SITE SENSITIVITY VERIFICATION REPORT

For Upgrading and Developing an Access Road to the Sun Central Cluster 1 Solar Photovoltaic Facility

SolarAfrica Energy (Pty) Ltd

No. 3 Generaal Street, Machadodorp (eNtokozweni), 1170,
PO Box 516, Machadodorp, 1170, www.ecoleges.co.za

Applicant:
David John MacDonald (CEO)
SolarAfrica Energy (Pty) Ltd

49 Via Salara, Irene Corporate Corner,
Nellmapius Dr, Irene Farm Villages,
Centurion, 0133, South Africa
Tel: +27 (0)12 881 4800
Cell: +27 (0)72 429 9890
Email: david@soventix.com
Web: solarafrica.com

Attention: Chief Director: Integrated Environmental Authorisations

Northern Cape Department of Environment and Nature Conservation
90 Long Street,
Kimberley,
8300

March 8, 2023

SITE SENSITIVITY VERIFICATION REPORT

Executive Summary

A site sensitivity verification was undertaken as per EIA Regulations, 2014 as amended for the "Upgrading & Development of an Access Road from the N10/'Burgerville' District Road (2448) Turn-Off into the Farm Riet Fountain No. 39C and to the Switching Station and Main Transmission Substation on Sun Central Cluster 1 (300 MW) Solar PV Facility between De Aar & Hanover, Emthanjeni Local Municipality, Pixley Ka Seme District Municipality, Northern Cape Province, South Africa."

The Site Sensitivity Verification entailed a desktop analysis, using satellite imagery such as Google Earth, and a preliminary site inspection on the 23rd and 24th November 2022.

The proposed access road comprises three sections:

(1) Upgrading the **public** 'Burgerville' District Road (2448) from its intersection with the N10 to the boundary of Farm Riet Fountain No. 39C,

(2) Upgrading **private** farm tracks from the boundary of Farm Riet Fountain No. 39C to the fence line of Sun Central Cluster 1 (300 MW) Solar PV Facility, and then

(3) Developing a new road along the outer perimeter of the solar facility to the Switching Station and Main Transmission Substation.

The portion of new road is required for unrestricted Eskom access to both substations, without traversing the fenced Sun Central Cluster 1 development footprint. As such, the full length of the access road will be upgraded and developed according to the applicable Eskom specifications for extra heavy loads, and the TRH 26 South African Road Classification and Access Management Manual.

Several **watercourses** will be affected by the proposed upgrade and development.

Consequently, three Screening Assessments were undertaken, using the Department's Screening Tool:

(1) A Screening Report generated on 10/10/2022 @ 15:37:32 for "Any activities within or close to a **watercourse**"

(2) A Screening Report generated on 22/09/2022 @ 16:53:44 for "Infrastructure; Transport Services; Roads; **Private**"

(3) A Screening Report generated on 13/10/2022 @ 14:24:53 for "Infrastructure; Transport Services; Roads; **Public**"

Nine themes and fourteen assessments were identified. All identified assessments, except for the civil aviation and defence assessments, will be undertaken during the BA process (**Table 1**).

Table 1: The outcome of the site sensitivity verification (SSV) relating to the level and/or need for specialist assessments identified in the screening tool.

Specialist Assessments Identified by the Screening Tool			
Environmental Theme	**Environmental Sensitivity**	**Identified Specialist Assessments**	**Outcome of SSV**
Agriculture	Medium	Agriculture Impact Assessment	**A medium to low sensitivity and Compliance Statement is supported.**
Animal Species	High	Terrestrial Animal Species Assessment (Including Avifauna)	**A medium sensitivity is supported. The existing Specialist Assessment Report prepared in 2017, AND Avifaunal Specialist Assessment undertaken in 2022 will be included.**
Aquatic Biodiversity	Very High	Aquatic Biodiversity Impact Assessment	**A very high sensitivity and Specialist Assessment is supported.**
Archaeological & Cultural Heritage	Low	Archaeological & Cultural Heritage Impact Assessment	**A high sensitivity is supported. The archaeologist will prepare a report that combines all cultural heritage sites recorded to date with the**

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			findings of the Site Sensitivity Verification.
Civil Aviation	Low	na	**Confirmed: no need**
Defence	Low	na	**Confirmed: no need**
Palaeontology	Very High	Palaeontology Impact Assessment	**A low sensitivity and compliance statement are supported.**
Plant Species	Low	Terrestrial Plant Species Assessment	**A low sensitivity is supported. The existing Specialist Assessment Report prepared in 2017 will be included.**
Terrestrial Biodiversity	Very High	Terrestrial Biodiversity Impact Assessment	**A very high sensitivity is supported. The existing Specialist Assessment Report prepared in 2017 will be included.**
na	na	Landscape/Visual Impact Assessment	**A low sensitivity and Level 2 Visual Impact Assessment is supported**
na	na	Hydrology Assessment	**A high sensitivity and Hydrology Impact Assessment is supported.**
na	na	Traffic Impact Assessment	**A Traffic Impact Assessment Report will be prepared.**
na	na	Ambient Air Quality Impact Assessment	**A medium sensitivity and high-level Air Quality Assessment is supported.**
na	na	Noise Impact Assessment	**A low sensitivity and baseline noise survey and compliance statement is supported.**
na	na	Geotechnical Assessment	**A Geotechnical Assessment will be undertaken.**
na	na	Socio-economic Assessment	**Existing Socio-economic Impact Assessment Report(s) will be updated.**

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Disclaimer

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Whilst the authors have made every effort to verify that information provided in this report is reliable, accurate and relevant, this report is based on information that could reasonably have been sourced within the time period allocated to the assessment and report and is dependent on the information provided by management and/or its representatives.

It should, accordingly, not be assumed that all possible and applicable findings and/or measures are included in this report as any report represents a sample of the project parameters (indicators).

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Introduction

A Screening Assessment for the study area was undertaken, and three Screening Reports were generated on the 22nd September, 10th and 13th October 2022, using the application classifications **"**Infrastructure; Transport Services; Roads; **Private"**, **"**Any activities within or close to a **watercourse"** and **"**Infrastructure; Transport Services; Roads; **Public"**, respectively.

The Site Sensitivity Verification entailed a desktop analysis, using satellite imagery such as Google Earth, and a preliminary on-site inspection, which was undertaken on the 23rd and 24th November 2022.

This SSV Report confirms or disputes the environmental sensitivity and list of specialist assessments identified by the screening assessment report generated by the screening tool. Reasons or a motivation for not including any of the identified specialist studies in the assessment process are provided in this report.

Legislative Background

In terms of GN 320 of 20th March 2020,

1. SITE SENSITIVITY VERIFICATION AND MINIMUM REPORT CONTENT REQUIREMENTS

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 national web based environmental screening tool (screening tool), where determined, must be confirmed by undertaking a site sensitivity verification.

1.1 The site sensitivity verification must be undertaken by an environmental assessment practitioner or a specialist.

1.2. The site sensitivity verification must be undertaken through the use of:

(a) a desk top analysis, using satellite imagery;

(b) a preliminary on -site inspection; and

(c) any other available and relevant information.

1.3. 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.;

(b) contains a motivation and evidence (e.g., photographs) of either the verified or different use of the land and environmental sensitivity; and

(c) is submitted together with the relevant assessment report prepared in accordance with the requirements of the Environmental Impact Assessment Regulations1 (EIA Regulations).

2. SPECIALIST ASSESSMENT AND MINIMUM REPORT CONTENT REQUIREMENTS

Where a specialist assessment is required and no specific environmental theme protocol has been prescribed, the required level of assessment must be based on the findings of the site sensitivity verification and must comply with Appendix 6 of the EIA Regulations.

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Project Title

Upgrading & Development of an Access Road from the N10/'Burgerville' District Road (2448) Turn-Off into the Farm Riet Fountain No. 39C and to the Switching Station and Main Transmission Substation on Sun Central Cluster 1 (300 MW) Solar PV Facility between De Aar & Hanover, Emthanjeni Local Municipality, Pixley Ka Seme District Municipality, Northern Cape Province, South Africa.

Property Description

The project site (route) is located between De Aar & Hanover, Emthanjeni Local Municipality, Pixley Ka Seme District Municipality, Northern Cape Province on the following properties (**Figure 1** & **Table 2**):

- SANRAL servitude (N10/'Burgerville' District Road (2448) turn-off)
- Portion 1 & Remainder of Farm Blaauwbosch Kuilen Outspan No. 37C
- Remainder of Farm Barends Kuilen No. 38C
- Portion 1 of Farm Riet Fountain No. 39C
- Portion 1 of Farm Kwanselaars Hoek No. 40C
- Portion 4 of Taaibosch Fontein No. 41C

Table 2. Property 21-digit codes for the whole road route.

C	0	3	0	0	0	0	0	0	0	0	0	0	0	3	7	0	0	0	0	1
C	0	3	0	0	0	0	0	0	0	0	0	0	0	3	7	0	0	0	0	0
C	0	3	0	0	0	0	0	0	0	0	0	0	0	3	8	0	0	0	0	0
C	0	3	0	0	0	0	0	0	0	0	0	0	0	3	9	0	0	0	0	1
C	0	3	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	1
C	0	3	0	0	0	0	0	0	0	0	0	0	0	4	1	0	0	0	0	4
1	**2**			**3**				**4**								**5**				

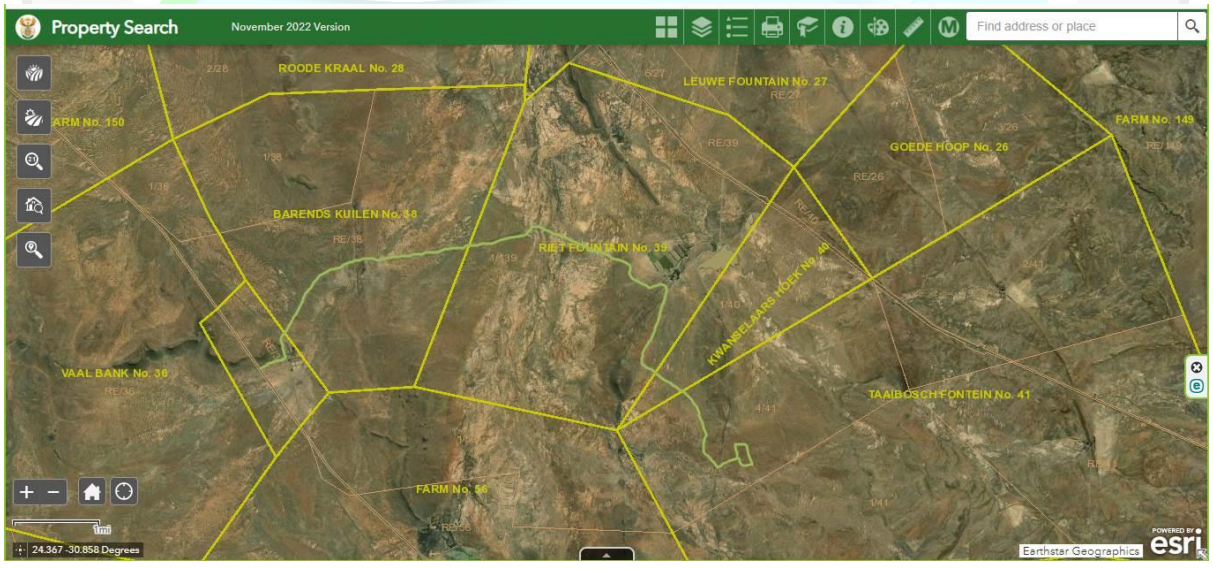

Figure 1: Properties intersected by the proposed access road alignment from its intersection with the N10 to the MTS.

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Project Description

Eskom has agreed to the construction of a Main Transmission Substation (MTS) to deliver electricity to the Eskom system, specifically the existing 400 kV Hydra-Poseidon overhead transmission line (Line 2 initially and possibly even Line 1 in future) via a new Loop-In, Loop-Out 400 kV electricity transmission line. Eskom has dictated that the MTS be designed for up to 2 GW capacity, so that it has the capacity to receive electricity generated by the applicant's (Solar Africa Energy (Pty) Ltd) 300 MW Solar PV facility (Sun Central Cluster 1) and any future electricity generation facilities that would apply to feed into the grid at the same location.

The 2 GW MTS includes *inter alia* sufficient feeder bays for up to four (4) 500 MVA transformers. Each transformer must be transported on a 270 tonne, 40m to 60m-long truck and trailer combination. Given the weight and length of the trailer delivering the abnormal loads to site (e.g., the turning circle will be a minimum of 24m) the access road must meet the minimum Eskom specifications to ensure the safe delivery of equipment to site during construction and during future maintenance and operations, if ever required.

Equipment will be transported to site using the left, north-bound lane of the N10 from Hanover and then turn right on to the dedicated access road.

The access road can be divided into three sections:

(1) the existing **public** 'Burgerville' District Road (2448),

(2) existing **private** farm tracks, and

(3) a new road to the Switching Station and Main Transmission Substation. The portion of new road is required as Eskom needs unrestricted access to both substations, that is without traversing the fenced Sun Central Cluster 1 development footprint.

1. Existing Public 'Burgerville' District Road (2448)

The section of public 'Burgerville' District Road (2448) that needs to be upgraded extends from its intersection with the N10, through the Remainder of Farm Blaauwbosch Kuilen Outspan No. 37, the Remainder of Farm Barends Kuilen No. 38, and ends at the boundary of Farm Riet Fountain No. 39C (**Figures 2**). This road is classed as an R4 rural collector road (TRH 26 South African Road Classification and Access Management Manual).

Several potential watercourses (**Figure 3**), including an existing pipe culvert crossing, will be affected by the proposed upgrade.

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Figure 2: Properties intersected by the section of public 'Burgerville' District Road (2448) from its intersection with the N10 (pink line) to the farm boundary of Riet Fountain No. 39C (yellow line).

