APPENDIX F4: Agricultural Compliance Statement

Conserving Natural Resources Through Sustainable Land Use

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AGRICULTURAL COMPLIANCE STATEMENT FOR THE PROPOSED GROOTVLEI 600 MW SOLAR PV PLANT, BATTERY ENERGY STORAGE SYSTEMS (BESS) AND GRID CONNECTION PROJECT, LOCATED WITHIN DR KENNETH KAUNDA AND NGAKA MODIRI MOLEMA DISTRICT MUNICIPALITIES, NEAR VENTERSDORP, NORTH WEST PROVINCE.

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SPECIALIST DECLARATION

Declaration of Independence

I, Sinethemba Mchunu, hereby declare that I am responsible for compiling this report on behalf of Nhloso Land Resources (Pty) Ltd. All assumptions, data analysis, and recommendations are made in good faith and are considered to be correct to the best of my knowledge and the referenced information sources (where applicable).

I further declare that Nhloso Land Resources (Pty) Ltd is an independent consulting firm and has no interest or personal gains in this project except receiving fair payment for rendering an independent professional service.

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Sinethemba Mchunu

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ACRONYMS

AGIS	Agricultural Geo-referenced Information System
BESS	Battery Energy Storage Systems
CA	Competent Authority
CARA	Conservation of Agricultural Resources Act (Act 43 of 1983)
DFFE	Department of Forestry, Fisheries, and the Environment
EA	Environmental Authorisation
EIA	Environmental Impact Assessment
EAP	Environmental Assessment Practitioner
FAO	Food and Agriculture Organization of the United Nations
GN	Government Notice
IUSS	International Union of Soil Sciences
LSU	Large Stock Unit
MW	Megawatts
PV	Photovoltaics
S&EIR	Scoping and Environmental Impact Reporting
SMP	Stormwater Management Plan
SOTER	Soil & Terrain
WRB	World Reference Base

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1. INTRODUCTION

LTM Green Energies (Pty) Ltd (the "Applicant") is proposing the development of Grootvlei 600 MW Solar Photovoltaics (PV) Plant, Battery Energy Storage Systems (BESS) and Grid Connection Project near Ventersdorp, within the Dr Kenneth Kaunda and Ngaka Modiri Molema District Municipalities within the North West Province. An Environmental Authorisation (EA) was previously granted on 13 December 2023 for the proposed project within a site extent of approximately 600 hectares. The Applicant has undertaken further optimisation of the project layout, which determined that the extent of the originally secured land is insufficient to accommodate the required generation capacity for the proposed project. As a result, based on guidance received from the Department of Forestry, Fisheries, and the Environment (DFFE), the Applicant is applying to lapse the existing EA and undertake a new EA application for the entire Project extent of approximately 1,200 hectares (hereafter referred to as 'the site" including the additional 580 hectares from the previously authorised footprint), as depicted in **Figure 1** below.

Nemai Consulting were appointed as the Environmental Assessment Practitioner (EAP) to undertake the new Scoping and Environmental Impact Reporting (S&EIR) process for the entire project in terms of the Environmental Impact Assessment (EIA) Regulations of 2014, as amended, in accordance with the National Environmental Management Act (NEMA), 1998 (Act. No. 107 of 1998) and associated regulations. A Site Sensitivity Verification was required to confirm or dispute the sensitivity of agricultural resources within the proposed project footprint. Nhloso Land Resources (Pty) Ltd was subsequently appointed by Nemai Consulting to conduct a site verification assessment for the expansion footprint of approximately 580 hectares and the new powerline route, and incorporate the findings of the previous specialist study completed in 2023 into the current assessment into a consolidated report for the entire project site, integrating the findings both assessments to inform the Agricultural Impact of the proposed project.

The desktop data analysis and *in-situ* soil data collected during the verification assessment both effectively disputed the DFFE screening tool findings as none of the identified soil forms are considered to be of high agricultural potential. Therefore, an Agricultural Compliance Statement (this report) will suffice for the assessment and reporting of environmental impacts on agricultural resources for the proposed project, in accordance with the gazetted GN 320 protocols (Government Gazette 43110). The purpose of this Agricultural Compliance Statement is to ensure that the agricultural sensitivity to the proposed project is sufficiently considered to enable the Competent Authority (CA) to make an informed decision regarding the potential impacts of the proposed solar PV infrastructure on the prevailing agricultural resources on site.

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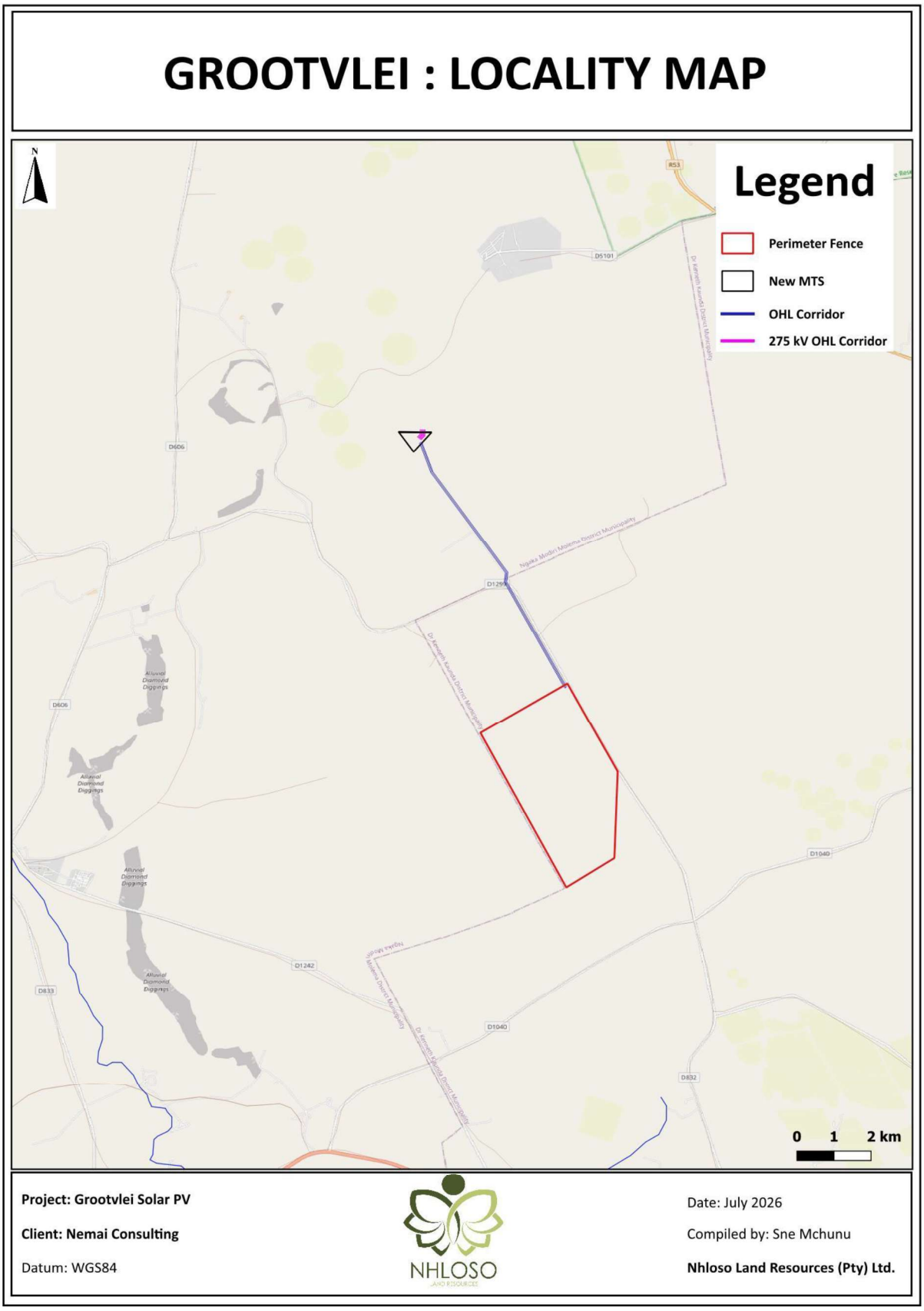

Figure 1: Locality of the proposed Grootvlei solar PV project.

2. PROJECT DESCRIPTION

The proposed development of the Grootvlei Solar PV plant and associated infrastructure will comprise of the following components, as depicted in **Figure 2** below:

- New 400/132kV Main Transmission Substation (MTS).
- 600MW PV solar panels or modules (arranged in arrays).
- Lithium-ion battery energy storage system (BESS).
- DC-AC current inverters stations, transformers, and internal underground cabling electrical reticulation.
- Grid Connection comprising of 2 x 132kV powerlines, approximately 14km, from the new facility 33kV substation to a new 400/132kV Main Transmission Substation to Loop In-Loop Out of the Pluto-Watershed 275kV power line.
- Administration Buildings, workshop areas for maintenance and storage, security buildings.
- Site access from unnamed gravel road via the N14 and/or R53.
- Internal access roads and perimeter fencing of the footprint area.
- Temporary laydown areas.

