Soil and Agricultural Compliance Statement for the proposed Kopanya Solar Photovoltaic (PV) 2 Project

Thaba Chweu Local Municipality, Ehlanzeni District Municipality in the Mpumalanga Province, South Africa

3 November 2026

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Project Title	**Kopanya PV 2**	
Report Name	Soil and Agricultural Compliance Statement for the proposed Kopanya Solar Photovoltaic (PV) 2 Project	
Specialist Theme	Agricultural (Soil) Theme	
Project Reference	Kopanya Solar PV 2 Project	
Environmental Assessment Practitioner		
Date	3 November 2026	
Technical Support	Cathrine Mathye (SACNASP 127950)	
Reviewer & Responsible Specialist	Masilabela Seepamore (SACNASP 113907)	
Declaration	The Biodiversity Company and its associates operate as independent consultants under the auspice of the South African Council for Natural Scientific Professions. We declare that we have no affiliation with or vested financial interests in the proponent, other than for work performed under the Environmental Impact Assessment Regulations, Amended. We have no conflicting interests in the undertaking of this activity and have no interests in secondary developments resulting from the authorisation of this project. We have no vested interest in the project, other than to provide a professional service within the constraints of the project (timing, time and budget) based on the principals of science.	

Executive Summary

Project Description

The Biodiversity Company conducted a soil and agricultural assessment for the proposed Kopanya Solar Photovoltaic (PV) 2 Project and associated infrastructure, which entails the development of a 20 megawatt alternating current (MW_{AC}) solar PV facility at Booysendal South Mine, near Mashishing in Mpumalanga Province (the proposed Project). This specialist study has been undertaken to inform the Environmental Authorisation process and describes the soil and agricultural resources and land capability associated with the proposed Project area.

Desktop

The National Web-Based Environmental Screening Tool (DFFE, 2026) identified the agricultural theme sensitivity of the Project area as ranging from Medium to High. A key objective of this assessment was therefore to verify the agricultural theme sensitivity of the Project area. The requirements of Government Notice 320 for an Agricultural Compliance Statement stipulate that a 50 metre buffered development envelope must be considered.

Verified Baseline Findings

The representative soil forms identified within the proposed Project area include the Hutton, Katspruit, Nkonkoni, Vaalbos, Glenrosa, Mispah, Johannesburg, and Witbank soil forms. The proposed Project area is dominated by apedal soils such as Hutton, Nkonkoni and Vaalbos soil forms with good drainage and aeration, which are characterised by medium sensitivity. Hydromorphic soil such as Katspruit soil form showing signs of wetness are also present and are similarly characterised by medium sensitivity. The shallow, physically disturbed Anthrosols and Urban Technosols, which have restrictive limitations, were characterised as having low sensitivity. The proposed Project area is dominated by arable land, with some marginal non-arable areas. Overall, the sensitivity of the Project area ranges from Low to Medium.

The baseline soil findings, current land uses, and the calculated land potential concur with the agricultural theme tool, to an extent with areas demarcated with “Low-Moderate” land capability sensitivity. It, furthermore, disputes the agricultural theme tool on areas demarcated with “Moderate to Moderate-High” and “High” land capability sensitivities, and with highly sensitive field crop boundaries. The highly sensitive field crop boundaries identified by the agricultural theme tool were found to be historical.

Conclusion

It is the specialist’s opinion that the proposed Project and associated infrastructure will have an overall low residual impact on the agricultural production potential of the land. The proposed Project and associated infrastructure may therefore be favourably considered for development, provided that the recommended mitigation measures are implemented (Section 5.1.1;Table 5-5 to Table 5-7).

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Table of Abbreviations and Units of Measure

Abbreviation / Unit	Full Meaning / Description
%	Percent
"	Second (used in GPS coordinates)
'	Minute (used in GPS coordinates)
°	Degree (used in GPS coordinates)
°C	Degree Celsius (temperature, implied in climate)
Cand. Nat. Sci.	Candidate Natural Scientist (SACNASP registration)
C1–C8	Climatic Capability Classes (Smith, 2006)
CARA	Conservation of Agricultural Resources Act
DAFF	Department of Agriculture, Forestry and Fisheries
DALRRD	Department of Agriculture, Land Reform and Rural Development
DFFE	Department of Forestry, Fisheries and the Environment
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
EMPr	Environmental Management Programme
GIS	Geographic Information System
GN	Government Notice
GPS	Global Positioning System
ha	Hectare (unit of area)
km	Kilometre (unit of distance)
L1–L8	Land Potential Levels (Guy and Smith, 1998)
LC1–LC8	Land Capability Classes
LFP	Lithium Iron Phosphate (battery chemistry)
m	Metre (unit of length)
m²	Square metre (unit of area)
MAP	Mean Annual Precipitation
MAPE	Mean Annual Potential Evapotranspiration
mm	Millimetre (unit of length)
MW	Megawatt (unit of power)
MWh	Megawatt-hour (unit of energy)
NEMA	National Environmental Management Act
PAAs	Protected Agricultural Areas
PAOI	Project area of Influence
pH	Potential of Hydrogen (soil acidity/alkalinity, implied)
Pr. Sci. Nat.	Professional Natural Scientist (SACNASP registration)
PV	Photovoltaic
REEA	Renewable Energy Environmental Assessment
SACNASP	South African Council for Natural Scientific Professions

t	Tonne (metric ton, implied in soil/land context)
TBC	The Biodiversity Company
Vlei	Wetland (Afrikaans term, used in land potential tables)

1 Introduction

1.1 Background

The Biodiversity Company was appointed by GCS Environment South Africa (Pty) Ltd (GCS) to undertake a soil and agricultural assessment for the proposed Kopanya Photovoltaic (PV) 2 Project (the proposed Project). The development layout provided was used to determine the Project area of Influence (PAOI). The PAOI is inclusive of the entire development footprint. (Figure 1-1). The property boundary provided was used as a PAOI and is delineated to incorporate the proposed Project components (Figure 1-2).

The approach adopted for this assessment has taken cognisance of Government Notice (GN) 320 in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) dated 20 March 2020: “Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes in terms of Sections 24(5)(a) and (h) and 44 of the NEMA, 1998, when applying for Environmental Authorisation”. The National Web-Based Environmental Screening Tool (DFFE, 2026) has characterised the agricultural theme sensitivity of the Project area as having sensitivity ranging from “Medium to High” with a key consideration of this assessment being the determination of agricultural theme sensitivities for the Project. Based on the verified baseline findings, the proposed Project area was found to have “Low to Medium” sensitivity. The requirements of GN 320 for an Agricultural Compliance Statement stipulate that a 50 metre (m) buffered development envelope must be considered.

This report aims to present and discuss the findings from the soil resources identified within the proposed Project area including the 50 m buffered area. The report will also identify the soil suitability and land potential of these soils; the land uses within the assessment area and the risks associated with the proposed Project from an agricultural and soil resources management perspective.

This report should be interpreted after taking into consideration the findings and recommendations provided by the specialist (Section 3, 4 and 5 of this report). Further, this report should inform and guide the Environmental Assessment Practitioner (EAP) and regulatory authorities, enabling informed decision making, as to the soil resources of the proposed Project.

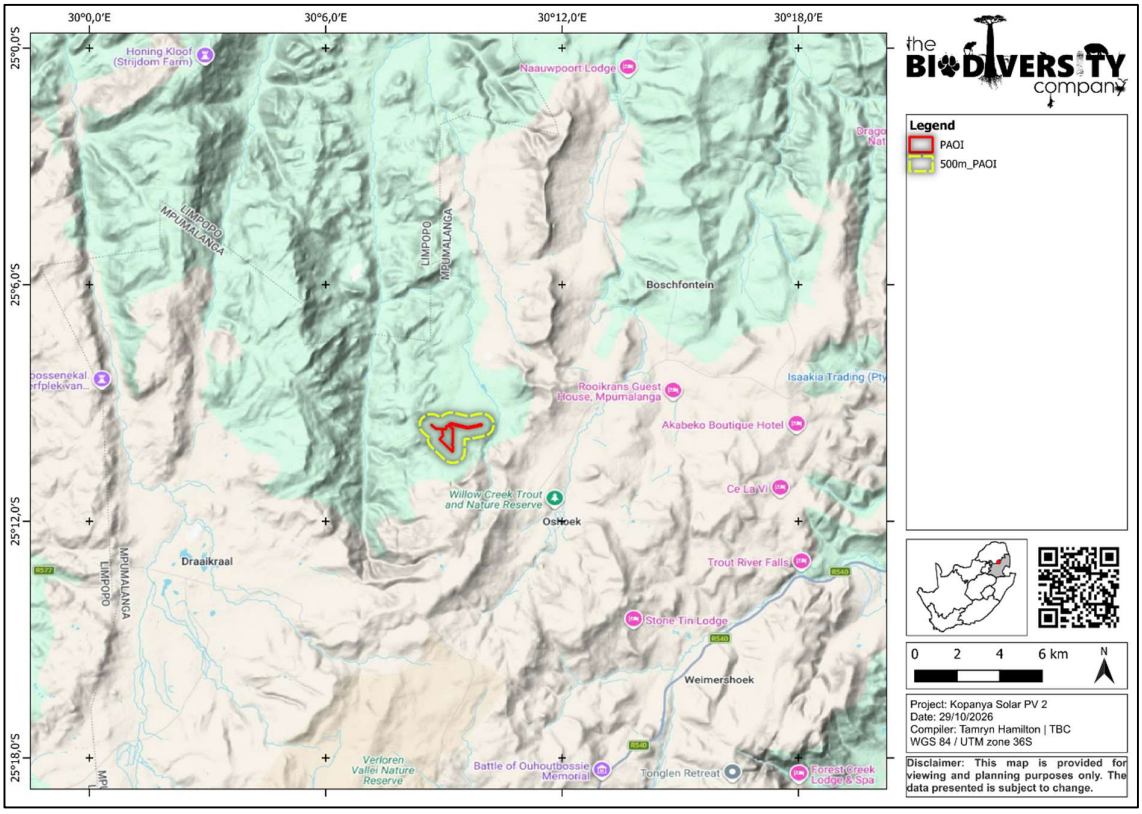


Figure 1-1 The proposed Project area of Influence in proximity to the nearby towns

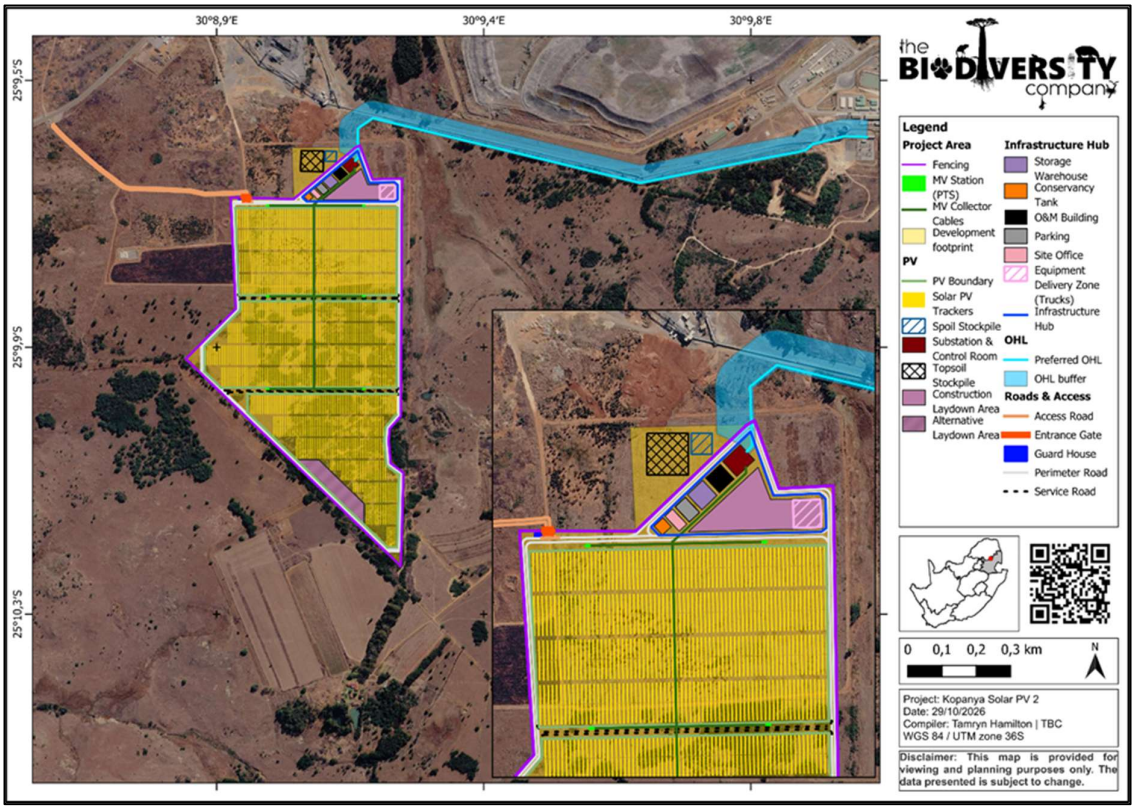


Figure 1-2 Map illustrating the proposed Project components within the Project area

1.2 Project Description

The following has been provided by GCS.

The following has been provided by GCS Environment South Africa (Pty) Ltd.

1.1.1 Introduction

Booysendal Platinum (Pty) Ltd (the Applicant / Booysendal) proposes to develop the Kopanya Solar Photovoltaic 2 Project (the proposed Project), comprising a 20 megawatt alternating current (MWAC) utility-scale solar photovoltaic facility and associated infrastructure at the Booysendal South Mine in Mpumalanga Province. The proposed Project will be located within the existing Booysendal Mining Right held by Booysendal, a subsidiary of Northam Platinum Holdings Limited.

