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SOIL. AGRICULTURE. ENVIRONMENT.

Site Sensitivity Verification Report for the Proposed Tabor Solar Cluster

Submitted by TerraAfrica Consult (Pty) Ltd

Date of Submission:

19 February 2025

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1. Introduction

TerraAfrica Consult (Pty) Ltd was appointed by Mulilo Renewable Project Developments (Pty) Ltd to conduct the site sensitivity verification for the proposed Tabor Solar Cluster near Bandelierkop in the Limpopo Province of South Africa. The site is about 11 km southwest of Bandelierkop, and the nearest city is Polokwane, located about 60 km southwest of the site (see Figure 1).

The proposed Tabor Solar Cluster will consist of four PV projects, an average of 160MW each, and individual grid connections for each PV project. The PV projects will consist of solar arrays installed in the ground with BESS containers distributed through the PV field. Other infrastructure includes access roads, fencing, O&M buildings, a temporary laydown area, and project IPP substations. The proposed grid infrastructure will include 132kV Overhead Power Lines, Onsite Switching Stations, and access roads.

The site sensitivity verification report (SSVR) presents the results of the site verification visit, including soil classification and assessment of current land use on site. The results indicate if there are any areas with high agricultural sensitivity that must be avoided during the subsequent phases of project planning

2. Terms of reference

The terms of reference for the site sensitivity verification report follow the requirements of the agricultural assessment protocol as outlined in GNR 320 of NEMA. The protocols, including the protocol for agricultural assessment, state that the methodology for gathering information for the report must include data from:

- a desktop analysis using satellite imagery;
- a preliminary on-site inspection; and
- any other available and relevant information.

The protocol specifies that the report must:

- confirm or dispute 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;
- contain a motivation and evidence (e.g., photographs) of either the verified or different use of the land and environmental sensitivity; and
- be submitted together with the relevant assessment report prepared in accordance with the requirements of the Environmental Impact Assessment Regulations (EIA Regulations).

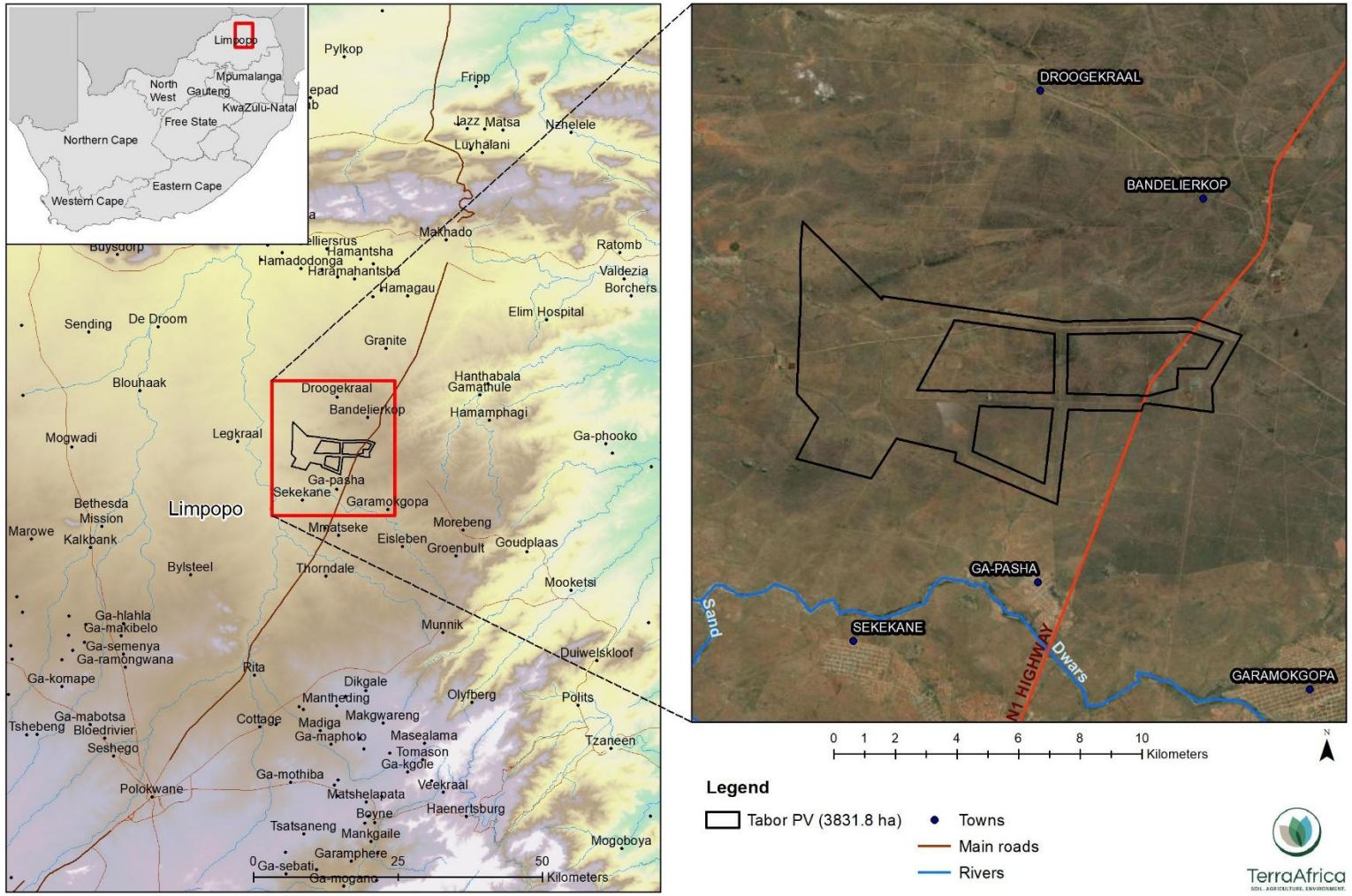

Figure 1: Locality of the proposed Tabor Solar Cluster and Associated Infrastructure

Further to the protocol outlined in the GNR 320 for site verification and subsequent reporting, the following Exclusion Norms are also considered:

- The Norm for the Exclusion of the Development and Expansion of Solar Photovoltaic Facilities in Areas of Low or Medium Environmental Sensitivity (Solar Exclusion Norm)
- The Norm for the Exclusion of Identified Activities Associated with the Development and Expansion of Battery Storage Facilities in Areas of Low or Medium Environmental Sensitivity (BESS Exclusion Norm)

3. Details of specialist

Mariné is a scientist registered with the South African Council for Natural Scientific Professions (SACNASP) and is specialised in the fields of Agricultural Science and Soil Science. Her SACNASP Registration Number is 400274/10. Mariné holds a BSc. degree in Agricultural Science (with a specialisation in Plant Production) from the University of Pretoria and an MSc. Degree in Environmental Science from the University of the Witwatersrand. She has consulted in the subject fields of soil, agriculture, pollution assessment and land use planning for the environmental sector of several African countries including Botswana, Mozambique, Democratic Republic of Congo, Liberia, Ghana and Angola. She has also consulted on the soil and agricultural assessment of a gas infrastructure project in Afghanistan. Mariné's project experience conducting assessments for renewable energy projects include solar and wind energy facilities in the Western, Northern and Eastern Cape and the North West, Free State, Limpopo and KwaZulu Natal Provinces.

4. Methodology

4.1 Site visit

The site visit was done from 4 until 10 December 2024. The soil was classified on a reconnaissance-level grid with survey points about 400 m apart. The survey points were logged on-site with a handheld Garmin GPS and is shown in Figure 2. The data recorded at each survey point includes soil form, soil colour of the topsoil and subsoil horizons, clay content of the respective horizons, nature of depth-limiting material and current land use at the specific point. A 10% hydrochloric acid solution was used to test for the presence of

carbonates in the profiles. The data recorded at each survey point is presented in

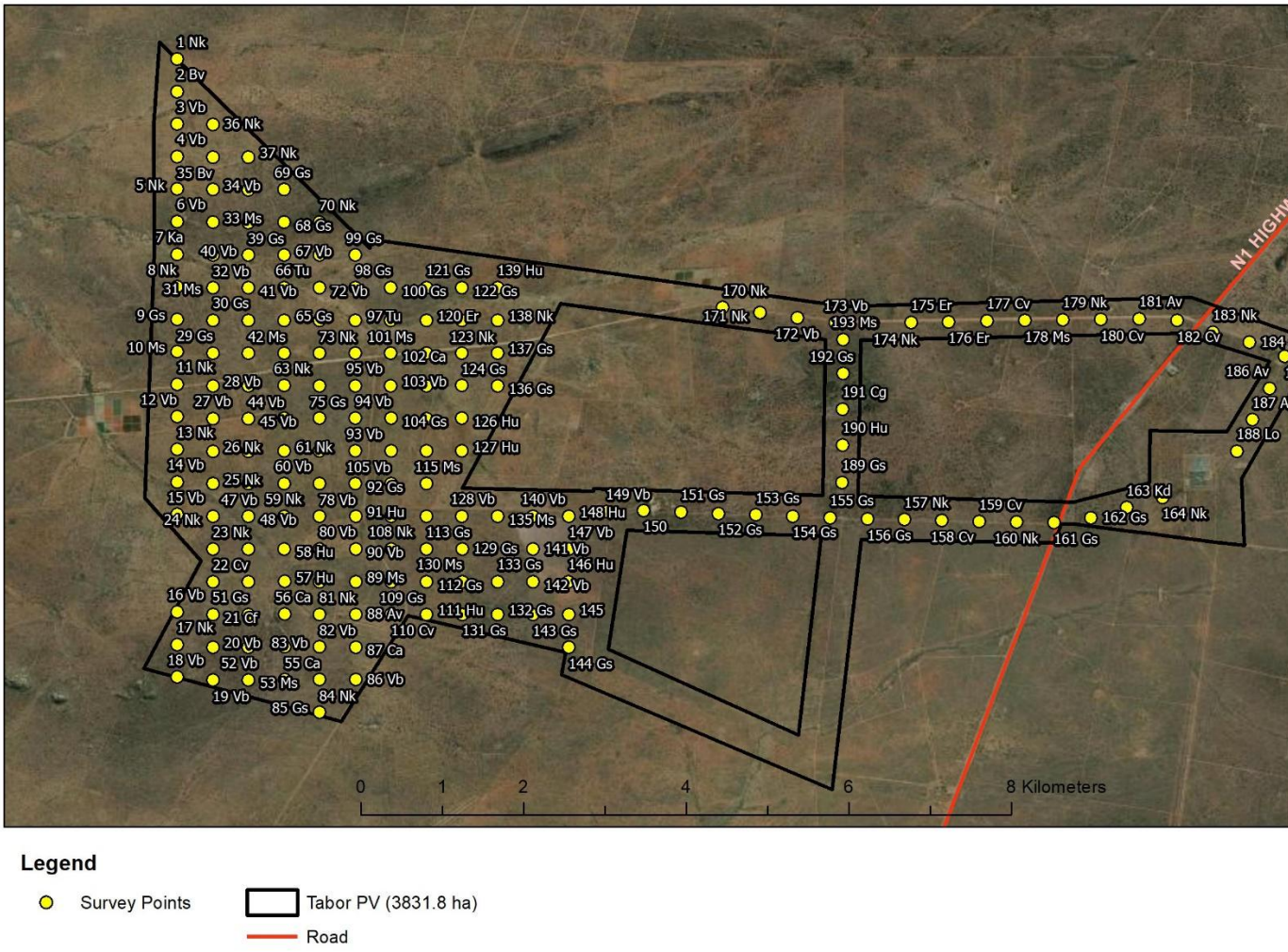

Figure 2: Survey points map of the site verification visit

. Photographic evidence of the soil properties and current land uses of the assessment area was collected at each survey point.