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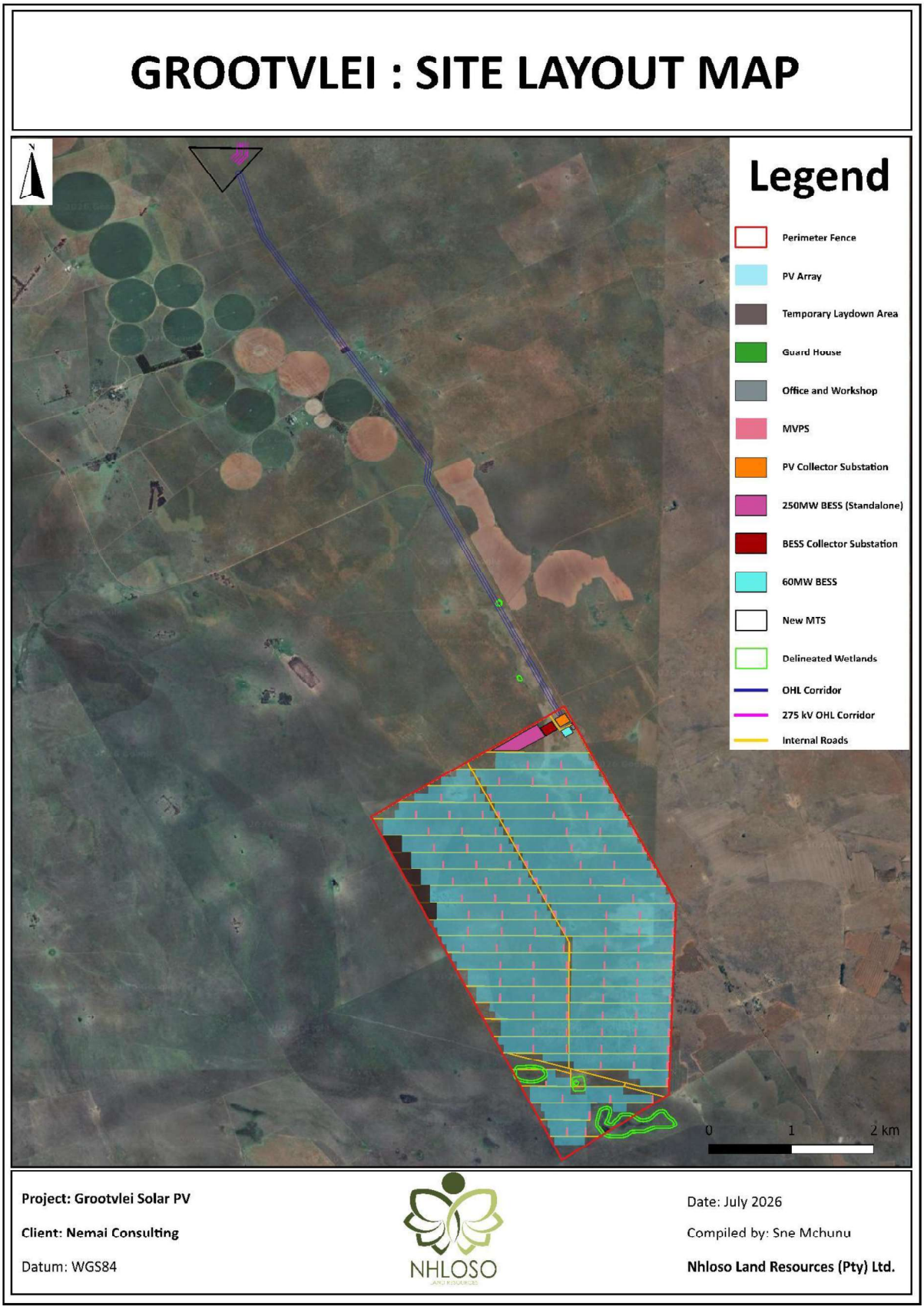

Figure 2: Site layout map of the proposed Grootvlei solar PV infrastructure.

3. ASSESSMENT METHODOLOGY

The following steps outlined below were followed to gather the information used for the compilation of this report in alignment with the requirements of the Protocol for the specialist assessment and minimum report content requirements for environmental impacts on agricultural resources, gazetted on 20 March 2020 in Government Notice (GN) No. 320.

3.1 Terms of Reference

The Site Sensitivity Verification was conducted in accordance with the requirements of the Protocol for the specialist assessment and minimum report content requirements for environmental impacts on agricultural resources, gazetted on 20 March 2020 in GN 320, as presented in **Table 1** below, with specific reference to the relevant sections in this report.

Table 1: Site sensitivity verification and minimum report content requirements.

Site Sensitivity Verification and Reporting Requirements		Relevant Section
Prior to commencing with a specialist assessment, the current use of the land and the environmental sensitivity of the site under consideration, identified by the screening tool, must be confirmed by undertaking a site sensitivity verification.		
2.1	The site sensitivity verification must be undertaken by an environmental assessment practitioner (EAP) or a specialist.	✓
2.2	The site sensitivity verification must be undertaken through the use of:	
(a)	A desk top analysis, using satellite imagery;	Section 4
(b)	A preliminary on-site inspection; and	Section 5
(c)	Any other available and relevant information.	Section 4 - 6
2.3	The outcome of the site sensitivity verification must be recorded in the form of a report that:	
(a)	Confirms or disputes the current use of the land and the environmental sensitivity as identified by the screening tool, such as new developments or infrastructure, the change in vegetation cover or status etc.;	Section 5
(b)	Contains a motivation and evidence (e.g. photographs) of either the verified or different use of the land and environmental sensitivity; and	Section 5
(c)	Is submitted together with the relevant assessment report prepared in accordance with the requirements of the Environmental Impact Assessment Regulations.	✓

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The GN 320 requirements for an Agricultural Compliance Statement are listed below, and the relevant sections where the various requirements have been addressed in this report are provided on the following checklist table below.

Table 2: GN 320 requirements for an Agricultural Compliance Statement.

GNR320 requirements of an Agricultural Compliance Statement (Low to Medium Sensitivity)	Reference in this report
3.1. The compliance statement must be prepared by a soil scientist or agricultural specialist registered with the SACNASP.	Page ii
3.2. The compliance statement must: 3.2.1. Be applicable to the preferred site and proposed development footprint.	Section 1 - 5
3.2.2.confirm that the site is of "low" or "medium" sensitivity for agriculture.	Section 6 - 7
3.2.3. indicate whether or not the proposed development will have an unacceptable impact on the agricultural production capability of the site.	Section 7
3.3. The compliance statement must contain as a minimum, the following information: 3.3.1. Contact details and relevant experience as well as the SACNASP registration number of the soil scientist or agricultural specialist preparing the assessment including a curriculum vitae. 3.3.2.A signed statement of independence.	Appendix A Page ii
3.3.3. A map showing the proposed development footprint (including supporting infrastructure) with a 50m buffered development envelope, overlaid on the agricultural sensitivity map generated by the screening tool.	Section 4.1 & 6.3
3.3.4. 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 6.2
3.3.5. 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 & 7
3.3.6.Any conditions to which the statement is subjected.	Section 6 & 7
3.3.7. in the case of a linear activity, confirmation from the agricultural specialist or soil scientist, that in their opinion, based on the mitigation and remedial measures proposed, the land can be returned to the current state within two years of completion of the construction phase.	Section 6 & 7
3.3.8. where required, proposed impact management outcomes or any monitoring requirements for inclusion in the EMPr. 3.3.9.A description of the assumptions made as well as any uncertainties or gaps in knowledge or data.	Section 6 & 7 Section 3.2
3.4. A signed copy of the compliance statement must be appended to the Basic Assessment Report or Environmental Impact Assessment Report.	This report will be appended to the EIA report

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3.2 Assumptions and Limitations

The following assumptions and limitations are applicable to the findings and recommendations of this report:

- It is assumed that the proposed infrastructure will be installed within the assessed project footprint, as indicated on the provided project layout.
- The findings of this assessment were collectively inferred from *in-situ* soil data as well as desktop soil & terrain (SOTER) and land capability metadata.
- It is acknowledged that it is virtually impossible to achieve 100% accuracy in soil mapping. Therefore, the delineated soil map units may include isolated pockets of the other identified soil forms, as the boundaries between the mapped soils are not absolute, but rather a continuum and may gradually change from one type to another between observation points.
- The previous assessment conducted in 2023 did not include delineations of the identified soil forms which hindered spatial correlation with the findings of this assessment.
- The purpose and scope of this investigation did not include a geotechnical assessment; therefore, the geotechnical stability of the soils for the proposed infrastructure will require further assessment and verification by a Geotechnical Engineer.

3.3 Desktop Analysis

The desktop assessment entailed reviewing various data sources including, but not limited to, the Agricultural Geo-referenced Information System (AGIS) and other sources as listed under references. The visual evidence from the site inspection and verification was supplemented with the desktop SOTER and land capability metadata to infer the agricultural potential and anticipated impacts within the proposed infrastructure footprint. The most recent satellite aerial photography from Google Earth was also used to review current land uses in the vicinity of the proposed infrastructure footprint. The historic satellite imagery was also used to supplement the desktop data and scan for any areas where croplands and farming infrastructure may have occurred in the past.

3.4 *In-situ* Soil Verification

The previous verification assessment assessed the original 600-hectare Solar PV footprint and two OHL powerline routes of approximately 2.4 km and 14.6 km. The assessment entailed a desktop review of existing information on soils and topography using satellite imagery, and a subsequent field verification conducted on 27 March 2023 where soil profiles were augured to determine soil depth, clay content and land conditions to identify any areas of high agricultural sensitivity in terms of Notice 320 of the

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National Environmental Management Act in May 2020 of the Department of Environmental Affairs. The previous study referenced the National Department of Agriculture's Land Reform and Rural Development (DALRRD) and Klingebiel *et al* (Klingebiel and Montgomery,1961) methodologies being used to determine the land capability of the identified soils.