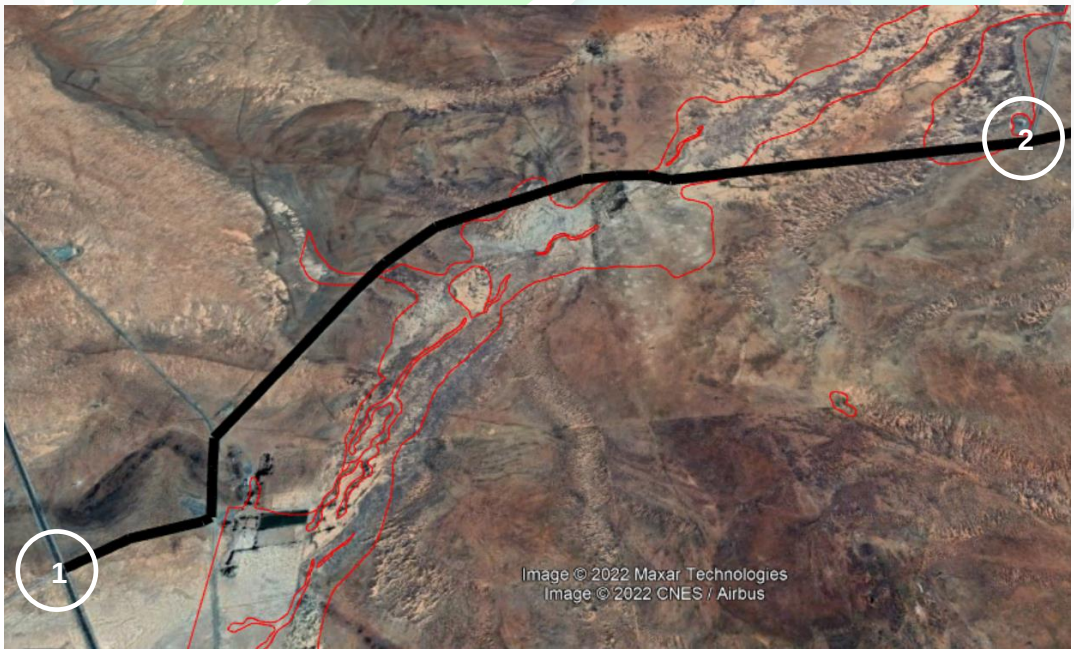

Figure 3. Section of existing public 'Burgerville' District Road (2448) from its intersection with the N10 (1) to its intersection with the existing private road (farm track) at the boundary of Farm Riet Fountain 39C (2). Red lines indicate flood plain soils (possible watercourses).

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The bellmouth design at the N10/ 'Burgerville' District Road (2448) turn-off must be widened to accommodate an abnormal load to safely turn off the N10 on to the gravel road. The N10 will not be widened. The reshaping or re-design applies to the 'Burgerville' District Road (2448) only. The intersection adjoining the N10 will be widened from an existing width of approximately 25,7 m to approximately 60 m (measured along the top of the road) (**Figure 4**) to accommodate the required turning circle from both directions and then gradually taper along a length of 20 m to the specified 7 m shoulder width.

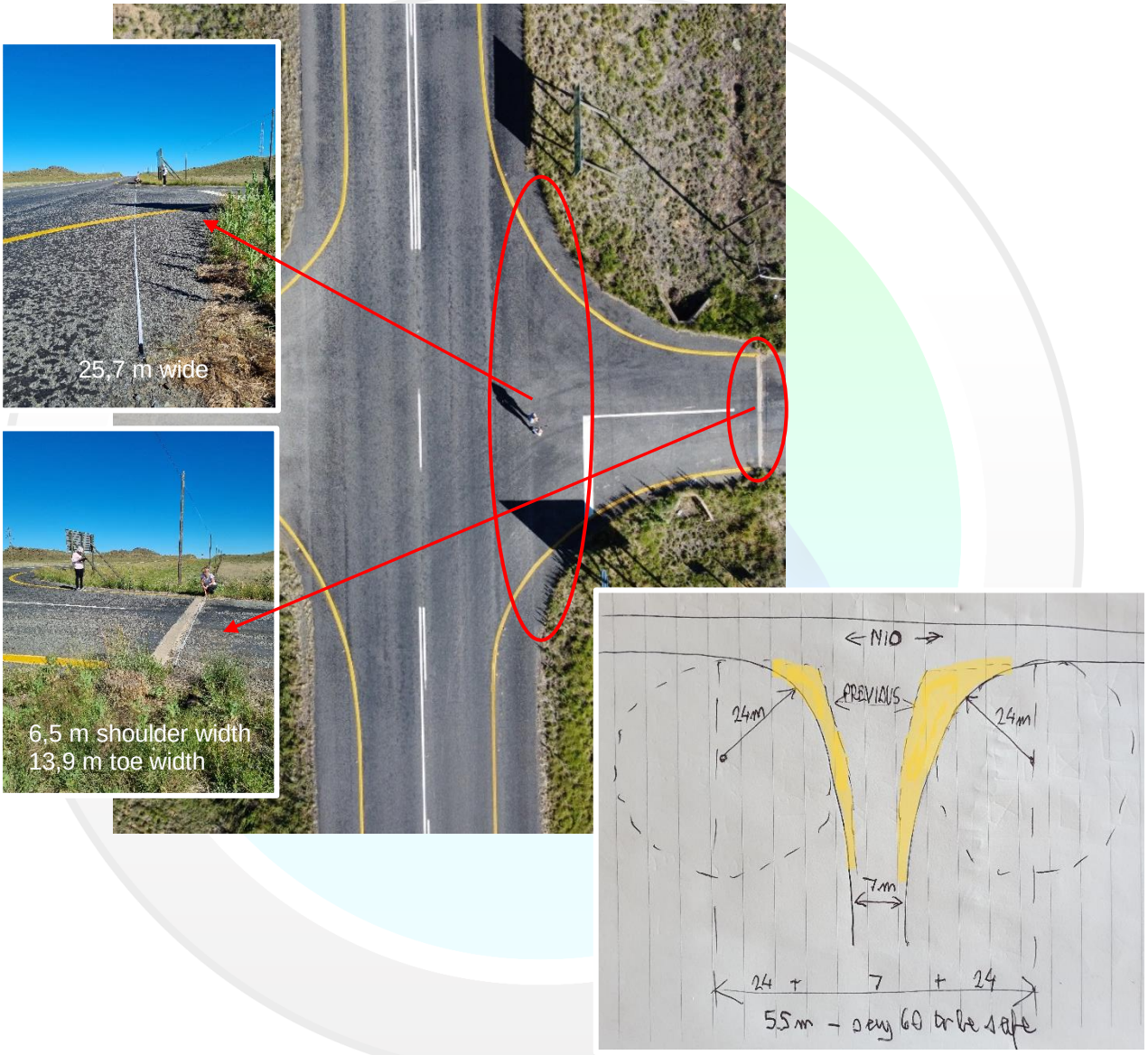

Figure 4. The Bellmouth Design of the N10/'Burgerville' District Road (2448), including a sketch of its planned widening (indicated by the yellow shading). The current turning circle is approximately 17 m, so will require widening to a minimum of 24 m (see sketch).

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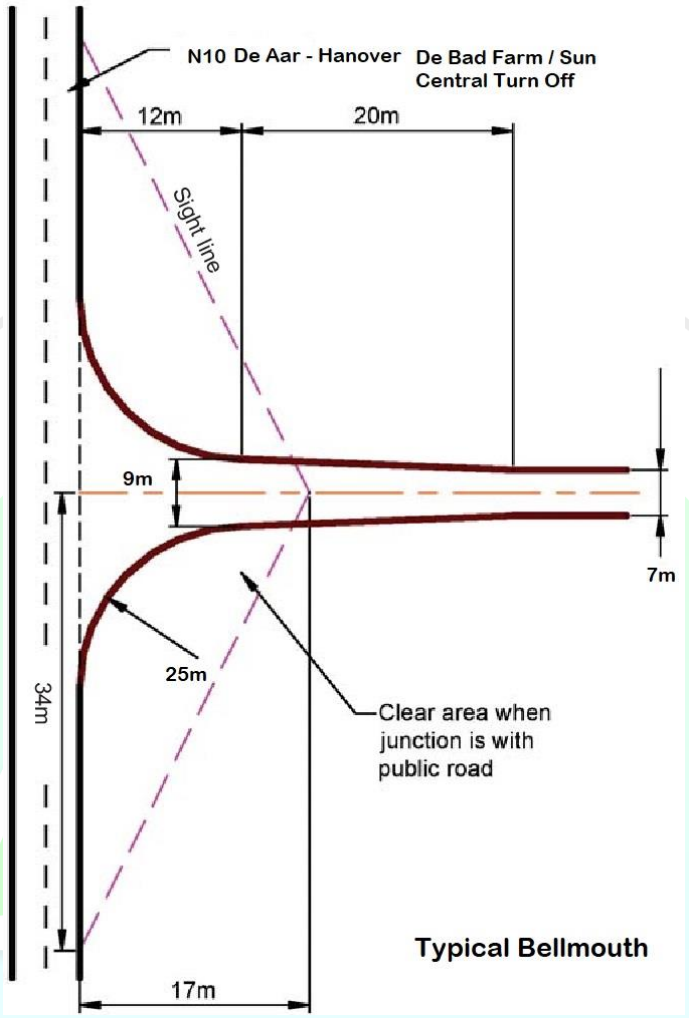

Figure 5. Specified dimensions of the required Bellmouth Design of the N10/'Burgerville' District Road (2448).

Except for the N10/district road turn-off, the current smallest turning circle along the public road is approximately 50 m. Both bends/corners after the turn-off from the N10 are within parameter, e.g., they do not need to be widened. Besides, the standard required width of the road will stay the same in a corner, e.g., 7 m, as the 24 m turning circle just refers to the inner radius that the road takes.

The length of the gravel road will require subgrade and subbase reconstruction in all areas, where stormwater runoff needs to be improved. These are all low-lying areas where water ponding occurs and has softened the layer works to the point where deep rutting occurs due to wheel tracks from traffic on the roads. The balance of the road may only require top layer reconstruction. This however will be investigated in more detail with a Geotechnical Assessment, but it is very likely that the entire road will be reconstructed.

Although the 'Type 6 District Road Standard' for an R4 rural collector road (TRH 26 South African Road Classification and Access Management Manual) (**Figure 6**) is similar in geometry to the Eskom Standard (**Figure 7**), the more stringent ESKOM Standard shall be adopted for the reconstruction (and construction) of the proposed access road.

(i) Type 6 District Road Standard

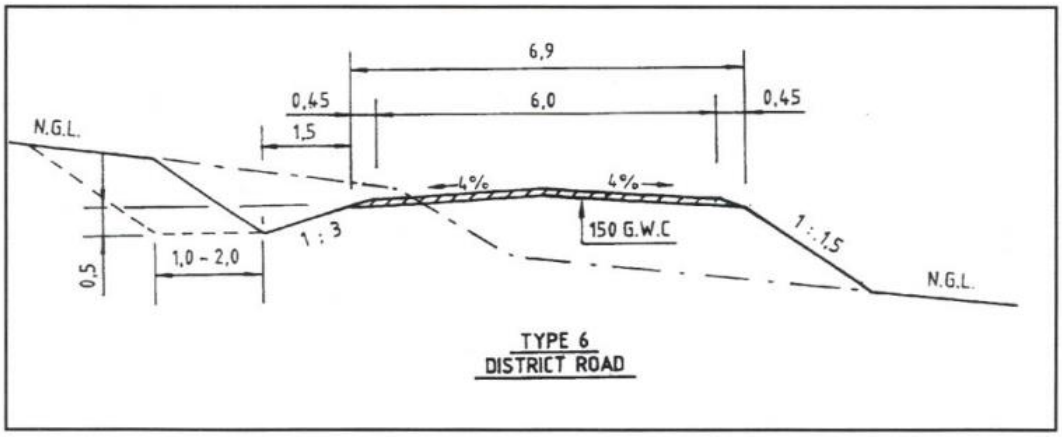

Figure 6: Typical Standard Design for an R4 rural collector road.

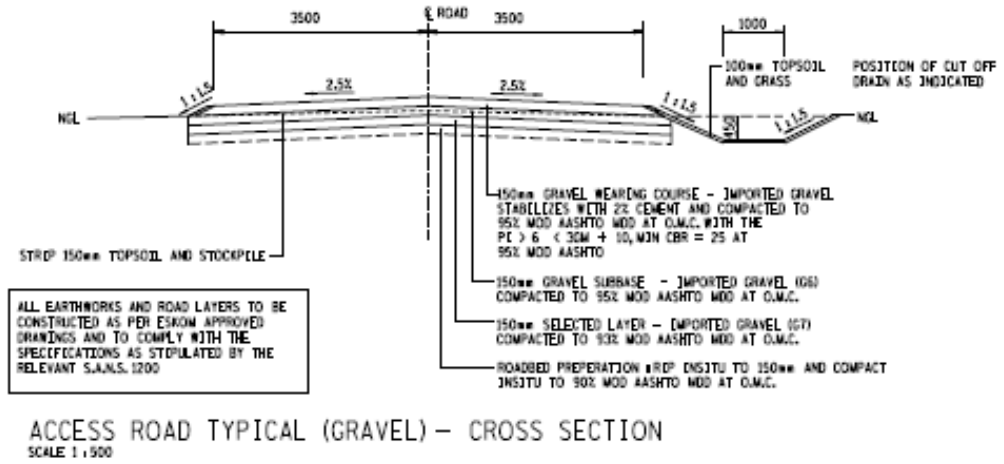

Figure 7: The minimum ESKOM Standard for access roads for extra heavy loads into ESKOM facilities (taken from ESKOM Typical Access Road Cross Section Drawing).

The maximum “box-cut” will be 300 mm with an additional 150 mm rip *in situ* and recompact (**Figure 7**). Dependent on whether a cut or fill area.

The average toe-to-toe width of the district road is 12,6 m (the average fence line width is 18,9 m) (**Table 3**). The affected district road is approximately 5.2 km long and will be rebuilt to a width of 11 m (allowing 8 m for the roadbed preparation, and up to 3 m for the side/cut-off drain).

Table 3. Approximate width(s) (m) of the Burgerville’ District Road (2448).

Statistic	Shoulder width	Toe width	Fence line width
Average	7,71 m	12,59 m	18,87
Range	6,2 m to 10 m	11,2 to 13,6 m	16,6 m to 40 m

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2. Existing private road where the District Road intersects the boundary of Farm Riet Fountain No. 39C and continues to the western boundary fence of Sun Central Cluster 1 (300 MW) Solar PV Facility

Works to the existing private road section shall involve widening an existing ± 2,6 m wide farm track, which commences at its intersection with the public district road on the boundary of Farm Riet Fountain No. 39C and continues approximately 6,9 km to the perimeter fence of Sun Central Cluster 1 (300 MW) Solar PV Facility. This length of farm track will be widened by approximately 8,4 m to 11 m resulting in a loss of ± 5,8 ha of agricultural land. This section of road will require a full rebuild as it is highly unlikely that it will conform to ESKOM specification.