Site visit access was unavailable in two areas of the proposed grid connection corridors. However, the analysis of desktop data, in addition to the site data gathered, is considered sufficient to analyse the sensitivity of these areas.

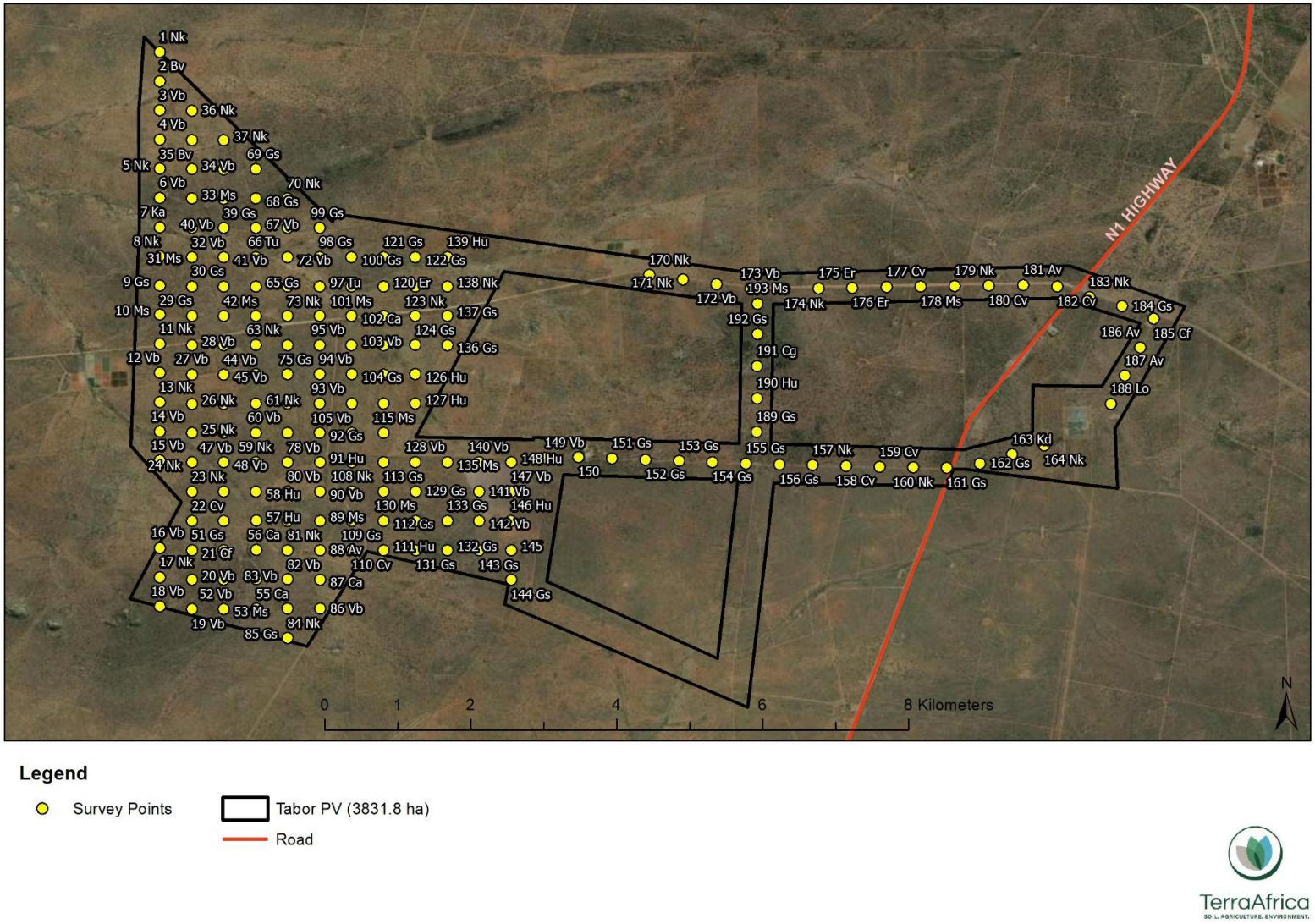

Figure 2: Survey points map of the site verification visit

4.2 Desktop analysis of data

The proposed development area was also superimposed on five different raster data sets for the desktop analysis of the proposed project area. The data sets are:

- Land type data was obtained from the Institute for Soil Climate and Water (ISCW) of the Agricultural Research Council (ARC) (Land Type Survey Staff, 1972 – 2006). The data is presented at a scale of 1:250 000 and entails dividing land into land types, presenting typical terrain cross sections for each type, and identifying dominant soil types for each identified terrain unit.
- The Refined Land Capability Evaluation Radar Data for South Africa was developed using a spatial evaluation modelling approach (DALRRD, 2016).
- The long-term grazing capacity for South Africa 2018 presents the long-term grazing capacity of an area assuming the veld is in relatively good condition (South Africa, 2018).
- The Limpopo Province Field Crop Boundaries show crop production areas may be present within the affected properties. The field crop boundaries include rainfed annual crops, non-pivot and pivot irrigated annual crops, horticulture, viticulture, old fields, small holdings, and subsistence farming (DALRRD, 2019).
- The Protected Agricultural Areas for Cultivation (Limpopo Province) (2019) show the areas within the province regarded as having high agricultural potential and capability to contribute to food production in both the province and the country (DALRRD, 2019).

5. Results

5.1 Soil forms

Seventeen different soil forms were classified within the study area. The Glenrosa and Mispah soil forms were grouped together for the soil map, since both these soil forms consist of shallow orthic topsoil that overlies solid rock or lithic material. The position of the soil forms within the study area, is shown in Figure 3.

The total area covered by this soil group is 1213.3 ha. Other dominant soil forms are Vaalbos (about 930.7 ha) and Nkonkoni (about 774.5 ha). Both the Vaalbos and Nkonkoni soil consist of orthic topsoil and red apedal subsoil. In the case of the Vaalbos soil, the red apedal subsoil is limited in depth by hard rock (either solid or fractured) while the Nkonkoni soil is limited in depth by lithic material. Other soil forms dominated by red apedal subsoil include that of the Bainsvlei (17 ha), Lichtenburg (14.4 ha) and Hutton (131.4 ha) forms.

There are also soil forms consisting of orthic topsoil with yellow-brown apedal subsoil that covers different depth-limiting materials. These soils are the Avalon form (73.6 ha), which has a soft plinthic horizon underneath; the Carolina form (64.6 ha), limited in depth by hard rock; the Clovelly form (127.7 ha), limited in depth by lithic material; and the Ermelo form (55.9 ha), which has no depth-limiting material shallower than 1.5 m.