The current site verification assessment was conducted on 1st of April 2026 to assess the prevailing soil conditions and collect visual photographic evidence of prevailing land use setting within the solar PV expansion footprint of approximately 580 hectares and the preferred powerline route, as depicted on the site layout in **Figure 2**. The prevailing soils were classified according to the Natural and Anthropogenic Soil Classification System for South Africa (2018). Subsurface soil observations were made using a manual hand auger in order to assess individual soil profiles to evaluate physical soil properties and prevailing limitations to agriculture. The land capability was classified according to the National Department of Agriculture (NDA) was used to determine the capability of soils and their agricultural potential (DALRRD, 2019) for both assessments.

3.5 Land Capability Classification and Agricultural Potential

Land capability is generally informed by a combination of climate, soil and terrain capability evaluation values in a 40:30:30 relationship respectively; which is conventionally measured on a scale from I to VIII in a decreasing order of agricultural potential based on limiting factors. Classes I and II are commonly considered to be prime agricultural land that is well suitable for arable crops; while Class III soils are also considered arable although with moderate limitations. Class IV soils may be cultivated under certain circumstances and management practices, and Classes V to VIII are not typically suitable for cultivation, but may be suitable for grazing and other recreational purposes, and/or ecological conservation (wilderness). However, the DFFE screening tool's agricultural sensitivity rating is inferred from the DALRRD land capability evaluation system which follows an inverted scoring system with values ranging from 1 to 15 in an increasing order of agricultural potential i.e., Class 1 indicating the lowest agricultural potential, and Class 15 indicating the highest agricultural potential.

The agricultural potential was evaluated according to an interpretive grouping system commonly used to categorize land units based on their potential, permanent limitations, and the risk of soil damage under long-term rain-fed agricultural use in South Africa (Smith 2006), as presented in **Table 3** below with relative correlation to the DFFE classification system adopted from DALRRD, 2018. Climate capability is also measured on a scale from 1 to 8 as presented in

Table 4 below, which was also taken into consideration and the land capability rating is adjusted, depending on the prevailing climatic conditions as indicated by the respective climate capability rating

to inform the resultant land potential for arable agriculture using the matrix presented in **Table 5** below (Guy and Smith, 1998), with relevant descriptions according to Scotney et al., 1987 further detailed in **Table 6** below.

Table 3: South Africa's agricultural land capability (DALRRD, 2018).

DFFE (2017) Classification	Land Capability Class (Smith 2006)	Land Capability Groups	Limitations
15- Very High	I	Arable land	None or few limitations
14 – Very High			
13 High – Very high	II		Slight limitations
12 High – Very high			
11 High			
10 Moderate- High	III		Moderate limitations
9 Moderate- High			
8 Moderate	IV		Severe limitations
7 Low- Moderate	V	Grazing land	Water course and land with wetness limitations.
6 Low- Moderate			
5 Low	VI		Limitations preclude cultivation. Suitable for perennial vegetation.
4 Low – Very Low	VII		Very severe limitations. Suitable only for natural vegetation.
3 Low – Very Low			
2. Very Low	VIII	Wildlife	Extremely severe limitations. Not suitable for grazing or afforestation.
1 Very Low			

Table 4: Climate Capability Classification (Scotney et al., 1987).

Climate Capability Class	Limitation Rating	Description
C1	None to slight	Local climate is favourable for good yield for a wide range of adapted crops throughout the year.
C2	Slight	Local climate is favourable for good yield for a wide range of adapted crops and a year-round growing season. Moisture stress and lower temperatures increase risk, and decrease yields relative to C1.
C3	Slight to moderate	Slightly restricted growing season due to the occurrence of low temperatures and frost. Good yield potential for a moderate range of adapted crops.
C4	Moderate	Moderately restricted growing season due to low temperatures and severe frost. Good yield potential for a moderate range of adapted crops but planting date options more limited than C3.
C5	Moderate to severe	Moderately restricted growing season due to low temperatures, frost and/or moisture stress. Suitable crops may be grown at risk of some yield loss.
C6	Severe	Moderately restricted growing season due to low temperatures, frost and/or moisture stress. Limited suitable crops for which frequently experience yield loss.
C7	Severe to very severe	Severely restricted choice of crops due to heat, cold and/or moisture stress.
C8	Very severe	Very severely restricted choice of crops due to heat and moisture stress. Suitable crops at high risk of yield loss.

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Table 5: Table of Land Potential Classes (Adapted from Guy and Smith, 1998).

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	(L3) Wetland	(L3) Wetland	(L4) Wetland	(L4) Wetland	(L5) Wetland	(L5) Wetland	(L6) Wetland	(L6) Wetland
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 6: The Land Capability Classes Description (Guy and Smith, 1998).

Land Potential Class	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, temperature, or rainfall. Appropriate permission is required before ploughing virgin land.
L5	**Restricted potential:** Regular and/or moderate to severe limitations due to soil, slope, temperature, or rainfall.
L6	**Very restricted potential:** Regular and/or severe limitations due to soil, slope, temperature, or rainfall. Non-arable.
L7	**Low potential:** Severe limitations due to soil, slope, temperature, or rainfall. Non-arable.
L8	**Very low potential:** Very severe limitations due to soil, slope, temperature, or rainfall. Non-arable.

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4. DESKTOP ANALYSIS RESULTS

4.1 DFFE Screening Tool Review

The DFFE screening tool report identified some areas with high agricultural sensitivity within the proposed project footprint, which necessitated the assessment of anticipated impacts of the proposed solar PV infrastructure on the Agricultural Potential as required by the 2014 Environmental Impact Assessment (EIA) regulations, as depicted in **Figure 3** below. The desktop assessment process consulted various data sources including, but not limited to, the Agricultural Geo-referenced Information System (AGIS), Soil Terrain (SOTER), and geological databases.

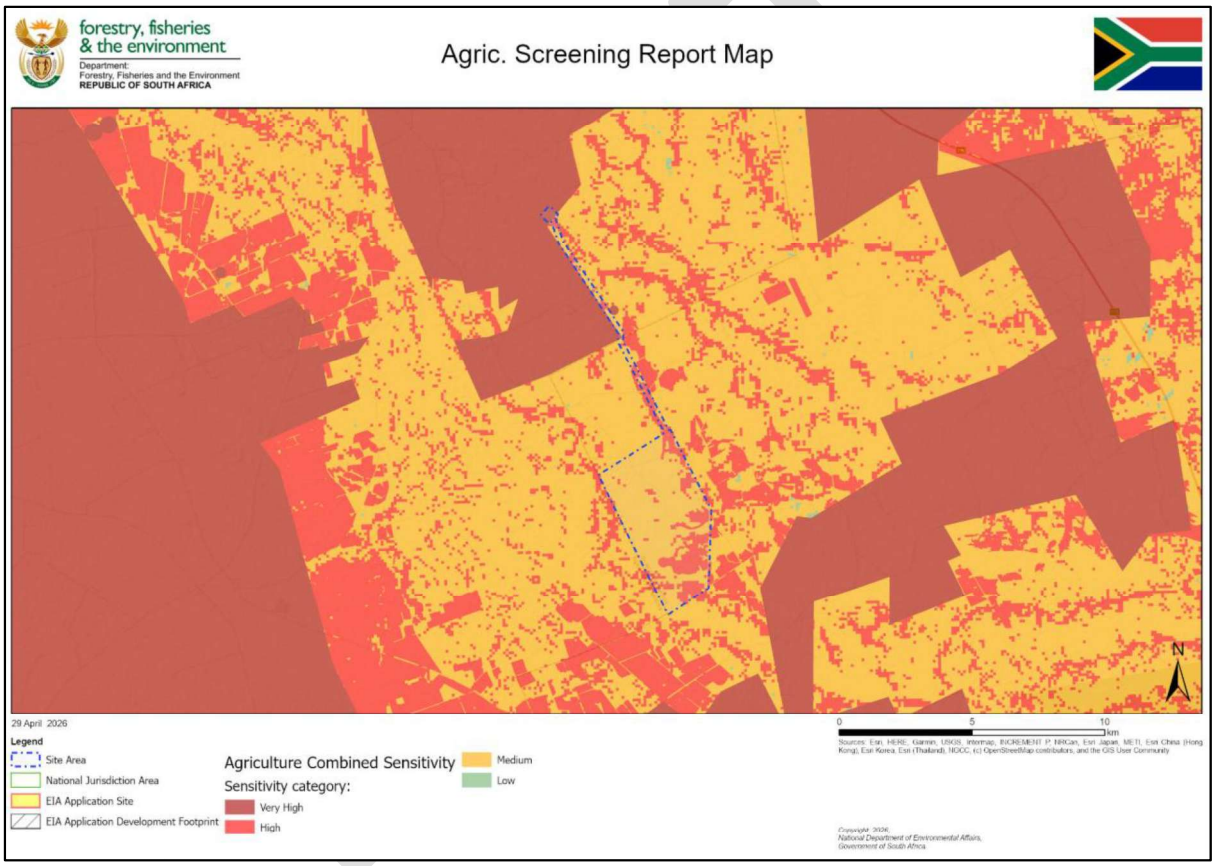

Figure 3: DFFE Screening Tool Agricultural Sensitivity Map.