There are two sections where the centre line of the proposed alignment is further than 5,5 m from existing farm tracks. These two road sections are therefore assumed to constitute development of infrastructure (instead of expansion). They are approximately:

- 255 m long (start: 30° 51’ 35,82’’ S & 24° 17’ 45,88” E, middle: 30° 51’ 38,23’’ S & 24° 17’ 49,81” E, end: 30° 51’ 40,68’’ S & 24° 17’ 53,67” E), and
- 1 115 m long (start: 30° 51’ 56,81’’ S & 24° 18’ 06,53” E, middle: 30° 52’ 13,67’’ S & 24° 17’ 58,87” E, end: 30° 52’ 29,99’’ S & 24° 17’ 58,02” E).

The distance to the fence line on either side of the road will be 1 m. However, three (3) temporary 30 m passing lanes will increase the servitude width from 13m to 16 m to allow for passing should this be required during construction.

The 3 m wide passing lanes must be further than 32 m from the edge of a watercourse.

This section of existing private road traverses several potential watercourse crossings, including the Brak River. The watercourse crossing over the Brak River is likely to be a concrete drift with rock fill (**Figures 8 & 9**) to spread the surface water into a broadly distributed sheet whilst maintaining unrestricted subterranean flow. The drift shall be 5 m wide and 100 m long (exact length to be determined on site).

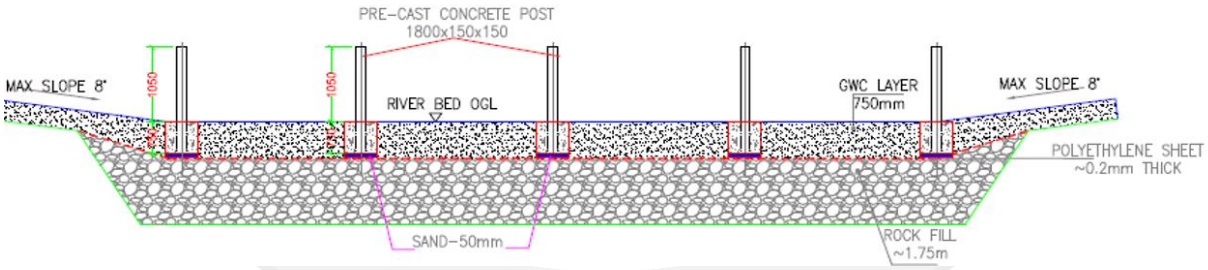

Figure 8: A typical Concrete drift section with rock fill, which permits subterranean flow.

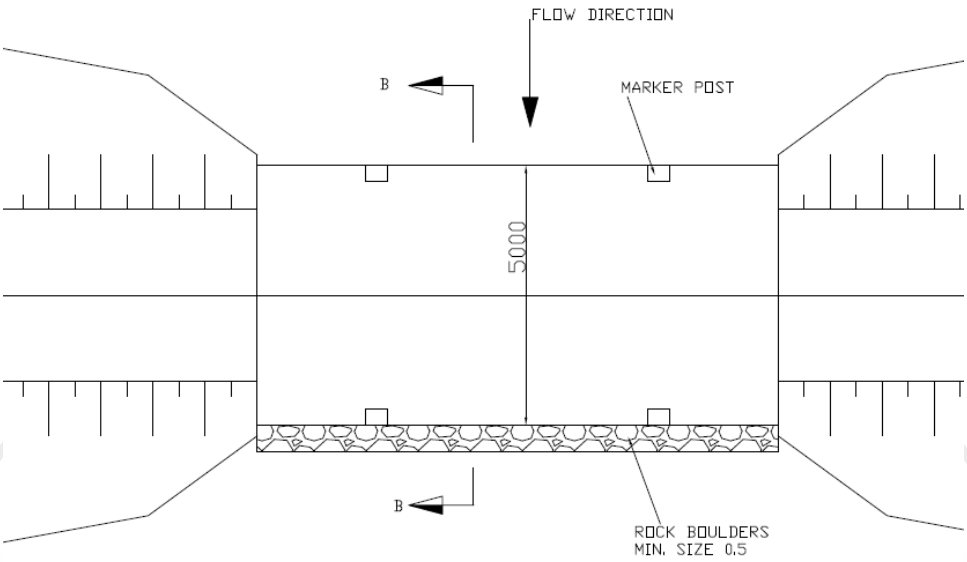

Figure 9: Aerial plan of a rock fill drift.

The Brak River (**Figure 10**) has been identified as having FEPA River Ecosystem Type status according to the **Freshwater Ecosystem Protected Areas (FEPA) map for the area**. *(Phase 1 Aquatic Report October 2017).* All FEPA prioritised wetlands and rivers have a minimum category of CBA 1 (Avifauna Final EIA Report prepared by Sam Laurence of Enviro-Insight cc, dated October 2022) (**Figure 11**).

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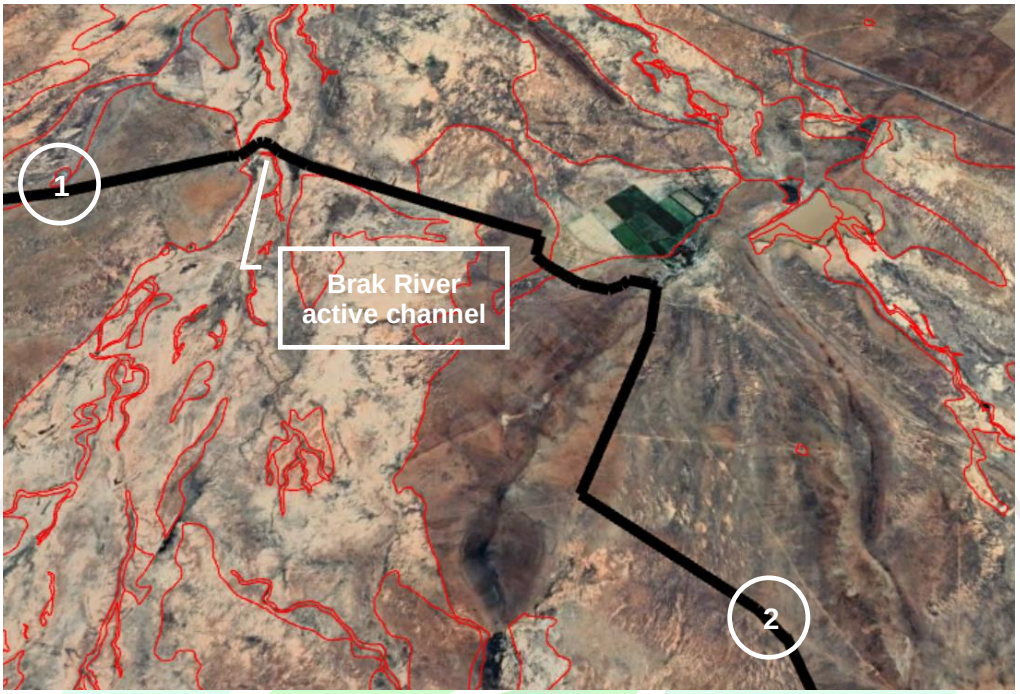

Figure 10. Section of existing private road from its intersection with the 'Burgerville' District Road (2448) at the farm boundary (1) to its intersection with the new road (2). Red lines indicate flood plain soils, including the Brak River.

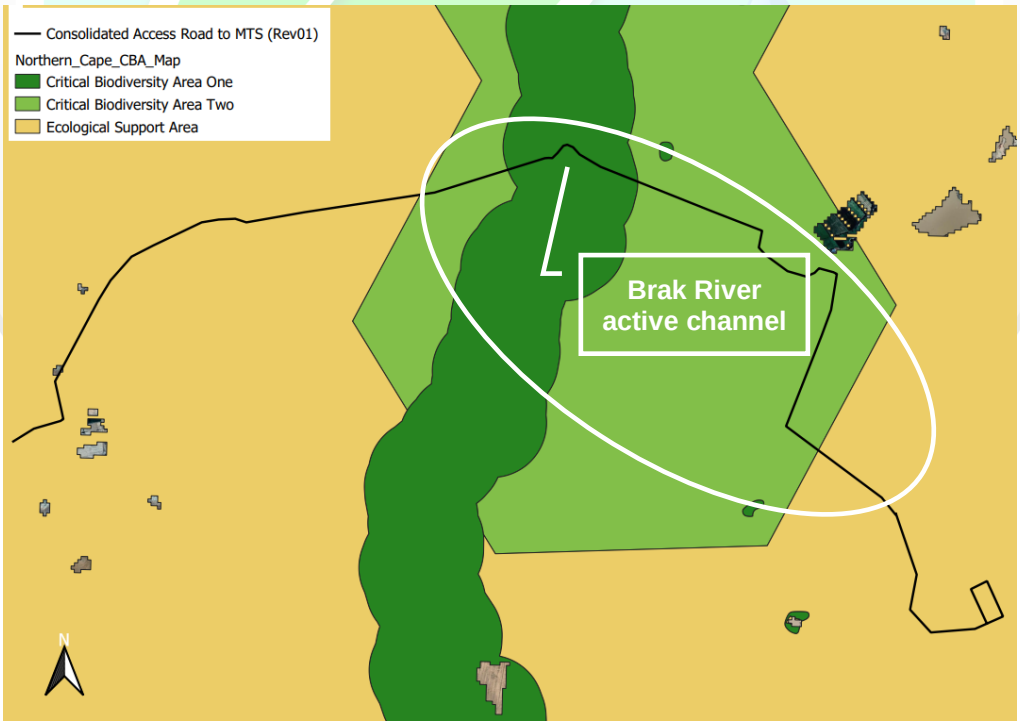

Figure 11: The section of existing private road is in Critical Biodiversity Areas (CBA1 and CBA2), and an Ecological Support Area (ESA).

3. Development of a new road to the Switching Station and Main Transmission Substation

The length and width of the new road (**Figure 12**) will be ± 3 km and 11 m, respectively (or ± 3,3 ha).

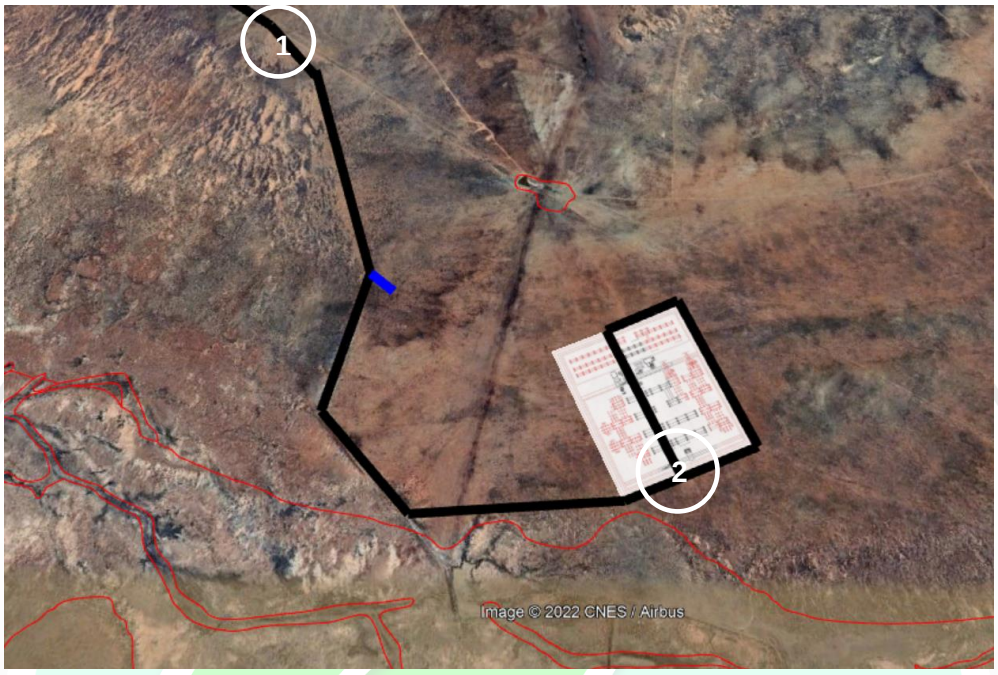

Figure 12. Section of new road from its intersection with the existing private road/farm track (1) to the Main Transmission Substation MTS (2). A short access road to the Switching Station (Dx) will also be developed (blue line). Red lines indicate flood plain soils (possible watercourse).

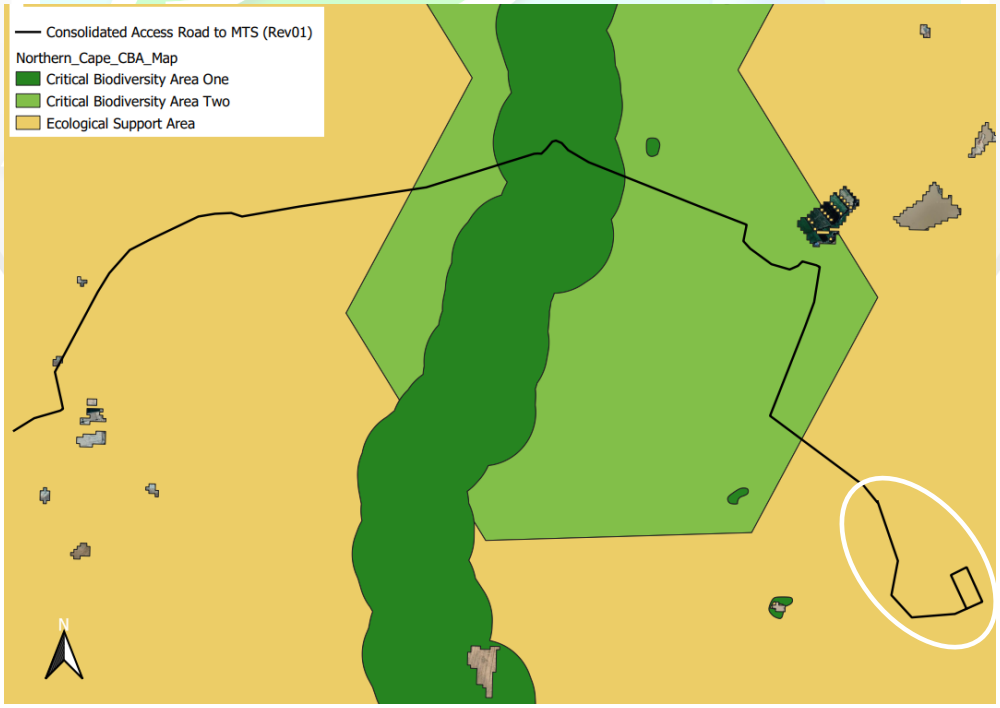

Figure 13: The section of new road is in an Ecological Support Area (ESA) only.