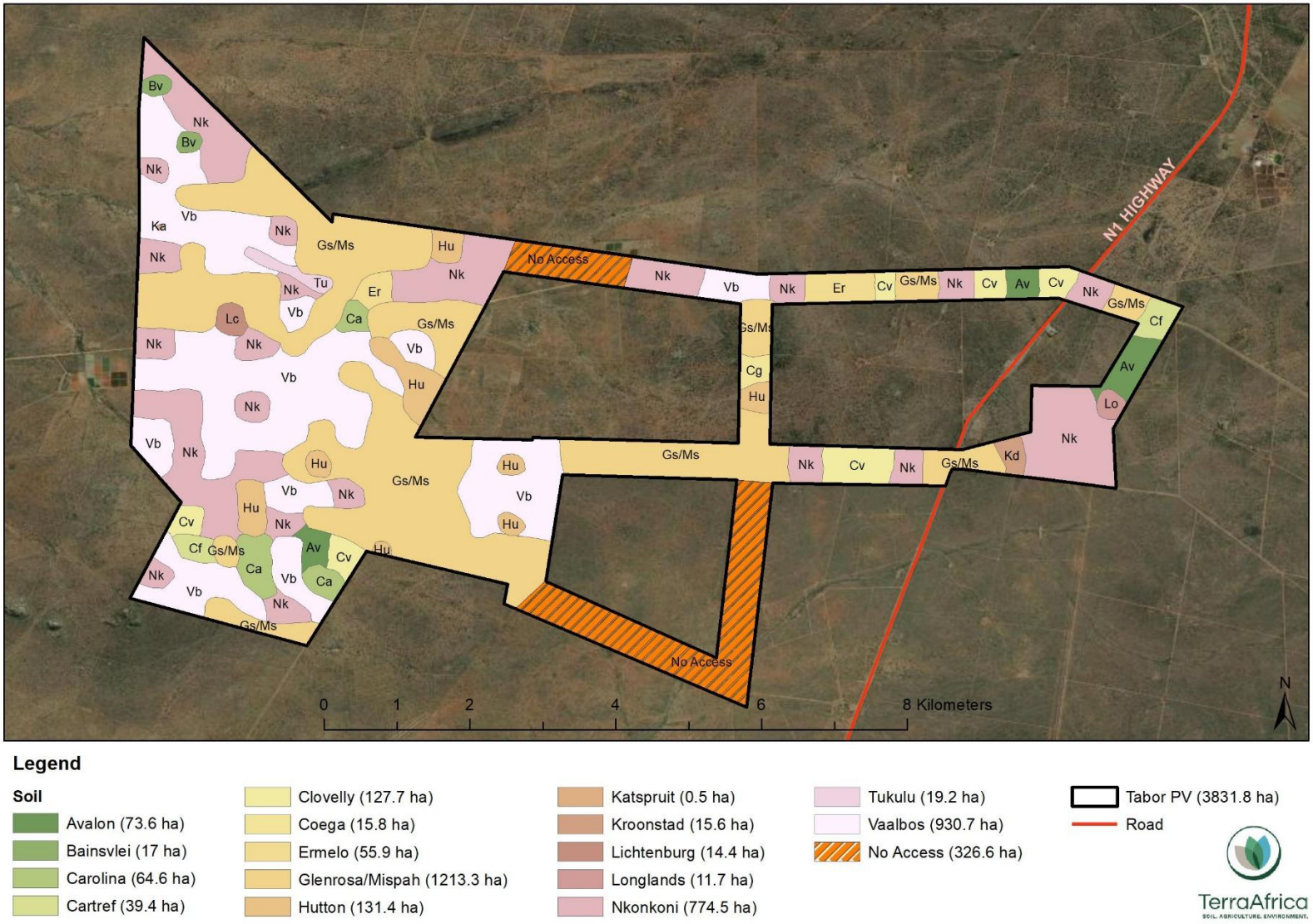

Figure 3: Soil classification map of the Tabor Solar Cluster project area

Other soil forms include two forms where orthic topsoil overlies bleached albic subsoil: the Cartref and the Longlands forms. The Cartref form is limited in depth by lithic material, and the Longlands form has soft plinthic material underneath the albic subsoil. There is also an area of 15.8 ha of Coega soil where orthic topsoil overlies a hard carbonate horizon. An area of 19.2 ha Tukulu soil consist of orthic topsoil, neocutanic subsoil that is limited in depth by gleyic materials.

Figure 4: Photographic evidence of shallow Glenrosa soil (200 mm deep) at Survey point 29

Figure 5: Example of Hutton soil profile at Survey point 190

5.2 Agricultural potential

The agricultural potential of the different soil forms was determined using expert knowledge of the soil forms present, their effective soil depth, water-holding capacity, and terrain capabilities. The soils within the Tabor Solar Cluster study area can either be classified as Moderate, Low-Moderate or Low agricultural potential. The total area with Low agricultural potential is about 2410.8 ha, the area with Low-Moderate agricultural potential about 762.7 ha and the area with Moderate agricultural potential is approximately 331.8 ha (refer to Figure 6).

The soil forms with Moderate agricultural potential are mostly present in the proposed grid corridors. These soil forms are Tukulu, Bainsvlei, Hutton, Avalon, Ermelo and Vaalbos soil deeper than 1000 mm. While all these soils are deeper than 1000mm, the hot, drier climate reduces the suitability of the soils for rainfed crop production. The soil with Low-Moderate agricultural potential is those of the Clovelly, Carolina, Lichtenburg forms and the Vaalbos and Nkonkoni soils between 600 and 1000 mm deep. The agricultural potential of these soils are lower than that of the soils with Moderate potential because of less effective soil depth.

The most significant part of the western part of the study area has Low agricultural potential: Cartref, Coega, Glenrosa/Mispah, Katspruit, Kroonstad and Longlands soil. The Cartref, Coega, Glenrosa and Mispah soil have very limited effective soil depth and therefore also limited water-holding capacity. The Katspruit, Kroonstad and Longlands soils have depth-limiting horizons at shallow depths that consist of soft plinthite and gley that retains moisture and can result in short periods of depleted oxygen in the profile, which are not suitable for crop roots.

Figure 6: Agricultural potential map of the Tabor study area

5.3 Land capability

Following the raster data of DALRRD (DALRRD, 2016), the proposed Tabor Solar Cluster study area consists mainly of land with Class 07 (Low-Moderate) land capability (Figure 7). There are small, scattered areas – almost in a pattern of diagonal lines in a northwest-southeasterly direction- consisting either of land with slightly lower land capability (Classes 05 and 06) or somewhat higher land capability (Class 08). The land capability classification of the study area largely agrees with the agricultural potential verified by the soil survey.

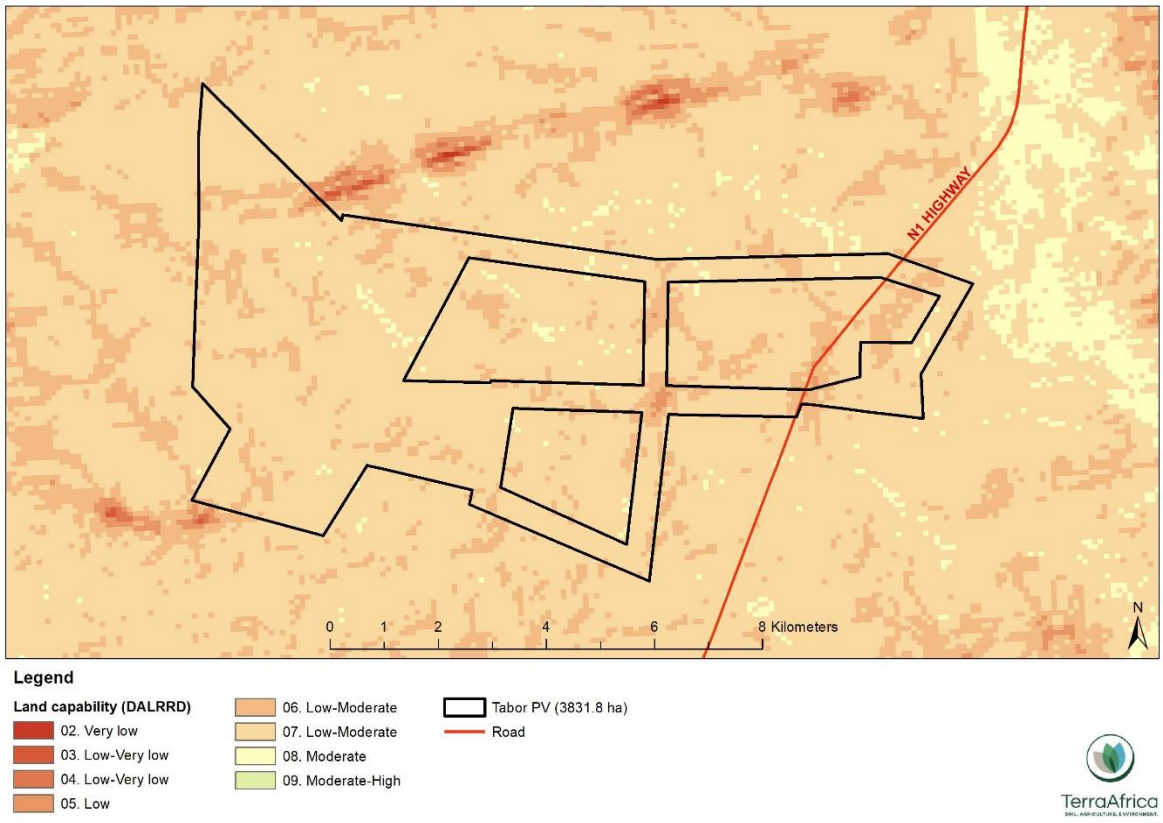

Figure 7: Land capability of the Tabor study area (DALRRD, 2016)

5.3 Agricultural land use

5.3.1 Crop production

The field crop boundary map (Figure 8) shows that old fields are present in the western half of the study area. It also shows a very small field of either rainfed grain crops or planted pasture in the far eastern grid connection corridor. However, during the site visit, it was confirmed that there is no rainfed crop production within the study area, and even if there were old fields, these are now covered in natural vegetation that is used for a combination of game and livestock farming. According to Figure 8, there is a centre pivot just west of the western boundary of the study area. Three clusters of centre pivots are located further away, to the northwest, the west and the southeast.

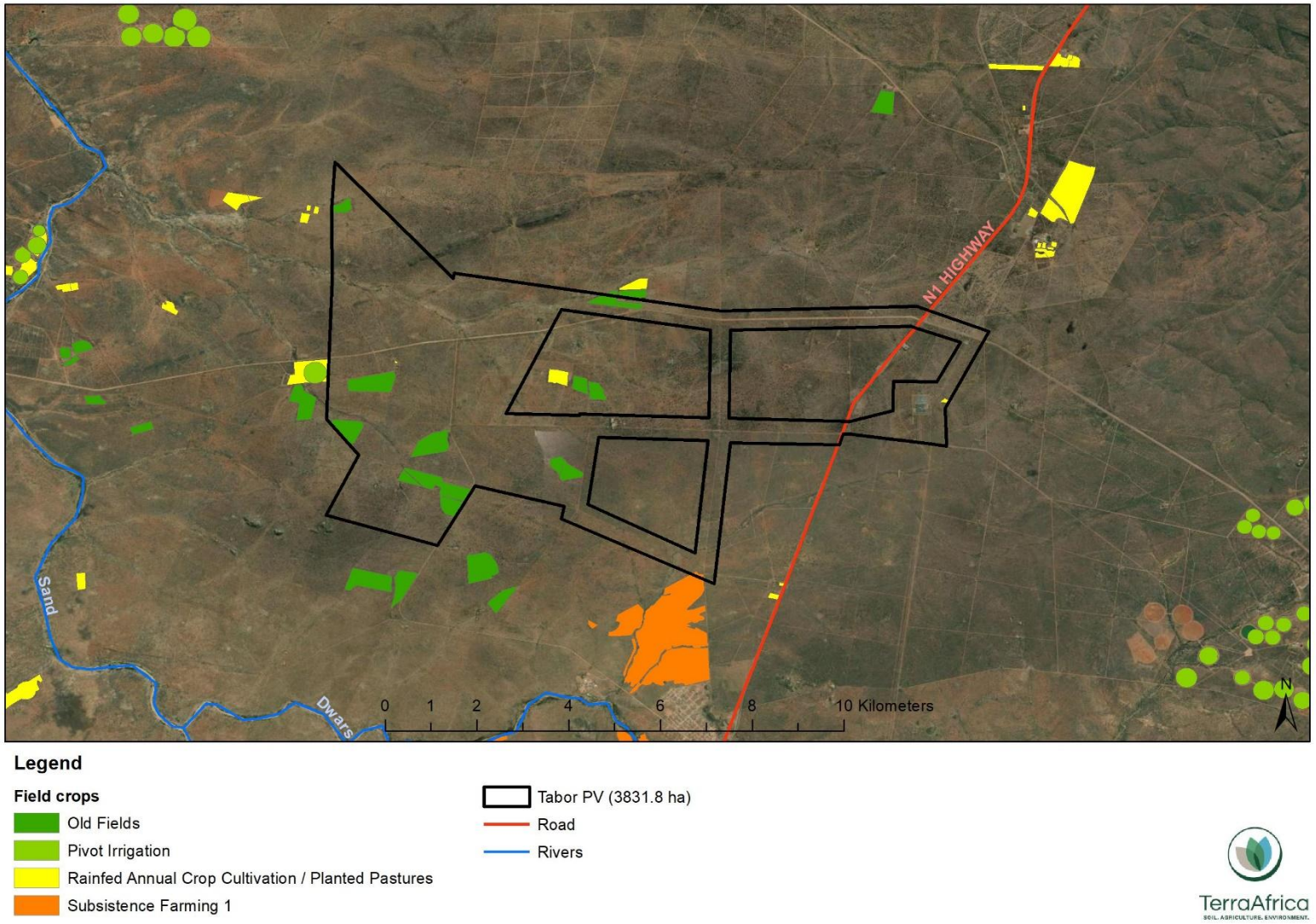

Figure 8: Field crop boundaries map of the Tabor study area (DALRRD, 2019)

5.3.2 Animal production

The entire study area is currently used for animal production, and a combination of game animals and livestock was observed during the site visit. Animal watering facilities are also present in the study area. Farm Portion 431 includes an accommodation facility called Makoppa Game Farm that hunters can use during the hunting season.

