs in areas of very high Palaeontological Sensitivity. Based on the SSV findings, a Palaeontology Impact Assessment will be compiled during the EIA Phase of the S&EIR Process.
5.	**Terrestrial Biodiversity Impact Assessment**	According to the Screening Tool, most of the Project site falls within a Very High Sensitivity area for the Terrestrial Biodiversity Theme, with portions of the southern and northern sections of the Solar grid connection site and portions of the southeastern section of the Solar PV site occurring in a low sensitivity area. Based on the SSV findings, a Terrestrial Biodiversity Impact Assessment will be compiled during the EIA Phase of the S&EIR Process.
6.	**Aquatic Biodiversity Impact Assessment**	According to the Screening Tool, most of the Project site falls within a Very High Sensitivity area for the Aquatic Biodiversity Theme, with only the southern section of the Project site occurring in a low-sensitivity area. Based on the SSV findings, a Wetland Impact Assessment will be compiled during the EIA Phase of the S&EIR Process.
7.	**Avian Impact Assessment**	According to the Screening Tool, most of the Project site falls within a low sensitivity for the Avian Theme. However, the southern section of the Project site falls within a high-sensitivity area, as it is located within 20 km of a known Cape Vulture restaurant site. Based on the SSV findings, a Terrestrial Biodiversity Impact Assessment, including the avian impact assessment, will be compiled during the EIA Phase of the S&EIR Process.
8.	**Civil Aviation Assessment**	According to the Screening Tool, the site is located in an area of low sensitivity for the Civil Aviation Theme. Based on the SSV findings, a Civil Aviation Assessment **will not** be compiled during the EIA Phase of the S&EIR Process.
9.	**Defence Assessment**	According to the Screening Tool, the site is located in an area of low sensitivity for the Defence Theme. Based on the SSV findings, a Defence Assessment **will not** be compiled during the EIA Phase of the S&EIR Process.
10.	**RFI Assessment**	According to the Screening Tool, the site is located in an area of low sensitivity for the RFI Theme. Based on the SSV findings, an RFI Assessment **will not** be compiled during the EIA Phase of the S&EIR Process.
11.	**Geotechnical Assessment**	Although the Screening Tool indicates the need for a Geotechnical Assessment, it did not identify geotechnical sensitivity for the study area. Based on the SSV findings and consultation with DFFE, a Geotechnical Assessment will be compiled during the EIA Phase of the S&EIR Process.

No.	Specialist Study identified in Screening Report	Relevance to the Project following Site Sensitivity Verification
12.	**Socio-Economic Assessment**	Although the Screening Tool indicates the need for a Socio-Economic Assessment, it did not identify socio-economic sensitivity for the Project site. Based on the findings of this SSV, a Social Impact Assessment will be compiled during the EIA Phase of the S&EIR Process.
13.	**Plant Species Assessment**	According to the Screening Tool, the site is located in an area of low sensitivity for the Plant Species Theme. Based on the SSV findings, a Terrestrial Biodiversity Impact Assessment, including the plant species assessment, will be compiled during the EIA Phase of the S&EIR Process.
14.	**Animal Species Assessment**	According to the Screening Tool, most of the Project site falls within a Medium Sensitivity area in terms of the Animal Species Theme, with portions of the southern and northern sections of the Solar PV site and grid connection site occurring in a low-sensitivity area. Based on the SSV findings, a Terrestrial Biodiversity Impact Assessment, including the animal species assessment, will be compiled during the EIA Phase of the S&EIR Process.

14.4.3 Specialist Studies Triggered by the Project

The following studies are triggered by the Project, based on the outcomes of the Scoping exercise, and will be undertaken during the EIA Phase:

- Studies based on the Screening Tool and SSV (refer to **Table 13**) **–**
  - Agricultural Compliance Statement;
  - Visual Impact Assessment;
  - Phase 1 Heritage Impact Assessment;
  - Palaeontology Impact Assessment;
  - Terrestrial Biodiversity Impact Assessment;
  - Wetland Impact Assessment;
  - Geotechnical Assessment; and
  - Social Impact Assessment.