ENVIRONMENTAL THEMES AGRICULTURE THEME				
Sensitivity Rating	**VERY HIGH**	**HIGH**	**MEDIUM**	**LOW**
Enter Environmental Sensitivity Rating from the Screening Report by ticking the applicable box.	Land capability evaluation values of 11 – 15; all irrigated land; horticulture and viticulture; demarcated high value agricultural areas with a priority rating of A and/or B**.** These areas are potentially unsuitable for development owing to: - high agricultural value & preservation importance; - high production capability; - high capital investment made; or - unique agricultural land attributes.	Land capability evaluation values of 8 - 10 including all cultivated areas including sugar cane areas and demarcated high value agricultural areas with a priority rating of C and/or D. High sensitivity areas are still preservation worthy since they include land with an agricultural production potential and suitability for specific crops.	Land capability evaluation values of 6 – 7. Medium sensitivity areas are likely to be very marginal arable land.	Land capability evaluation values of 1 – 5. Low sensitivity areas are likely to be non-arable land and is therefore land onto which most development should be steered.
Access Road	☐	☐	☑	☑
Assessment	Agricultural Agro-Ecosystem Specialist Assessment		Agricultural Compliance Statement	
Exemption(s)	An applicant intending to undertake an activity identified in the scope of this protocol on a site identified by the screening tool as being of **"medium"** or "low" sensitivity for agricultural resources must submit an **Agricultural Compliance Statement**. **If the application is for a linear activity** for which impacts on the agricultural resource are temporary and the land in the opinion of the soil scientist or agricultural specialist, based on the mitigation and remedial measures, can be returned to the current land capability within two years of the completion of the construction phase; or the impact on agricultural resources is from an electricity pylon, **then an Agricultural Compliance Statement can be submitted.**			
Enter Environmental Sensitivity Features from	Screening Reports generated for the public access road section on 13/10/2022 14:24:53, and the private access road section (existing) on 22/09/2022 16:53:44: **Sensitivity** | **Features**			

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the Screening Report		Medium	Land capability; 06. Low-Moderate /07. Low-Moderate/ 08. Moderate
		Low	Land capability; 01. Very low/ 02. Very low/ 03. Low-Very low/ 04. Low-Very low/ 05. Low

Desktop Findings (*enter description of findings from comparing/overlaying the Screening Tools spatial imagery of the theme with satellite imagery and other spatial plans):*

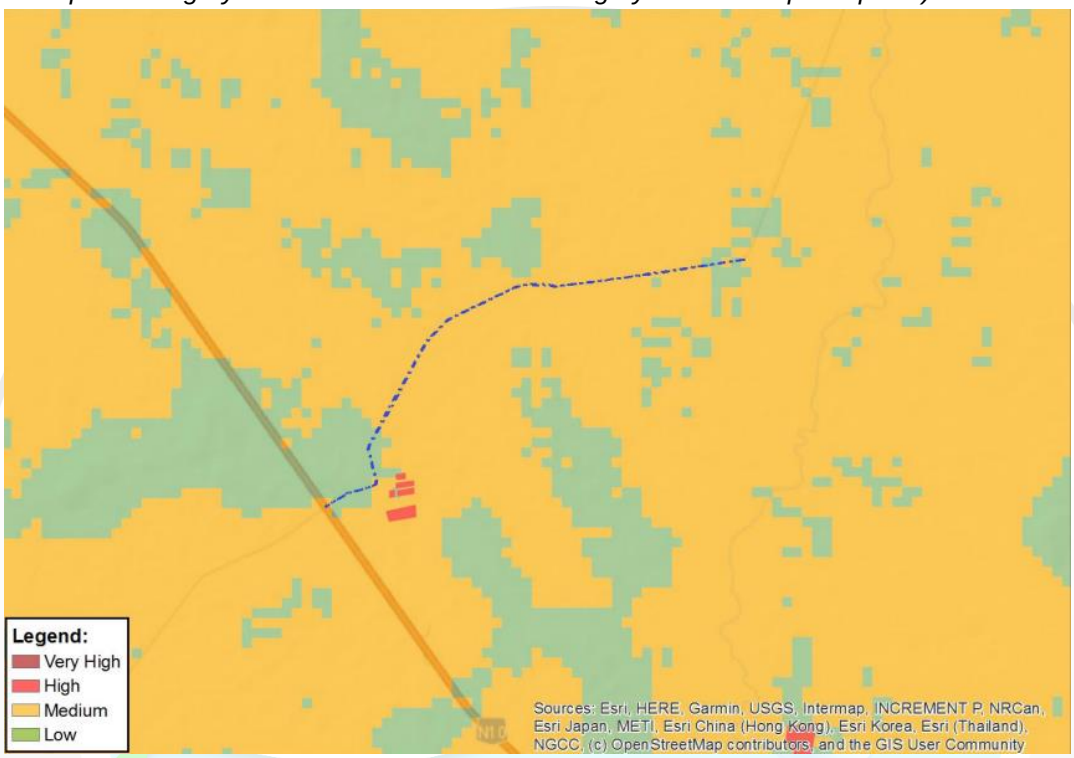

Figure 14. Screening Report generated for the public access road section on 13/10/2022 14:24:53

MEMBERS: J.A. Bowers (M Tech, Pr.Sci.Nat.) & S.D. MacGregor (M.Sc., Pr.Sci.Nat.)
Reg: 2006/023163/23

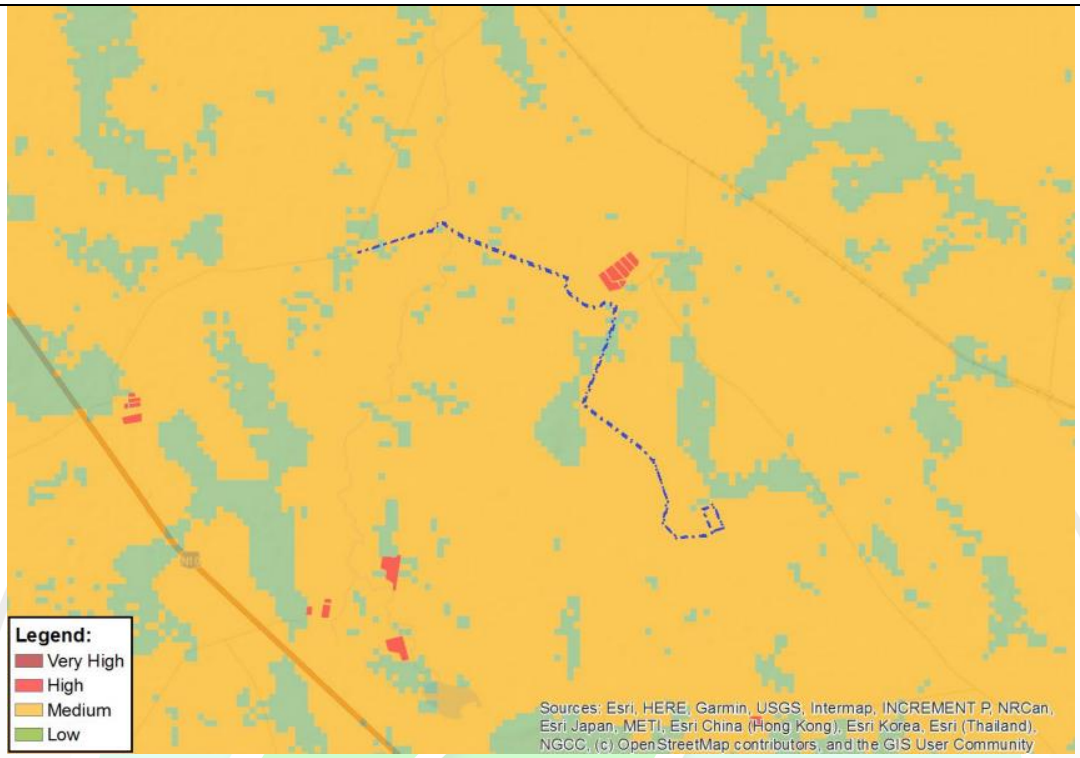

Figure 15. Screening Report generated for the private access road section on 22/09/2022 16:53:44

Motivation for Sensitivity Rating (*incl. actual rating if different from the Screening Tool*):

A medium to low sensitivity and Compliance Statement is supported for the following reasons:

- Works to the public road section shall remain within the road servitude.
- Works to the private road section shall be restricted to the widening of an existing farm track approximately 6,9 km long and on average 2,6 m wide. This length of farm track will be widened by approximately 8,4 m to 11 m resulting in a loss of ± 5,8 ha of agricultural land.
- The new road section shall result in a loss of agricultural land approximately 3 km long and 11 m wide (or ± 3,3 ha).
- The widening, and to a lesser extent, development of a new road constitutes a linear activity. Any impacts on the agricultural resource adjacent to the road are temporary and any edge effects can with mitigation be returned to the current land capability within two years of the completion of the construction phase.
- The poor to intermediate veld condition indices, shallow soils, and low annual rainfall - Mean annual precipitation (MAP) is 314 mm and the mean annual evaporation (MAE) is approximately 2150 mm (*Phase 1 Grazing Assessment Report February 2017, and Soil Survey for Phase 1 February 2017).*

Photograph (*include photo no. from phone or camera, indicate cardinal direction the camera is facing and if possible, a GPS co-ordinate*):

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Photo 1. View of veld used for extensive livestock farming (merino sheep, angora goats and cattle) adjacent to the existing private road (farm track) that will be widened.

Photo 2. View of veld used for extensive livestock farming (merino sheep, angora goats and cattle) that will be impacted by the proposed route for the new road section.

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ANIMAL SPECIES THEME				
Sensitivity Rating	**VERY HIGH**	**HIGH**	**MEDIUM**	**LOW**
Enter Environmental Sensitivity Rating from the Screening Report by ticking the applicable box.	**1.** Critical habitat for range-restricted species (species with a geographically restricted area of distribution) of conservation concern, that have a global range of less than 10 km2. **2.** SCC listed on the IUCN Red List of Threatened Species or on South Africa's National Red List website as Critically Endangered, Endangered or Vulnerable according to the IUCN Red List 3.1. Categories and Criteria or listed as Nationally Rare. **3.** Species aggregations that represent ≥1% of the global population size of a species, over a season, and during one or more key stages of its life cycle. **4.** The number of mature individuals that ranks the site among the largest 10 aggregations known for the species. These areas are irreplaceable for SCC.	**1.** Confirmed habitat for SCC. **2.** SCC, listed on the IUCN Red List of Threatened Species or South Africa's National Red List website as Critically Endangered, Endangered or Vulnerable, according to the IUCN Red List 3.1. Categories and Criteria and under the national category of Rare. These areas are unsuitable for development due to a very likely impact on SCC.	**1.** Suspected habitat for SCC based either on historical records (prior to 2002) or being a natural area included in a habitat suitability model for this species. **2.** SCC listed on the IUCN Red List of Threatened Species or South Africa's National Red List website as Critically Endangered, Endangered or Vulnerable according to the IUCN Red List 3.1. Categories and Criteria and under the national category of Rare.	**1.** Areas where no natural habitat remains. **2.** Natural areas where there is no suspected occurrence of SCC.
Access Road	☐	☑	☐	☐
Assessment	Terrestrial Animal Species Specialist Assessment		Terrestrial Animal Species Specialist Assessment	Terrestrial Animal Species Compliance Statement

MEMBERS: J.A. Bowers (M Tech, Pr.Sci.Nat.) & S.D. MacGregor (M.Sc., Pr.Sci.Nat.)
Reg: 2006/023163/23

<table>
<tr><td>Exemption(s)</td><td>An applicant intending to undertake an activity on a site identified by the screening tool as being of “medium sensitivity” for terrestrial animal species must submit either a Terrestrial Animal Species Specialist Assessment Report or a Terrestrial Animal Species Compliance Statement, depending on the outcome of a site inspection.</td></tr>
<tr><td>Enter Environmental Sensitivity Features from the SR.</td><td>Screening Reports generated for the public access road section on 13/10/2022 14:24:53, and the private access road section on 22/09/2022 16:53:44:
<table>
<tr><th>Sensitivity</th><th>Feature(s)</th></tr>
<tr><td>High</td><td>Aves-Cursorius rufus (Burchell’s Courser)</td></tr>
<tr><td>High/Medium</td><td>Aves-Aquila rapax (Tawny Eagle)</td></tr>
<tr><td>High</td><td>Aves-Neotis ludwigii (Ludwig’s Bustard)</td></tr>
<tr><td>Low</td><td>Subject to confirmation</td></tr>
</table>
</td></tr>
<tr><td colspan="2">Desktop Findings (enter description of findings from comparing/overlaying the Screening Tools spatial imagery of the theme with satellite imagery and other spatial plans):


Figure 16. Screening Report generated for the public access road section on 13/10/2022 14:24:53</td></tr>
</table>

MEMBERS: J.A. Bowers (M Tech, Pr.Sci.Nat.) & S.D. MacGregor (M.Sc., Pr.Sci.Nat.)
Reg: 2006/023163/23