Following the metadata layer obtained from DALRRD, the grazing capacity of the affected properties is 9 ha/LSU (refer to Figure 9). However, it may be an overestimation of the area's grazing capacity as sparse vegetation in the area give an indication that less forage is available than indicated in the long-term grazing capacity of DALRRD (2018). It is not expected that the grid connection corridors will significantly impact the grazing capacity of the area and, thereby, livestock and game farming. However, the places where solar panels will be located will temporarily fence off areas that can otherwise be grazed. The impact of this, in forage available (ha/LSU) will only be determined during subsequent project phases (Scoping and EIA).

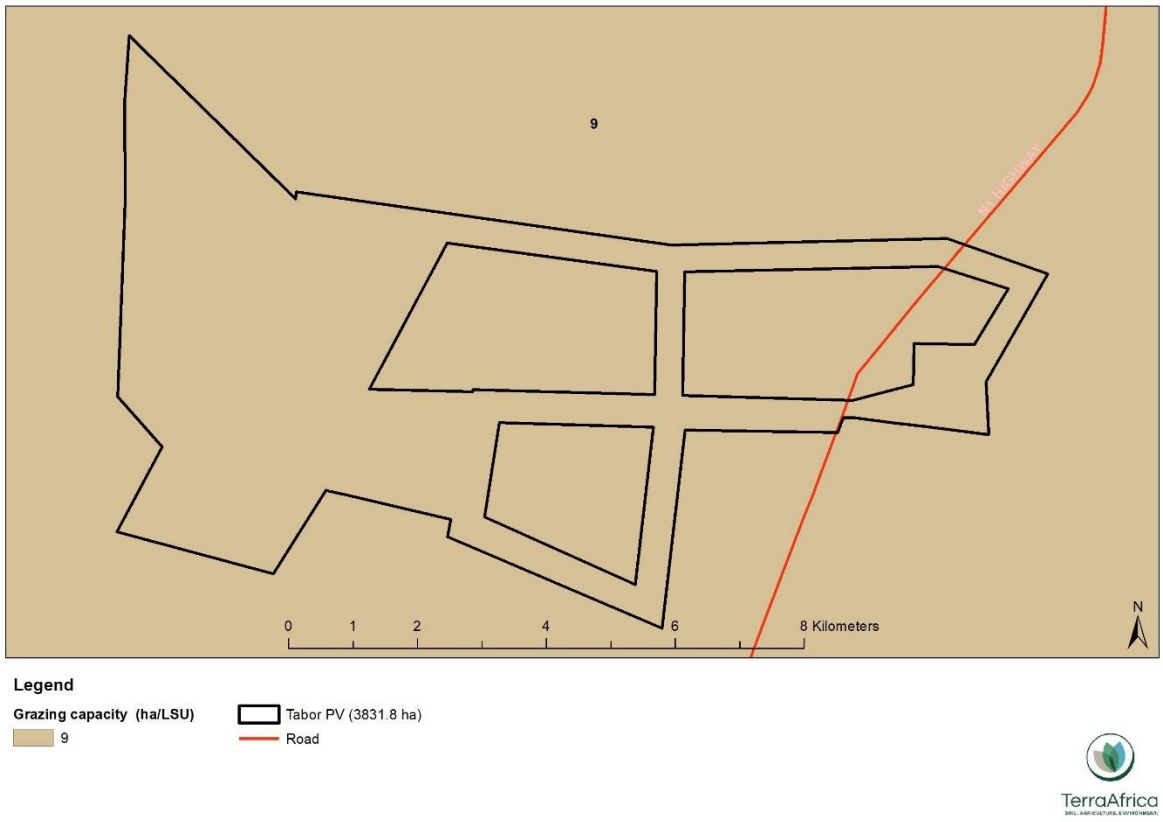

Figure 9: Grazing capacity of the Tabor Solar Cluster Area (DALRRD, 2018)

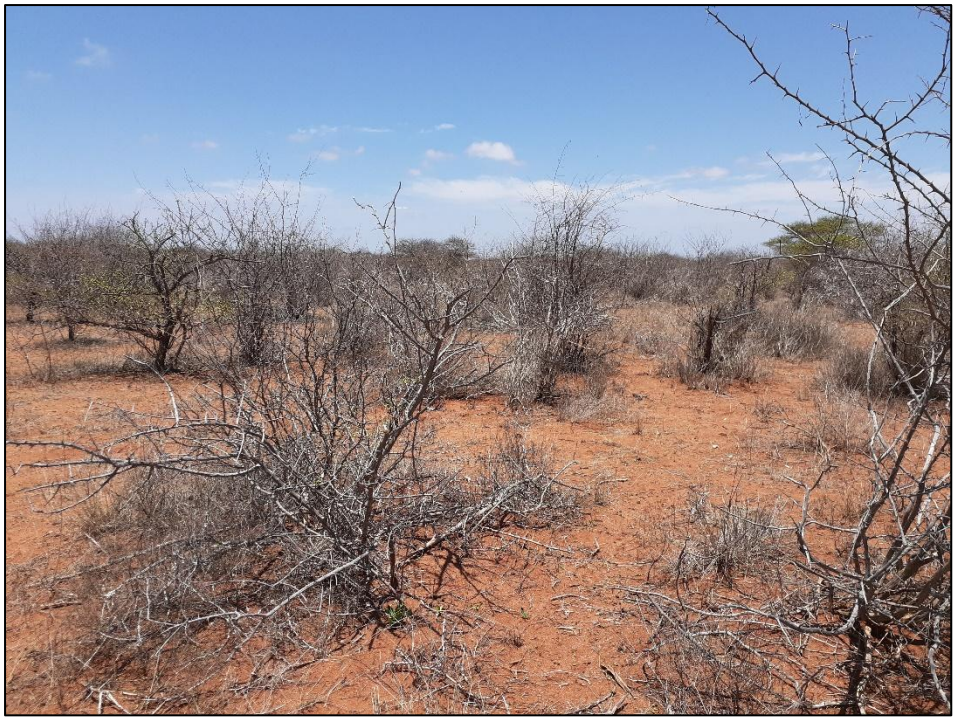

Figure 10: Example of the sparse vegetation cover in the study area

6. Agricultural sensitivity

6.1 Sensitivity according to the environmental screening tool

Cape EAPrac generated a screening report for the screening area considered for the PV developments on 2 May 2024 and one for the proposed grid connection corridor options on 8 August 2024. The agricultural sensitivity map of the PV screening area is shown in Figure 11 and the one for the grid connection corridor in Figure 12.

According to the screening tool, the Tabor Cluster PV screening area consists predominantly of land with Medium sensitivity. The Medium sensitivity was assigned because the land capability classification rates the area as having Low-Moderate (Class 07) land capability (DALRRD, 2016) (see Figure 7). A few scattered blocks within the area are rated as having High agricultural sensitivity. The high sensitivity was assigned to areas that have been marked as field crop boundaries because old fields likely existed here (DALRRD, 2019) (see Figure 8).

For the screening area considered for the grid connection options, a similar agricultural sensitivity is seen as for the PV area. Again, Medium sensitivity was assigned because the land capability classification rates the area as having Low-Moderate (Class 07) land capability (DALRRD, 2016) (see Figure 7). In the middle of the western part of the grid connection area, three blocks are shown as having High agricultural sensitivity because of old crop fields that may have existed here (DALRRD, 2019). A small block with Low agricultural sensitivity is shown near the southeastern corner of the area.

The areas around both the PV screening area as well as the grid connection area, consists mainly of land with Medium agricultural sensitivity. There are a few scattered blocks with High sensitivity around these areas that are associated with areas where crop production possibly occur. The areas where centre pivots are present further away, has been indicated as having Very High agricultural sensitivity.

6.2 Verified agricultural sensitivity

After considering the desktop data and site verification data, the screening areas have been assigned an agricultural sensitivity rating. The result is shown in Figure 13. The most significant part of the area assessed has Low agricultural sensitivity (3173.4 ha). The soils in this area has Low-Moderate and Low agricultural potential and is not suitable for crop production under rainfed conditions. There are no crop fields in these areas; the only land use is game and livestock farming. Soils with Moderate agricultural potential have been assigned Medium sensitivity because they are suitable for supporting vegetation for grazing but not highly suitable for crop production. The area with Medium agricultural sensitivity measures 331.8 ha. No areas with High agricultural sensitivity has been identified in either the PV area or the grid corridor area.