4.2 SOTER Soil Types

The collected desktop data indicates that the entire site comprises of Eutric Leptosols (LPe) soil types, which are characterised as very thin soils underlain by continuous rock and soils that are extremely rich in coarse fragments and/or have a continuous rock or technic hard material within 100 cm from the soil surface, as depicted in **Figure 4** below. The leptic prefix is adopted from Greek terminology '*leptos,*' meaning thin. These soils typically have a continuous rock at or very close to the surface or are extremely gravelly and commonly occur at high or medium altitudes across all climatic zones (IUSS, 2014).

4.3 Land Capability and Agricultural Potential

The project footprint is located within a semi-arid region within a low (Class 4) climate capability, with 100 – 150 days of moisture growing season. A semi-arid region is generally characterised as a dry area with low annual rainfall and high evaporation rates, which often necessitates irrigation for sustainable arable crop production as water losses from evaporation typically exceed rainfall. Hence such land is commonly used for pastoral farming e.g. livestock and game grazing for the production of meat, milk, wool etc.

However, contrary to the DFFE screening tool classification as high agricultural potential land, the prevailing soils were classified as non-arable, with Class VI land capability that is best suited to grazing land use at best, according to the available desktop land capability data, as depicted in **Figure 5** below. Therefore, the desktop land capability data disputes the DFFE screening tool report findings, which substantiates that an Agricultural Compliance Statement reporting protocol will suffice for the proposed project.

Furthermore, the AGIS database indicates that the grazing capacity ranges from 5 to 7 ha per Large Stock Unit (LSU) within the proposed project area, as depicted in **Figure 6** below. This suggests that the land is considered to be moderate to highly productive for grazing purposes, as it essentially indicates the amount of hectares required to sustain production of a Large Stock Unit, defined as an animal with a mass of 450 kg, which gains 0.5 kg per day on forage with a digestible energy of 55% in accordance with the Conservation of Agricultural Resources Act (CARA), Act 43 of 1983 Regulation 10.

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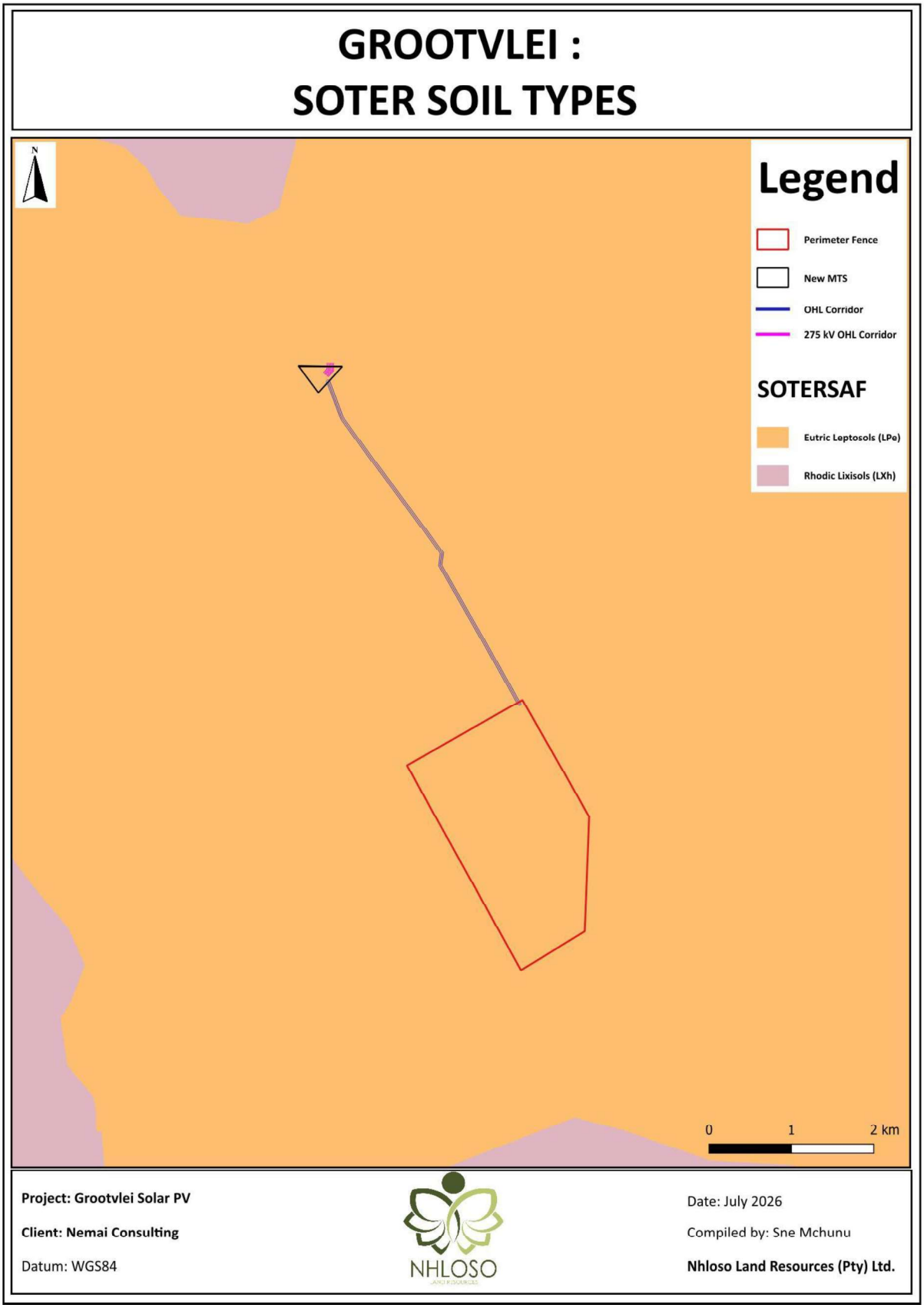

Figure 4: Dominant soil types in the vicinity of the proposed infrastructure.

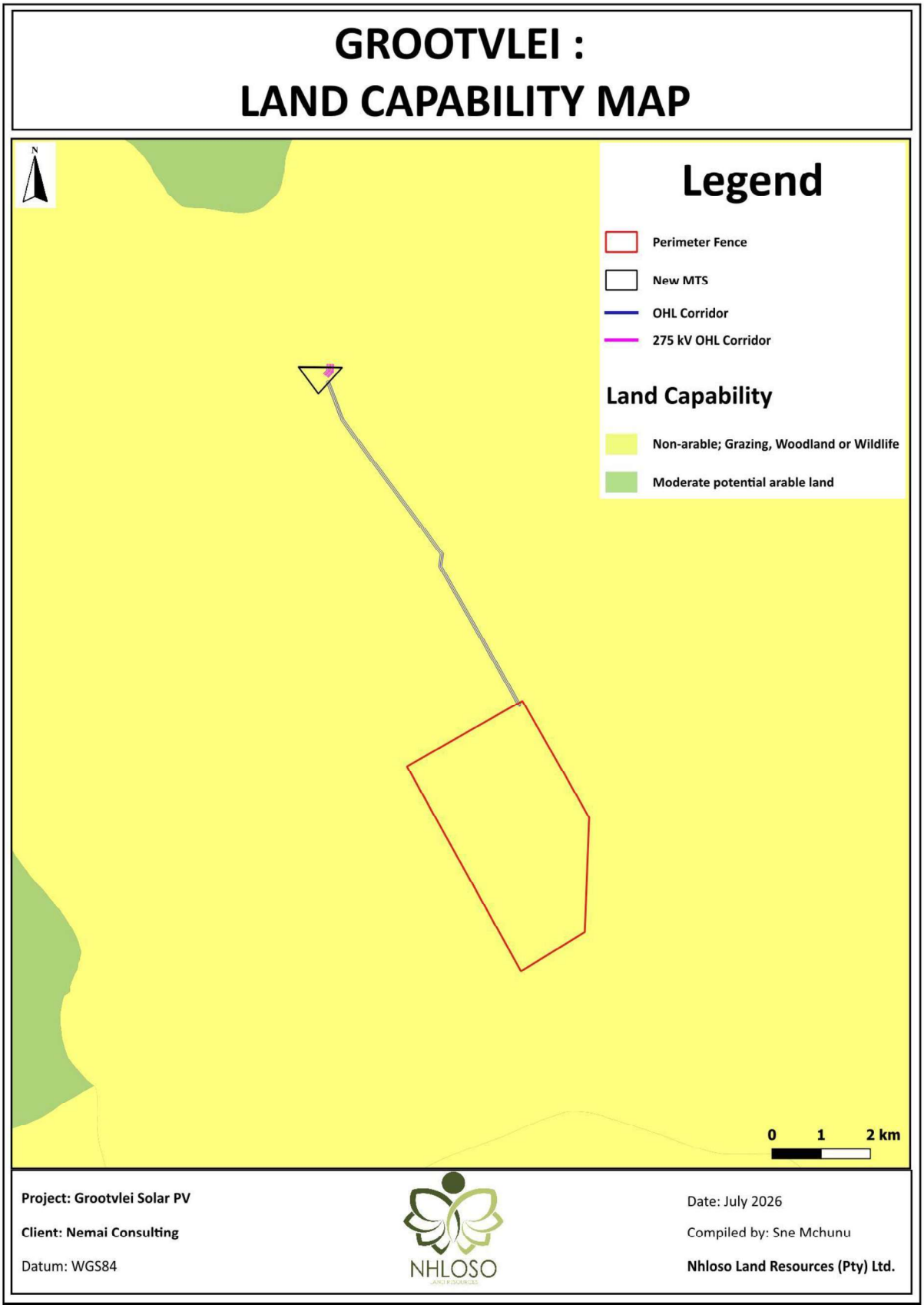

Figure 5: Land capability in the vicinity of the proposed infrastructure.