14.4.4 Terms of Reference

The following general ToR apply to all the specialist studies to be undertaken for the proposed Project:

1. Address all triggers for the specialist studies, based on the findings of the Scoping Phase.
2. Consider the findings of other specialist studies undertaken in the area, as relevant.
3. Address issues raised by I&APs.
4. Ensure that the requirements of the environmental authorities that have specific jurisdiction over the various disciplines and environmental features are satisfied.
5. Approach to include desktop study and site visits, as deemed necessary, to understand the affected environment and to adequately investigate and evaluate salient issues. Indigenous knowledge (i.e., targeted consultation) should also be regarded as a potential information resource.

6. Assess the impacts (direct, indirect and cumulative) in terms of their significance (using suitable evaluation criteria) and suggest suitable mitigation measures. In accordance with the mitigation hierarchy, negative impacts should be avoided, minimised, rehabilitated (or reinstated) or compensated for, whereas positive impacts should be enhanced. A risk-averse and cautious approach should be adopted under conditions of uncertainty.
7. Consider time boundaries, including short to long-term implications of impacts for project life-cycle (i.e., pre-construction, construction and operation).
8. Consider spatial boundaries, including:
    a. Broad context of the proposed Project (i.e., beyond the boundaries of the specific site);
    b. Off-site impacts; and
    c. Local, regional, national or global context.
9. The provision of a statement of impact significance for each issue, which specifies whether or not a pre-determined threshold of significance (i.e., changes in effects to the environment which would change a significance rating) has been exceeded, and whether or not the impact presents a potential fatal flaw or not. This statement of significance should be provided for anticipated project impacts both before and after application of impact management actions.
10. Recommend a monitoring programme to implement mitigation measures and measure performance. List indicators to be used during monitoring.
11. Appraisal of alternatives (including the no-go option) by identifying the BPEO with suitable justification.
12. Engage with other specialists whose studies may have a bearing on your specific investigation.
13. Sign a declaration stating independence.
14. The appointed specialists must take into account the policy framework and legislation relevant to their particular studies.
15. All specialist reports must adhere to the “Specialist Protocols” which include Appendix 6 of the EIA Regulations and the Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes (GN No. 320 in Government Gazette No. 43110 of 20 March 2020) and the Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes (GN No. 1150 in Government Gazette No. 43855 of 30 October 2020) as amended in the Amendment to the Protocols for the Specialist Assessment and Minimum Report Content Requirements for Environmental Impacts on Terrestrial Animal and Plant Species (GN No. 3717 in Government Gazette No. 49028 of 28 July 2023), as relevant.

14.5 Public Participation – EIA Phase

14.5.1 Updating the Database of I&APs

The I&AP database will be updated as necessary during the EIA Phase.

14.5.2 Review of Draft EIA Report

A 30-day period will be provided to authorities and I&APs to review the draft EIA Report. A hard copy of the document will be lodged for public review at the Ventersdorp Community Library (Van Tonder Crescent, Ventersdorp, 2710). An electronic copy will be uploaded to the following website for downloading purposes: https://nemai.co.za/downloads/.

The link to the electronic copy of the draft EIA Report will be provided to the regulatory and commenting authorities.

All parties on the I&APs database will be notified via email, post or SMS of the opportunity to review the draft EIA Report, how to access the report, the review period and the process for submitting comments.

All comments received from authorities and I&APs and the responses thereto will be included in the CRR that will be appended to the final EIA Report, which will be submitted to DFFE.

14.5.3 Public Meeting

If requested by the authorities or I&APs, a public meeting may be held during the review period for the draft EIA Report. The aims of this meeting would include the following:

- To present the Project details;
- To explain the S&EIR process;
- To present the findings of the specialist studies;
- To address key issues raised during the Scoping Phase;
- To elaborate on the potentially significant environmental impacts (qualitative and quantitative), and the proposed mitigation of these impacts; and
- To allow for queries and concerns to be raised, and for the EAP and Project Team to respond.