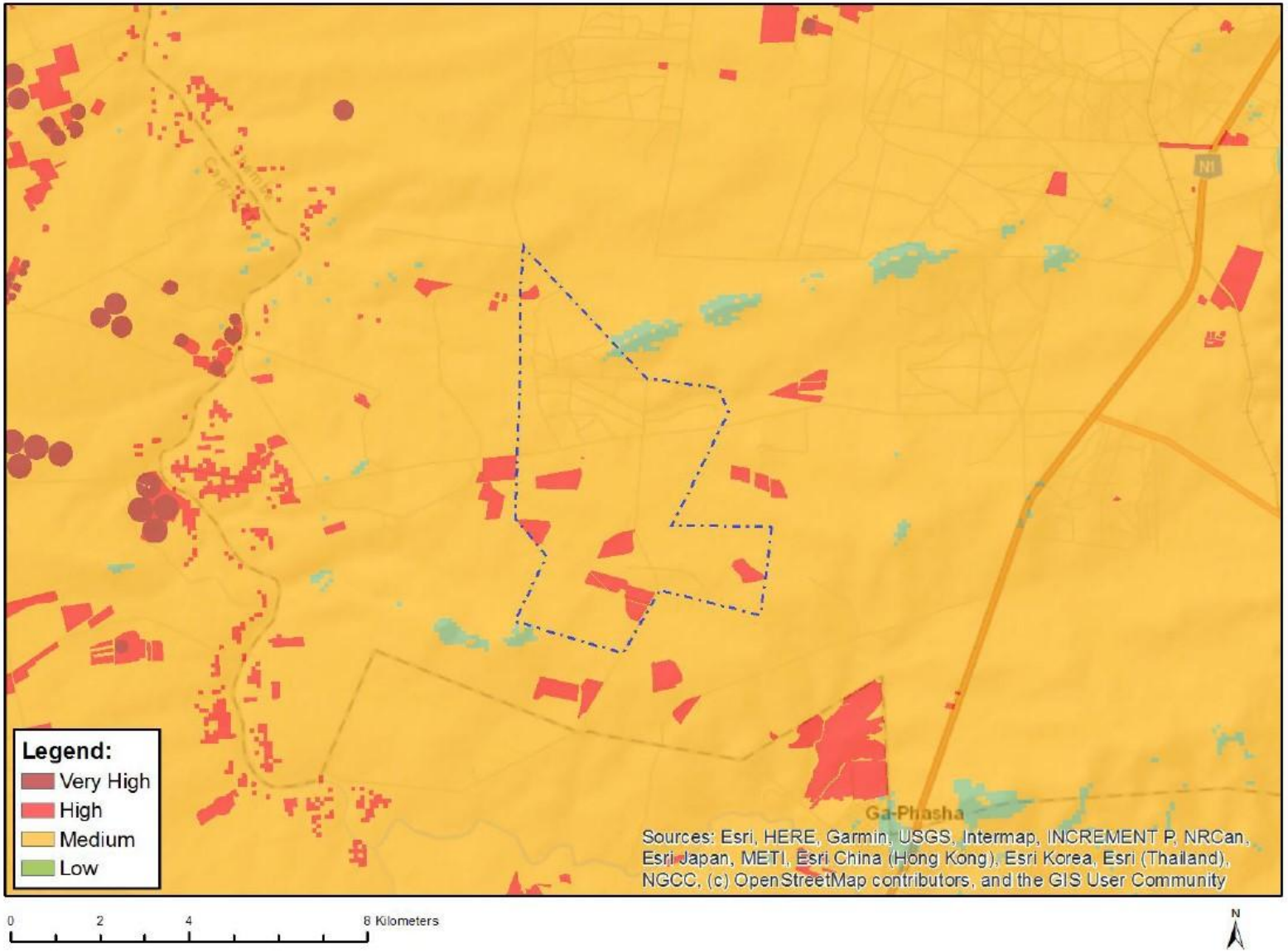

Figure 11: Map agricultural sensitivity of the Tabor Cluster PV screening area according to the screening report of the Environmental Screening Tool

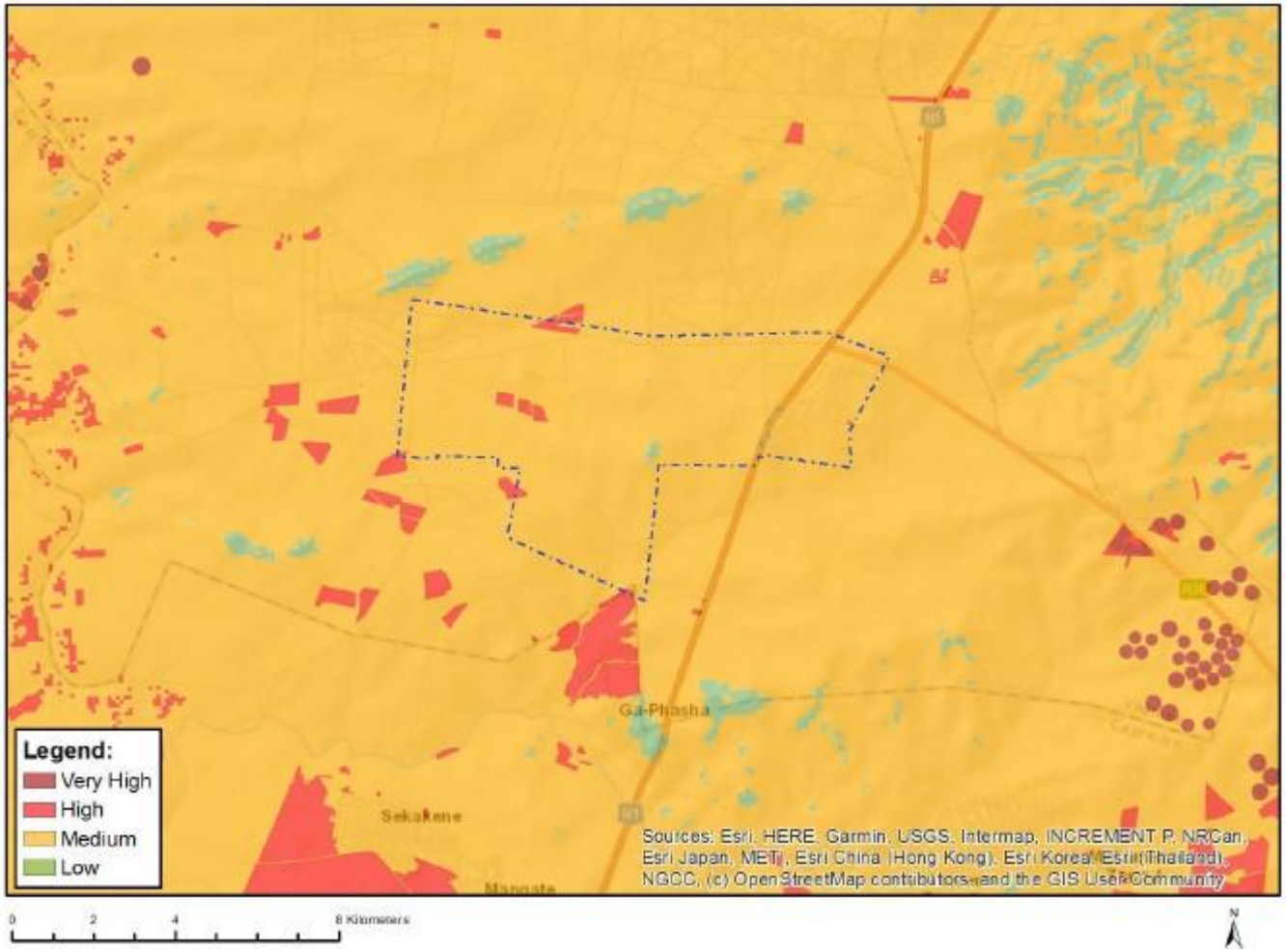

Figure 12: Map of the agricultural sensitivity of the Tabor Cluster grid connection area according to the screening report of the Environmental Screening Tool