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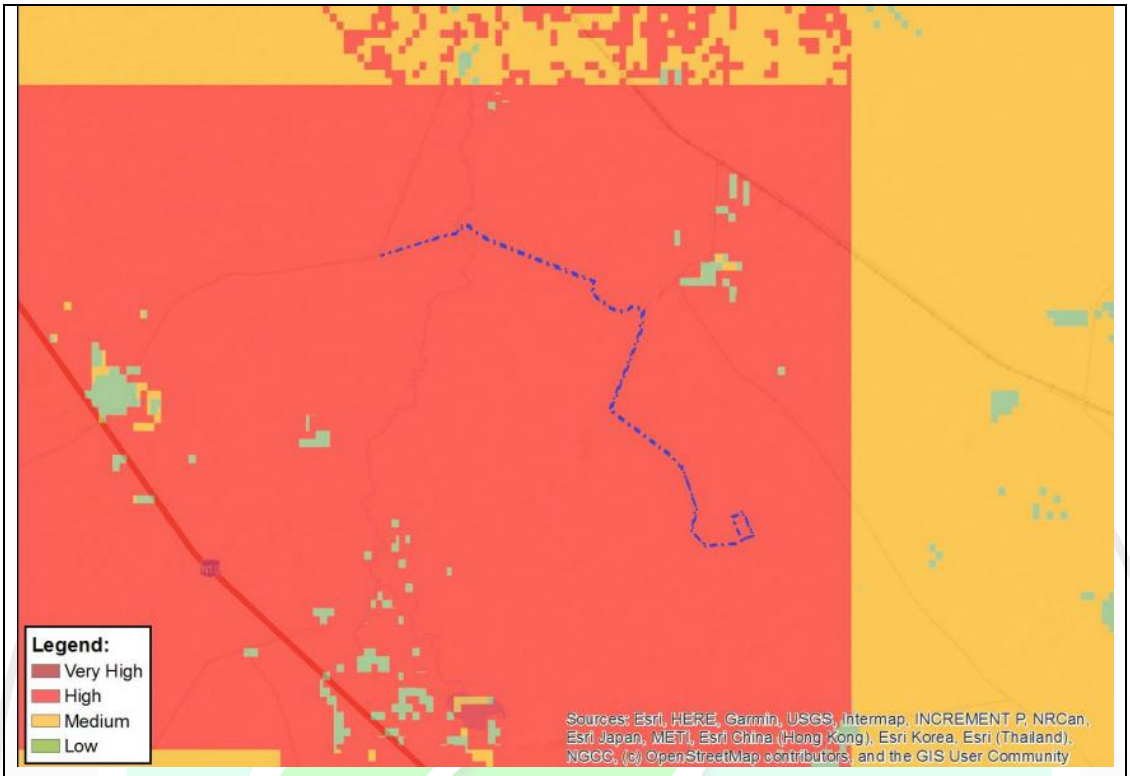

Figure 17. Screening Report generated for the private access road section on 22/09/2022 16:53:44

The study area occurs in the Platberg-Karoo Conservancy (SA037) Important Bird and Biodiversity Area (IBA), covering c. 1 240 000 ha with a protected status of "Unprotected". The folding process has forged several large peaks and plateaus in this area. The IBA encompasses a continuous chain of mountains and includes several State forests, mountain catchment areas and provincial nature reserves. A total of 289 bird species have been recorded in the IBA during SABAP2 (Avifauna Final EIA Report prepared by Sam Laurence of Enviro-Insight cc, dated October 2022). Although this region appears typical of much of the upper Nama Karoo, this IBA contributes greatly to conservation by supporting populations of several red-listed species, many of which are collision-prone medium to large terrestrial birds (cranes, bustards, korhaans) and raptor species (*Avi Faunal Specialists EIA Report in May 2017*).

There is a high richness of Red-Listed and species of conservation concern occurring within the study area. Confirmed priority species in the study area include *inter alia* the Globally VU Blue Crane (*Anthropoides paradiseus*), the Regionally and Globally EN Ludwig's Bustard (*Neotis ludwigii*), the NT Kori Bustard (*Ardeotis kori*), the Globally EN Secretarybird (*Sagittarius serpentarius*), the Regionally and Globally EN Martial Eagle (P*olemaetus bellicosus*), the Regionally VU Verreauxs' Eagle (*Aquila verreauxii*), the Regionally EN and Globally VU Tawny Eagle (*Aquila rapax*), and the Regionally VU Lanner Falcon (*Falco biarmicus*) (Avifauna Final EIA Report prepared by Sam Laurence of Enviro-Insight cc, dated October 2022).

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Linear infrastructure, such as sand roads, tar roads and a large railway line present restrictive and hazard barriers to avifauna.

Motivation for Sensitivity Rating (*incl. actual rating if different from the Screening Tool*):

A Medium sensitivity is supported for the following reasons:

- The site sensitivity verification did not confirm habitat for SCC. The abundance of fauna (and flora) species of conservation concern is low, and impacts would be of a local nature only (*Environmental Impact Assessment for the proposed Soventix Solar PV Project, De Aar, Northern Cape: Fauna & Flora Specialist EIA Report prepared by Simon Todd Consulting dated May 2017*).
- Faunal diversity in the area is quite high and a wide array of species were directly or indirectly observed during the site visit. However, most species observed are medium sized mammals, typical of the area. No particularly rare or notable species were observed, including the 5 listed species (EWT & SANBI, Red Data Book of Mammals of South Africa, Lesotho and Swaziland, 2016). Species that were observed in the area include Cape Porcupine Hystrix africaeaustralis (**Photo 6(b)**), Steenbok Raphicerus campestris, Duiker Sylvicapra grimmia, Springbok Antidorcas marsupialis, Aardvark *Orycteropus afer* (**Photo 6(a)**), Rock Hyrax Procavia capensis, Cape Hare Lepus capensis, South African Ground Squirrel *Xerus inauris* (**Photo 3**), and Suricate *Suricata suricatta* (**Photo 5**).
- Reptiles observed on the site include a species of lizard and Leopard Tortoise *Stigmochelys pardalis* (**Photo 4**). Despite the likely high reptile richness at the site, no listed species are known from the area. Furthermore, impacts from the development are likely to be local in nature and not of broader significance (*Environmental Impact Assessment for the proposed Soventix Solar PV Project, De Aar, Northern Cape: Fauna & Flora Specialist EIA Report prepared by Simon Todd Consulting dated May 2017*).
- The public access road section and more than half of the private road section is existing and therefore constitutes areas where no natural habitat remains, and as such there is no suspected occurrence of SCC. Most observations or signs of fauna were made along and within proximity to the proposed route for the new section of road, specifically along an earth berm structure where the original alignment was proposed.
- The widening, and to a lesser extent, development of a new road constitutes a linear activity. Any impacts on the natural resource adjacent to the road are temporary and any edge effects can with mitigation be returned to the current status within two years of the completion of the construction phase.
- A Fauna and Flora Species Specialist Assessment Report prepared by Simon Todd Consulting and dated May 2017 has already been undertaken for the affected area during the EIA for the Sun Central (300 MW) Solar PV Facility. Consequently, the findings of the same report will be combined with the findings from the Site Sensitivity Verification for consideration during the Basic Assessment process.
- Similarly, an Avifaunal Specialist Assessment was undertaken in 2022 (Avifauna Final EIA Report prepared by Sam Laurence of Enviro-Insight cc, dated October 2022), including the identification of Tawny and Verreaux nesting sites. The findings and mitigations from these reports will be integrated into this assessment.

Photograph (*include photo no. from phone or camera, indicate cardinal direction the camera is facing and if possible, a GPS co-ordinate*):

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Photo 3. Occasional Ground Squirrel burrows were observed adjacent to the existing private road (farm track) that will be widened to 11 m.

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Photo 4. Tracks of a large Leopard tortoise through a watercourse south of the proposed route for the new section of road.

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Photo 5. Desiccated Suricate nearby the proposed route for the new section of road.

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PO Box 516, Machadodorp, 1170, www.ecoleges.co.za

(a)

(b)

Photo 6. Evidence of a diversity of mammal species, including Aardvark droppings (top) and Porcupine quills (bottom) were observed along the proposed route for the new section of road, specifically an earth berm structure.

MEMBERS: J.A. Bowers (M Tech, Pr.Sci.Nat.) & S.D. MacGregor (M.Sc., Pr.Sci.Nat.)
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PLANT SPECIES THEME				
Sensitivity Rating	**VERY HIGH**	**HIGH**	**MEDIUM**	**LOW**
Enter Environmental Sensitivity Rating from the Screening Report by ticking the applicable box.	**1.** Critical habitat for range-restricted species (species with a geographically restricted area of distribution) of conservation concern, that have a global range of less than 10 km2. **2.** SCC listed on the IUCN Red List of Threatened Species or on South Africa's National Red List website as Critically Endangered, Endangered or Vulnerable according to the IUCN Red List 3.1. Categories and Criteria or listed as Nationally Rare. **3.** Species aggregations that represent ≥1% of the global population size of a species, over a season, and during one or more key stages of its life cycle. **4.** The number of mature individuals that ranks the site among the largest 10 aggregations known for the species. These areas are irreplaceable for SCC.	**1.** Confirmed habitat for SCC. **2.** SCC, listed on the IUCN Red List of Threatened Species or South Africa's National Red List website as Critically Endangered, Endangered or Vulnerable, according the IUCN Red List 3.1. Categories and Criteria and under the national category of Rare. These areas are unsuitable for development due to a very likely impact on SCC.	**1.** Suspected habitat for SCC based either on historical records (prior to 2002) or being a natural area included in a habitat suitability model. **2.** SCC listed on the IUCN Red List of Threatened Species or South Africa's National Red List website as Critically Endangered, Endangered or Vulnerable according the IUCN Red List 3.1. Categories and Criteria and under the national category of Rare.	**1.** Areas where no natural habitat remains. **2.** Natural areas where there is no suspected occurrence of SCC.
Access Road	☐	☐	☐	☑
Assessment	Terrestrial Plant Species Specialist Assessment		Terrestrial Plant Species	Terrestrial Plant Species

MEMBERS: J.A. Bowers (M Tech, Pr.Sci.Nat.) & S.D. MacGregor (M.Sc., Pr.Sci.Nat.)
Reg: 2006/023163/23

<table>
<tr><td></td><td></td><td>Specialist Assessment</td><td>Compliance Statement</td></tr>
<tr><td>Exemption(s)</td><td colspan="3">An applicant intending to undertake an activity identified in the scope of this protocol, on a site identified by the screening tool as being of “low” sensitivity for terrestrial plant species, must submit a Terrestrial Plant Species Compliance Statement.</td></tr>
<tr><td>Enter Environmental Sensitivity Features from the SR.</td><td colspan="3">Screening Reports generated for the public access road section on 13/10/2022 14:24:53, and the private access road section on 22/09/2022 16:53:44:
<table>
<tr><th>Sensitivity</th><th>Feature(s)</th></tr>
<tr><td>Low</td><td>Low sensitivity</td></tr>
</table>
</td></tr>
<tr><td colspan="4">Desktop Findings (enter description of findings from comparing/overlaying the Screening Tools spatial imagery of the theme with satellite imagery and other spatial plans):


Figure 18. Screening Report generated for the public access road section on 13/10/2022 14:24:53</td></tr>
</table>

MEMBERS: J.A. Bowers (M Tech, Pr.Sci.Nat.) & S.D. MacGregor (M.Sc., Pr.Sci.Nat.)
Reg: 2006/023163/23

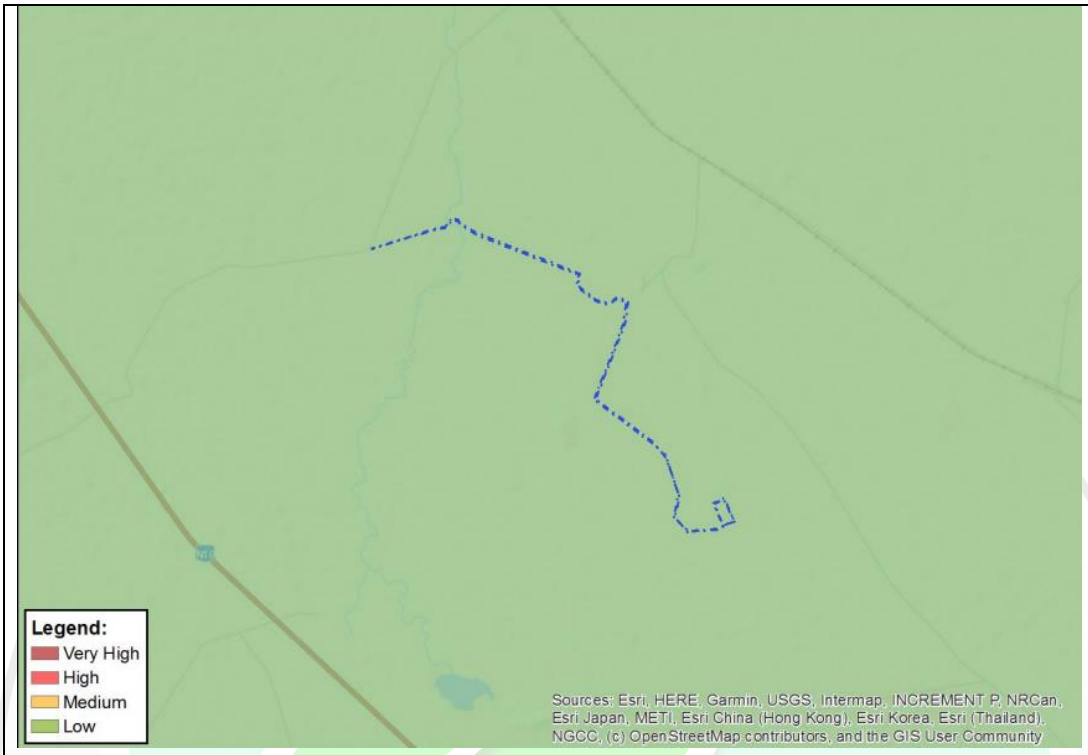

Figure 19. Screening Report generated for the private access road section on 22/09/2022 16:53:44

According to the national vegetation map (Mucina & Rutherford 2006), the entire site falls within a single vegetation type, Northern Upper Karoo. The Northern Upper Karoo is one of the most extensive vegetation types in the country and occupies over 40 000 km^2 of the interior Karoo. This vegetation type has not been significantly affected by transformation and is still approximately 96% intact and is classified as Least Threatened.

However, the Vegetation Map provides an oversimplification of the vegetation of the site on Phase 1. There are at least three distinct vegetation types present on the Phase 1 site. The open plains of the site correspond with the Northern Upper Karoo vegetation type, but the dolerite hills and koppies have vegetation more closely allied with Upper Karoo Hardeveld, and the floodplain of the Brak River is clearly characterised by an azonal vegetation type, allied with Upper Gariep Alluvial Vegetation.

According to the SIBIS database, a total of 407 plant species are found in the QDS 3024, of which only four red data-listed plant species are represented, *Chasmatophyllum maninum* and *Chasmatophyllum rouxii* (listed as DDD (data deficient, insufficient information)), *Cynodon polevansii*, which is listed DDT (Data Deficient – Taxonomically Problematic), and *Rapanea melanophloeos*, which is listed as Declining.

The *Chasmatophyllum* species are associated with rocky flats and areas of exposed bedrock and *Chasmatophyllum maninum* is confirmed present at the site. *Rapanea* is associated with forest patches that usually occur around the base or in small kloofs of sandstone outcrops in

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vegetation types such as Besemkaree Koppies Shrubland and as it was not observed at the site and it is highly unlikely to be present.