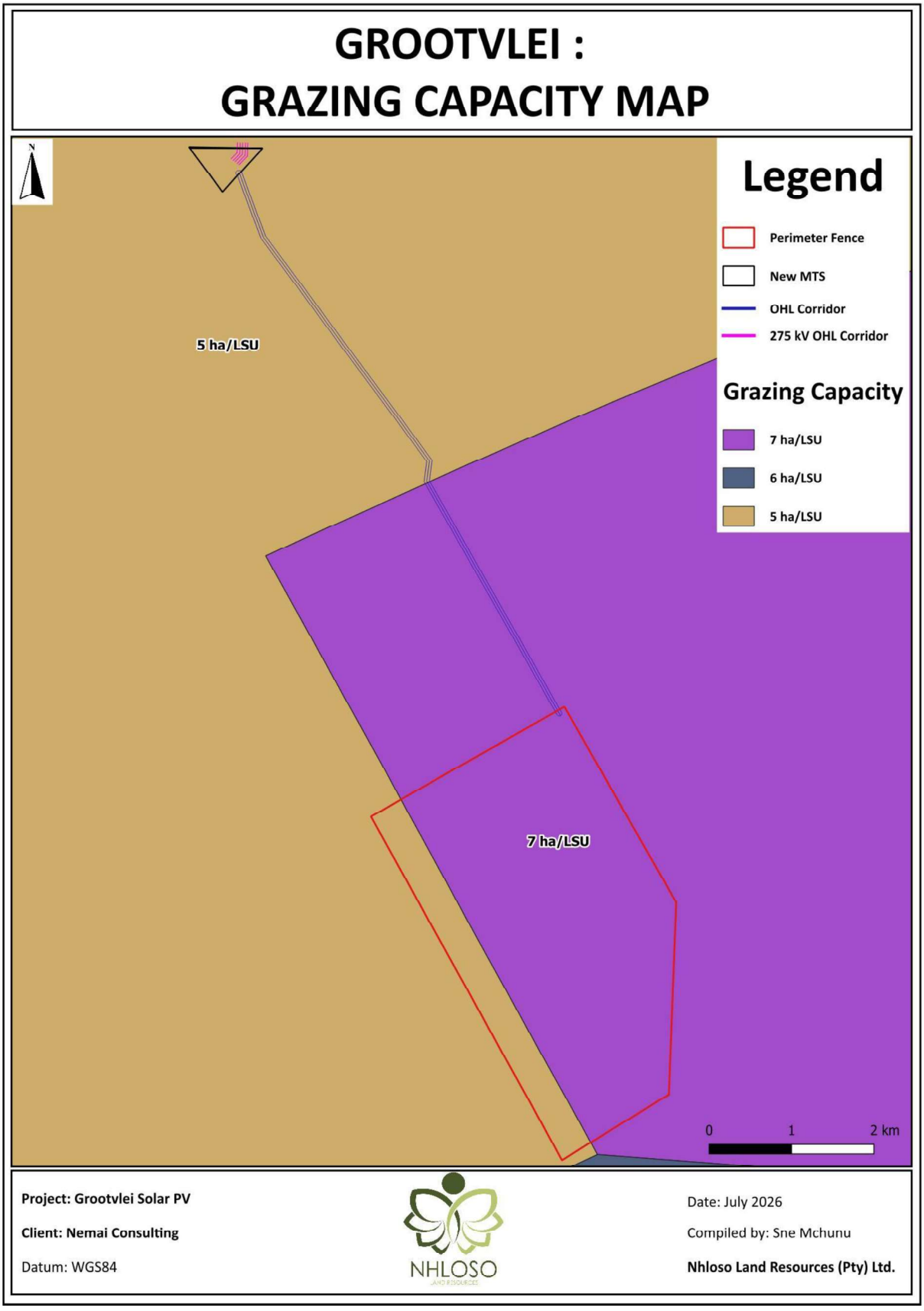

Figure 6: Grazing Capacity in the vicinity of the site.

5. SITE INSPECTION AND VERIFICATION RESULTS

5.1 Existing Infrastructure Verification

The site is characterised by gently sloping terrain, natural grassland vegetation, and evidence of historic disturbance from historic cultivation as substantiated by the historic satellite imagery, which indicates that some of the prevailing soils were previously cultivated between year 2017 and 2021. However, no existing crop fields, and/or cultivation activities were observed within the proposed project footprint during the soil survey. The land is currently primarily used for livestock grazing, and the prevailing agricultural resources were therefore limited to the windmill and concrete livestock water troughs observed across various grazing camps as demonstrated by photographic evidence presented in **Figure 7** below.



Figure 7: View of observed current land use activities within the proposed project footprint.

5.2 *In-situ* Soil Verification

None of the identified soils are considered to be of high agricultural potential. The site is dominated by shallow Dresden / Mispah / Glenrosa soil forms, with effective rooting depth varying from 0 – 18 cm, and constitute approximately 84.7% (1,171 ha) of the site, as depicted in **Figure 8** and further illustrated in **Figure 10** below. Two variants of the Glencoe / Lichtenburg soil form (Type A and Type B) were also identified, with effective rooting depth varying from 18 to 32 cm and 35 to 48 cm, which constitute approximately 14.2% (196.4 ha) and 1.1% (15.3 ha) of the site, respectively, as depicted in **Figure 9** and further detailed in **Table 7** below.

Table 7: Spatial distribution of identified soil forms within the project footprint.

Identified Soil Forms	Spatial Extent (ha)	Relative % of the site
Dresden / Mispah / Glenrosa	1171.1	84.69%
Glencoe / Lichtenburg (Type A)	196.4	14.20%
Glencoe / Lichtenburg (Type B)	15.3	1.11%



Figure 8: View of the dominant Dresden / Mispah / Glenrosa soil form on site.



Figure 9: View of the identified relatively deep Glencoe / Lichtenburg soil forms on site.

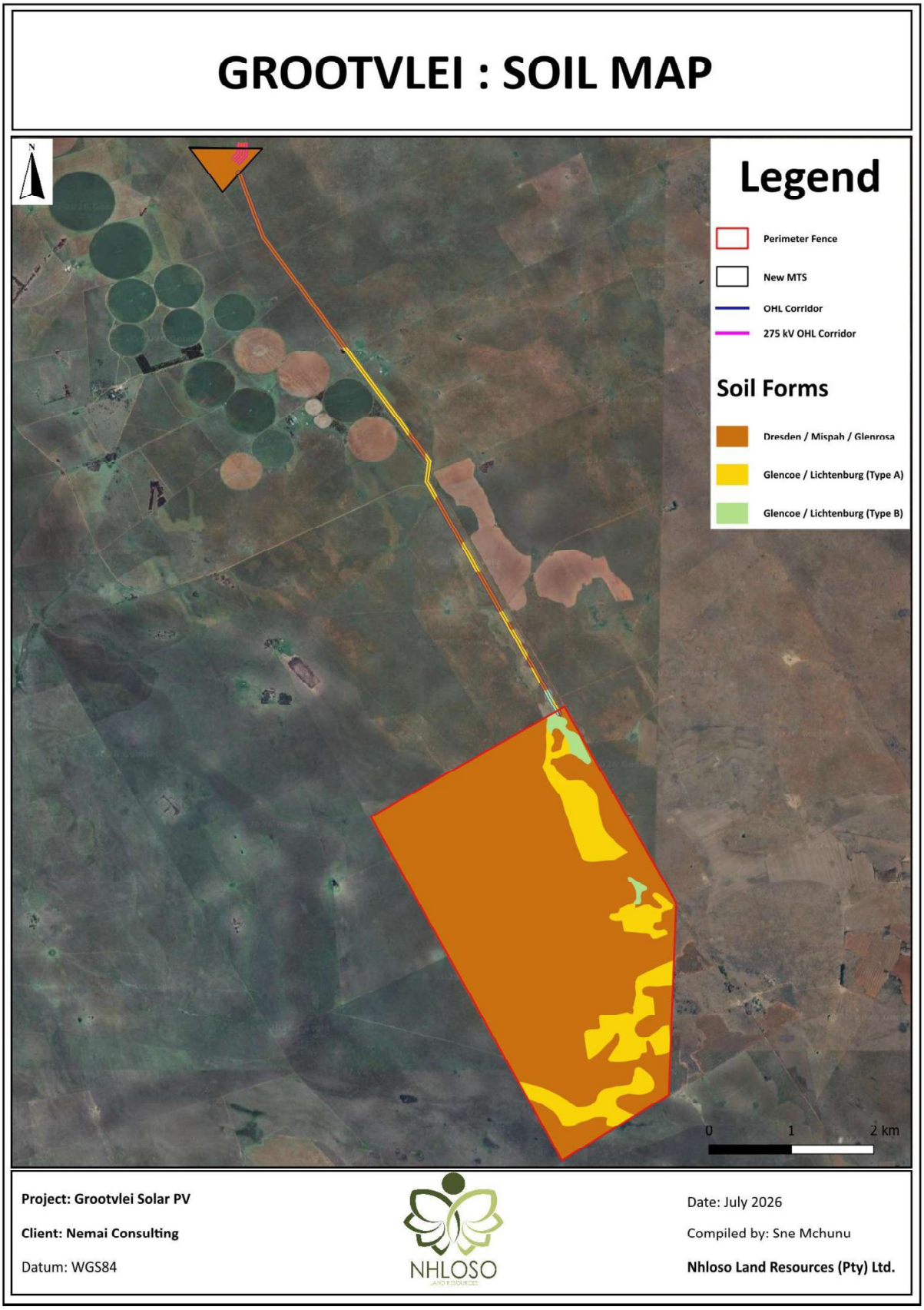

Figure 10: Identified soil forms on site.