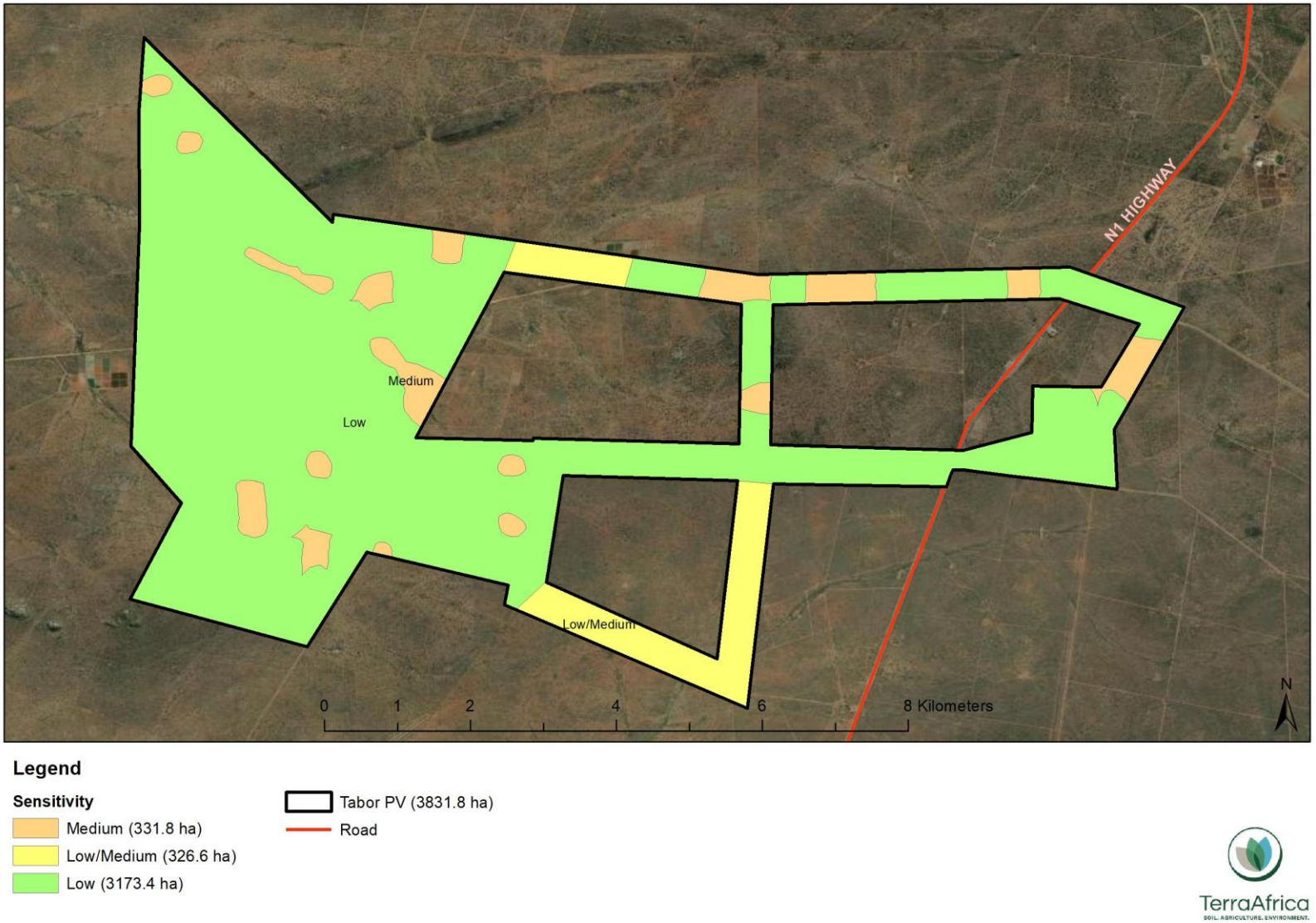

Figure 13: Verified agricultural sensitivity of the Tabor Solar Cluster area

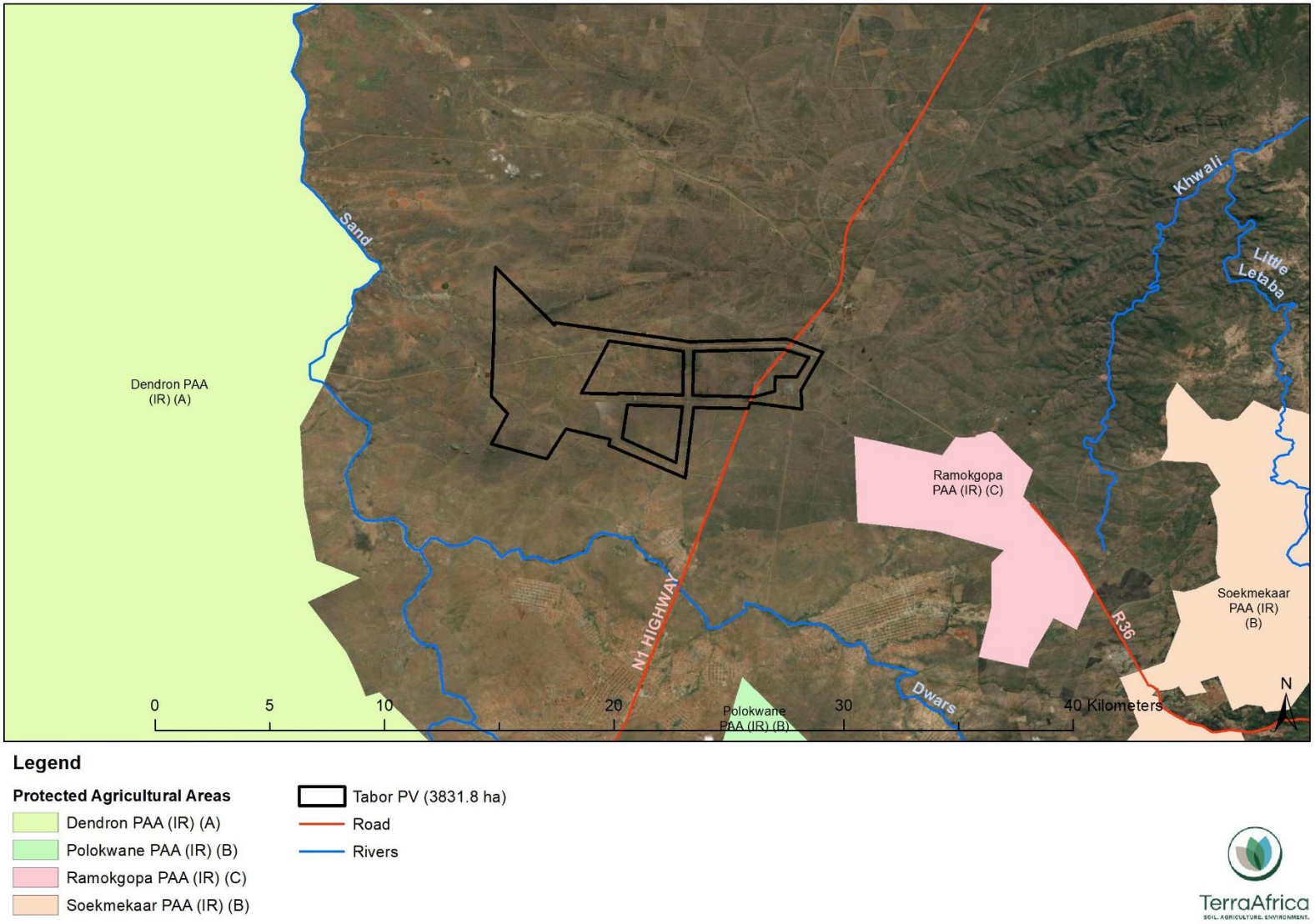

Figure 14: Protected Agricultural Areas around the Tabor Solar Cluster area

The areas without access during the site visit were assigned Low/Medium sensitivity. It is improbable that these areas will have High agricultural sensitivity because of the similar land capability rating assigned to this area and the absence of field crop boundaries here. The areas without access for the site visit are also considered for grid connection corridors. Therefore, it is possible to avoid any areas with High sensitivity should they become evident during the further phases of the project.

A further analysis of the potential agricultural sensitivity of an area is to determine whether it falls within a Protected Agricultural Area (PAA). The entire area of the Tabor Solar Cluster falls outside any delineated PAA (see Figure 14) and will, therefore, not infringe on an agro-ecosystem targeted for protection from other land uses. There are two areas delineated because the irrigated crop production in these areas; these are the Dendron PAA (located west of the Tabor Cluster) and Ramokgopa PAA (located east of the Tabor area).

7. Conclusion

Following the desktop analysis of available data, it is my professional opinion that the area screened for the proposed Tabor Solar Cluster development has Low and Medium agricultural sensitivity. A large portion of the proposed PV area consists of shallow soils with Low agricultural potential. While other areas have deeper soil, the hot, dry conditions of the area and the absence of irrigation water and infrastructure reduce the agricultural potential of these soils. Therefore, it can be considered for the development of the proposed infrastructure.

Since the entire area assessed consists of Low and Medium agricultural sensitivity, the projects can be considered for both Exclusion Norms. The Allowable Development Limits for each project can be calculated once the layout of each PV project is finalised.

8. Reference list

Crop Estimates Consortium, 2019. *Field crop boundary data layer (Limpopo province)*, 2019. Pretoria. Department of Agriculture, Land Reform and Rural Development.

Department of Agriculture, Land Reform and Rural Development, 2019. *High potential agricultural areas 2019 – Spatial data layer*, *Limpopo Province*, 2021. Pretoria.

Department of Agriculture, Land Reform and Rural Development, 2018. *Long-term grazing capacity for South Africa*: Data layer. Government Gazette Vol. 638, No. 41870. 31 August 2018. Regulation 10 of the Conservation of Agricultural Resources Act (CARA): Act 43 of 1983. Pretoria. Government Printing Works.

Department of Agriculture, Land Reform and Rural Development, 2016. *National land capability evaluation raster data: Land capability data layer*, 2016. Pretoria.

Land Type Survey Staff, 1972 – 2006. *Land Types of South Africa data set*. ARC – Institute for Soil, Climate and Water. Pretoria.

Appendix 1 – Survey points results of site verification visit

Survey point no.	Coordinates		Soil form[1]	Clay content (%)		Soil colour (Moist)		Effective depth (mm)	Depth-limiting material	Current land use
	Latitude	Longitude		A horizon	B horizon	A horizon	B horizon			
1	-23,328352	29,669744	Nkonkoni	12	16	2.5YR 3/3	2.5YR 3/4	300	Lithic	Grazing
2	-23,331945	29,669744	Bainsvlei	12	16	2.5YR 3/3	2.5YR 3/4	850	Lithic	Grazing
3	-23,335539	29,669744	Vaalbos	12	16	2.5YR 3/3	2.5YR 3/4	350	Hard Rock	Grazing
4	-23,339132	29,669744	Vaalbos	12	16	2.5YR 3/3	2.5YR 3/4	300	Hard Rock	Grazing
5	-23,342724	29,669744	Nkonkoni	12	16	2.5YR 3/3	2.5YR 3/4	300	Lithic	Grazing
6	-23,346317	29,669744	Vaalbos	12	16	2.5YR 3/3	2.5YR 3/4	300	Hard Rock	Grazing
7	-23,34991	29,669744	Katspruit	12	25	10YR 5/1	10YR 6/1	250	Gley	Grazing
8	-23,353503	29,669744	Nkonkoni	12	16	2.5YR 3/3	2.5YR 3/4	300	Saprolite	Grazing
9	-23,357096	29,669744	Glenrosa	12		2.5YR 3/3		200	Lithic	Grazing

[1] Soil form classification was done according to the latest version (Third Revised Edition) of the South African Soil Classification System (Soil Classification Working Group, 2018).

10	-23,360689	29,669744	Mispah	14		2.5YR 3/3		100	Hard Rock	Grazing
11	-23,364282	29,669744	Nkonkoni	12	16	2.5YR 3/3	2.5YR 3/4	300	Lithic	Grazing
12	-23,367875	29,669744	Vaalbos	12	16	2.5YR 3/3	2.5YR 3/4	300	Hard Rock	Grazing
13	-23,371468	29,669744	Nkonkoni	12	16	2.5YR 3/3	2.5YR 3/4	350	Lithic	Grazing
14	-23,375061	29,669744	Vaalbos	12	16	2.5YR 3/3	2.5YR 3/4	300	Hard Rock	Grazing
15	-23,378654	29,669744	Vaalbos	12	16	2.5YR 3/3	2.5YR 3/4	300	Hard Rock	Grazing
16	-23,389433	29,669744	Vaalbos	12	16	2.5YR 3/3	2.5YR 3/4	300	Hard Rock	Grazing
17	-23,393026	29,669744	Nkonkoni	12	16	2.5YR 3/3	2.5YR 3/4	350	Lithic	Grazing
18	-23,396619	29,669744	Vaalbos	12	16	2.5YR 3/3	2.5YR 3/4	300	Hard Rock	Grazing
19	-23,39694457	29,673721	Vaalbos	12	16	2.5YR 3/3	2.5YR 3/4	300	Hard Rock	Grazing
20	-23,39333386	29,673721	Vaalbos	12	16	2.5YR 3/3	2.5YR 3/4	350	Hard Rock	Grazing
21	-23,38972314	29,673721	Cartref	6	6	10YR 4/1	10YR 6/2	300	Lithic	Grazing
22	-23,38611243	29,673721	Clovelly	12	16	7.5YR 4/3	7.5YR 4/4	400	Lithic	Grazing
23	-23,38250171	29,673721	Nkonkoni	6	8	2.5YR 3/3	2.5YR 3/4	350	Lithic	Grazing
24	-23,378891	29,673721	Nkonkoni	12	16	2.5YR 3/3	2.5YR 3/4	400	Saprolite	Grazing