Other species of significance observed at the site include *Stomatium pluridens* and *Euphorbia crassipes*, which are regional endemics and provincially protected, while other protected species include *Aloe broomii* var. *broomii*, *Aloe claviflora*, *Pachypodium succulentum*, *Ammocharis coranica*, and *Boscia albitrunca (Environmental Impact Assessment for the proposed Soventix Solar PV Project, De Aar, Northern Cape: Fauna & Flora Specialist EIA Report prepared by Simon Todd Consulting dated May 2017).*

Motivation for Sensitivity Rating (*incl. actual rating if different from the Screening Tool*):

A low sensitivity is supported for the following reasons:

- The public access road section and more than half of the private road section is existing and therefore constitutes areas where no natural habitat remains, and as such there is no suspected occurrence of SCC.
- The widening, and to a lesser extent, development of a new road constitutes a linear activity. Any impacts on the natural resource adjacent to the road are temporary and the land can with mitigation be returned to the current land capability within two years of the completion of the construction phase.
- The vegetation type is classified as Least Threatened with a low density of known (n=4) red data-listed plants and regional endemics (as well as provincially protected plant species).
- A Fauna and Flora Species Specialist Assessment Report prepared by Simon Todd Consulting and dated May 2017 has already been undertaken for the affected area during the EIA for the Sun Central (300 MW) Solar PV Facility. Consequently, the findings of the same report will be combined with the findings from the Site Sensitivity Verification for consideration during the Basic Assessment process.

Photograph (*include photo no. from phone or camera, indicate cardinal direction the camera is facing and if possible, a GPS co-ordinate*):

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Photo 7. A common Karoo 'bossie' observed along the proposed route for the new section of road, specifically an earth berm structure.

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Photo 8. Mexican Poppy *Argemone mexicana* was observed along the verge of the **public road**.

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<table>
<tr><th colspan="3">AQUATIC BIODIVERSITY THEME</th></tr>
<tr><td>Sensitivity Rating</td><td>VERY HIGH</td><td>LOW</td></tr>
<tr><td>Enter Environmental Sensitivity Rating from the Screening Report by ticking the applicable box.</td><td>• for aquatic biodiversity features.</td><td>• for aquatic biodiversity features.</td></tr>
<tr><td>Access Road</td><td>  </td><td>  </td></tr>
<tr><td>Assessment</td><td>Aquatic Biodiversity Specialist Assessment</td><td>Aquatic Biodiversity Compliance Statement</td></tr>
<tr><td>Exemption(s)</td><td colspan="2">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 “very high sensitivity” for aquatic biodiversity, must submit an Aquatic Biodiversity Specialist Assessment.

If the application is for a linear activity for which impacts on the aquatic biodiversity are temporary and the land in the opinion of the aquatic scientist, based on the mitigation and remedial measures, can be returned to the current state within two years of the completion of the construction phase, then an Aquatic Biodiversity Compliance Statement can be submitted.</td></tr>
<tr><td>Enter Environmental Sensitivity Features from the SR.</td><td colspan="2">Screening Reports generated for the public access road section on 13/10/2022 14:24:53, the private access road section on 22/09/2022 16:53:44, and activities within a watercourse on 10/10/2022 15:37:32

<table>
<tr><th>Sensitivity</th><th>Feature(s)</th></tr>
<tr><td>Very High</td><td>Rivers (not on public road)</td></tr>
<tr><td>Very High</td><td>Strategic Water Source Area</td></tr>
<tr><td>Very High</td><td>Wetlands and Estuaries (not on public road)</td></tr>
<tr><td>Very High</td><td>Freshwater ecosystem priority area quinary catchments</td></tr>
</table>
</td></tr>
<tr><td colspan="3">Desktop Findings (enter description of findings from comparing/overlaying the Screening Tools spatial imagery of the theme with satellite imagery and other spatial plans):</td></tr>
</table>

MEMBERS: J.A. Bowers (M Tech, Pr.Sci.Nat.) & S.D. MacGregor (M.Sc., Pr.Sci.Nat.)
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Figure 20. Screening Report generated for the public access road section on 13/10/2022 14:24:53

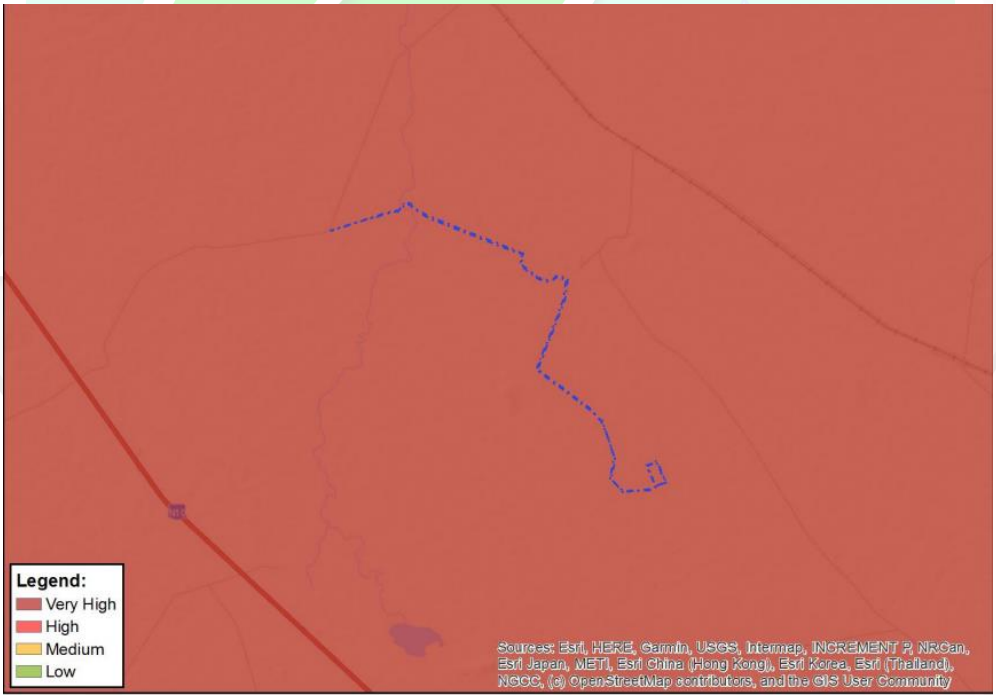

Figure 21. Screening Report generated for the private access road section on 22/09/2022 16:53:44

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The study area falls within the D62D catchment of the Lower Orange Water Management Area. The main water feature in the area is the Brak River, a seasonal tributary within the Orange River System.

As far as the Brak River is concerned, the aquatic biota has an Instream Ecological Category of an EcoStatus D (50.0%): "Largely modified"; mainly attributed to the many weirs in the system. On the other hand, the riparian vegetation Ecological Category is a B "Largely natural with few modifications" thereby increasing the overall EcoStatus to a C (72.5%): "Moderately modified". However, most of the surface water ecosystems in the study area are intermittent or ephemeral, being inundated only for brief periods each year, with periods of drought that are predictable in frequency but unpredictable in duration. *(Phase 1 Aquatic Report October 2017).*

The Brak River has been identified as having FEPA River Ecosystem Type status according to the **Freshwater Ecosystem Protected Areas (FEPA) map for the area**. *(Phase 1 Aquatic Report October 2017).* All FEPA prioritised wetlands and rivers have a minimum category of CBA 1 (Avifauna Final EIA Report prepared by Sam Laurence of Enviro-Insight cc, dated October 2022). Consequently, according to the information supplied by the Biodiversity Geographic Information System (BGIS), the Brak River riverine system is a Critical Biodiversity Area 1. Similarly, the Drainage area is a Critical Biodiversity Area 2 as all FEPA prioritised wetland clusters have a minimum category of CBA 2 (Avifauna Final EIA Report prepared by Sam Laurence of Enviro-Insight cc, dated October 2022) and the surrounding landscape is an Ecological Support Area. All natural non-FEPA wetlands and larger rivers have minimum category of ESA (Avifauna Final EIA Report prepared by Sam Laurence of Enviro-Insight cc, dated October 2022).

Motivation for Sensitivity Rating (*incl. actual rating if different from the Screening Tool*):

A very high sensitivity and specialist assessment is supported for the following reasons:

- The presence of NFEPA wetlands and watercourses (confirmed using SANBI's BGIS datasets, satellite imagery and the site sensitivity verification) within and adjacent to the study area.
- Furthermore, an Aquatic Biodiversity Specialist Assessment will support the application for a Water Use License to undertake water uses associated with the development.

Photograph (*include photo no. from phone or camera, indicate cardinal direction the camera is facing and if possible, a GPS co-ordinate*):

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Photo 9. A pan adjacent to the servitude of the **public** 'Burgerville' District Road (2448).

Photo 10. Possible seep (and associated road failure) adjacent to the servitude of the **public** 'Burgerville' District Road (2448).

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Photo 11. There is an existing pipe culvert (9 m wide shoulder width) on the **public district road** section.

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Photo 12. Channel of the Brak River downstream of the **private** road crossing/farm track (below).

Photo 13. Private road crossing/farm track over the Brak River and flood plain.

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Photo 14. Watercourse adjacent to and south of the proposed route of the new road section.

MEMBERS: J.A. Bowers (M Tech, Pr.Sci.Nat.) & S.D. MacGregor (M.Sc., Pr.Sci.Nat.)
Reg: 2006/023163/23

<table>
<tr><th colspan="3">TERRESTRIAL BIODIVERSITY THEME</th></tr>
<tr><td>Sensitivity Rating</td><td>VERY HIGH</td><td>LOW</td></tr>
<tr><td>Enter Environmental Sensitivity Rating from the Screening Report by ticking the applicable box.</td><td>• for terrestrial biodiversity features.</td><td>• for terrestrial biodiversity features.</td></tr>
<tr><td>Access Road</td><td>  </td><td></td></tr>
<tr><td>Assessment</td><td>Terrestrial Biodiversity Specialist Assessment</td><td>Terrestrial Biodiversity Compliance Statement</td></tr>
<tr><td>Exemption(s)</td><td colspan="2">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 “very high sensitivity” for terrestrial biodiversity, must submit a Terrestrial Biodiversity Specialist Assessment.

If the application is for a linear activity for which impacts on the terrestrial biodiversity are temporary and the land in the opinion of the terrestrial biodiversity specialist, based on the mitigation and remedial measures, can be returned to the current state within two years of the completion of the construction phase, then a Terrestrial Biodiversity Compliance Statement can be submitted.</td></tr>
<tr><td>Enter Environmental Sensitivity Features from the SR.</td><td colspan="2">Screening Reports generated for the public access road section on 13/10/2022 14:24:53, and the private access road section on 22/09/2022 16:53:44:

<table>
<tr><th>Sensitivity</th><th>Feature(s)</th></tr>
<tr><td>Very High</td><td>Critical Biodiversity Area 1 - 2016 Northern Cape CBA’s (not on public road)</td></tr>
<tr><td>Very High</td><td>Critical Biodiversity Area 2</td></tr>
<tr><td>Very High</td><td>Ecological Support Area</td></tr>
<tr><td>Very High</td><td>FEPA Subcatchments</td></tr>
</table>
</td></tr>
<tr><td colspan="3">Desktop Findings (enter description of findings from comparing/overlaying the Screening Tools spatial imagery of the theme with satellite imagery and other spatial plans):</td></tr>
</table>

MEMBERS: J.A. Bowers (M Tech, Pr.Sci.Nat.) & S.D. MacGregor (M.Sc., Pr.Sci.Nat.)
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Figure 22. Screening Report generated for the public access road section on 13/10/2022 14:24:53

Figure 23. Screening Report generated for the private access road section on 22/09/2022 16:53:44

MEMBERS: J.A. Bowers (M Tech, Pr.Sci.Nat.) & S.D. MacGregor (M.Sc., Pr.Sci.Nat.)
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The Brak River has been identified as having FEPA River Ecosystem Type status according to the **Freshwater Ecosystem Protected Areas (FEPA) map for the area**. *(Phase 1 Aquatic Report October 2017).*

So, the study area falls within a CBA1 (all FEPA prioritised wetlands and rivers have a minimum category of CBA 1), a CBA2 (all FEPA prioritised wetland clusters have minimum category of CBA 2), an ESA (natural non-FEPA wetlands and larger rivers have minimum category of ESA) and FEPA Sub catchments (Avifauna Final EIA Report prepared by Sam Laurence of Enviro-Insight cc, dated October 2022).

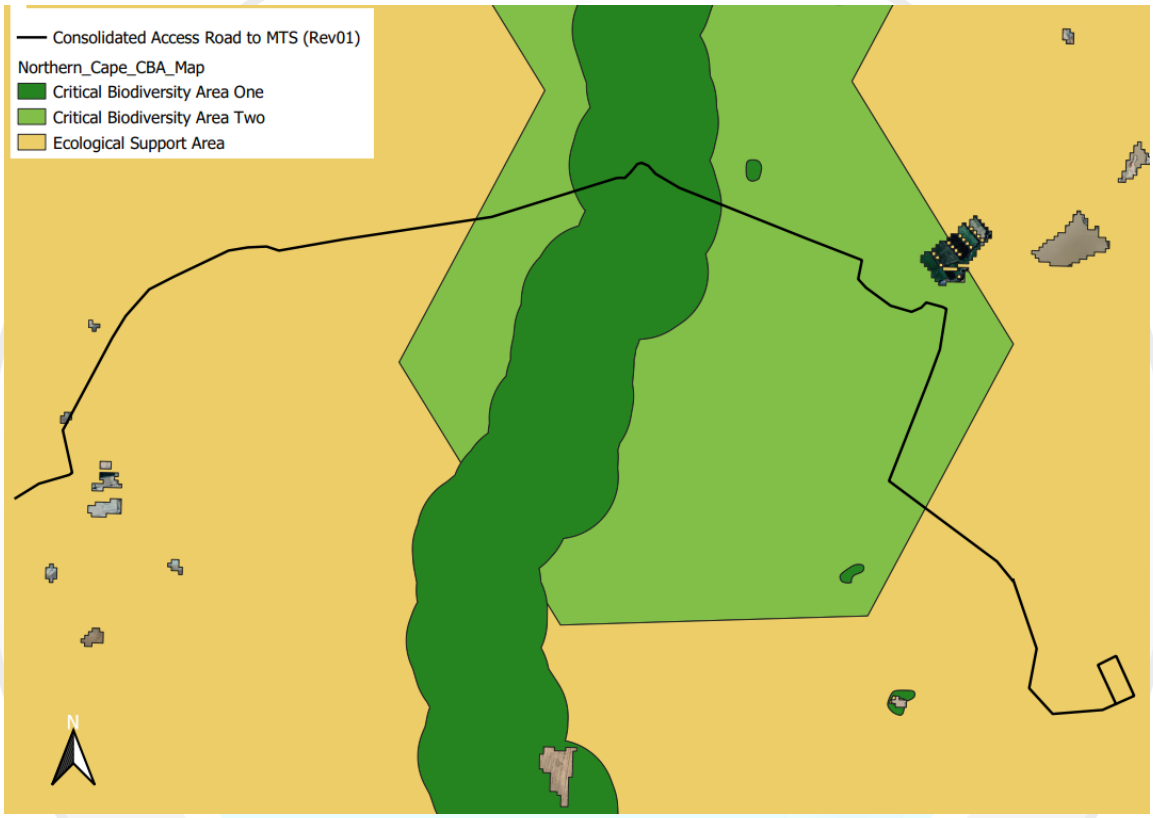

Figure 24. Section(s) of the Access Road are in a CBA1, CBA2 and ESA according to the Northern Cape: Technical Report (2016) by Dr Stephen Holness & Enrico Oosthuysen/CBA Maps (2016).