6. IMPACT AND SENSITIVITY STATEMENT

6.1 The 'no-go' alternative

The 'no-go' alternative implies that the proposed Grootvlei Solar PV project will not be implemented, and thus no construction and operational impacts would occur. The 'no-go' alternative would therefore be considered a loss of opportunity for improvement of socio-economic development and quality of life that would be offered by the proposed project through access to reliable and affordable energy supply for the surrounding communities.

6.2 Micro-Siting to Minimize Fragmentation and Disturbance of Agricultural Activities

The GN 320 protocol requires confirmation that all reasonable measures have been taken through micro-siting to minimize fragmentation and disturbance of agricultural activities. Two alternatives were initially considered for the proposed powerline infrastructure, while only one option is currently considered for the proposed solar PV footprint and substation. However, contrary to the observed digital satellite imagery which indicated there might be recently cultivated areas on site, no existing croplands and/or recently cultivated areas were identified on site. Therefore, in light of the prevailing soil forms and poor agricultural potential within the proposed infrastructure footprint, alternative solar PV and substation footprints might intersect high agricultural potential soils and/or operational cropping systems, which would likely result in more significant agricultural impacts.

6.3 Agricultural Potential and Sensitivity

High potential agricultural land is defined as having the soil and terrain quality, growing season and adequate available moisture supply needed to produce sustained economically high crop yields when treated and managed according to best possible farming practices (Scotney et al., 1987). Agricultural Sensitivity is inferred from the land capability, which encompasses a combination of prevailing soil, climate and terrain conditions for supporting rain-fed (dryland) agricultural production, and primarily informs the level and type of agricultural production that can sustainably be achieved on any given land. The dominant Dresden / Mispah / Glenrosa soil forms have an inherently poor (class VII) agricultural potential and low sensitivity to the proposed project, which constitute approximately 84.7% (1,171 ha) of the site as depicted in **Figure 12** below.

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The low sensitivity of the identified Dresden / Mispah / Glenrosa soil forms is largely attributed to the physical impediment of most plant roots by the indurated bedrock encountered at relatively shallow depth. Similar to the Dresden / Mispah / Glenrosa soil forms, the Glencoe / Lichtenburg (Type A) soil form has inherently poor (class VI) agricultural potential and low sensitivity to the proposed project which is suited for light grazing at best. The identified Glencoe / Lichtenburg (Type B) soil forms have a marginal (class IV) agricultural potential and medium sensitivity as these soils can be cultivated for subsistence farming under dire circumstances.

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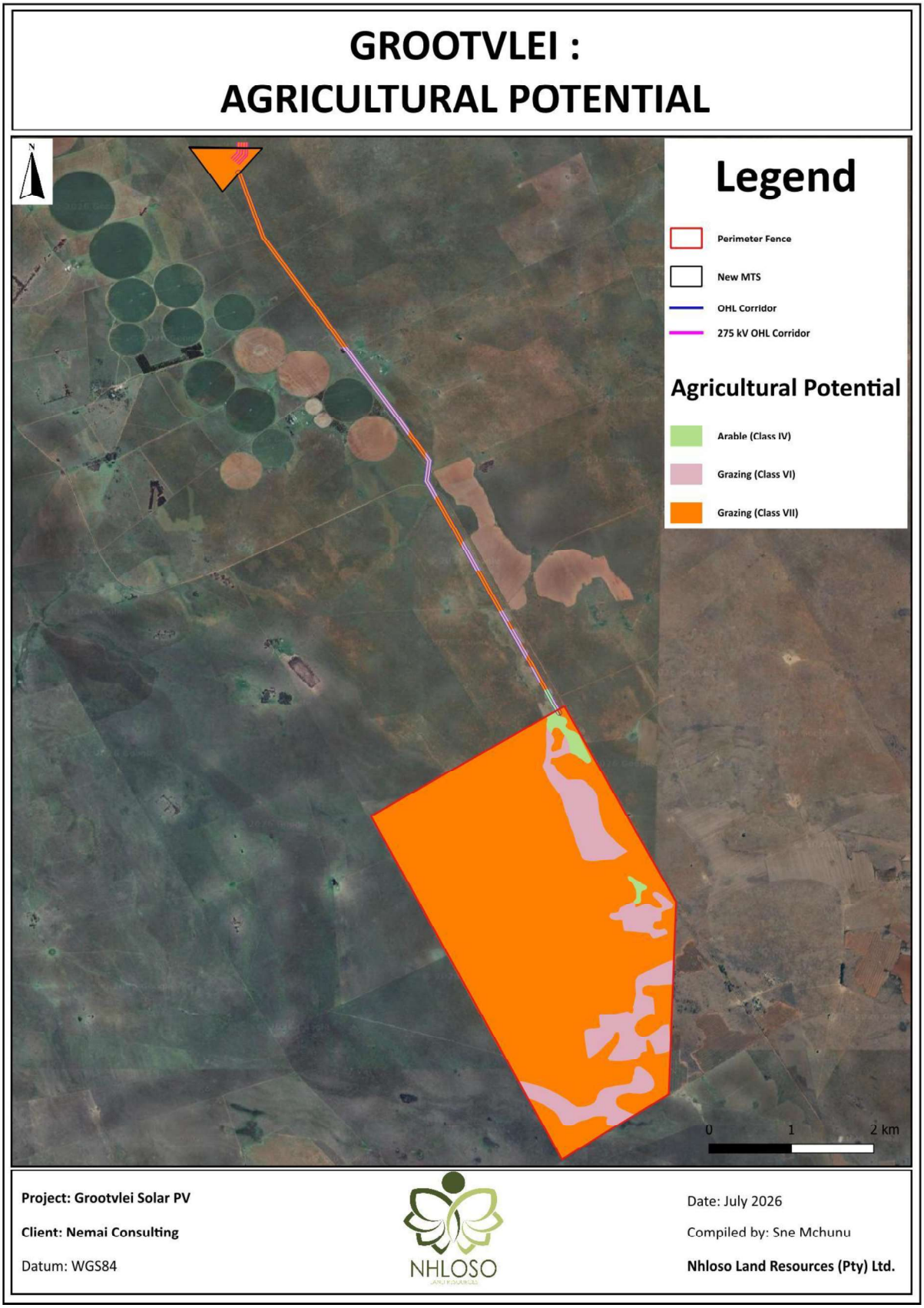

Figure 11: Agricultural Potential within the proposed project infrastructure.