The proposed Project requires Environmental Authorisation (EA) in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA), read with the Environmental Impact Assessment (EIA) Regulations, 2014 (as amended) Government Notice Regulation (GN R) 982 (EIA Regulations, 2014). A Basic Assessment (BA) process is being undertaken to assess potential environmental impacts and risks, consider reasonable and feasible alternatives, facilitate participation by interested and affected parties (I&APs) and relevant organs of state, and provide the competent authority with sufficient information to decide the application.

GCS Environment South Africa (Pty) Ltd (GCS) has been appointed as the independent Environmental Assessment Practitioner (EAP) responsible for managing the environmental assessment process, facilitating public participation and preparing the application documentation for submission to the Department of Mineral and Petroleum Resources (DMPR).

1.1.2 Project Background

The proposed Project will be located on Portion 8, the Remaining Extent of Portion 15 and Portion 17 of the Farm No. 53 JT, approximately 30 kilometres (km) west of Mashishing, within the Thaba Chweu Local Municipality and Ehlanzeni District Municipality. The proposed development footprint is approximately 41 hectares (ha).

The proposed Project will comprise up to approximately 35,000 bifacial photovoltaic panels mounted on single-axis tracking systems, together with an on-site substation, inverters, transformer stations, electrical houses, access and internal roads, operations and maintenance facilities, security and telecommunications infrastructure, and an overhead power line of up to 132 kilovolts (kV). A detailed Project description is provided in Section 2.

Electricity generated by the proposed Project will primarily supplement the electricity requirements of the Booysendal South Mine. The proposed Project forms part of Northam Platinum Holdings Limited's energy resilience and sustainability strategy.

1.1.3 Description of the Proposed Development

This section describes the principal components, supporting infrastructure and lifecycle activities associated with the proposed Project. The need and desirability of the proposed Project are assessed.

1.2.1.1 Project Overview

The Project comprises a 20 MWAC solar PV facility and associated grid connection and support infrastructure within the existing Booysendal South Mine. Electricity generated will primarily supply the Mine, with any surplus export subject to the applicable grid connection arrangements.

1.2.2 Project Components

1.1.3.1 Overview of the Proposed Facility

The facility will have an installed generation capacity of 20 MWAC and will integrate with existing mining and electrical infrastructure.

The proposed Project will utilise single-axis tracking bifacial solar photovoltaic panels to optimise solar exposure throughout the day. Locating the facility within an established mining area and using modular infrastructure may reduce the need for additional land disturbance.

1.1.3.2 Solar PV Arrays and Tracking System

The facility will comprise up to approximately 35,000 bifacial PV panels, each with a typical capacity greater than 600 watts (W), mounted on single-axis tracking systems to optimise energy yield.

The racking and tracking systems will be constructed from steel sections supported by driven piles, reducing the need for extensive concrete foundations and limiting ground disturbance. Panel structures will be designed to accommodate site-specific geotechnical conditions, wind loading, and long-term operational requirements.

1.1.3.3 Electrical Infrastructure and Grid Connection

The Project will include the following electrical and grid connection infrastructure:

- An overhead power line of up to 132 kV connecting the solar PV facility to the grid connection infrastructure;
- An on-site PV substation to collect and regulate electricity generated by the PV arrays;
- A substation adjacent to the existing Eskom substation; and
- Power transformer stations, inverters and associated electrical infrastructure housed in prefabricated units or electrical houses.

Electricity generated will primarily supply the Booysendal South Mine. Any surplus export will be subject to the final grid connection arrangements.

1.1.3.4 Temporary Construction Infrastructure

Temporary infrastructure required during the construction phase will include:

- A construction yard and laydown areas of approximately 1 ha;
- Site offices, storage areas, and temporary ablution facilities;
- Internal access roads and construction traffic routes; and
- Temporary services required to support construction activities.

Construction of the proposed Project is anticipated to occur over a period of approximately 15 months. At peak construction, an estimated 300 personnel will be employed, comprising skilled and semi-skilled labour associated with civil works, electrical installation, and commissioning activities.

1.1.3.5 Permanent Operational Infrastructure

Permanent operational infrastructure associated with the proposed Project will include:

- Buildings for operations, maintenance, control, and storage purposes;
- An operations and maintenance warehouse;
- Parking areas for operational staff and service vehicles; and
- Security facilities, including access control points.

The operational lifespan of the proposed Project is anticipated to be approximately 25 years, during which an estimated 20 personnel will be employed for routine operation, maintenance, and security functions.

1.1.3.6 Supporting Infrastructure and Services

Additional supporting infrastructure will include:

- Water-supply infrastructure and conservancy tanks for the collection of domestic wastewaters;
- Internal and access roads, linking the facility to existing Mine infrastructure;
- Security and access control infrastructure, including perimeter fencing of up to approximately 3 100 metres (m); and
- Telecommunications systems to support monitoring, control, and security operations.

Stormwater infrastructure will be designed to maintain natural drainage patterns, promote dispersed flow and infiltration, and prevent erosion, sedimentation and concentrated discharge into wetlands and drainage features. The final design may include vegetated swales, berms, energy dissipation measures, cross-drainage structures and sediment-control measures.

1.1.3.7 Water Requirements and Management

Water will be required during construction for dust suppression, concrete works and general construction activities. Total construction phase demand is estimated at approximately 1 790 m³.

Operational water demand, associated mainly with domestic use and routine maintenance, is estimated at approximately 518 m³/a.

Water will be sourced from existing authorised Mine supplies and/or boreholes. No new abstraction infrastructure is proposed, and water use will be managed in accordance with the Mine's water management procedures.

No process wastewater will be generated during normal operation. Domestic wastewater will be collected in conservancy tanks and removed by an appropriately authorised service provider for disposal at an approved facility.

1.1.3.8 Waste Management

Waste generated during construction, operation and decommissioning will be managed in accordance with the Mine's approved waste management procedures, the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), and applicable good practice.

1.1.3.8.1 Construction Phase

During the construction phase, both non-hazardous and hazardous waste streams will be generated. Waste volumes are anticipated to be temporary and largely associated with civil works, installation activities, and workforce-related activities.

Non-hazardous waste will include:

- General domestic waste generated by construction personnel;
- Packaging materials associated with solar PV components, including wooden pallets, cardboard, plastics, polystyrene, and strapping materials;
- Scrap metal arising from mounting structures, tracker systems, cable trays, and minor steel off-cuts;

- Construction off-cuts, including electrical cabling, conduits and plastic materials;
- Minor quantities of inert waste, such as concrete residues generated during foundation works; and
- Damaged, defective, or broken solar PV panels arising from transport, handling, or installation activities.

Solar PV panels damaged during delivery or installation will be handled with care to prevent further breakage. Intact but defective panels will, where possible, be returned to the supplier under warranty agreements. Broken panels will be stored in a designated, secure area to prevent glass dispersion and environmental contamination. Panels suitable for recycling will be sent to appropriately authorised recycling facilities.

Hazardous waste generated during construction will be limited in volume and will include:

- Small quantities of waste fuels, oils and hydraulic fluids generated during the use and maintenance of construction vehicles and equipment;
- Oily rags, absorbent materials, used filters, and contaminated materials; and
- Empty containers that previously contained hazardous substances, such as oils, greases, and cleaning agents.

Hazardous waste will be stored in clearly demarcated, bunded areas with impermeable surfaces. Waste will be removed by appropriately registered or authorised service providers and taken to authorised facilities.

1.1.3.8.2 Operational Phase

Waste generation during the operational phase is expected to be minimal and largely associated with routine maintenance and administrative activities.

- Non-hazardous waste during operation will primarily include:
- Limited domestic waste generated by operational and maintenance personnel;
- Minor packaging waste associated with spare parts and replacement components; and
- Scrap metal and redundant components arising from maintenance activities.

Hazardous or potentially hazardous waste may include:

Used oils, lubricants, and cleaning materials associated with maintenance activities;

- Oily rags, absorbent materials and used filters;
- Damaged or replaced solar PV panels arising from storm events, mechanical failure, vandalism, or routine replacement; and
- Electrical components such as inverters or transformers containing oils or electronic parts.

Damaged, defective and end-of-life PV panels will be assessed and managed according to their condition and applicable waste classification requirements. Suppliers take-back, reuse and recycling will be prioritised where reasonably available, and panels awaiting removal will be stored in a secure, weather-protected area.

All operational waste will be collected, transported and disposed of in accordance with approved waste management procedures.

1.1.3.8.3 Decommissioning Phase Waste

At the end of the proposed Project's operational lifespan, the facility may be decommissioned, repowered, or refurbished. The decommissioning phase will generate both non-hazardous and hazardous waste streams associated with dismantling and removal of infrastructure.

Waste generated during decommissioning will include:

- Non-hazardous waste, such as dismantled equipment, scrap metal, concrete material, fencing, and general waste associated with infrastructure removal;
- Solar PV panels, including damaged, obsolete, or end-of-life panels and associated mounting structures and electrical components; and
- Hazardous waste, including electronic components, oils and other hazardous materials.

Solar PV panels removed during decommissioning will represent a primary waste stream. Functional panels may be reused, resold or incorporated into a repowering programme, while end-of-life panels will be prioritised for recycling to recover glass, aluminium frames and other reusable materials.

Electrical components, including inverters and transformers, will be assessed for potential refurbishment or recycling. Hazardous materials will be separated and managed in accordance with applicable waste legislation.

Decommissioning waste will be transported by appropriately registered or authorised service providers to authorised waste management or recycling facilities. Material recovery, reuse and recycling will be prioritised to minimise disposal to landfill.

1.3 Scope of Work

In addition to the requirements stipulated in GN 320, the following terms of reference apply to the Agricultural Compliance Statement:

- Ensure a thorough assessment, which includes both the desktop assessment of databases and aerial photography, a description of the on-site verification of the agricultural potential of the area and the soil forms present in the proposed Project area (including the 50 m buffer);
- Identify and assess potential impacts on both agricultural potential and soil resulting from the proposed Project;
- Identify and describe potential cumulative soil, agricultural potential and land capability impacts resulting from the proposed Project in relation to proposed and existing developments in the surrounding area; and
- Recommend mitigation, management, and monitoring measures, to minimise impacts and/or optimise benefits associated with the proposed Project.

1.4 Assumptions and Limitations

The following aspects were considered as limitations;

- Only the slopes affected by the proposed Project have been assessed;
- It is assumed that all information received from the Applicant/EAP and landowner is accurate;

- The information contained in this report is based on surveyed desktop data and verified observations on site. There may be variations in terms of the delineation of the soil forms across the area;

- Seasonality has no bearing on the soil assessment and fieldwork is therefore deemed sufficient for the proposed Project. Therefore, the data collected during the fieldwork is considered sufficient to establish a meaningful baseline for the study objectives;

- The assessment area (Project area) was based on the footprint areas as provided by the Applicant, and any alterations to the area and/or missing Geographic Information System (GIS) information pertaining to the assessment area would have affected the area surveyed and hence the results of this assessment;

- The Global Positioning System (GPS) used in the assessment has an accuracy of 5 m and consequently any spatial features may be offset by up to 5 m. Please note that a GPS positional accuracy of up to 5 m is considered adequate for the purposes of this study, given the scale of the assessment; and

- No heavy metals have been assessed, nor fertility been analysed for the relevant classified soils.

1.5 Key Legislative Requirements

The report follows the protocols as stipulated for agricultural assessment in GN 320 of 2020. This Notice provides the procedures and minimum criteria for reporting in terms of Sections 24(5)(a) and (h) and 44 of the NEMA.

The above mentioned are supported by additional legislation that aims to manage the impact of proposed Project development on the environment and the natural resource base of the country. Related legislation to this effect includes:

- Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983) (CARA);

- National Environmental Management Act (Act 107 of 1998);

- National Water Act, 1998 (Act No. 36 of 1998); and

- Preservation and Development of Agricultural Land Act, 2024 (Act No. 39 of 2024).

1.6 Legislative Framework

In line with the protocol for the specialist assessment and minimum report content requirements for environmental impacts on soil and agricultural assessment as per the GN 320 published in terms of NEMA, dated 20 March 2020: "*Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes in terms of Sections 24(5)(a) and (h) and 44 of the National Environmental Management Act, 1998, when applying for Environmental Authorisation*" – the following has been assumed:

- An applicant intending to undertake an activity identified in the scope of this protocol on a site identified on the screening tool as being of:

- "Low & Medium sensitivity" for agriculture, must submit an Agricultural Compliance Statement.

An Agricultural Compliance Statement must contain the information as presented in below.

Table 1-1 Agricultural Compliance Statement information requirements as per the relevant protocol, including the location of the information within this report

Information to be Included (as per Government Notice (GN) 320, 20 March 2020)	Report Section
Details and relevant expertise as well as the South African Council for Natural Scientific Professions (SACNASP) registration number of the soil scientist or agricultural specialist preparing the statement including a curriculum vitae	Page I, Section 8.3: Appendix C
A signed statement of independence by the specialist	Section 8.2: Appendix B
A map showing the proposed development footprint (including supporting infrastructure) with a 50 m buffered development envelope, overlaid on the agricultural sensitivity map generated by the screening tool	Section 3.3 or Figure 3-8
Confirmation from the specialist that all reasonable measures have been taken through micro-siting to avoid or minimise fragmentation and disturbance of agricultural activities	Section 6.1
A substantiated statement from the soil scientist or agricultural specialist on the acceptability, or not, of the proposed development and a recommendation on the approval, or not, of the proposed development	Section 6.2
Any conditions to which this statement is subjected	Section 6.3
Where required, proposed impact management outcomes or any monitoring requirements for inclusion in the Environmental Management Programme (EMPr)	Section 5.1; Section 5.2 and Section 6.1
A description of the assumptions made and any uncertainties or gaps in knowledge or data	Section 1.4

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

2 Fieldwork

The field survey was conducted from the 26th to the 30th of January 2026. Seasonality does not affect the soil assessment; therefore, the fieldwork undertaken is considered sufficient for the proposed Project (Figure 2-1). Curricula Vitae and specialist declarations are provided in the appendices.