25	-23,37528029	29,673721	Nkonkoni	12	16	2.5YR 3/3	2.5YR 3/4	400	Lithic	Grazing
26	-23,37166957	29,673721	Nkonkoni	12	16	2.5YR 3/3	2.5YR 3/4	450	Saprolite	Grazing
27	-23,36805886	29,673721	Vaalbos	12	16	2.5YR 3/3	2.5YR 3/4	350	Hard Rock	Grazing
28	-23,36444814	29,673721	Vaalbos	12	16	2.5YR 3/3	2.5YR 3/4	350	Hard Rock	Grazing
29	-23,36083743	29,673721	Glenrosa	12		7.5YR 3/3		200	Lithic	Grazing
30	-23,35722671	29,673721	Glenrosa	12		2.5YR 3/3		200	Lithic	Grazing
31	-23,353616	29,673721	Mispah	12		2.5YR 3/3		100	Hard Rock	Grazing
32	-23,350006	29,673721	Vaalbos	12	16	2.5YR 3/3	2.5YR 3/4	350	Hard Rock	Grazing
33	-23,346395	29,673714	Mispah	15		2.5YR 3/3		150	Hard Rock	Grazing
34	-23,342783	29,673708	Vaalbos	12	16	2.5YR 3/3	2.5YR 3/4	350	Hard Rock	Grazing
35	-23,339172	29,673714	Bainsvlei	12	16	2.5YR 3/3	2.5YR 3/4	900	Lithic	Grazing
36	-23,335562	29,673708	Nkonkoni	12	16	2.5YR 3/3	2.5YR 3/4	450	Lithic	Grazing
37	-23,339182	29,677639	Nkonkoni	12	16	2.5YR 3/3	2.5YR 3/4	450	Lithic	Grazing
38	-23,342794	29,677639	Nkonkoni	6	8	2.5YR 3/3	2.5YR 3/4	500	Lithic	Grazing
39	-23,346401	29,677649	Glenrosa	12		2.5YR 3/3		200	Lithic	Grazing

40	-23,350008	29,677639	Vaalbos	12	16	2.5YR 3/3	2.5YR 3/4	350	Hard Rock	Grazing
41	-23,353619	29,677649	Vaalbos	12	16	2.5YR 3/3	2.5YR 3/4	350	Hard Rock	Grazing
42	-23,35722833	29,677649	Mispah	12		7.5YR 3/3		200	Hard Rock	Grazing
43	-23,36083762	29,677649	Lichtenburg	12	16	2.5YR 3/3	2.5YR 3/4	900	Hard Plinthic	Grazing
44	-23,3644469	29,677649	Vaalbos	12	16	2.5YR 3/3	2.5YR 3/4	350	Hard Rock	Grazing
45	-23,36805619	29,677649	Vaalbos	12	16	2.5YR 3/3	2.5YR 3/4	350	Hard Rock	Grazing
46	-23,37166548	29,677649	Vaalbos	12	16	2.5YR 3/3	2.5YR 3/4	350	Hard Rock	Grazing
47	-23,37527476	29,677649	Vaalbos	12	16	2.5YR 3/3	2.5YR 3/4	350	Hard Rock	Grazing
48	-23,37888405	29,677649	Vaalbos	12	15	2.5YR 3/3	2.5YR 3/4	350	Hard Rock	Grazing
49	-23,38249333	29,677649	Nkonkoni	12	16	2.5YR 3/3	2.5YR 3/4	500	Lithic	Grazing
50	-23,38610262	29,677649	Nkonkoni	12	16	2.5YR 3/3	2.5YR 3/4	500	Lithic	Grazing
51	-23,3897119	29,677649	Glenrosa	12		2.5YR 3/3		200	Lithic	Grazing
52	-23,39332119	29,677649	Vaalbos	12	15	2.5YR 3/3	2.5YR 3/4	350	Hard Rock	Grazing
53	-23,39693048	29,677649	Mispah	12		2.5YR 3/3		200	Hard Rock	Grazing
54	-23,3968951	29,68163562	Vaalbos	12	16	2.5YR 3/3	2.5YR 3/4	400	Hard Rock	Grazing

55	-23,3932876	29,68163128	Carolina	12	16	7.5YR 4/3	7.5YR 4/4	500	Hard Rock	Grazing
56	-23,3896801	29,68162693	Carolina	12	16	7.5YR 4/3	7.5YR 4/4	550	Hard Rock	Grazing
57	-23,3860726	29,68162259	Hutton	12	16	2.5YR 3/3	2.5YR 3/4	1200		Grazing
58	-23,3824651	29,68162	Hutton	12	16	2.5YR 3/3	2.5YR 3/4	1200		Grazing
59	-23,37886	29,6816139	Nkonkoni	12	16	2.5YR 3/3	2.5YR 3/4	500	Lithic	Grazing
60	-23,3752501	29,68160956	Vaalbos	12	16	2.5YR 3/3	2.5YR 3/4	400	Hard Rock	Grazing
61	-23,3716426	29,68160522	Nkonkoni	12	16	2.5YR 3/3	2.5YR 3/4	500	Lithic	Grazing
62	-23,3680351	29,68160088	Vaalbos	12	16	2.5YR 3/3	2.5YR 3/4	450	Hard Rock	Grazing
63	-23,3644276	29,68159653	Nkonkoni	12	16	2.5YR 3/3	2.5YR 3/4	500	Lithic	Grazing
64	-23,3608201	29,681591	Glenrosa	12		2.5YR 3/3		200	Lithic	Grazing
65	-23,357212	29,681591	Glenrosa	22		7.5YR 3/3		200	Lithic	Grazing
66	-23,353605	29,681581	Tukulu	15	22	10YR 4/2	10YR 3/4	900	Gleyic	Grazing
67	-23,349998	29,681581	Vaalbos	12	16	2.5YR 3/3	2.5YR 3/4	450	Hard Rock	Grazing
68	-23,346392	29,681572	Glenrosa	14		2.5YR 3/3		250	Lithic	Grazing
69	-23,342781	29,681572	Glenrosa	12		7.5YR 3/3		250	Lithic	Grazing

70	-23,346388	29,685505	Nkonkoni	12	16	2.5YR 3/3	2.5YR 3/4	500	Lithic	Grazing
71	-23,349993	29,685514	Nkonkoni	12	16	2.5YR 3/3	2.5YR 3/4	550	Lithic	Grazing
72	-23,3536	29,685505	Vaalbos	12	16	2.5YR 3/3	2.5YR 3/4	450	Hard Rock	Grazing
73	-23,35721	29,68551	Nkonkoni	12	16	2.5YR 3/3	2.5YR 3/4	550	Lithic	Grazing
74	-23,360819	29,685507	Vaalbos	12	16	2.5YR 3/3	2.5YR 3/4	500	Hard Rock	Grazing
75	-23,364431	29,685514	Glenrosa	12		7.5YR 3/3		250	Lithic	Grazing
76	-23,3680391	29,685514	Vaalbos	12	16	2.5YR 3/3	2.5YR 3/4	500	Hard Rock	Grazing
77	-23,3716486	29,685514	Vaalbos	12	16	2.5YR 3/3	2.5YR 3/4	500	Hard Rock	Grazing
78	-23,3752581	29,685514	Vaalbos	12	16	2.5YR 3/3	2.5YR 3/4	500	Hard Rock	Grazing
79	-23,3788676	29,685514	Mispah	12		2.5YR 3/3		250	Hard Rock	Grazing
80	-23,3824771	29,685514	Vaalbos	12	16	2.5YR 3/3	2.5YR 3/4	550	Hard Rock	Grazing
81	-23,3860866	29,685514	Nkonkoni	12	16	2.5YR 3/3	2.5YR 3/4	550	Lithic	Grazing
82	-23,3896961	29,685514	Vaalbos	12	16	2.5YR 3/3	2.5YR 3/4	550	Hard Rock	Grazing
83	-23,3933056	29,685514	Vaalbos	12	16	2.5YR 3/3	2.5YR 3/4	550	Hard Rock	Grazing
84	-23,3969151	29,685514	Nkonkoni	12	16	2.5YR 3/3	2.5YR 3/4	550	Lithic	Grazing

85	-23,4005246	29,685514	Glenrosa	6		2.5YR 3/3		250	Lithic	Grazing
86	-23,396925	29,68949	Vaalbos	12	16	2.5YR 3/3	2.5YR 3/4	550	Hard Rock	Grazing
87	-23,393315	29,68949	Carolina	6	8	7.5YR 4/3	7.5YR 4/4	900	Hard Rock	Grazing
88	-23,389705	29,68949	Avalon	14	18	7.5YR 4/3	7.5YR 4/4	750	Lithic	Grazing
89	-23,386095	29,68949	Mispah	12		2.5YR 3/3		250	Hard Rock	Grazing
90	-23,382485	29,68949	Vaalbos	12	16	2.5YR 3/3	2.5YR 3/4	600	Hard Rock	Grazing
91	-23,378875	29,68949	Hutton	12	16	2.5YR 3/3	2.5YR 3/4	1200		Grazing
92	-23,375265	29,68948	Glenrosa	6		7.5YR 3/3		250	Lithic	Grazing
93	-23,371655	29,68948	Vaalbos	12	16	2.5YR 3/3	2.5YR 3/4	600	Hard Rock	Grazing
94	-23,368046	29,68948	Vaalbos	12	16	2.5YR 3/3	2.5YR 3/4	600	Hard Rock	Grazing
95	-23,364437	29,689474	Vaalbos	12	16	2.5YR 3/3	2.5YR 3/4	600	Hard Rock	Grazing
96	-23,360826	29,689466	Glenrosa	12		7.5YR 3/3		250	Lithic	Grazing
97	-23,357216	29,689459	Tukulu	18	24	10YR 4/2	10YR 3/4	1200		Grazing
98	-23,353605	29,689453	Glenrosa	12		7.5YR 3/3		250	Lithic	Grazing
99	-23,349995	29,689444	Glenrosa	6		2.5YR 3/3		250	Lithic	Grazing