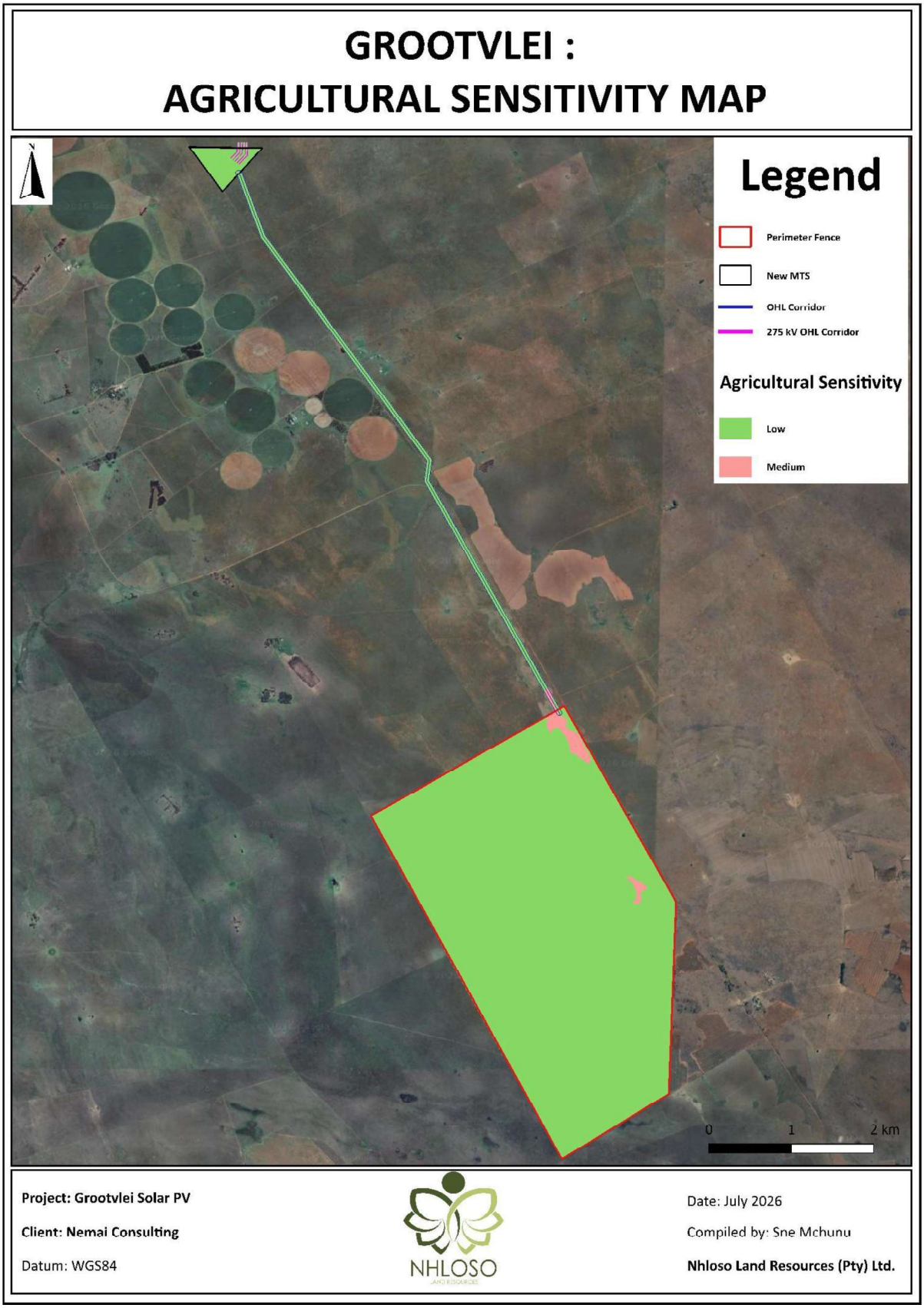

Figure 12: Agricultural sensitivity within the proposed project footprint.

6.4 Comparative Analysis: Previous Assessment vs Current Findings

The key findings of both assessments are substantively aligned on the basis that the majority of the project area is classified to be of low agricultural potential, and both ultimately conclude that the project is acceptable from an agricultural perspective and support approval of the EA provided that the development remains within the assessed footprint and the proposed mitigation measures are implemented accordingly. The alignment features of both assessments includes the following key findings:

- **Agricultural Potential:** Both assessments confirm that the historically cultivated land or pastures have largely reverted to veld/grassland, and proposed solar PV footprint is primarily used for livestock grazing, with no active crop production under prevailing conditions.
- **Agricultural Sensitivity:** Both assessments disputed the DFFE screening tool sensitivity and concluded that the screening tool overestimated the agricultural sensitivity of the site, and deduce that the agricultural potential is primarily constrained by shallow bedrock, which is substantiated by photographic evidence of shallow, rocky soils that are not suitable for commercial dryland cropping.
- **Grazing Capacity:** Both assessments identify permanent loss of available grazing land due to permanent physical occupation of land by solar PV infrastructure as the primary operational agricultural impact, and estimate a close range of 5 – 7 ha/LSU grazing capacity, which closely correlates with the 100 LSU carrying capacity estimate from the previous assessment on average. Both assessments also acknowledge that the proposed powerline impacts will be largely confined to pylon bases, and grazing activities can resume between pylons during the operational phase

Contrary to the aforementioned alignment, the previous assessments identified the orchards and irrigation system of the Roodepoortjie Farm, located along the northern OHL powerline route as a sensitive agricultural resource. However, the powerline route was subsequently realigned to mitigate this risk and avoid interference with the Roodepoortjie Farm, and the potential risk is considered unlikely for the preferred powerline route assessed as part of this assessment. Furthermore, the previous assessment identified Hutton soil forms of variable depth between 300mm to more than a metre over very short distances which is common for soils derived from dolomitic parent materials. The shallower variant of these soils were classified as the Glencoe / Lichtenburg soil forms (Type A and Type B) due to the observed underlying hard plinthic horizon beneath the red / yellow-brown apedal horizon.

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6.5 Impact Statement

The findings of this assessment dispute the DFFE screening tool findings that the proposed project infrastructure intersects through land of high agricultural potential, as substantiated by the *in-situ* soil data, which indicates that the prevailing soils are classified to be of Class VI and VII land capability with relatively poor potential for arable agricultural use. The site verification findings corroborated the desktop data and disputed the DFFE screening tool assertion of high agricultural potential land, as the shallow Dresden / Mispah / Glenrosa and Glencoe / Lichtenburg (Type A) soil forms with inherently poor agricultural potential were identified as the dominant soil forms. The agricultural potential of these soils is primarily restricted by the physical impediment of most plant roots by the indurated bedrock encountered at relatively shallow depth. Although the relatively deep Glencoe (Type B) soil forms have a marginal (class IV) agricultural potential and can be effectively cultivated for arable crop production, these soils are best suited for subsistence farming due to their limited spatial extent.

The proposed project is therefore anticipated to have a relatively low impact on the land capability and agricultural potential within the development footprint as the majority of the site predominantly comprises of low agricultural potential land. The anticipated agricultural impacts include temporal impediment of agricultural implements and livestock during the construction phase, as well as a permanent physical barrier over the prevailing soils during the operational phase since the proposed infrastructure is anticipated to prevail for the foreseeable future. On the contrary, the linear configuration of the proposed powerline infrastructure generally allows ample space for common agricultural implements and livestock to safely manoeuvre during the operational phase. The construction activities will inevitably cause temporary soil disturbance, which may induce localised erosion and potential invasion by alien species. It is therefore recommended that the engineering design be optimised to mitigate soil erosion from stormwater runoff from hard surfaces through a Stormwater Management Plan (SMP), and subsequently re-vegetate the disturbed areas with palatable indigenous grass species.

No fatal impacts were identified; however, a residual grazing capacity impact may occur due to long-term reduction of available grazing land since the proposed infrastructure is anticipated to prevail for the foreseeable future. This can be effectively managed by rotating the grazing camps in accordance with the carrying capacity of the remaining land to alleviate grazing pressure and potential land degradation on the remaining land. It is therefore the Specialist's opinion that the overall agricultural impact of the proposed development is anticipated to be relatively low due to the inherently shallow and poor agricultural potential of the prevailing soil forms. No particular monitoring is deemed necessary from an agricultural potential perspective as the proposed infrastructure is intuitively considered to be inert as the proposed infrastructure is relatively inert.

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CONCLUSIONS

The findings of this assessment dispute the DFFE screening tool findings that the proposed project infrastructure intersects through land of high agricultural potential, as substantiated by both desktop land capability and *in-situ* soil data collected during the verification assessment. The desktop land capability data classified the prevailing soils as non-arable, with Class VI land capability that is not suitable for dryland cultivation. The desktop soil data corroborated the desktop land capability data as it indicates that the site comprises of shallow LPe soil types, which are characterised as very thin soils underlain by a continuous rock, which would significantly hamper root development for most arable crops, and thus non-arable and best suited to livestock grazing.

Furthermore, the *in-situ* site verification assessment confirmed that the site is dominated by shallow Dresden / Mispah / Glenrosa soil forms, which constitute approximately 84.7% (1,171 ha) of the site. Two variants of the Glencoe / Lichtenburg soil form (Type A and Type B) were also identified, with effective rooting depth varying from 18 to 32 cm and 35 to 48 cm, which constitute approximately 14.2% (196.4 ha) and 1.1% (15.3 ha) of the site, respectively. The dominant Dresden / Mispah / Glenrosa soil forms were classified to be of Class VII land capability with inherently poor agricultural potential, attributed to the extremely shallow nature of these soils, with effective rooting depth varying from 0 to 18 cm. This corroborates the desktop soil and land capability data and disputes the DFFE screening tool assertion that the site intersects through land of high agricultural potential. The Glencoe / Lichtenburg (Type A) soil form was classified to be of Class VI land capability with inherently poor agricultural potential, attributed to relatively shallow effective rooting depth; while the relatively deep Glencoe / Lichtenburg (Type B) variant was classified to be of Class IV land capability with marginal potential for arable agricultural use.

It is therefore the Specialist's opinion that the overall agricultural impact of the proposed development is anticipated to be relatively low due to the inherently shallow and poor agricultural potential of the dominant Dresden / Mispah / Glenrosa and Glencoe / Lichtenburg (Type A) soil forms. Although the relatively deep Glencoe / Lichtenburg (Type B) soil forms have a marginal (class IV) agricultural potential and can be effectively cultivated for arable crop production, these soils are best suited for subsistence farming due to their limited spatial extent. The proposed solar PV development is therefore considered to be acceptable from an agricultural perspective, provided that the implementation of the proposed infrastructure adheres to the assessed project footprint. It is further recommended that soil erosion be mitigated through a site-specific SMP throughout construction and operational phase, and rotate the grazing camps in accordance with the carrying capacity of the remaining land to alleviate grazing pressure and potential land degradation on the remaining land.

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8. REFERENCES

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8. Soil Classification Working Group, 1991. Soil classification. A taxonomic system for South Africa. Mem. agric. nat. Resour. S. Afr. No. 15. Dept. Agric. Dev., Pretoria.