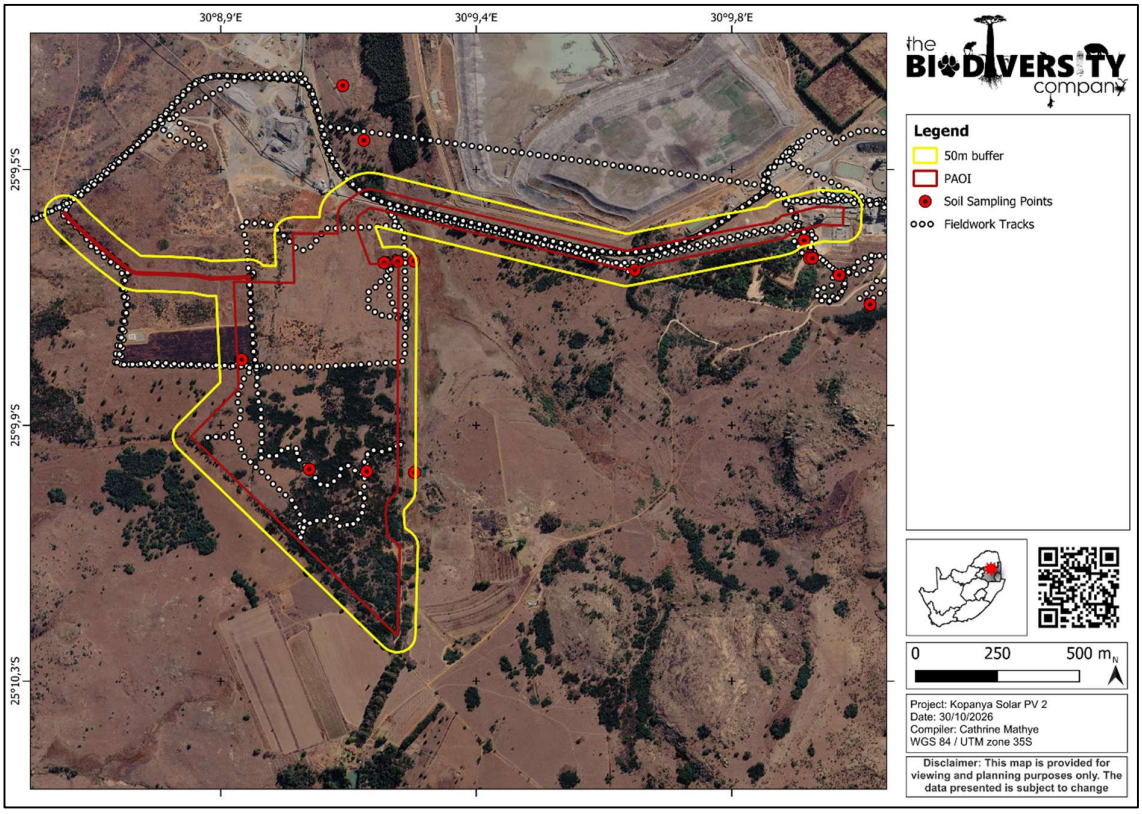


Figure 2-1 Map illustrating the field tracks and soil sampling points of the field survey

3 Results and Discussion

3.1 Desktop Information

3.1.1 Climate

The Project area falls within the Sekhukhune Montane Grassland vegetation. It is characterised with summer rainfall, with very dry winters. The Project area falls within the summer rainfall regime with the Mean Average Precipitation (MAP) from about 720 millimetres (mm) in the east to 600 mm in the west, much of the rain falling in the form of thunderstorms in summer from November to January. Mean daily temperature ranges from a minimum of 2.8 degrees Centigrade (ºC) in winter to a maximum of 24.9ºC in summer. Daily temperatures vary considerably at different localities, with higher temperatures on the plains and lower temperatures on higher-lying plateaus (Figure 3-1).

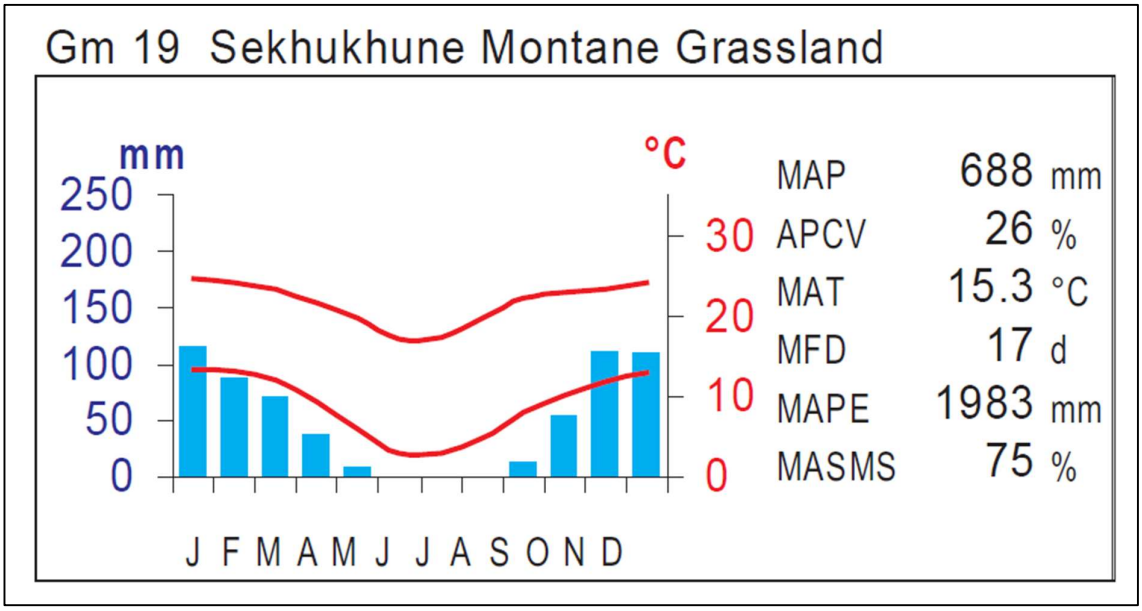


Figure 3-1 Summarised climate for the region (Mucina & Rutherford, 2006)

3.1.2 Geology and Soils

The geology of the area overlies the mafic intrusive rocks of the Upper and Main Zones of the Rustenburg Layered Suite, which is economically the most important part of the Bushveld Igneous Complex (Vaalian Erathem). Substrates of the undulating hills are generally heterogeneous rocky areas with miscellaneous soil types and those of the southern plains have diagnostic horizons that are vertic, melanic or red-structured. The dominant soil forms in this geology have high clay content and include Arcadia, Mayo, Milkwood, Mispah, Shortlands and Steendal. The dominant land type includes Ea land type which covers 40% of the area with minor occurrences of Ib and Ab.

According to the land type database (Land Type Survey Staff, 1972 - 2006) the assessment area to be focused on mainly falls within the Ab 29 land type (Figure 3-2). The Ab 29 land type mainly consist of Arcadia, Bonheim, Hutton, and Shortlands soil forms according to the Soil Classification Working Group (2018), with the occurrence of bare rocks and other soils within the landscape. The Ab land type is characterised by red-yellow apedal, freely drained soils with dystrophic and/or mesotrophic properties. The land terrain units for the featured Ab 29 land type are illustrated in Figure 3-3 with the expected soils listed in Table 3-1.

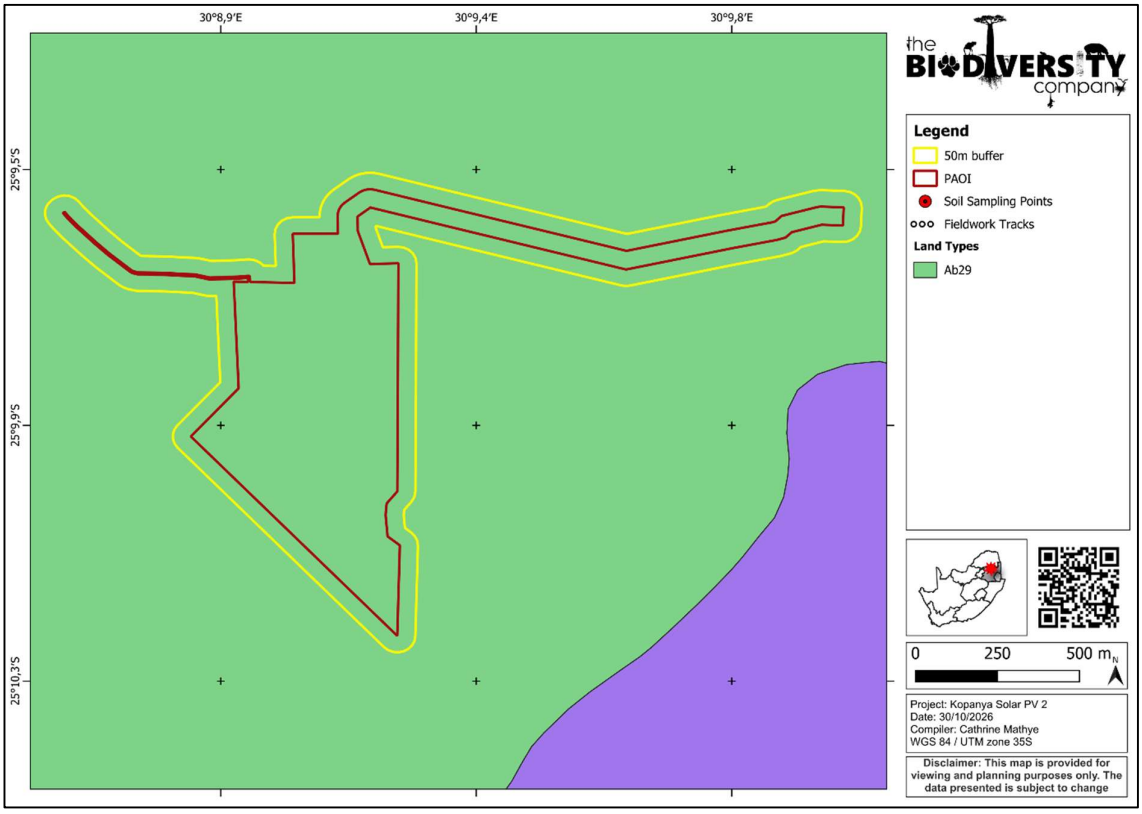


Figure 3-2 Land type associated with the proposed Project area of Influence

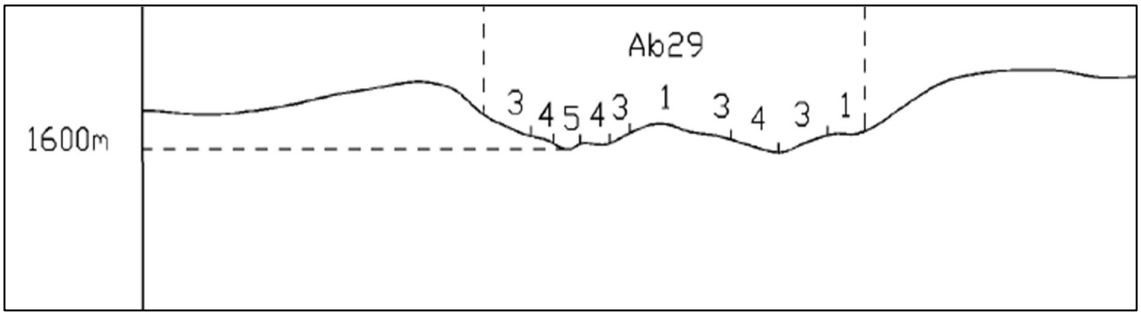


Figure 3-3 Illustration of land type Ab29 terrain units (Land Type Survey Staff, 1972 – 2006)

Table 3-1 Soils expected at the respective terrain units within the Ab 29 land type (Land Type Survey Staff, 1972 - 2006)

Terrain Units							
1 (10%)		**3 (45%)**		**4 (40%)**		**5 (5%)**	
Shortlands	55%	Hutton	50%	Bare Rocks	80%	Arcadia	70%
Hutton	25%	Shortlands	40%	Shortlands	10%	Bonheim	30%
Bare Rocks	20%	Bare Rocks	10%	Bonheim	10%		

3.2 Baseline Findings

Eight (8) representative soil forms were identified within the 50 m buffer area of the proposed Project area namely, Hutton, Katspruit, Nkonkoni, Vaalbos, Glenrosa, Mispah, Johannesburg and Witbank soil

forms (Figure 3-4). The proposed Project area is dominated by apedal soils with good drainage and aeration. The remaining portion of the proposed Project consists of hydromorphic soil with signs of wetness, shallow soils with restrictive limitations, physically disturbed Anthrosols and Urban Technosols.

The most sensitive soil form identified within the proposed Project area with medium suitability for crop production is the Hutton, Nkonkoni and Vaalbos soil forms. The Hutton soil form consists of an orthic topsoil horizon on top of a thick red apedal horizon. The Nkonkoni soil form consists of an orthic topsoil horizon on top of a red apedal horizon underlain by lithic horizon. The Vaalbos soil form consists of an orthic topsoil horizon on top red apedal horizon underlain by hard rock substratum horizon. These soil forms are primarily used for crop production in semi-arid climate due to their good drainage and aeration which allows root penetration. Their availability of stored soil water is crucial for rainfed production to sustain agricultural practices.