14.5.4 Comments and Response Report

A CRR will be compiled and included in the EIA Report, which will record the date the issues were raised, a summary of each issue, and the team's response to address each issue.

In addition, any unattended comments from the Scoping Phase, or any changes in the statuses of previous responses, will also be addressed in the CRR for the EIA Phase.

14.5.5 Notification of DFFE Decision

Registered I&APs will be notified in writing of DFFE's decision and of the appeal process, in accordance with the National Appeal Regulations, 2025.

14.6 EIA Report

The EIA Report will contain the information necessary for DFFE to consider and decide on the application. As a minimum, the EIA Report will contain the information stipulated in Appendix 3 of the EIA Regulations.

14.7 DFFE Engagement

The final EIA Report will be submitted to DFFE. Any requested amendments will be discussed with this Department to ensure that their queries are adequately and timeously attended to.

For the remainder of the S&EIR Process, DFFE will be engaged with as follows:

- Address comments on the draft Scoping Report;
- Submit the final Scoping Report to DFFE;
- Meet with the designated DFFE Environmental Officer to explain the Project and arrange a site visit (if required);
- Address comments on the final Scoping Report;
- Submit the draft EIA Report to DFFE;
- Address comments on the draft EIA Report;
- Submit the final EIA Report to DFFE;
- Obtain DFFE decision; and
- Notify I&APs of the appeal process through DFFE's Appeal Administrator.

14.8 EIA Timeframes

Table 14 presents the proposed timeframes for the S&EIR Process. *Note that these dates are subject to change as the S&EIR Process unfolds.*

Table 14: EIA Timeframes (Note: dates may change during the course of the S&EIR Process)

EIA Milestone	Start	Finish
Submit Application Form and draft Scoping Report to DFFE	02-07-2026	
Review of draft Scoping Report by Authorities and I&APs	03-07-2026	04-08-2026
DFFE Review and Decision	13-08-2026	23-09-2026
Review of Draft EIA Report by Authorities and I&APs	26-10-2026	26-11-2026
Submit Final EIA Report and EMPr to DFFE	04-12-2026	
DFFE Review and Decision	07-12-2026	23-02-2027

15 CONCLUSIONS

Key outcomes of the Scoping Phase for the proposed Project are as follows:

- Alternatives for achieving the objectives of the proposed activity were considered;
- Potentially significant issues pertaining specifically to the construction and operational phases of the Project were identified;
- Sensitive features of the environment that may be affected by the Project were identified;
- Stakeholders will be engaged with through notification of the review of the draft Scoping Report;
- A Plan of Study was developed that sets out the approach to be adopted during the EIA Phase; and
- The Scoping exercise set the priorities for the ensuing EIA Phase.

No fatal flaws were identified in the proposed activities or the receiving environment that would prevent the environmental assessment from proceeding beyond the Scoping Phase. It is the opinion of the EIA team that Scoping was conducted objectively and that the process and report conform to the requirements of Regulation 21 and Appendix 2 of the EIA Regulations, respectively. It is also believed that the Plan of Study for EIA is sufficiently comprehensive and will be adequate to address the significant positive and negative issues identified during Scoping, select the BPEO, and ultimately enable informed decision-making.

16 REFERENCES

AccuWeather, 2026. Current Air Quality for Ventersdorp, North West. Accessed on 11 June 2026 from https://www.accuweather.com/en/za/ventersdorp/299770/air-quality-index/299770.

Bamisile, O., Acen, C., Cai, D., Huang, Q. and Staggell, I. 2025. The environmental factors affecting solar photovoltaic output. *Renewable and Sustainable Energy Reviews,* 208, 115073.

Cardinale, P. and Greig, L.A. 2013. Good Practice Handbook: Cumulative Impact Assessment and Management: Guidance for the Private Sector in Emerging Markets. *International Finance Corporation,* https://api.semanticscholar.org/CorpusID:126740546.