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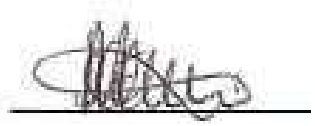
APPENDIX A:

DETAILS, EXPERTISE AND CURRICULUM VITAE OF THE SPECIALIST

1.(a)(i) Details of the specialist who prepared the report

Ms. Sinethemba E. Mchunu
SACNASP: 008755
M.Sc. Agric. (Soil Science, University of Stellenbosch)
B.Sc. Hons (Soil Science, University of Stellenbosch)
B.Sc. (Viticulture & Soil Science, University of Stellenbosch)



Sinethemba E. Mchunu

1.(a).(ii) The expertise of the specialist who compile a specialist report including a curriculum vitae

Company of Specialist:	Nhloso Land Resources (Pty) Ltd.
Name / Contact person:	Sinethemba Mchunu
Physical address:	27 Nkanyezi Street Vulindlela, KwaDlangezwa Empangeni 3886
E-mail:	mchunusne@outlook.com
Contact Number:	+27 71 974 0651
Qualifications	MSc. Soil Science (University of Stellenbosch) BSc Hons. Soil Science (University of Stellenbosch) BSc. Agric. Viticulture & Soil Science (University of Stellenbosch)
Registration / Associations	South African Council for Natural Scientific Professions (SACNASP) Member of the Land Rehabilitation Society of Southern Africa (LaRSSA) Member of the Soil Science Society of South Africa (SSSSA Member of the South African Soil Surveyors Association (SASSO) Member of the Gauteng Wetland Forum (GWF)

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SPECIALIST CONSULTANT INFORMATION

CURRICULUM VITAE OF SINETHEMBA MCHUNU

PERSONAL PROFILE

Full names: Sinethemba Euginia Mchunu

Gender: Female

Nationality: South African

Identity no: 8804240495082

E-mail: mchunusne@outlook.com

Mobile: 071 974 0651

ACADEMIC QUALIFICATIONS

- 2012: MSc. Soil Science, University of Stellenbosch
- 2010: BSc. Hons. Soil Science, University of Stellenbosch
- 2009: BSc. Agric. Viticulture and Soil science, University of Stellenbosch

  Postgraduate Biometry (Statistics) course

PROFESSIONAL AFFILIATIONS

- South African Council for Natural Scientific Professions (SACNASP): Reg. No.: 008755
- International Association for Impact Assessment South Africa (IAIAsa): Membership No.: 7024
- Land Rehabilitation Society of Southern Africa (LaRSSA)
- Soil Science Society of South Africa (SSSSA)
- South African Soil Surveyors Organization (SASSO)

WORK EXPERIENCE

- Principal Consultant at Nhloso Land Resources (Pty) Ltd. (Current)
- Principal Environmental Consultant (Project Manager) at Coastal and Environmental Services (CES)
- Senior Environmental Consultant (Project Manager) at Scientific Aquatic Services (SAS)
- Contaminated Site Consultant (Project Manager) at Environmental Resources Management (ERM) South Africa
- Soil Specialist at Strategic Environmental Focus (Pty) Ltd. (2012 – 2013)
- Soil Analytical Researcher at Stellenbosch University (2009 –2010)

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SELECTED PROJECT EXAMPLES

Agricultural Potential and Land Capability Impact Assessments

- Soil and Land Capability Assessment for the expansion of the Royal Bafokeng Styldrift Mine near Brits, North West province, South Africa;
- Soil and Land Capability Impact Assessment for the proposed Xstrata Coal Mine in Paardekop, Mpumalanga Province, South Africa;
- Soil and Land Capability Impact Assessment for the proposed Xstrata Coal Mine in Amersfoort, Mpumalanga Province, South Africa;
- Agricultural Impact Assessment for a proposed 30 megaWatts (MW) Photo Voltaic (PV) Solar Facility in Mareetsane, North West Province, South Africa;
- Soil and Land Capability Impact Assessment for the proposed BioGas Plant facility in Malmesbury, Western Cape Province, South Africa; and
- Soil and Agricultural Potential Assessment for the proposed Hulett Milling Plant at the Owen Sithole College of Agriculture (OSCA) in Empangeni, KwaZulu Natal Province, South Africa.

Contaminated Land Investigations

- Soil and Groundwater contamination assessments prior to installation and decommissioning of underground fuel storage tanks at multiple petroleum filling stations within the Gauteng, Limpopo, Free State, Northern Cape, and North West Provinces;
- Soil contamination assessment at ELCA Engineering Turbo Manufacturing and Fabrication to inform the due diligence process;
- Bi-annual soil contamination assessment at BHP Billiton Klipspruit Coal Mine for Water Use Licence compliance;
- Soil Contamination and Waste Classification Assessment at Petra Diamonds Mine in Lime Acres, Kimberly, Northern Cape Province, South Africa;
- Soil and Groundwater contamination assessments at multiple Mining and Distribution operations with private fuel storage facilities; and
- Sediment and water quality assessment for the Bokoni Platinum Mine.

Environmental Risk Assessments

- Environmental Risk and Liability Assessment prior to decommissioning and mine closure for the BECSA TNC Colliery in the Mpumalanga Province, South Africa;
- Environmental Risk Assessment for the abandonment of the former Rand Uranium Gold Mine, prior to land use change to a mixed residential and commercial development at Bhongweni and Toekomsrus in Randfontein, Gauteng Province, South Africa;

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Wetland Delineations and Impact Assessments

- Characterisation of the wetland recharge mechanism(s) through the vadose zone, as part of the impact assessment of the proposed coal mining activities within the catchment in Kwagga North, Mpumalanga Province, South Africa;
- Investigating wetland offset alternatives and appropriate rehabilitation measures for the proposed coal mining activities at Phalanndwa Colliery in Delmas, Mpumalanga Province, South Africa;
- Wetland Rehabilitation Plan and ecological assessment of an artificial watercourse "abandoned quarry" in Olifantsfontein, Gauteng Province, South Africa;

1.(b) A declaration that the specialist is independent in a form as may be specified by the competent authority

I, Sinethemba Mchunu, 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 relevant legislation and any guidelines that have relevance to the proposed activity;
- I will comply with the applicable legislation;
- I have not, 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



Signature of the Specialist

DRAFT

forestry, fisheries
& the environment
Department:
Forestry, Fisheries and the Environment
REPUBLIC OF SOUTH AFRICA

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

SPECIALIST DECLARATION FORM – AUGUST 2023

Specialist Declaration form for assessments undertaken for application for authorisation in terms of the National Environmental Management Act, Act No. 107 of 1998, as amended and the Environmental Impact Assessment (EIA) Regulations, 2014, as amended (the Regulations)

REPORT TITLE

AGRICULTURAL COMPLIANCE STATEMENT REPORT FOR THE PROPOSED GROOTVLEI 600MW SOLAR PV PLANT, BATTERY ENERGY STORAGE SYSTEMS (BESS) AND GRID CONNECTION PROJECT, LOCATED WITHIN DR KENNETH KAUNDA AND NGAKA MODIRI MOLEMA DISTRICT MUNICIPALITIES, NEAR VENTERSDORP, NORTH WEST PROVINCE.

Kindly note the following:

1. This form must always be used for assessment that are in support of applications that must be subjected to Basic Assessment or Scoping & Environmental Impact Reporting, where this Department is the Competent Authority.
2. This form is current as of August 2023. It is the responsibility of the Applicant / Environmental Assessment Practitioner (EAP) to ascertain whether subsequent versions of the form have been published or produced by the Competent Authority. The latest available Departmental templates are available at https://www.dffe.gov.za/documents/forms.
3. An electronic copy of the signed declaration form must be appended to all Draft and Final Reports submitted to the department for consideration.
4. The specialist must be aware of and comply with '*the Procedures for the assessment and minimum criteria for reporting on identified environmental themes in terms of sections 24(5)(a) and (h) and 44 of the act, when applying for environmental authorisation - GN 320/2020)'*, where applicable.

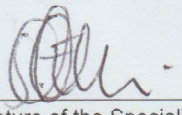
1. SPECIALIST INFORMATION

Title of Specialist Assessment	Agricultural Compliance Statement
Specialist Company Name	Nhloso Land Resources (Pty) Ltd.
Specialist Name	Sinethemba Mchunu
Specialist Identity Number	[redacted]
Specialist Qualifications:	M.Sc. Agriculture (Soil Science)
Professional affiliation/registration:	SACNASP: 008755
Physical address:	27 Nkanyezi Street Vulindlela, Empangeni 3886
Postal address:	27 Nkanyezi Street Vulindlela, Empangeni 3886
Postal address	See above.
Telephone	N/A
Cell phone	[redacted]
E-mail	[redacted]

2. DECLARATION BY THE SPECIALIST

I, Sinethemba Mchunu declare that –

- I act as the independent specialist in this application;
- I am aware of the procedures and requirements for the assessment and minimum criteria for reporting on identified environmental themes in terms of sections 24(5)(a) and (h) and 44 of the National Environmental Management Act (NEMA), 1998, as amended, when applying for environmental authorisation which were promulgated in Government Notice No. 320 of 20 March 2020 (i.e. "the Protocols") and in Government Notice No. 1150 of 30 October 2020.
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing –
  - any decision to be taken with respect to the application by the competent authority; and;
  - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- All the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of Regulation 48 and is punishable in terms of section 24F of the NEMA Act.



Signature of the Specialist

Nhloso Land Resources (Pty) Ltd

Name of Company:

03/11/2026

Date

3. UNDERTAKING UNDER OATH/ AFFIRMATION

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

Signature of the Specialist

Nhlaso Land Resources (pty) Ltd.

Name of Company

03/11/2026

Date

Signature of the Commissioner of Oaths

03/11/2026

Date

SOUTH AFRICAN POLICE SERVICE
VISIBLE POLICING AND OPERATION
RICHARDS BAY SEA PORT
03 NOV 2026
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