One hydromorphic soil with signs of wetness identified within the proposed Project area, namely, Katspruit soil form. The Katspruit soil form consists of an orthic topsoil horizon on top of a gley horizon. This soil form is characterised by periodic saturation conditions and mostly suitable for cultivation of improved pastures and wildlife practices.

The less sensitive soil forms identified within the proposed Project area with low to very low suitability for crop production includes Glenrosa, Mispah, Johannesburg and Witbank soil forms. The Glenrosa soil form consists of an orthic topsoil horizon on top of a lithic horizon. The Mispah soil form consists of an orthic topsoil on top of a hard rock substratum horizon. These soil form has limited soil profile, which in turn restricts their water storage capacity, drainage, aeration, and root penetration. As a result, their ability to sustain crop production under rainfed conditions is reduced drastically. These soils are mostly used for natural veld grazing in support of livestock and wildlife practices. The Johannesburg soil form is characterised as urban Technosols, where the land is under various urban use. The Witbank soil form is characterised as transported Technosols in which anthropogenic materials cover natural soil or other anthropogenic materials. These soil forms have severe limitations and are not suitable for crop production and is mostly used for wildlife practices. All the identified soil horizons within the proposed Project area, as well as the current land uses are illustrated in Figure 3-5 and Figure 3-6.

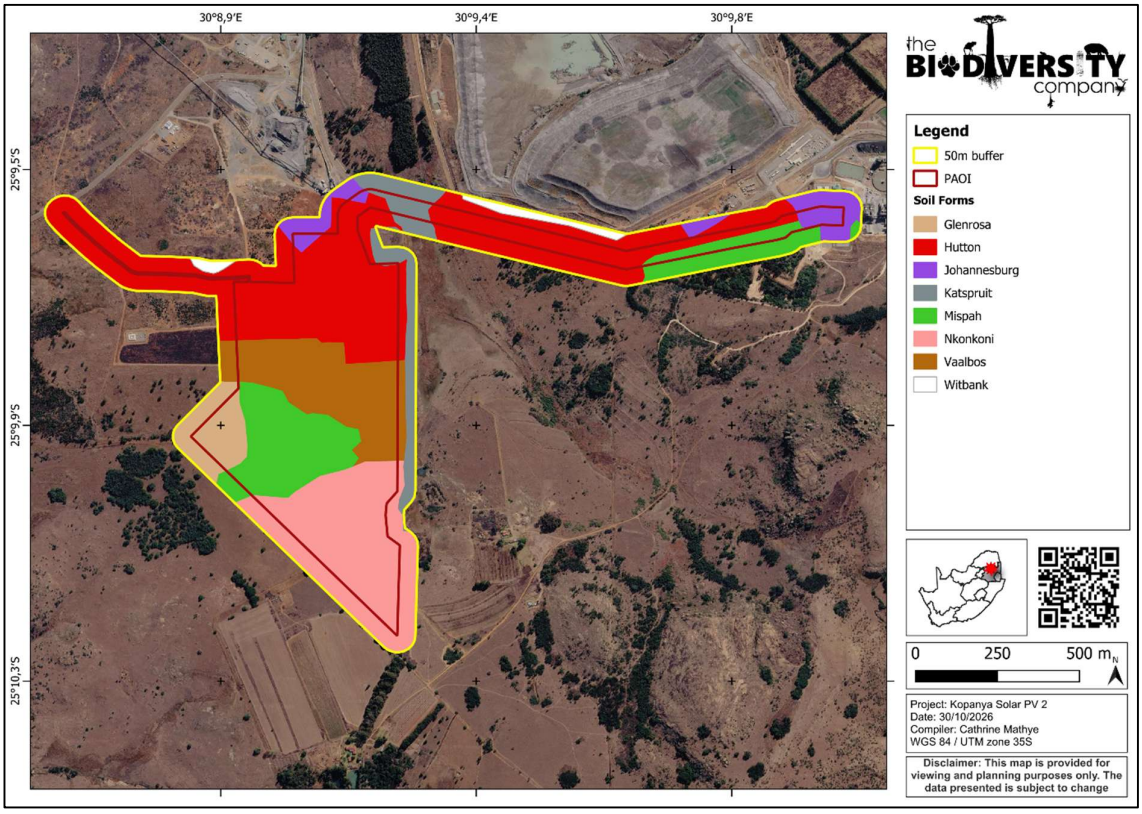


Figure 3-4 Soil forms found within the proposed Project area

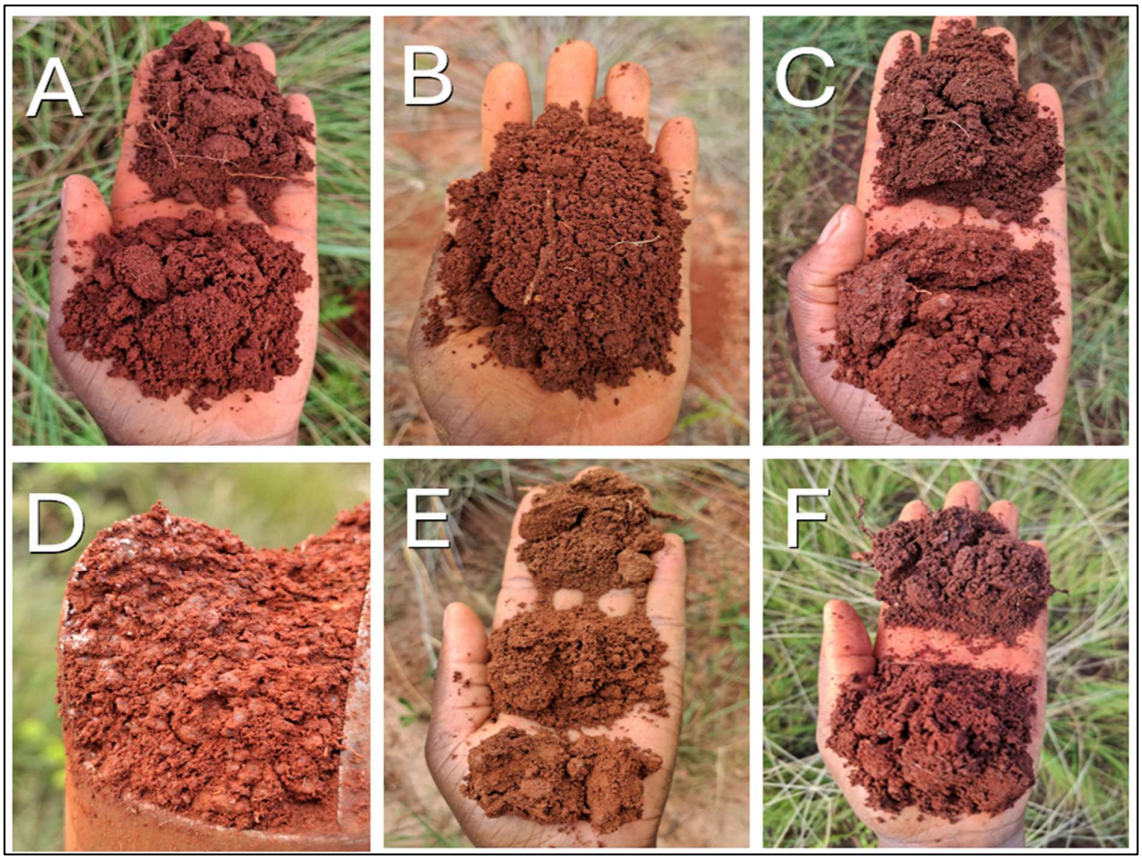


Figure 3-5 ***Soil forms and diagnostic horizons identified on site: A) Hutton soil form; B) Orthic Topsoil (Mispah soil form); C) Glenrosa soil form; D) Lithic subsurface horizon; E) Nkonkoni soil form; and F) Vaalbos soil form***

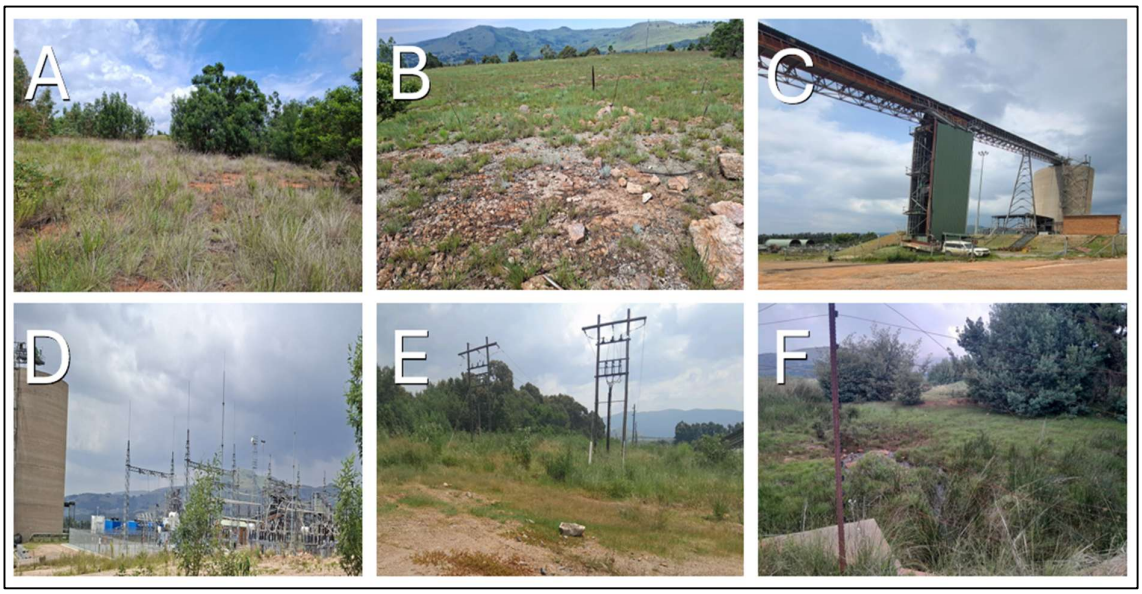


Figure 3-6 ***Different land uses found within the 50 m buffer of the proposed Project area; A) Common natural veld; B) Rock outcrops; C) Conveyor belt; D) Substation; E) Existing powerlines and F) Watercourse (wetland)***

Land capability is defined as the combination of the slope class and soil morphological properties (i.e. topsoil texture, profile depth and permeability class of the upper soil layers). In accordance with Smith (2006), from which the National Department of Agriculture, Forestry and Fisheries (DAFF) (2017) land capability protocols were further developed, the identified soil forms within the Project area are classified as follows: the Hutton soil form is restricted to land capability class “III” is categorised as LC 6-7 (Low-Moderate); the Nkonkoni and Vaalbos soil forms are restricted to land capability class “IV” is categorised as LC 6-7 (Low-Moderate); the Katspruit soil form fall under land capability class “V”, also categorised as LC 6-7 (Low-Moderate); the Glenrosa and Mispah soil forms are classified as land capability class “VI” and categorised as LC 1-5 (Very Low to Low); and the Johannesburg and Witbank soil forms are assigned to land capability class “VIII”, categorised as LC 1-5 (Very Low to Low). The baseline soil land capability assessment was aligned with and compared to the National Land Capability data (DAFF, 2017).

The land capability classes of the above mentioned soils have been determined to be class “III”, “IV”, “V”, “VI” and “VIII” according to Smith (2006). The land capability class “III” is characterised by moderate limitations with some erosion potential and suitable for rotation crops and ley (50%). The land capability “IV” is characterised by limitations preclude cultivation and suitable for perennial vegetation, veld, pasture and afforestation. The land capability class “V” is characterised as water course and land with wetness limitation, requires protection and control of water table, and is suitable for cultivation of improved pastures and wildlife practices. The land capability class “VI” is characterised by limitations preclude cultivation and is suitable for veld, pasture and afforestation. The land capability class “VIII” is characterised by extremely severe limitations and not suitable for grazing or afforestation and suitable for wildlife practices.

A climate capability level 8 (C8) has been assigned to the area given the low MAP and the high Mean Annual Potential Evapotranspiration (MAPE) rates. Land potential is defined as the combination of the calculated land capability, the determined climate class of the area and the current land use activities. By using the determined land capability classes and the determined climate capability, land potential

"L6", "L7", "L8" and "Vlei" were calculated. According to Smith (2006), the proposed Project area is found to be arable and non-arable with moderate to severe limitations.

The following land potential levels have been determined;

- Land potential level L6 (this land potential is characterised by very restricted potential. Regular and /or severe limitations due to soil, slope, temperature, or rainfall). Arable;
- Land potential level L7 (this land potential level is characterised by low potential with severe limitation due to soil, slope, temperatures, or rainfall). Non-arable;
- Land potential level L8 (this land potential level is characterised by very low potential with very severe limitation due to soil, slope, temperatures, or rainfall). Non-arable; and
- Vlei. Arable

Land potential levels of the proposed Project area are illustrated in Figure 3-7.