The study area does not fall within a National Protected Areas Expansion Strategy Focus Area (NPAES), indicating that the area has not been identified as an area of exceptional biodiversity or of significance for the long-term maintenance of broad-scale ecological processes and climate change buffering within the region.

Motivation for Sensitivity Rating (*incl. actual rating if different from the Screening Tool*):

A very high sensitivity is supported for the following reason(s):

- Multiple biodiversity features are intersected.
- The public access road section and more than half of the private road section is existing and therefore constitutes areas where no natural habitat remains.

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- The widening, and to a lesser extent, development of a new road constitutes a linear activity. Any impacts on the terrestrial biodiversity adjacent to the road are temporary and any edge effects can with mitigation be returned to the current state within two years of the completion of the construction phase.
- A Fauna and Flora Species Specialist Assessment Report prepared by Simon Todd Consulting and dated May 2017 has already been undertaken for the affected area during the EIA for the Sun Central (300 MW) Solar PV Facility. Consequently, the findings of the same report will be combined with the findings from the Site Sensitivity Verification for consideration during the Basic Assessment process.

Photograph (*include photo no. from phone or camera, indicate cardinal direction the camera is facing and if possible, a GPS co-ordinate*): See photographs for **Terrestrial Animal Species Theme**.

Photo 15. Active den site (far) south of the proposed route for the new road section.

MEMBERS: J.A. Bowers (M Tech, Pr.Sci.Nat.) & S.D. MacGregor (M.Sc., Pr.Sci.Nat.)
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<table>
<tr><th colspan="5">DEFENCE THEME</th></tr>
<tr><td>Sensitivity Rating</td><td>VERY HIGH</td><td>HIGH</td><td>MEDIUM</td><td>LOW</td></tr>
<tr><td>Enter Environmental Sensitivity Rating from the Screening Report by ticking the applicable box.</td><td>high likelihood for negative impacts on the defence installation. In-depth assessment of the potential impacts and mitigation measures are likely to be required before development can be considered in these areas.</td><td>potential for negative impacts on the defence installation that can potentially be mitigated. Further assessment may be required to investigate potential impacts and mitigation measures.</td><td>low potential for negative impacts on the defence installation, and if there are impacts there is a high likelihood of mitigation. Further assessment of the potential impacts may not be required.</td><td>No negative impacts on the defence installation are expected in low sensitivity areas. It is unlikely for further assessment and mitigation measures to be required.</td></tr>
<tr><td>Access Road</td><td>☐</td><td>☐</td><td>☐</td><td>☑</td></tr>
<tr><td>Assessment</td><td colspan="3">Defence Compliance Statement</td><td>No requirement identified.</td></tr>
<tr><td>Exemption(s)</td><td colspan="4">None.</td></tr>
<tr><td>Enter Environmental Sensitivity Features from the SR.</td><td colspan="4">Screening Reports generated for the public access road section on 13/10/2022 14:24:53, and the private access road section on 22/09/2022 16:53:44:
<table><tr><th>Sensitivity</th><th>Feature(s)</th></tr><tr><td>Low</td><td>Low Sensitivity</td></tr></table></td></tr>
<tr><td colspan="5">Desktop Findings (enter description of findings from comparing/overlaying the Screening Tools spatial imagery of the theme with satellite imagery and other spatial plans):</td></tr>
</table>

MEMBERS: J.A. Bowers (M Tech, Pr.Sci.Nat.) & S.D. MacGregor (M.Sc., Pr.Sci.Nat.)
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Figure 25. Screening Report generated for the public access road section on 13/10/2022 14:24:53

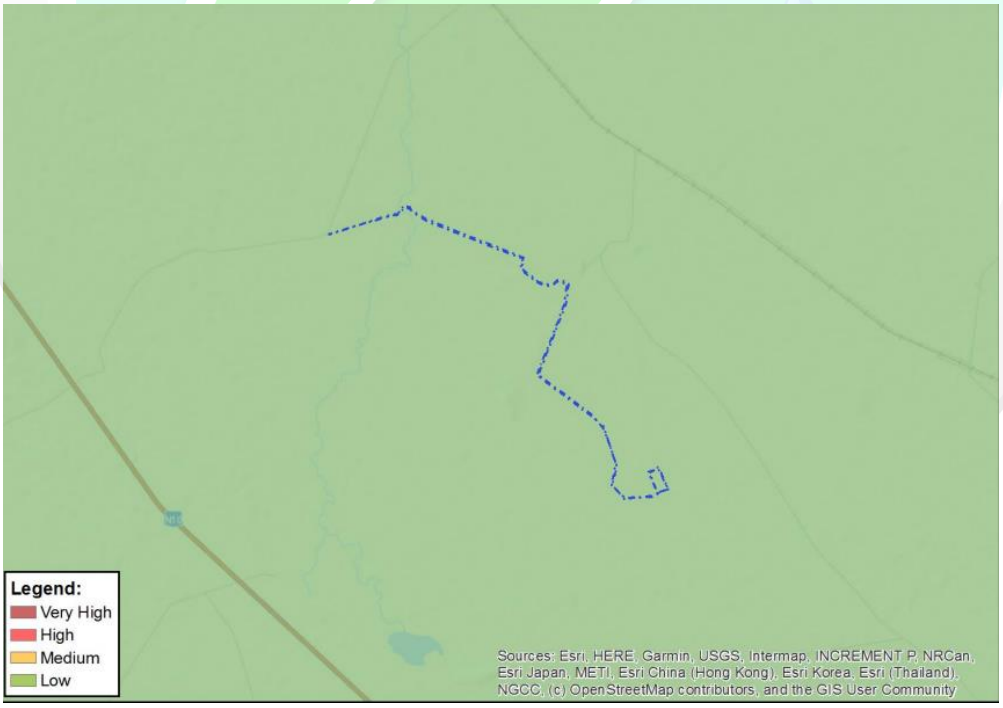

Figure 26. Screening Report generated for the private access road section on 22/09/2022 16:53:44

The Civil Aviation Act (Act No. 13 of 2009) provides for the establishment of a stand-alone authority mandated with controlling, promoting, regulating, supporting, developing, enforcing, and continuously improving levels of safety and security throughout the civil aviation industry. In South Africa all structures higher than 15 m above ground level must be assessed and registered as potential obstacles to aviation in the Electronic Terrain and Obstacle Database (eTOD). The Obstacle Evaluation Committee (OEC) which consists of members from both the SA CAA and South African Air Force (SAAF) fulfils the role of streamlining and coordinating the assessment and approvals of proposed developments or activities that have the potential to affect civil aviation, military aviation, or military areas of interest. With both being national and international priorities, the OEC is responsible for facilitating the coexistence of aviation and renewable energy development, without compromising aviation safety. For example, the applicant would require a CAA for the facility should there be telecommunication towers or transmission powerlines higher than 15 m.

Obstacle Notice 1/2022 – Appointment of New Windfarm and Solar Obstacle Application Service Provider: Air Traffic and Navigation Services (ATNS) has been appointed as the Obstacle application Service Provider for Windfarms on 1 May 2021. They will be also responsible for Solar Obstacle Applications from the 1'st of February 2022. All new Solar applications must be lodged to obstacles@atns.co.za. Their responsibility would pertain to the assessments, maintenance, and all other related matters in respect to Windfarms and Solar assessments. http://www.caa.co.za/Pages/Obstacles/Urgent-notices.aspx

Astronomy Geographic Advantage (AGA) Act (Act No. 21 of 2007) aims to protect astronomy in all its forms in South Africa, in particular, but not limited to the MeerKAT and SKA projects being developed in the Northern Cape Province. The AGA Act regulates the identification and protection of areas in which astronomy projects can be undertaken as well as the undertaking of activities which cause or could cause radio frequency interference (RFI) to astronomical activities in these areas. The Northern Cape Province, excluding Sol Plaatje Municipality, was declared an Astronomy Advantage Area (AAA) under the Astronomy Geographic Advantage (AGA) Act (Act No. 21 of 2007).

The Northern Cape Province is declared an **Astronomy Advantage Area (AAA)** under the Astronomy Geographic Advantage (AGA) Act, 2007. Consequently, potential radio frequency interference to astronomical activities including, MeerKAT and Square Kilometre Array (SKA) radio telescopes, would require approval or permission from the South African Radio Astronomy Observatory (SARAO) in terms of the AGA Act, 2007.

Motivation for Sensitivity Rating (*incl. actual rating if different from the Screening Tool*):

A low sensitivity and no action are supported for the following reason(s):

- The site doesn't fall within the Karoo Central Astronomy Advantage Area (KCAAA).
- No structures will be higher than 15 m.
- The proposed activity (an access road) will have no impact on *inter alia* radar systems in the area.

Photograph (*include photo no. from phone or camera, indicate cardinal direction the camera is facing and if possible, a GPS co-ordinate*):

MEMBERS: J.A. Bowers (M Tech, Pr.Sci.Nat.) & S.D. MacGregor (M.Sc., Pr.Sci.Nat.)
Reg: 2006/023163/23

<table>
<tr><th colspan="5">CIVIL AVIATION THEME</th></tr>
<tr><td>Sensitivity Rating</td><td>VERY HIGH</td><td>HIGH</td><td>MEDIUM</td><td>LOW</td></tr>
<tr><td>Enter Environmental Sensitivity Rating from the Screening Report by ticking the applicable box.</td><td>high likelihood for negative impacts on the civil aviation installation. In-depth assessment of the potential impacts and mitigation measures are likely to be required before development can be considered in these areas.</td><td>potential for negative impacts on the civil aviation installation that can potentially be mitigated. Further assessment may be required to investigate potential impacts and mitigation measures.</td><td>low potential for negative impacts on the civil aviation installation, and if there are impacts there is a high likelihood of mitigation. Further assessment of the potential impacts may not be required.</td><td>No negative impacts on the civil aviation installation are expected in low sensitivity areas. It is unlikely for further assessment and mitigation measures to be required.</td></tr>
<tr><td>Access Road</td><td></td><td></td><td></td><td>✓</td></tr>
<tr><td>Assessment</td><td colspan="3">Civil Aviation Compliance Statement</td><td>No requirement identified.</td></tr>
<tr><td>Exemption(s)</td><td colspan="4">None.</td></tr>
<tr><td>Enter Environmental Sensitivity Features from the Screening Report.</td><td colspan="4">Screening Reports generated for the public access road section on 13/10/2022 14:24:53, and the private access road section on 22/09/2022 16:53:44:
<table><tr><th>Sensitivity</th><th>Feature(s)</th></tr><tr><td>Low</td><td>Low Sensitivity</td></tr></table></td></tr>
<tr><td colspan="5">Desktop Findings (enter description of findings from comparing/overlaying the Screening Tools spatial imagery of the theme with satellite imagery and other spatial plans):</td></tr>
</table>

MEMBERS: J.A. Bowers (M Tech, Pr.Sci.Nat.) & S.D. MacGregor (M.Sc., Pr.Sci.Nat.)
Reg: 2006/023163/23

Figure 27. Screening Report generated for the public access road section on 13/10/2022 14:24:53

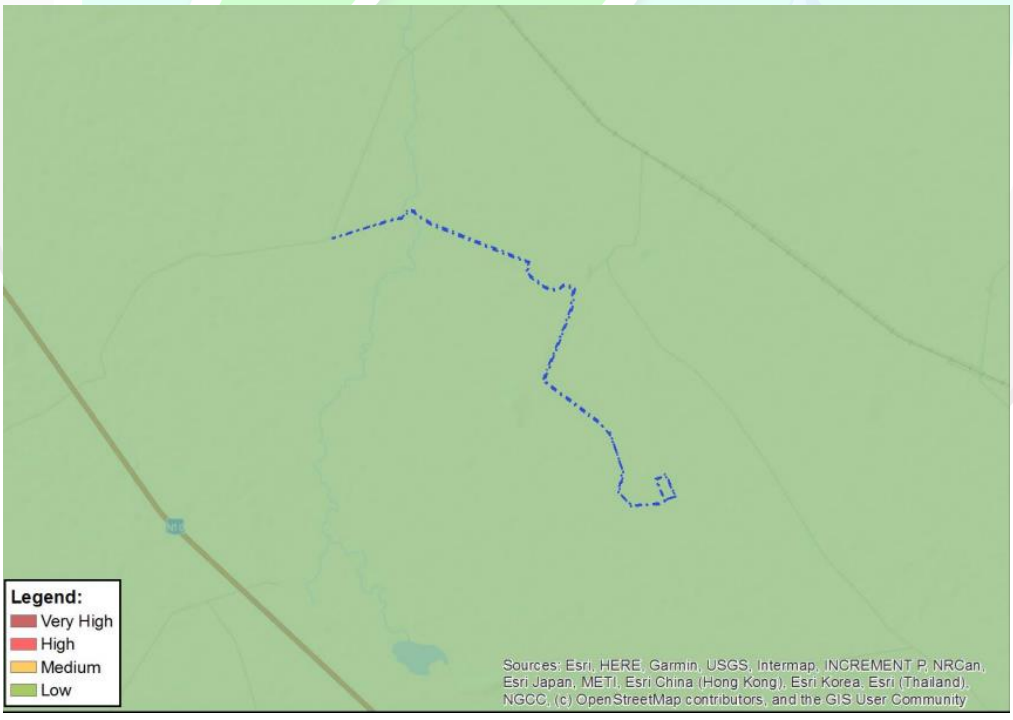

Figure 28. Screening Report generated for the private access road section on 22/09/2022 16:53:44

MEMBERS: J.A. Bowers (M Tech, Pr.Sci.Nat.) & S.D. MacGregor (M.Sc., Pr.Sci.Nat.)
Reg: 2006/023163/23

The Civil Aviation Act (Act No. 13 of 2009) provides for the establishment of a stand-alone authority mandated with controlling, promoting, regulating, supporting, developing, enforcing, and continuously improving levels of safety and security throughout the civil aviation industry. In South Africa all structures higher than 15 m above ground level must be assessed and registered as potential obstacles to aviation in the Electronic Terrain and Obstacle Database (eTOD). The Obstacle Evaluation Committee (OEC) which consists of members from both the SA CAA and South African Air Force (SAAF) fulfils the role of streamlining and coordinating the assessment and approvals of proposed developments or activities that have the potential to affect civil aviation, military aviation, or military areas of interest. With both being national and international priorities, the OEC is responsible for facilitating the coexistence of aviation and renewable energy development, without compromising aviation safety. For example, the applicant would require a CAA for the facility should there be telecommunication towers or transmission powerlines higher than 15 m.