DFFE. 2022. Revised national list of ecosystems that are threatened and in need of protection. Pretoria: South Africa Government.

Ditsobotla LM, 2026. Ditsobotla Local Municipality. Accessed on 15 June 2026 from https://ditsobotla.gov.za/.

Friesen, G., Micheli, L. 2025. Friesen, G., Micheli, L., Jahn, U. (Eds.). Optimisation of Photovoltaic Power Systems for Different Climates. *IEA PVPS Task 13,* Report No. T13-32:2025, https://doi.org/10.69766/QSYC8858.

Hawley, G., Desmet, P., Kok, R., and van Deventer, R. 2025. North West Province Biodiversity Sector Plan 2025. DEDECT, North West Province, South Africa.

Hoosen, S.M. 2026. Aquatic Site Sensitivity Verification for the proposed Grootvlei 600MW PV Solar Plant. Gauteng, South Africa.

JB Marks LM, 2025. Final Integrated Development Plan 2022–2027 (2025-2026 Review). JB Marks Local, Ventersdorp, South Africa.

Keatimilwe, K. and Ashton, P.J., 2005. Guideline for the Review of Specialist Input into the EIA. Process: Edition 1. CSIR Report No ENV-S-C 2005 053 B. Provincial. Government of the Western Cape, Department of Environmental Affairs & Development Planning, Cape Town.

Kitto, J. 2026. Heritage Site Sensitivity Verification Report for the Proposed Grootvlei 600MW Solar Plant, Battery Energy Storage Systems & Grid Connection Project, Near Ventersdorp, JB Marks Local Municipality, North West Province. Ferndale, Gauteng, South Africa.

Mchunu, S. 2026. Agricultural Site Sensitivity Verification Report for the Proposed Grootvlei 600MW Solar PV Plant, Battery Energy Storage Systems (Bess) and Grid Connection Project, Located within Dr Kenneth Kaunda and Ngaka Modiri Molema District

Municipalities, Near Ventersdorp, North West Province. Richards Bay, KwaZulu-Natal, South Africa.

Meteoblue, 2026a. Weather Archive Ventersdorp. Accessed on 09 June 2026 from https://www.meteoblue.com/en/weather/historyclimate/weatherarchive/ventersdorp_south-africa_944534?fcstlength=1y&year=2025&month=6.

Meteoblue, 2026b. Climate Change Ventersdorp. Accessed on 09 June 2026 from https://www.meteoblue.com/en/climate-change/ventersdorp_south-africa_944534.

Mucina, L., & Rutherford, M. 2006. The Vegetation of South Africa, Lesotho and Swaziland. Vol. Strelitzia 19, Pretoria: SANBI.

Münster, F., 2005. Guideline for determining the scope of specialist involvement in EIA processes: Edition 1. CSIR Report No ENV-S-C 2005 053 A. Republic of South Africa, Provincial Government of the Western Cape, Department of Environmental Affairs & Development Planning, Cape Town.

North West Department of Health, 2026. Potchefstroom Hospital. Accessed on 15 June 2026 from https://potchefstroomhospital.gov.za/.

Ngaka Modiri Molema DM, 2025. Final 2025-2026 Integrated Development Plan. Ngaka Modiri Molema DM, Mahikeng, North West.

Paul, B. 2026. Terrestrial Biodiversity Site Sensitivity Verification Report for the Proposed Grootvlei 600 MW Solar PV Plant. KwaZulu-Natal, South Africa.

SA Doctors, 2026. Ventersdorp Hospital – Ventersdorp, North West Province, South Africa. Accessed on 15 June 2026 from https://doctors-hospitals-medical-cape-town-south-africa.blaauwberg.net/hospitals_clinics_state_hospitals/state_public_hospitals_clinics_north_west_province_south_africa/ventersdorp_hospital_ventersdorp_north_west_province_south_africa.

Stats SA, 2026. Key Statistics for the JB Marks Municipality. Access on 11 June 2026 from https://census.statssa.gov.za/#/province/6/2.

APPENDICES