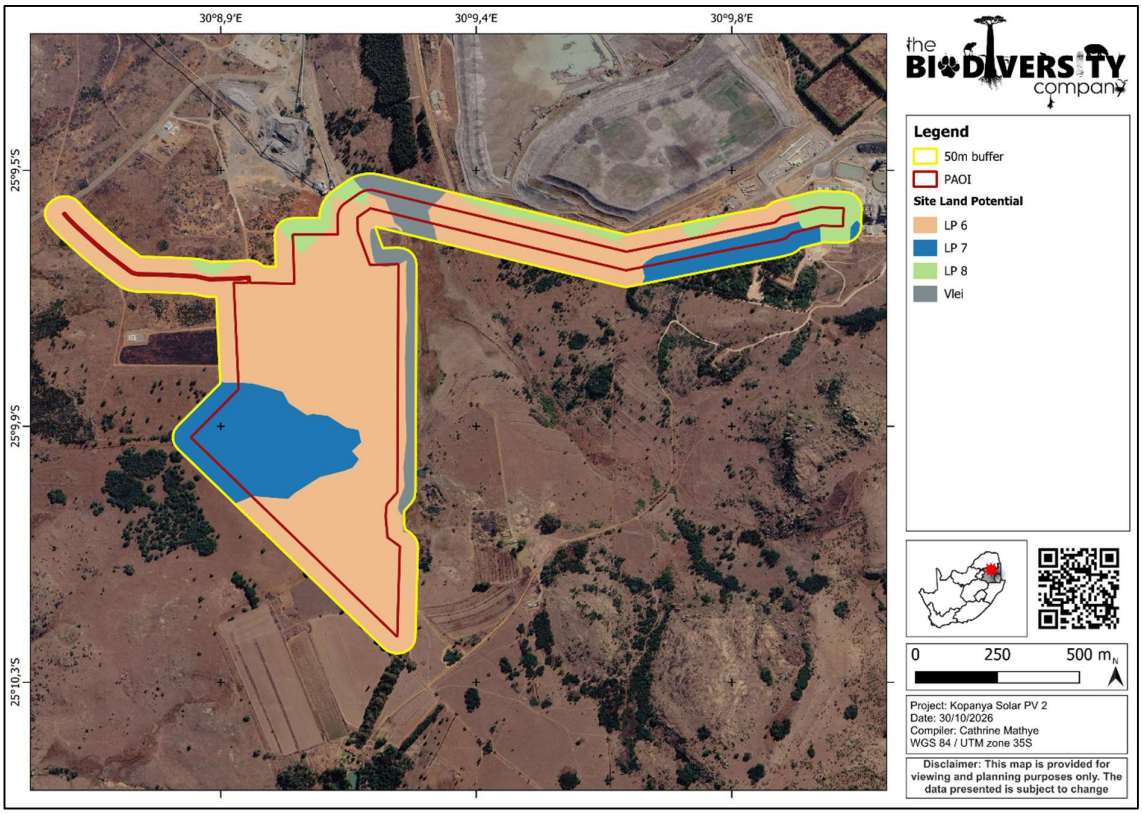


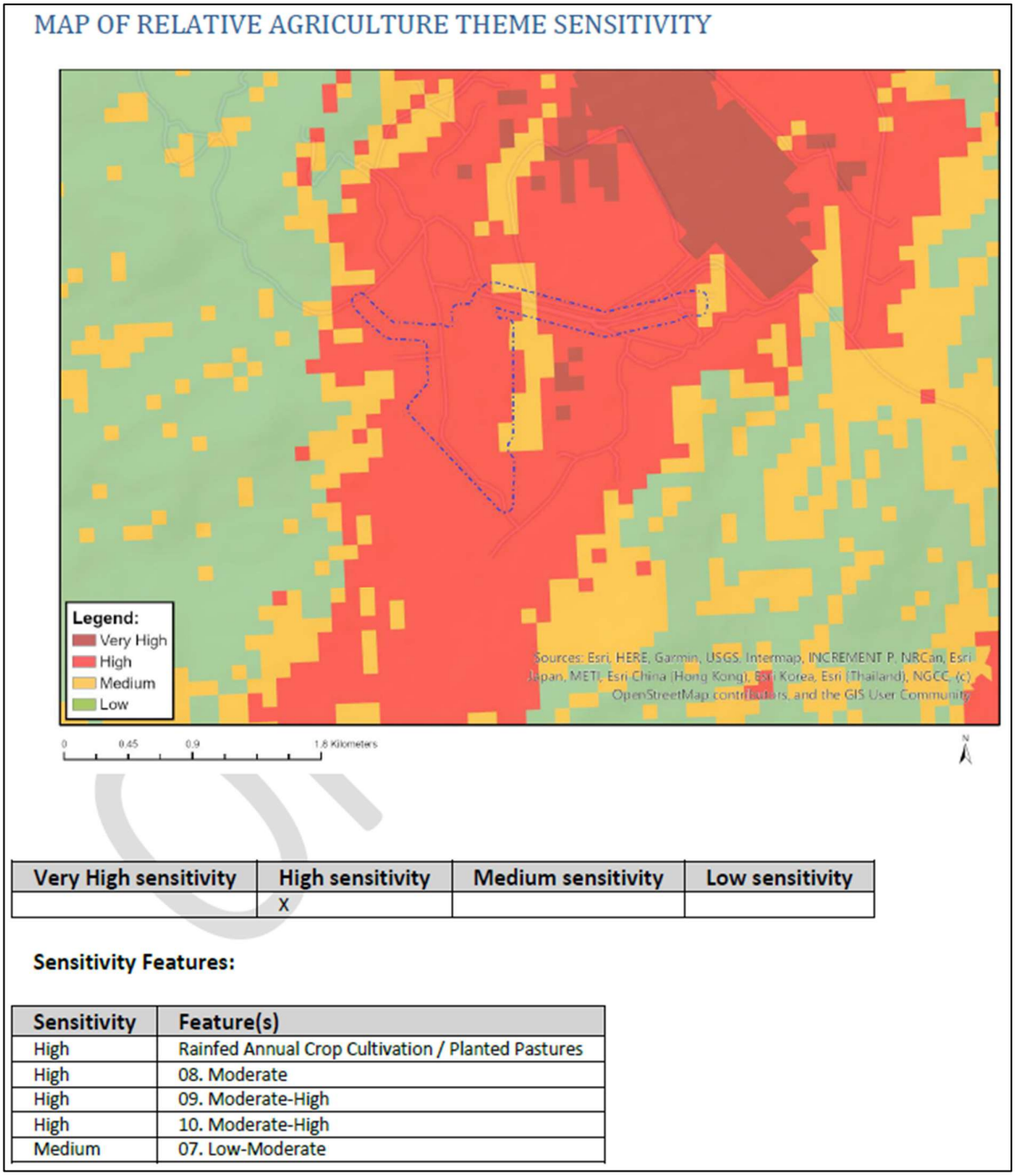
Figure 3-7 Land Potentials of the proposed Project area of Influence

3.3 Sensitivity Verification

3.3.1 Screening Report –Kopanya Solar PV 2 Project

The following is deduced from the National Web-based Environmental Screening Tool Regulation 16(1)(v) of the Environmental Impact Assessment Regulations 2014, as amended):

- Agriculture Theme Sensitivity indicates that the proposed 50 m buffer of the Project area falls within the 'Medium to High' agricultural sensitivity (Figure 3-8).



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
	X		

Sensitivity Features:

Sensitivity	Feature(s)
High	Rainfed Annual Crop Cultivation / Planted Pastures
High	08. Moderate
High	09. Moderate-High
High	10. Moderate-High
Medium	07. Low-Moderate

Figure 3-8 Map of Relative Agricultural Theme Sensitivity for the proposed Kopanya Solar PV 2 Project generated by the Environmental Screening Tool

Fifteen land capabilities have been digitised by (DAFF, 2017) across South Africa, of which four (4) potential land capability classes are located within the assessment area, including;

- Land capability 7 (Low-Moderate Sensitivity);
- Land capability 8 to 10 (Moderate to Moderate-High Sensitivity); and

The land capability dataset indicates that the proposed Project area falls predominately within “Moderate to Moderate-High” land capability sensitivity with other areas having “Low-Moderate” land capability sensitivity (Figure 3-8). There are highly sensitive field crop boundaries which were identified

within the proposed Project area following the use of agricultural theme tool (DFFE, 2026). The proposed Project does not fall within the Protected Agricultural Areas (PAAs), as stipulated by the Department of Agriculture, Land Reform and Rural Development (DALRRD) (2020).

The baseline soil findings, current land uses, and the calculated land potential concur with the agricultural theme tool, to an extent with areas demarcated with “Low-Moderate” land capability sensitivity. It, furthermore, disputes the agricultural theme tool on areas demarcated with “Moderate to Moderate-High” and “High” land capability sensitivities, and with highly sensitive field crop boundaries. The highly sensitive field crop boundaries identified by the agricultural theme tool were found to be historical. The proposed Project area is characterised by apedal, hydromorphic, shallow lithosols and anthrosols with medium and low agricultural potential. Most of the proposed Project area is good for agricultural production and with some areas suitable for livestock and wildlife practices.

The current Project area and associated activities to the proposed Project, will have acceptable expected changes to soil resources. As a result, based on the verified baseline findings, the proposed Project will have a minimal impact on the soil resources.

Considering the soil properties, agricultural potential as well as the current land use of the proposed Project area, the area has a predominately “Medium” agricultural sensitivity with marginal “Low” sensitivity areas (Figure 3-9). Based on the confirmed sensitivities, the overall sensitivity of the proposed Project is categorised as “Medium” and with marginal “Low” sensitivity. The allocated sensitivities for the theme are either disputed or validated in Table 3-2 below.

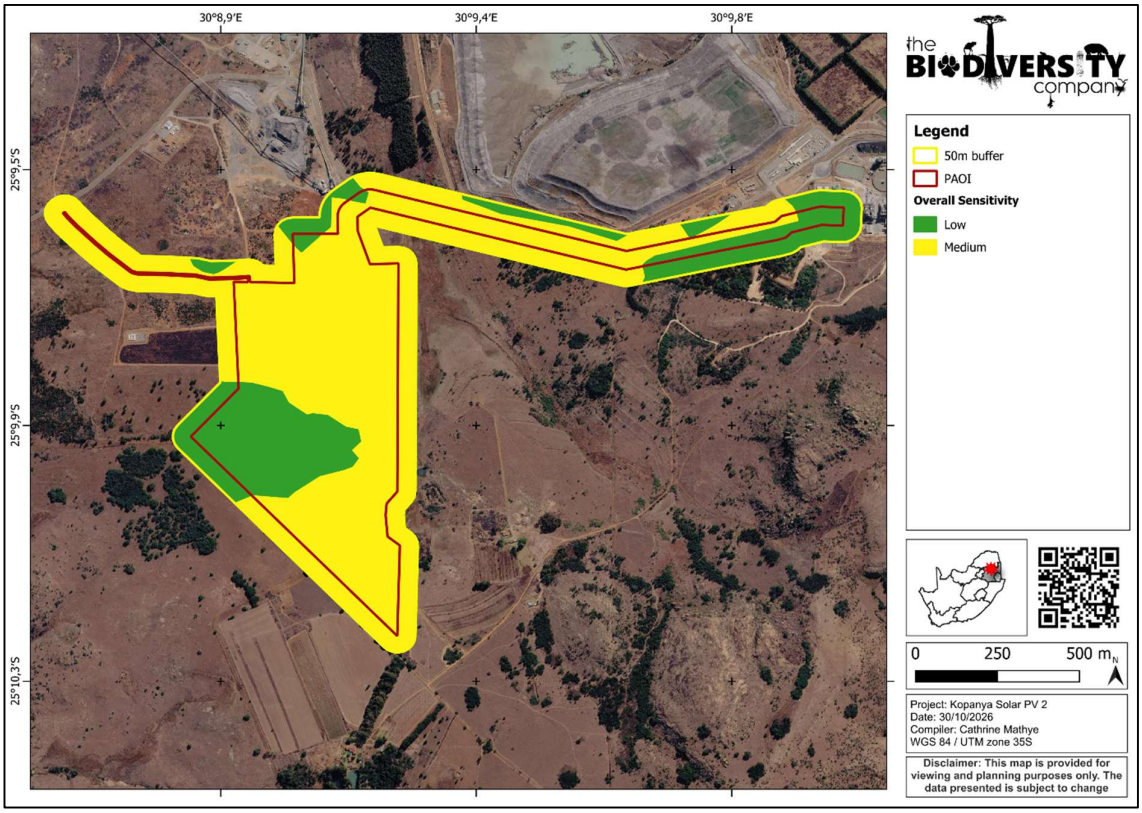


Figure 3-9 Overall site verified sensitivity of the proposed Project area

Table 3-2 Summary of the screening tool vs specialist assigned sensitivities for the proposed Kopanya Solar PV 2 Project area

Screening Tool Theme	Feature	Screening Tool	Specialist	Tool Validated or Disputed by Specialist - Reasoning
Agricultural Theme	Rainfed crop cultivation / planted pastures	High	Medium	Disputed – Low-Moderate Land Capability. The presence of historical crop fields on medium potential soil such as Hutton soil form.
	Rainfed crop cultivation / planted pastures	High	Low	Disputed – Very Low to Low Land Capability. The presence of historical crop fields of on low to very low potential soils such as Mispah and Johannesburg soil forms, respectively.
	Moderate to Moderate-High (LC 8-10)	High	Medium	Disputed - Low-Moderate Land Capability. The presence of medium potential soils such Hutton, Vaalbos and Nkonkoni soil forms. This soil is well drained and has good aeration, making them suitable for most crop production practices.
	Moderate to Moderate-High (LC 8-10)	High	Low	Disputed – Very Low to Low Land Capability. The presence of low potential soils such as Mispah and Glenrosa soil forms. These soils are characterised by shallow depth with restrictive properties for most cropping practices.
	Low-Moderate (LC 7)	Medium	Medium	Validated – Low-Moderate Land Capability. The presence of medium potential soils such as Hutton and Nkonkoni soil forms. Moreover, the presence of hydromorphic soil such as Katspruit soil form.
	Low-Moderate (LC 7)	Medium	Low	Disputed - Very Low to Low Land Capability. The presence of very low potential soil such as Johannesburg urban Technosols

3.4 Allowable Development Limit

Allowable development limits refer to the area of a particular land capability that can be directly impacted by a renewable energy development. The limits were determined for the proposed Project area of 41 ha development area with a proposed capacity of up to 20 MW_{AC}, with the allowable limits outside crop field boundaries uses (low and medium sensitivity). The area allowed to be developed is 100 ha for both low and medium sensitivity for the proposed generation capacity.