100	-23,353609	29,693371	Glenrosa	12		7.5YR 3/3		250	Lithic	Grazing
101	-23,357224	29,693377	Mispah	12		2.5YR 3/3		250	Hard Rock	Grazing
102	-23,360826	29,693377	Carolina	12	16	7.5YR 4/3	7.5YR 4/4	900	Hard Rock	Grazing
103	-23,364433	29,693384	Vaalbos	12	16	2.5YR 3/3	2.5YR 3/4	650	Hard Rock	Grazing
104	-23,368044	29,693419	Glenrosa	12		2.5YR 3/3		250	Lithic	Grazing
105	-23,371651	29,693411	Vaalbos	12	16	2.5YR 3/3	2.5YR 3/4	700	Hard Rock	Grazing
106	-23,375259	29,693419	Vaalbos	12	16	2.5YR 3/3	2.5YR 3/4	700	Hard Rock	Grazing
107	-23,37886771	29,693419	Glenrosa	12		2.5YR 3/3		250	Lithic	Grazing
108	-23,38247593	29,693419	Nkonkoni	12	16	2.5YR 3/3	2.5YR 3/4	600	Lithic	Grazing
109	-23,38608414	29,693419	Glenrosa	12		2.5YR 3/3		250	Lithic	Grazing
110	-23,38969236	29,693419	Clovelly	12	16	7.5YR 4/3	7.5YR 4/4	450	Lithic	Grazing
111	-23,389719	29,69734	Hutton	12	16	2.5YR 3/3	2.5YR 3/4	1200		Grazing
112	-23,386108	29,69734	Glenrosa	12		2.5YR 3/3		250	Lithic	Grazing
113	-23,382497	29,69734	Glenrosa	12		2.5YR 3/3		250	Lithic	Grazing
114	-23,378886	29,69734	Mispah	12		2.5YR 3/3		250	Hard Rock	Grazing

115	-23,375275	29,697329	Mispah	12		2.5YR 3/3		250	Hard Rock	Grazing
116	-23,371662	29,697329	Mispah	12		2.5YR 3/3		250	Hard Rock	Grazing
117	-23,368052	29,697323	Vaalbos	12	16	2.5YR 3/3	2.5YR 3/4	750	Hard Rock	Grazing
118	-23,364439	29,697315	Hutton	12	16	2.5YR 3/3	2.5YR 3/4	1200		Grazing
119	-23,360828	29,697309	Glenrosa	12		2.5YR 3/3		250	Lithic	Grazing
120	-23,35722	29,697309	Ermelo	12	16	7.5YR 4/3	7.5YR 4/4	1200		Grazing
121	-23,353609	29,697309	Glenrosa	12		2.5YR 3/3		250	Lithic	Grazing
122	-23,353598	29,701244	Glenrosa	12		2.5YR 3/3		250	Lithic	Grazing
123	-23,357208	29,701239	Nkonkoni	12	16	2.5YR 3/3	2.5YR 3/4	600	Lithic	Grazing
124	-23,360819	29,701244	Glenrosa	12		2.5YR 3/3		250	Lithic	Grazing
125	-23,364428	29,70125	Vaalbos	12	16	2.5YR 3/3	2.5YR 3/4	800	Hard Rock	Grazing
126	-23,368042	29,70125	Hutton	6	11	2.5YR 3/3	2.5YR 3/4	1200		Grazing
127	-23,371648	29,7012523	Hutton	12	16	2.5YR 3/3	2.5YR 3/4	1200		Grazing
128	-23,378868	29,7012569	Vaalbos	12	16	2.5YR 3/3	2.5YR 3/4	800	Hard Rock	Grazing
129	-23,382478	29,7012592	Glenrosa	12		2.5YR 3/3		250	Lithic	Grazing

130	-23,386088	29,7012615	Mispah	12		2.5YR 3/3		250	Hard Rock	Grazing
131	-23,389698	29,7012638	Glenrosa	12		2.5YR 3/3		250	Lithic	Grazing
132	-23,389698	29,705168	Glenrosa	12		7.5YR 3/3		250	Lithic	Grazing
133	-23,386088	29,705168	Glenrosa	12		2.5YR 3/3		250	Lithic	Grazing
135	-23,378868	29,705168	Mispah	12		2.5YR 3/3		250	Hard Rock	Grazing
136	-23,364431	29,705164	Glenrosa	12		2.5YR 3/3		250	Lithic	Grazing
137	-23,360823	29,705173	Glenrosa	12		7.5YR 3/3		250	Lithic	Grazing
138	-23,357208	29,705168	Nkonkoni	12	16	2.5YR 3/3	2.5YR 3/4	600	Saprolite	Grazing
139	-23,353598	29,705173	Hutton	12	16	2.5YR 3/3	2.5YR 3/4	1200		Grazing
140	-23,378874	29,709095	Vaalbos	12	16	2.5YR 3/3	2.5YR 3/4	900	Hard Rock	Grazing
141	-23,382483	29,709095	Vaalbos	12	16	2.5YR 3/3	2.5YR 3/4	900	Hard Rock	Grazing
142	-23,386095	29,709101	Vaalbos	6	11	2.5YR 3/3	2.5YR 3/4	900	Hard Rock	Grazing
143	-23,389709	29,709095	Glenrosa	12		2.5YR 3/3		250	Lithic	Grazing
144	-23,393324	29,713034	Glenrosa	12		2.5YR 3/3		250	Lithic	Grazing
145	-23,389715	29,71303	Rock	0				0		Grazing

146	-23,386103	29,713024	Hutton	12	16	2.5YR 3/3	2.5YR 3/4	1200		Grazing
147	-23,382494	29,71303	Vaalbos	12	16	2.5YR 3/3	2.5YR 3/4	900	Hard Rock	Grazing
148	-23,378878	29,71303	Hutton	12	16	2.5YR 3/3	2.5YR 3/4	1200		Grazing
149	-23,378344	29,7172	Vaalbos	12	16	2.5YR 3/3	2.5YR 3/4	950	Hard Rock	Grazing
150	-23,37822	29,72134	Rock	0				0		Grazing
151	-23,378383	29,725458	Glenrosa	12		7.5YR 3/3		250	Lithic	Grazing
152	-23,378555	29,729583	Glenrosa	12		2.5YR 3/3		250	Lithic	Grazing
153	-23,378721	29,733707	Glenrosa	12		2.5YR 3/3		250	Lithic	Grazing
154	-23,378847	29,737816	Glenrosa	12		7.5YR 3/3		250	Lithic	Grazing
155	-23,379021	29,741934	Glenrosa	12		7.5YR 3/3		250	Lithic	Grazing
156	-23,379149	29,746056	Glenrosa	12		2.5YR 3/3		250	Lithic	Grazing
157	-23,379236	29,750166	Nkonkoni	12	16	2.5YR 3/3	2.5YR 3/4	600	Lithic	Grazing
158	-23,379353	29,754305	Clovelly	15	20	7.5YR 4/3	7.5YR 4/4	600	Lithic	Grazing
159	-23,379462	29,758413	Clovelly	16	22	7.5YR 4/3	7.5YR 4/4	650	Lithic	Grazing
160	-23,379529	29,762536	Nkonkoni	12	16	2.5YR 3/3	2.5YR 3/4	600	Lithic	Grazing

161	-23,37957	29,766695	Glenrosa	12		2.5YR 3/3		250	Lithic	Grazing
162	-23,379022	29,770779	Glenrosa	16		2.5YR 3/3		250	Lithic	Grazing
163	-23,377922	29,774742	Kroonstad	10	12	7.5YR 3/3	10YR 6/2	550	Gley	Grazing
164	-23,376778	29,778694	Nkonkoni	12	16	2.5YR 3/3	2.5YR 3/4	600	Lithic	Grazing
170	-23,355805	29,73005	Nkonkoni	12	16	2.5YR 3/3	2.5YR 3/4	600	Lithic	Grazing
171	-23,356351	29,734185	Nkonkoni	12	16	2.5YR 3/3	2.5YR 3/4	600	Lithic	Grazing
172	-23,356911	29,738323	Vaalbos	12	16	2.5YR 3/3	2.5YR 3/4	1000	Hard Rock	Grazing
173	-23,357475	29,742488	Vaalbos	12	16	2.5YR 3/3	2.5YR 3/4	1000	Hard Rock	Grazing
174	-23,357526	29,746702	Nkonkoni	12	16	2.5YR 3/3	2.5YR 3/4	600	Lithic	Grazing
175	-23,357428	29,750884	Ermelo	12	16	7.5YR 4/3	7.5YR 4/4	1200		Grazing
176	-23,357369	29,755056	Ermelo	12	16	7.5YR 4/3	7.5YR 4/4	1200		Grazing
177	-23,357282	29,759263	Clovelly	12	16	7.5YR 4/3	7.5YR 4/4	700	Lithic	Grazing
178	-23,357249	29,763493	Mispah	12		2.5YR 3/3		250	Hard Rock	Grazing
179	-23,357151	r	Nkonkoni	16	22	2.5YR 3/3	2.5YR 3/4	600	Lithic	Grazing
180	-23,357125	29,771866	Clovelly	12	16	7.5YR 4/3	7.5YR 4/4	800	Lithic	Grazing

181	-23,357052	29,776098	Avalon	18	26	7.5YR 4/3	7.5YR 4/4	750	Lithic	Grazing
182	-23,357252	29,780292	Clovelly	12	16	7.5YR 4/3	7.5YR 4/4	850	Lithic	Grazing
183	-23,358544	29,78426	Nkonkoni	12	16	2.5YR 3/3	2.5YR 3/4	650	Lithic	Grazing
184	-23,359659	29,788278	Glenrosa	22		7.5YR 3/3		250	Lithic	Grazing
185	-23,361181	29,792191	Cartref	18	24	7.5YR 3/3	10YR 6/2	300	Lithic	Grazing
186	-23,364745	29,790519	Avalon	18	26	7.5YR 4/3	7.5YR 4/4	800	Lithic	Grazing
187	-23,368197	29,788596	Avalon	12	16	7.5YR 4/3	7.5YR 4/4	900	Hard Rock	Grazing
188	-23,371691	29,786879	Longlands	12	14	7.5YR 3/3	10YR 6/2	750	Lithic	Grazing
189	-23,375136	29,743243	Glenrosa	12		7.5YR 3/3		250	Lithic	Grazing
190	-23,370991	29,743293	Hutton	13	17	2.5YR 3/3	2.5YR 3/4	1200		Grazing
191	-23,367036	29,743312	Coega	12		7.5YR 3/3		250	Hard Carbonate	Grazing
192	-23,363085	29,743359	Glenrosa	12		2.5YR 3/3		250	Lithic	Grazing
193	-23,359324	29,743363	Mispah	12		7.5YR 3/3		250	Hard Rock	Grazing