Table 3-3 Calculated allowable development limits of the PV development

Sensitivity	Allowable limit (ha/MW)	Area that will be affected by development footprint (ha)	Area allowed for a 20 MW_{AC} development (ha)	Area that exceeds allowable limit (ha)
Low	2.50 (Low Sensitivity)	41	50	n/a
Medium (Outside field crop boundaries)	2.50 (Medium Sensitivity)	41	50	n/a

4 Conservation of Agricultural Resources Act, 1983 Requirements

Under CARA, approvals are necessary for various activities, such as cultivating virgin land, veld burning, cultivating localised alien plants for commercial purposes and the draining of wetland systems.

For the cultivation of virgin land, CARA specifies that only arable land should be cultivated. However, disturbances to topsoil resulting from the construction of the laydown camps and its infrastructure do not fall under this category of cultivation as defined by CARA but rather soil disturbance. Therefore, the construction and operation of the camps do not require consent under CARA.

Additionally, since the proposed Project does not involve veld burning or the commercial cultivation of localised alien plants, it does not require consents under those provisions of CARA.

Similarly, a specialist wetland assessment was undertaken for the required authorisations. The proposed layout of the Kopanya Solar PV 2 Project and the associated infrastructures have adhered to the recommendation to avoid most watercourses, and to also adhere to the prescribed buffer width. The proposed Project will not result in the direct draining of the water regimes due to the activities. The

overall residual impact post mitigation to the wetland systems was determined to be low. The Project is compliant and will not require consent under CARA for any activities.

In summary, proposed Project and the associated infrastructures is compliant with CARA regulations and does not necessitate consent under the Act following the site confirmation.

5 Impact and Management Measures

5.1 Anticipated Impact Framework

An impact framework was considered for the impact assessment. The following list provides a framework for the identified major impacts associated with the proposed Project (Table 5-1).

Table 5-1 Anticipated impacts for the proposed Kopanya Solar PV 2 facility on agricultural resources

Main impact	Project activities that can cause loss/impacts to soil (especially regarding the proposed infrastructure areas)	Secondary impacts anticipated
Loss of land capability	• Construction, operation and decommissioning of solar PV arrays, temporary and permanent laydown areas and powerlines; • Erection of solar panel stands, blasting activities, trenching, building footings, conservancy tank, fence, and roads; • Construction, operation and decommissioning of construction camps and layout areas; • Potential leaks or spillage (i.e. hydrocarbons); • Mixing of soil; • Soil dust precipitation in bare surface or gravel access roads; and • Removal of vegetation for the proposed support infrastructure.	• Erosion; • Soil degradation; • Compaction; • Increase in siltation; • Land contamination; and • Loss of soil via aeolian processes.

5.1.1 Impacts Associated with the Proposed Project at the Construction and Operation Phases

The following list provides the identified impacts which contributed to the loss of land capability:

- Soil erosion: Bare soil surfaces within the proposed project area and along the PV areas, infrastructure construction areas which will include, erection of panel stands, blasting, trenches, building footings, fence, and roads, blasting, trenching, access roads and conservancy tank distributed areas contributed to increased susceptibility to wind and water erosion, leading to loss of topsoil;

- Soil compaction from increased vehicle traffic: The movement and operation of vehicles within the project footprint will result in increased soil compaction, which negatively affected soil structure and permeability;

- Soil contamination: Surface flow from dirty water channels, potential spillages from the construction vehicle, machinery and conservancy tank will lead to soil contamination, impacting soil health and productivity, and

- Soil compaction and degradation from the existing disturbance: The presence of existing roads or mining activities disturbed areas can cause further soil compaction and land degradation, disturbing soil structure and reducing overall soil quality.

Impacts were assessed following the rating methodology as provided by GCS (2026) in terms of the construction phase, operational phase, and cumulative impacts. Mitigation measures were only applied to impacts deemed relevant. Mitigations are required given the fact that the pre- mitigation significance rating for construction phase has been scored as “Medium – Negative” and the post- mitigation significance rating being scored as “Low – Negative.” The operation phase has been scored as “Low – Negative” and the post- mitigation significance rating being scored as “Very Low – Negative.” The closure and decommissioning phase have been scored as “Low – Negative” and the post- mitigation significance rating being scored as “Very Low – Negative.” The following table provides the framework for the project impacts, albeit limited, for the proposed project (Table 5-2 to Table 5-4).

Table 5-2 Potential impacts on soil and agricultural resources associated with the construction phase

Component Being Impacted On	Activity Which May Cause the Impact		Pre Mitigation							Post Mitigation						
			Duration	Extent	Potential for impact on irreplaceable resources	Severity	Consequence	Probability	Significance	Duration	Extent	Severity	Potential for impact on irreplaceable resources	Consequence	Probability	Significance
Land capability and agricultural potential	Construction of the PV and associated infrastructures which includes; Erection of solar panel stands, blasting activities, trenching, building footings, conservancy tank, fence, and roads will lead to site clearing, Movement of heavy machinery, Spills and leaks from the machinery	Impact in isolation	3	2	1	-2	-12	2	-24	2	2	-1	1	-5	2	-10
		Cumulative impact	3	3	1	-2	-14	2	-28	2	3	-1	1	-6	2	-12

Table 5-3 Potential impacts to soil and agricultural resources associated with the operation phase

Component Being Impacted On	Activity Which May Cause the Impact		Pre Mitigation							Post Mitigation						
			Duration	Extent	Potential for impact on irreplaceable resources	Severity	Consequence	Probability	Significance	Duration	Extent	Severity	Potential for impact on irreplaceable resources	Consequence	Probability	Significance
Land capability and agricultural potential	Operation of the PV and associated infrastructures which includes; Erection of solar panel stands, blasting activities, trenching, building footings, conservancy tank, fence, and roads will lead to compaction, soil erosion, spills and leaks from the machinery	Impact in isolation	2	2	1	-2	-10	2	-20	1	2	-1	1	-4	1	-4
		Cumulative Impact	3	2	1	-2	-12	2	-24	2	3	-1	1	-6	2	-12

Table 5-4 Potential impacts to soil and agricultural resources associated with the decommissioning and closure phase

Component Being Impacted On	Activity Which May Cause the Impact	Pre- Mitigation							Post Mitigation						
		Duration	Extent	Potential for impact on irreplaceable resources	Severity	Consequence	Probability	Significance	Duration	Extent	Severity	Potential for impact on irreplaceable resources	Consequence	Probability	Significance
Land capability and agricultural potential	Decommissioning and Closure of the PV and associated infrastructures will lead to compaction, soil erosion, spills and leaks from the machinery	3	1	1	-2	-10	2	-20	2	1	-1	1	-4	1	-4

5.2 Management Measures

An impact assessment is not required for a Compliance Statement. The aim of the management outcomes (below) is to present the mitigation measures in such a way that they can be incorporated into the Environmental Management Programme (EMPr) for the Project, allowing for more successful implementation and auditing of the mitigations and monitoring guidelines. The project management measures for the soils and agriculture resources during the construction phase presents the prescribed mitigation measures for construction phase for the assessment are presented in Table 5-5. Table 5-6 presents the prescribed mitigation for operational phase for the assessment. Table 5-7 presents the prescribed mitigation measures for the decommissioning, rehabilitation and closure phases for the assessment.

Table 5-5 The project management measures for the soils and agriculture resources during the construction phase

Environmental Theme: Agriculture

Impact Management Outcome: Protection of soil resources
Phase: Construction

Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
Clearly demarcate the approved construction footprint, no-go areas, access routes, laydown areas and stockpile areas before any vegetation clearing or earthworks commence.	Contractor / Project Team	Use fencing, danger tape, pegs, signage or similar visible demarcation.	Before construction and maintained throughout construction	Environmental Officer	Before clearing and weekly thereafter	Demarcation in place; photographs; site inspection records
Restrict all disturbance to the approved development footprint and prohibit unnecessary clearing of vegetation outside authorised areas.	Contractor / Project Team	Clear vegetation only where required for approved infrastructure and access.	Construction phase	Environmental Officer	Weekly	Cleared areas correspond with approved layout; inspection records
Make use of existing access routes as far as reasonably practicable before creating new access routes.	Contractor / Project Team / Engineer	Incorporate existing roads/tracks into the final construction access plan.	Prior to and during construction	Environmental Officer	Weekly	Access route plan; site inspection records; photographs
Limit soil disturbance and avoid unnecessary stripping, excavation, grading and compaction of soils.	Contractor / Project Team	Disturb soil on a need-only basis and confine activities to demarcated work areas.	Construction phase	Environmental Officer	Weekly	Minimal disturbance observed; inspection records
Strip, handle and stockpile topsoil separately from subsoil and construction material where soil disturbance is unavoidable.	Contractor / Project Team	Implement a soil management plan; stockpile topsoil in demarcated areas outside drainage lines and watercourses.	During clearing and earthworks	Environmental Officer	Weekly and after rainfall events	Soil management plan implemented; stockpile records; photographs
Safeguard topsoil, sand, aggregate and building-material stockpiles against erosion, rain-wash, sediment loss and contamination.	Contractor / Project Team	Locate stockpiles on stable ground; use berms, covers, silt fencing or sediment barriers where required.	Construction phase	Environmental Officer	Weekly and after rainfall events	Stable stockpiles; no sediment loss; inspection records

Implement erosion and sediment-control measures in areas prone to runoff, erosion or exposed soils.	Contractor / Project Team	Install erosion-control mats, geotextiles, silt fences, sediment barriers, contour berms, temporary drains or similar measures as required.	Prior to and during earthworks; maintained throughout construction	Environmental Officer	Weekly and after significant rainfall	Erosion-control measures in place; photographs; inspection records
Prevent uncontrolled stormwater runoff from exposed and disturbed areas.	Contractor / Project Team	Divert clean runoff away from disturbed areas and slow, spread and filter runoff from work areas before discharge.	Construction phase	Environmental Officer	Weekly and after rainfall events	No active erosion; sediment controls maintained; stormwater controls visible
Rehabilitate and stabilise disturbed areas progressively as soon as construction activities are complete in each area.	Contractor / Project Team	Implement the rehabilitation plan, including reshaping, light ripping, topsoil replacement and revegetation where required.	Progressive rehabilitation during construction	Environmental Officer	Monthly and after completion of each work area	Rehabilitation records; photographs; stabilised surfaces
Lightly rip or till compacted soils around disturbed areas to reduce compaction and promote infiltration and revegetation.	Contractor / Project Team	Rip compacted areas along the contour where safe and appropriate; avoid ripping in sensitive/wet areas unless approved.	After construction activities in affected areas	Environmental Officer	Monthly and during rehabilitation sign-off	Ripped/stabilised areas; rehabilitation records
Prevent the establishment and spread of alien and invasive plant species during construction.	Contractor / Project Team	Implement an alien and invasive plant management plan; prioritise mechanical removal. Herbicides may only be used where approved and in accordance with label requirements.	Construction phase	Environmental Officer	Monthly and seasonally as required	Alien plant removal records; photographs; inspection reports
Store fuel, oils, chemicals, cement, paints and hazardous substances in designated, bunded and impermeable areas.	Contractor / Project Team	Restrict storage, refuelling and servicing to designated areas with spill containment.	Construction phase	Environmental Officer	Weekly	Bunded storage areas; inspection records; no evidence of leaks
Prevent soil contamination from hydrocarbons, concrete wash water, chemicals or other construction materials.	Contractor / Project Team	Implement spill prevention controls; prohibit discharge of contaminated water or materials onto soil.	Construction phase	Environmental Officer	Weekly	No visible contamination; spill records; inspection reports
Ensure spill kits are available, complete and accessible at all areas where	Contractor	Implement a spill response plan and train relevant personnel in spill response.	Construction phase	Environmental Officer	Weekly	Spill kits available; training records; spill response plan

hydrocarbons, chemicals or hazardous substances are stored or used.						
Treat or remove contaminated soil immediately following a spill or leak.	Contractor / Project Team	Contaminated soil must be treated in situ where appropriate or placed in sealed containers and disposed of at a licensed facility.	Immediately after spill event	Environmental Officer	As incidents occur	Spill reports; disposal slips; remediation records
Provide sufficient waste bins and skips for general, recyclable and hazardous waste.	Contractor	Implement the waste management plan; use clearly marked, animal-proof and sealable bins where required.	Construction phase	Environmental Officer	Weekly	Waste bins/skips present; waste separated; inspection records
Dispose of all waste, including hazardous waste, at appropriately licensed waste management facilities.	Contractor	Remove waste by authorised service providers and retain disposal records.	Construction phase	Environmental Officer	Monthly	Waste manifests; disposal slips; service provider records
Provide adequate sanitation facilities for construction workers and service them regularly.	Contractor	Use portable toilets or approved ablution facilities; maintain facilities to prevent leaks and contamination.	Construction phase	Environmental Officer	Weekly	Ablution facilities provided; service records; no leaks observed
Remove all excess materials, waste, redundant infrastructure and consumables from site on completion of construction.	Contractor / Project Team	Clear construction areas and dispose of materials at approved facilities.	End of construction / progressive close-out	Environmental Officer	At close-out and as required	Site cleared; waste disposal records; close-out inspection

Table 5-6 The project management measures for the soils and agriculture resources during the operational phase

Environmental Theme: Agriculture

Impact Management Outcome: Protection of soil resources
Phase: Operational

Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
Maintain all rehabilitated areas to ensure that disturbed soils remain stable and vegetated.	Operations and Maintenance Team	Inspect rehabilitated areas and repair bare, unstable or eroded areas as required.	Operational phase	Environmental Officer	Quarterly for the first two years, then biannually or as required	Rehabilitation inspection records; photographs; vegetation cover established
Maintain erosion and sediment-control measures where exposed soils, concentrated runoff or erosion risk remains present.	Operations and Maintenance Team	Maintain geotextiles, erosion-control mats, sediment barriers, berms, mulching or equivalent controls.	Operational phase	Environmental Officer	Monthly during rainy season and after significant rainfall events	Erosion controls maintained; no active erosion; inspection records
Prevent new erosion channels, sediment loss or surface instability within the PV facility, access roads and servitude areas.	Operations and Maintenance Team	Inspect drainage lines, roads, panel rows and disturbed areas; repair erosion promptly.	Operational phase	Environmental Officer	Monthly during rainy season and after major rainfall	Site inspection records; corrective action records; photographs
Limit vehicle movement to designated access roads and maintenance tracks to reduce soil compaction and vegetation disturbance.	Operations and Maintenance Team	Maintain demarcated access routes and prohibit off-road driving unless authorised for maintenance or emergency purposes.	Operational phase	Environmental Officer	Monthly	Access control records; inspection reports; no unauthorised tracks
Prevent chemical, fuel, oil or lubricant spills that may affect soil quality and agricultural potential.	Operations and Maintenance Team	Store and handle hazardous substances in designated areas; maintain spill kits and implement spill response procedures.	Operational phase	Environmental Officer	Monthly and after any incident	Spill logs; inspection records; spill kit checks
Remediate any contaminated soil immediately following leaks, spills or maintenance incidents.	Operations and Maintenance Team	Treat contaminated soil in situ where appropriate or remove and dispose of contaminated soil at a licensed facility.	As incidents occur	Environmental Officer	As incidents occur	Incident reports; disposal records; remediation sign-off

Monitor and control alien and invasive plant species within disturbed, rehabilitated and operational areas.	Operations and Maintenance Team	Implement the alien and invasive plant management plan; prioritise mechanical removal, with herbicide use only where approved and appropriate.	Operational phase	Environmental Officer	Seasonally, and after rainfall where required	Alien plant control records; photographs; inspection reports
Maintain vegetation cover in open areas to reduce erosion, dust generation and soil exposure.	Operations and Maintenance Team	Encourage natural revegetation or reseed where necessary using appropriate indigenous species.	Operational phase	Environmental Officer	Quarterly for first two years, then biannually	Vegetation cover present; rehabilitation monitoring records
Ensure operational waste is stored, handled and disposed of in a manner that prevents soil contamination.	Operations and Maintenance Team	Use designated waste storage areas and dispose of waste at licensed facilities.	Operational phase	Environmental Officer	Monthly	Waste records; disposal slips; inspection reports
Record and close out any soil-related non-compliances or corrective actions.	Operations and Maintenance Team / Environmental Officer	Maintain a corrective action register and verify close-out of erosion, spill, waste or rehabilitation issues.	Operational phase	Environmental Officer	Monthly	Corrective action register; close-out photographs; inspection reports

Table 5-7 The project management measures for the soils and agriculture resources during the decommissioning, rehabilitation and closure phase

Environmental Theme: Agriculture **Impact Management Outcome: Protection of soil resources** **Phase: Decommissioning, Rehabilitation and Closure**						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
Evaluate whether the Project infrastructure can be repowered, reused or transferred to an alternative beneficial use before full decommissioning is undertaken.	Project Team / Applicant	Undertake a decommissioning options assessment, including reuse, repowering or removal.	Prior to decommissioning	Environmental Officer / Project Manager	Once-off before decommissioning	Decommissioning options assessment; decision record
Prepare a decommissioning and rehabilitation method statement before removal activities commence.	Project Team / Contractor	Include soil handling, erosion control, contamination management, waste	Prior to decommissioning	Environmental Officer	Once-off before works commence	Approved method statement

		management, rehabilitation and monitoring requirements.				
Demarcate decommissioning work areas, access routes, laydown areas, stockpile areas and no-go areas.	Contractor / Project Team	Use visible markers, signage, fencing or tape to prevent unnecessary disturbance.	Before decommissioning activities commence	Environmental Officer	Weekly during decommissioning	Demarcation in place; photographs; inspection records
Remove infrastructure in a manner that minimises soil disturbance and avoids unnecessary vegetation clearing.	Contractor / Project Team	Use existing access routes and limit heavy vehicle movement to approved areas.	Decommissioning phase	Environmental Officer	Weekly	Inspection records; limited disturbance observed
Remove all waste, redundant materials, concrete, cabling, panels and associated infrastructure from site unless retained for an approved alternative use.	Contractor / Project Team	Segregate waste streams and transport waste to appropriately licensed reuse, recycling or disposal facilities.	Decommissioning phase	Environmental Officer	Weekly and at close-out	Waste manifests; disposal/recycling records; close-out inspection
Identify, contain and remediate any contaminated soil associated with decommissioning activities.	Contractor / Project Team	Implement spill response and soil remediation measures, including in situ treatment, bioremediation or removal to a licensed facility where required.	As incidents or contamination are identified	Environmental Officer	As incidents occur and during close-out	Spill reports; soil remediation records; disposal slips
Rip or loosen compacted soils in areas affected by access roads, laydown areas, panel infrastructure and decommissioning activities.	Contractor / Project Team	Rip compacted soils along the contour where safe and appropriate to improve infiltration and root establishment.	Rehabilitation and closure phase	Environmental Officer	During rehabilitation and at close-out	Ripped areas visible; photographs; rehabilitation records
Replace and spread available topsoil over rehabilitated areas where soil stripping or disturbance has occurred.	Contractor / Project Team	Use stockpiled topsoil where available; avoid mixing topsoil with subsoil or contaminated material.	Rehabilitation phase	Environmental Officer	During rehabilitation	Topsoil replaced; inspection records
Stabilise exposed soils and erosion-prone areas immediately following infrastructure removal and soil preparation.	Contractor / Project Team	Install erosion-control measures such as berms, mulch, geotextiles, silt fences, sediment barriers or contour ripping where required.	Rehabilitation phase	Environmental Officer	Weekly during rehabilitation and after rainfall	Erosion controls installed; no active erosion; photographs
Re-establish vegetation cover on disturbed areas using appropriate indigenous species or approved seed mixes.	Contractor / Project Team	Implement revegetation plan and encourage natural recovery where suitable.	Rehabilitation phase	Environmental Officer	Monthly until vegetation establishment	Revegetation records; photographs; vegetation cover achieved

Control alien and invasive plant species during decommissioning and post-closure rehabilitation.	Contractor / Project Team	Implement alien and invasive plant management plan, prioritising mechanical removal and follow-up control.	Decommissioning and post-closure phase	Environmental Officer	Seasonally for at least two years after rehabilitation, or until stable	Alien plant control records; photographic evidence
Monitor rehabilitated areas for erosion, compaction, vegetation establishment, alien plant growth and residual contamination.	Project Team / Environmental Officer	Conduct post-rehabilitation inspections and implement corrective actions where required.	Post-closure monitoring period	Environmental Officer	Quarterly for the first year, then annually for at least two years or until sign-off	Monitoring reports; corrective action records; closure sign-off
Confirm that rehabilitation objectives have been achieved before final closure sign-off.	Project Team / Environmental Officer	Verify stable landform, adequate vegetation cover, absence of active erosion, removal of waste and closure of contamination issues.	Final closure	Environmental Officer / Applicant	Once-off at final closure	Rehabilitation completion report; photographic record; sign-off

5.3 Cumulative Impacts

The term "Cumulative Effect" has for the purpose of this report been defined as: the summation of effects over time which can be attributed to the operation of the proposed Project itself, and the overall effects on the ecosystem of the site that can be attributed to the Project and other existing and planned future projects. The geographic area of evaluation is the spatial boundary in which the cumulative effects analysis was undertaken. The spatial boundary evaluated in these cumulative effects analysis generally includes the area within the 50 km radius surrounding the Project area (Figure 5-1).

A temporal boundary is the timeframe during which the cumulative effects are reasonably expected to occur. The temporal parameters for these cumulative effects analysis is the anticipated lifespan of the proposed Project, commencing in 2026 and extending for the life of the Mine, which is the minimum expected Project life of the proposed Project. Where appropriate, particular focus is on near-term cumulative impacts of overlapping construction schedules for proposed projects in the area of evaluation.

The quantitative impact of the proposed Project in isolation on agriculture is anticipated to be “Low” pre-mitigation and “Low” post mitigation due to the absence of highly sensitive agricultural fields. The cumulative impact of the proposed Project is anticipated to be “Medium” pre-mitigation and “Low” post mitigation (Table 5-8). The Project area has undergone minimal modifications from other approved renewable Projects (DFFE, 2020) within the 50 km radius.

After implementation of the mitigation measures such as implementation of erosion control methods, preventing soil contamination and rehabilitating disturbed and bare surfaces as stipulated above the agricultural productivity of the area is not expected to deteriorate further because of the proposed Project and no irreplaceable loss of resources is anticipated.

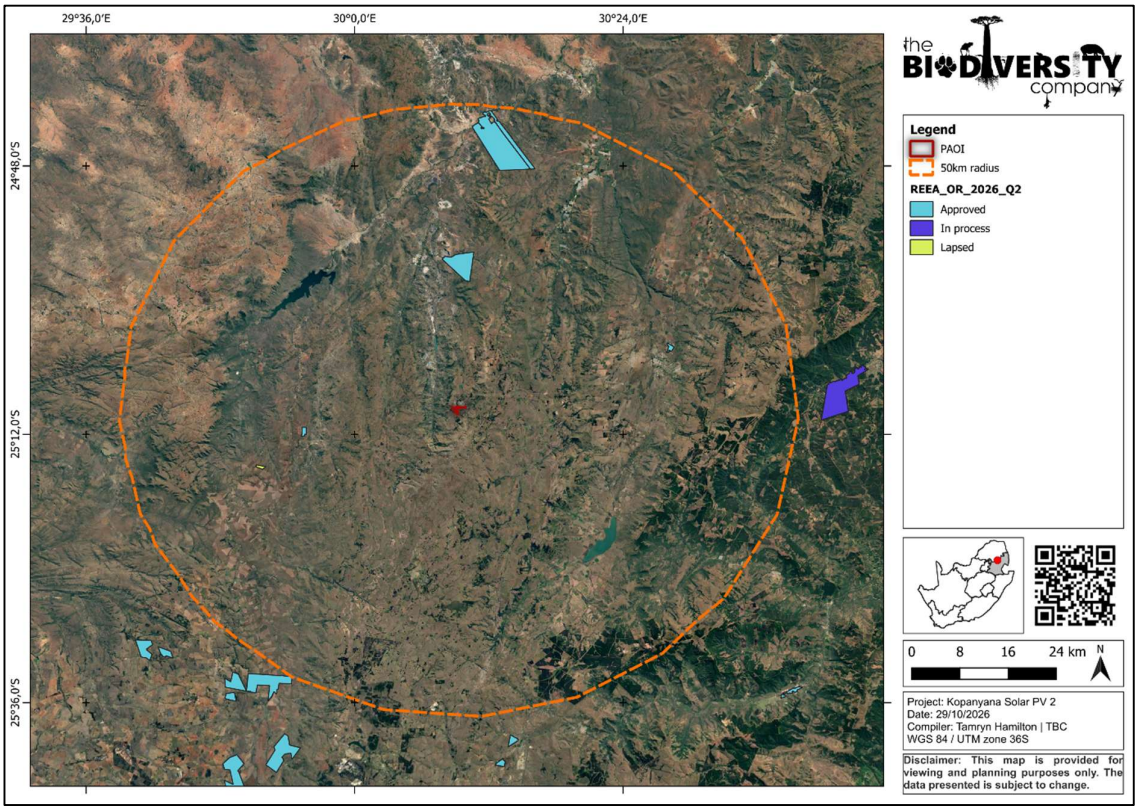


Figure 5-1 Cumulative impact map for the proposed Kopanya Solar PV 2 Project and associated infrastructure

Table 5-8 Cumulative Impacts associated with the proposed Project and similar renewable energy facilities in with the 50 km radius of the proposed Project area

Component Being Impacted On	Activity Which May Cause the Impact		Pre Mitigation							Post Mitigation						
			Duration	Extent	Potential for impact on irreplaceable resources	Severity	Consequence	Probability	Significance	Duration	Extent	Severity	Potential for impact on irreplaceable resources	Consequence	Probability	Significance
Land capability and agricultural potential	Construction and operation of the PV and associated infrastructures will lead to site clearing, Movement of heavy machinery, potential hydrocarbon spills and leaks from machinery	Impact in Isolation	3	2	1	-2	-12	2	-24	2	2	-1	1	-5	2	-10
		Cumulative impact	3	3	1	-2	-16	2	-32	2	3	-1	1	-6	2	-12

6 Conclusion

The representative soil forms found within the proposed Project area include, Hutton, Katspruit, Nkonkoni, Vaalbos, Glenrosa, Mispah, Johannesburg and Witbank soil forms. The proposed Project area is dominated by apedal soils with good drainage and aeration that is characterised by medium sensitivity. The hydromorphic soil with signs of wetness which is characterised by medium sensitivity. The shallow, physically disturbed Anthrosols and Urban Technosols, being soils with restrictive limitations, were characterised by low sensitivity. The proposed Project area is dominated by arable areas with some marginal non-arable areas.

The land capability dataset indicates that the proposed Project area falls predominately within “Moderate to Moderate-High” land capability sensitivity with other areas having “Low-Moderate” land capability sensitivity. There are highly sensitive field crop boundaries which were identified within the proposed Project area following the use of agricultural theme tool. The proposed Project does not fall within the PAAs. The baseline soil findings, current land uses, and the calculated land potential concur with the agricultural theme tool, to an extent with areas demarcated with “Low-Moderate” land capability sensitivity. It, furthermore, disputes the agricultural theme tool on areas demarcated with “Moderate to Moderate-High” and “High” land capability sensitivities with highly sensitive field crop boundaries. The identified field crop boundaries are now historical. Additionally, no irrigation infrastructure was found in the proposed Project area for cropping practices such as centre pivot, drip irrigation or canals for flood irrigation. Therefore, there is no segregation of high cropping areas within the proposed Project area. The overall sensitivity of the Project area ranges from Low to Medium sensitivity.

It is the specialist’s opinion that the proposed Project and associated infrastructure will have an overall low residual impact on the agricultural production ability of the land. The area allowed to be developed is 100 ha for low and medium sensitivity outside field crop boundaries for the proposed generation capacity of 20 MW_{AC}. The proposed Project and associated infrastructure may be favourably considered for development, provided mitigation measures are implemented.

6.1 Management Measures

An impact assessment was included in the Agricultural Compliance Statement, where required, proposed impact management outcomes or any monitoring requirements for inclusion in the EMPr were be provided. The following measures are provided:

- Disturbance must be restricted to the authorised development footprint, and all no-go areas, access routes, laydown areas and stockpile areas must be clearly demarcated prior to construction.
- Vegetation clearance and soil preparation must be limited to the minimum area required and undertaken only immediately prior to construction activities.
- Existing access routes and previously disturbed areas must be used as far as reasonably practicable to reduce additional soil disturbance and compaction.
- Topsoil must be appropriately stripped, stockpiled, protected and reused during rehabilitation where soil disturbance is unavoidable.
- A stormwater management plan must be developed and implemented to manage runoff, prevent erosion and limit sediment transport from disturbed areas.
- Erosion-control measures must be implemented where erosion risk is identified, including stabilisation with control mats, geotextiles, silt fences, sediment barriers, revegetation or similar measures.

- Measures must be implemented to prevent soil contamination from hydrocarbons, chemicals, cement, waste and hazardous substances.

- Disturbed areas must be progressively rehabilitated, stabilised and monitored to ensure vegetation establishment, erosion control and long-term soil stability.

- Alien and invasive plant species must be monitored and controlled during construction, operation and rehabilitation.

6.2 Specialist Statement

The proposed Project area is expected to have an overall low residual impact on the agricultural production capability of the area. The proposed Project can be favourably considered for authorisation. The following serves to substantiate this statement:

- The site verified land capability of the proposed Project area ranges from Low to Medium;
- The agricultural potential of the area ranges from Low to Medium;
- No active crop farming identified within the proposed Project area; and
- The overall agricultural sensitivity for the proposed Project area ranges from Low to Medium.

6.3 Statement Conditions

The proposed Project may be favourably considered for authorisation and is not subject to any specific soil-related conditions, provided that all recommended mitigation measures are fully implemented.

7 References

Department of Agricultural, Land Reform and Rural Development, 2020. *Protected Agricultural areas – spatial data layer*, 2020. Pretoria.

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Land Type Survey Staff. 1972 - 2006. Land Types of South Africa: Digital Map (1:250 000 Scale) and Soil Inventory Databases. Pretoria: ARC-Institute for Soil, Climate, and Water.

Mucina, L., & Rutherford, M. C. 2006. The Vegetation of South Africa, Lesotho, and Swaziland. Strelitzia 19. Pretoria: National Biodiversity Institute.

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South African National Biodiversity Institute. (2006- 2024). The National Vegetation Map 2024.Citation Online, https://bgis.sanbi.org/vegmap, Version 2024.

8 Appendix Items

8.1 Appendix A: Methodology

8.1.1 Desktop Assessment

As part of the desktop assessment, baseline soil information was obtained using published South African Land Type Data. Land type data for the site was obtained from the Institute for Soil Climate and Water (ISCW) of the Agricultural Research Council (ARC) (Land Type Survey Staff, 1972 - 2006). The land type data is presented at a scale of 1:250 000 and comprises of the division of land into land types.

8.1.2 Field Survey

The site was traversed on foot. A soil auger was used to determine the soil form/family and depth. The soil was hand augured to the first restricting layer or 1.2 m. Soil survey positions were recorded as waypoints using a handheld GPS. Soils were identified to the soil family level as per the "Soil Classification: A Taxonomic System for South Africa" (Soil Classification Working Group, 2018). Landscape features such as existing open trenches were also helpful in determining soil types and depth.

8.1.3 Land Capability

Land capability and agricultural potential will be determined by a combination of soil, terrain, and climate features. Land capability is defined by the most intensive long-term sustainable use of land under rainfed conditions. At the same time an indication is given about the permanent limitations associated with the different land use classes.

Land capability is divided into eight classes, and these may be divided into three capability groups. Table 8-1 shows how the land classes and groups are arranged in order of decreasing capability and ranges of use. The risk of use increases from class I to class VIII (Smith, 2006).

Table 8-1 Land capability class and intensity of use (Smith, 2006)

Land Capability Class	Increased Intensity of Use									Land Capability Groups
I	W	F	LG	MG	IG	LC	MC	IC	VIC	Arable Land
II	W	F	LG	MG	IG	LC	MC	IC		
III	W	F	LG	MG	IG	LC	MC			
IV	W	F	LG	MG	IG	LC				
V	W	F	LG	MG						Grazing Land
VI	W	F	LG	MG						
VII	W	F	LG							
VIII	W									Wildlife
W - Wildlife		MG - Moderate Grazing			MC - Moderate Cultivation					
F- Forestry		IG - Intensive Grazing			IC - Intensive Cultivation					
LG - Light Grazing		LC - Light Cultivation			VIC - Very Intensive Cultivation					

The land potential classes are determined by combining the land capability results and the climate capability of a region as shown in the table below. The final land potential results are then described in the subsequent table.

Table 8-2 The combination table for land potential classification

Land capability class	Climate capability class							
	C1	C2	C3	C4	C5	C6	C7	C8
I	L1	L1	L2	L2	L3	L3	L4	L4
II	L1	L2	L2	L3	L3	L4	L4	L5
III	L2	L2	L3	L3	L4	L4	L5	L6
IV	L2	L3	L3	L4	L4	L5	L5	L6
V	Vlei	Vlei	Vlei	Vlei	Vlei	Vlei	Vlei	Vlei
VI	L4	L4	L5	L5	L5	L6	L6	L7
VII	L5	L5	L6	L6	L7	L7	L7	L8
VIII	L6	L6	L7	L7	L8	L8	L8	L8

Table 8-3 The Land Potential Classes

Land potential	Description of land potential class
L1	Very high potential: No limitations. Appropriate contour protection must be implemented and inspected.
L2	High potential: Very infrequent and/or minor limitations due to soil, slope, temperatures, or rainfall. Appropriate contour protection must be implemented and inspected.
L3	Good potential: Infrequent and/or moderate limitations due to soil, slope, temperatures, or rainfall. Appropriate contour protection must be implemented and inspected.
L4	Moderate potential: Moderately regular and/or severe to moderate limitations due to soil, slope, temperatures, or rainfall. Appropriate permission is required before ploughing virgin land.
L5	Restricted potential: Regular and/or severe to moderate limitations due to soil, slope, temperatures, or rainfall.
L6	Very restricted potential: Regular and/or severe limitations due to soil, slope, temperatures, or rainfall. Non-arable.
L7	Low potential: Severe limitations due to soil, slope, temperatures, or rainfall. Non-arable.
L8	Very low potential: Very severe limitations due to soil, slope, temperatures, or rainfall. Non-arable.

The land capability of the proposed footprint will be compared to the National Land Capability which was refined in 2014- 2016. The National Land Capability methodology is based on a spatial evaluation modelling approach and a raster spatial data layer consisting of fifteen (15) land capability evaluation values (Table 8-4), usable on a scale of 1:50 000 – 1:100 000 (DAFF, 2017). The previous system is based on a classification approach, with 8 classes (Table 8-1). Land capability and land potential will also be determined in consideration of the screening tool to ultimately establish the accuracy of the land capability sensitivity from (DAFF, 2017).

Table 8-4 National Land Capability Values (DAFF,2017)

Land Capability Evaluation Value	Land Capability Description
1	Very low
2	
3	Very Low to Low
4	
5	Low
6	Low to Moderate
7	
8	Moderate
9	Moderate to High
10	
11	High

12	High to Very High
13	
14	Very High
15	

8.2 Appendix B: Specialist Declarations

DECLARATION

I, Masilabela Seepamore, declare that:

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



Masilabela Seepamore

Soil & Agricultural Scientist

The Biodiversity Company

April 2026

DECLARATION

I, Cathrine Mathye, declare that:

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



Cathrine Mathye

Soil Scientist

The Biodiversity Company

April 2026

8.3 Appendix C: Curriculum Vitae

Masilabela Seepamore



Pr Sci Nat 113907 +27 78 815 1878 masilabela@thebiodiversitycompany.com

PROFILE SUMMARY

Soil and Agricultural specialist with ~ 3 years' consulting experience. Specialist experience in project exploration, mining, engineering, hydropower, renewable energy, and private sector developments. Project management of national I multi-disciplinary projects. Provides specialist guidance, technical support, and facilitation for compliance with in-country legislative requirements and international lender standards. Registered Pr Sci Nat with the South African Council for Natural Scientific Professions.

PERSONAL INFO

Nationality: South African

Date of birth: 08 June 1988

EXPERIENCE

Environmental Impact Assessment (EIA)

Environmental Management Programmes (EMP)

Rehabilitation Plans

Agricultural potential assessments

Soil taxonomy classification (SA form)

SKILLS

- ✓ Soil Classification
- ✓ Project Management
- ✓ Soil & Crop Management
- ✓ Monitoring & Management Plans

LANGUAGES

English – Proficient

Afrikaans & IsiZulu – Conversational

Tswana, Sesotho, Sepedi - Proficient

Signed: Masilabela Seepamore

ACADEMIC QUALIFICATIONS

FERTALIZER ASSOCIATION OF SOUTHERN AFRICA (FERTASA) (2021) – Fertilizer Advisory Certificate & Training Scheme (FACTS)

University of the Free State (2019): MAGISTER SCIENTIAE (MSc) *Cum Laude* – Soil Science:
Title: *Impact of long-term production management practices on wheat grain yield under a semi-arid climate.*

University of the Free State (2015): BACCALAUREUS SCIENTIAE AGRICULTURAE Honores (Hons) – Soil Science.
University of the Free State (2013): BACCALAUREUS SCIENTIAE AGRICULTURAE. Majors: Agronomy & Soil Science.

PROFESSIONAL EXPERIENCE

Sep 2023 – Present	**The Biodiversity Company** Soil Ecologist
Nov 2022 – Aug 2023	**ARC-NRE** Intern
Mar 2021 – Sep 2021	**Central University of Technology** Lecturer (Part-Time)
July 2016 – Dec 2018	**University of the Free State** Research Assistant

INTERNATIONAL EXPERIENCE

South Africa

Cathrine Mathye



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PROFILE SUMMARY

Soil Science specialist with ~ 3 years' consulting experience. Specialist experience in soil classsfication mining, agriculture, engineering, renewable energy, and private sector developments. Project management of national projects. Provides specialist guidance, technical support, and facilitation for compliance with in-country legislative requirements. Registered Cand Nat Sci with the South African Council for Natural Scientific Professions (SACNASP).

PERSONAL INFO

Nationality: South African

Date of birth: 11 March 1996

EXPERIENCE

Soil taxonomic classification (SA form)

GIS and soil mapping

Environmental Impact Assessment (EIA)

Environmental Management Programmes (EMP)

Agricultural potential assessments

SKILLS

- ✓ Soil Classification
- ✓ Soil & Crop Management
- ✓ Irrigation Management
- ✓ Monitoring & Management Plans
- ✓ Project Management

LANGUAGES

English – Proficient

IsiZulu, isiXhosa & Tshivenda – Conversational

Xitsonga, Sesotho, Sepedi - Proficient



Signed: Cathrine Mathye

ACADEMIC QUALIFICATIONS

University of the Free State (2022): MASTER OF SCIENCE IN AGRICULTURE (MSc)– Soil Science Interdisciplinary
Title: *Impact of livestock grazing management systems on below-ground carbon fractions in the semi-arid regions of South Africa.*

University of Limpopo (2014 - 2018): Bachelor of Science (BSc) – Agriculture (Soil Science)
Title: *The effects of woody plant encroachment on soil physical properties of one soil type in the Savannah rangelands of Limpopo Province.*

PROFESSIONAL EXPERIENCE

Jun 2024– Present	**The Biodiversity Company** Soil Specialist
Jan 2023 – Jul 2023	**Department of Agriculture land reform & rural development (FS)** Assistant Agricultural Practitioner
Feb 2022 – Oct 2022	**University of the Free State** Student Assistant
Feb 2019– Jan 2021	**Department of Agriculture land reform & rural development (DWUID)** Soil and water science Intern

INTERNATIONAL EXPERIENCE

South Africa