Obstacle Notice 1/2022 – Appointment of New Windfarm and Solar Obstacle Application Service Provider: Air Traffic and Navigation Services (ATNS) has been appointed as the Obstacle application Service Provider for Windfarms on 1 May 2021. They will be also responsible for Solar Obstacle Applications from the 1'st of February 2022. All new Solar applications must be lodged to obstacles@atns.co.za. Their responsibility would pertain to the assessments, maintenance, and all other related matters in respect to Windfarms and Solar assessments. http://www.caa.co.za/Pages/Obstacles/Urgent-notices.aspx

Astronomy Geographic Advantage (AGA) Act (Act No. 21 of 2007) aims to protect astronomy in all its forms in South Africa, in particular, but not limited to the MeerKAT and SKA projects being developed in the Northern Cape Province. The AGA Act regulates the identification and protection of areas in which astronomy projects can be undertaken as well as the undertaking of activities which cause or could cause radio frequency interference (RFI) to astronomical activities in these areas. The Northern Cape Province, excluding Sol Plaatje Municipality, was declared an Astronomy Advantage Area (AAA) under the Astronomy Geographic Advantage (AGA) Act (Act No. 21 of 2007).

The Northern Cape Province is declared an **Astronomy Advantage Area (AAA)** under the Astronomy Geographic Advantage (AGA) Act, 2007. Consequently, potential radio frequency interference to astronomical activities including, MeerKAT and Square Kilometre Array (SKA) radio telescopes, would require approval or permission from the South African Radio Astronomy Observatory (SARAO) in terms of the AGA Act, 2007.

Motivation for Sensitivity Rating (*incl. actual rating if different from the Screening Tool*):

A low sensitivity and no action are supported for the following reason(s):

- The site doesn't fall within the Karoo Central Astronomy Advantage Area (KCAAA).
- No structures will be higher than 15 m.
- The proposed activity (an access road) will have no impact on *inter alia* radar systems in the area.
- No major or other types of civil aviation aerodromes within proximity of the study area.

MEMBERS: J.A. Bowers (M Tech, Pr.Sci.Nat.) & S.D. MacGregor (M.Sc., Pr.Sci.Nat.)
Reg: 2006/023163/23

• Furthermore, the access road does not represent a sensitive noise receptor, nor will it be lit.
Photograph (*include photo no. from phone or camera, indicate cardinal direction the camera is facing and if possible, a GPS co-ordinate*):

<table>
<tr><th colspan="5">ARCHAEOLOGICAL AND CULTURAL HERITAGE THEME</th></tr>
<tr><td>Sensitivity Rating</td><td>VERY HIGH</td><td>HIGH</td><td>MEDIUM</td><td>LOW</td></tr>
<tr><td>Enter Environmental Sensitivity Rating from the Screening Report by ticking the applicable box.</td><td></td><td></td><td></td><td></td></tr>
<tr><td>Access Road</td><td>☐</td><td>☐</td><td>☐</td><td>☑</td></tr>
<tr><td rowspan="2">Assessment</td><td>Specialist Assessment</td><td>Specialist Assessment</td><td>Specialist Assessment or Compliance Statement</td><td>Compliance Statement</td></tr>
<tr><td colspan="4">The required level of assessment must be based on the findings of the site sensitivity verification and must comply with Appendix 6 of the EIA Regulations.</td></tr>
<tr><td>Exemption(s)</td><td colspan="4">None.</td></tr>
<tr><td>Enter Environmental Sensitivity Features from the SR</td><td colspan="4">Screening Reports generated for the public access road section on 13/10/2022 14:24:53, and the private access road section on 22/09/2022 16:53:44:
<table><tr><th>Sensitivity</th><th>Feature(s)</th></tr><tr><td>Low</td><td>Low Sensitivity</td></tr></table></td></tr>
<tr><td colspan="5">Desktop Findings (enter description of findings from comparing/overlaying the Screening Tools spatial imagery of the theme with satellite imagery and other spatial plans):</td></tr>
</table>

MEMBERS: J.A. Bowers (M Tech, Pr.Sci.Nat.) & S.D. MacGregor (M.Sc., Pr.Sci.Nat.)
Reg: 2006/023163/23

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Figure 29. Screening Report generated for the public access road section on 13/10/2022 14:24:53

Figure 30. Screening Report generated for the private access road section on 22/09/2022 16:53:44

MEMBERS: J.A. Bowers (M Tech, Pr.Sci.Nat.) & S.D. MacGregor (M.Sc., Pr.Sci.Nat.)
Reg: 2006/023163/23

Previous archaeological and heritage assessments for the Goedehoop Solar PV Project (Phases 1, 2 & 3) recorded a fairly large number of cultural heritage (archaeological & historical) resources of varying extent and significance in the area. These included scatters of open-air surface Stone Age sites, rock engravings, later agro-pastoralist stone-walled sites, as well as historical Anglo-Boer War (1899-1902) sites.

Motivation for Sensitivity Rating (*incl. actual rating if different from the Screening Tool*):

A high sensitivity and Archaeological and Cultural Heritage Impact Assessment are supported for the following reason(s):

- Previous archaeological and heritage assessments for the Goedehoop Solar PV Project (Clusters 1, 2 & 3) recorded a fairly large number of cultural heritage (archaeological & historical) resources of varying extent and significance in the area.
- Consequently, the same archaeologist (**APELSER ARCHAEOLOGICAL CONSULTING**) will prepare a report that combines all the cultural heritage sites recorded to date with the findings of the Site Sensitivity Verification (below) for consideration during the Basic Assessment process.
- The report will discuss the results of the background research and provide recommendations on the way forward, particularly regarding the potential impacts of the additional activities on the cultural heritage already assessed.

Photograph (*include photo no. from phone or camera, indicate cardinal direction the camera is facing and if possible, a GPS co-ordinate*):

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PO Box 516, Machadodorp, 1170, www.ecoleges.co.za

Photo 16. A potential heritage site (homestead rubble and plate fragments) outside the public District Road servitude (indicated by the fence), after the first powerline crossing (over the road).

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PO Box 516, Machadodorp, 1170, www.ecoleges.co.za

Photo 17. A nail (top) and stone (potential stone age surface scatter) in the general area around the new road section.

PALEONTOLOGY THEME				
Sensitivity Rating	**VERY HIGH**	**HIGH**	**MEDIUM**	**LOW**
Enter Environmental Sensitivity Rating from the Screening Report by ticking the applicable box.				
Access Road				
Assessment	Specialist Assessment	Specialist Assessment	Specialist Assessment or Compliance Statement	Compliance Statement
	The required level of assessment must be based on the findings of the site sensitivity verification and must comply with Appendix 6 of the EIA Regulations.			
Exemption(s)	None.			
Enter Environmental Sensitivity Features from the Screening Report.	Screening Reports generated for the public access road section on 13/10/2022 14:24:53, and the private access road section on 22/09/2022 16:53:44:			

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

Desktop Findings (*enter description of findings from comparing/overlaying the Screening Tools spatial imagery of the theme with satellite imagery and other spatial plans):*

MEMBERS: J.A. Bowers (M Tech, Pr.Sci.Nat.) & S.D. MacGregor (M.Sc., Pr.Sci.Nat.)
Reg: 2006/023163/23

No. 3 Generaal Street, Machadodorp (eNtokozweni), 1170,
PO Box 516, Machadodorp, 1170, www.ecoleges.co.za

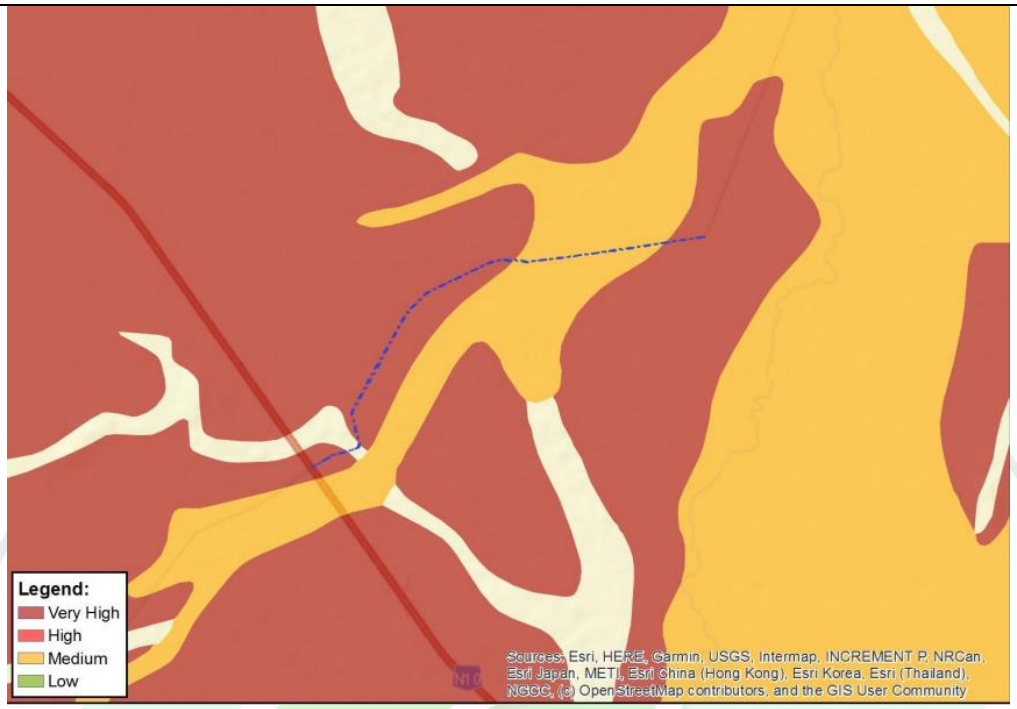

Figure 31. Screening Report generated for the public access road section on 13/10/2022 14:24:53

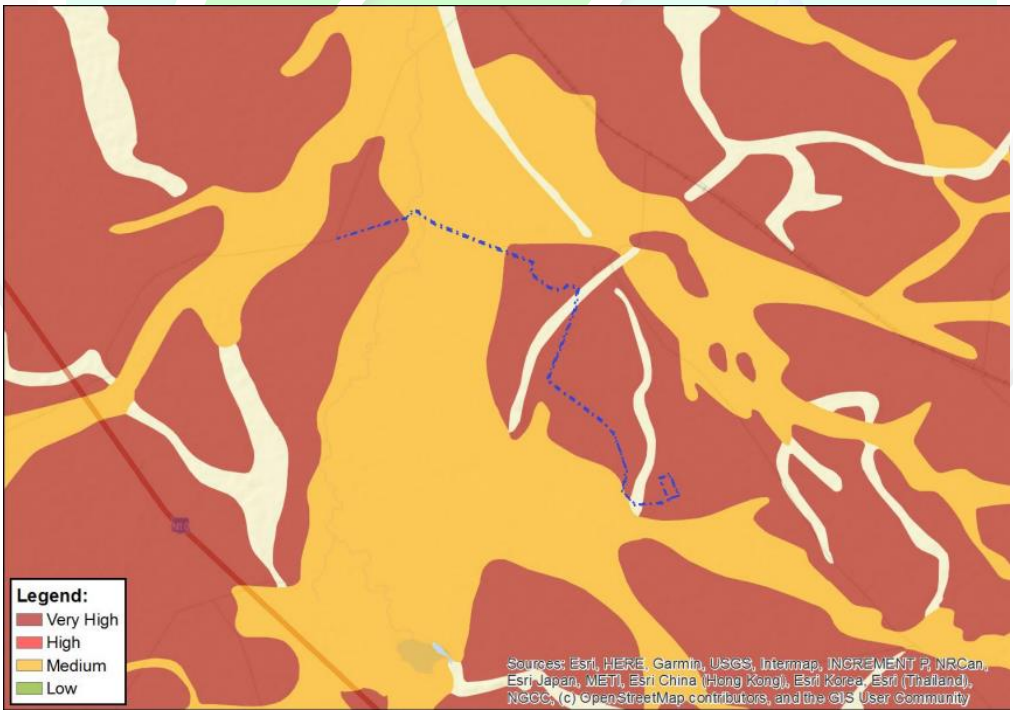

Figure 32. Screening Report generated for the private access road section on 22/09/2022 16:53:44

MEMBERS: J.A. Bowers (M Tech, Pr.Sci.Nat.) & S.D. MacGregor (M.Sc., Pr.Sci.Nat.)
Reg: 2006/023163/23

The outcrop area of the Lower Beaufort Group is provisionally assigned a Very High palaeosensitivity here, Late Caenozoic alluvium a Medium sensitivity while Karoo dolerite intrusions are designated as insensitive. This sensitivity mapping is *contested* in this report which concludes the area is of LOW palaeosensitivity overall due to thick cover by Late Caenozoic unfossiliferous superficial sediments (soils, gravels *etc*) and extensive baking of sedimentary bedrocks by intensive dolerite intrusion (*Site Sensitivity Verification Report prepared by John E. Almond PhD (Cantab.), dated May 2022*).

The Soventix Phase 3 solar facility and associated infrastructure (including grid connection) project area is underlain at depth by potentially fossiliferous continental sediments of the Adelaide Subgroup (Beaufort Group, Karoo Supergroup) of Middle Permian age. The palaeosensitivity of the project area has been provisionally rated as Very High by the DFFE Screening Tool. However, based on four successive palaeontological site visits to the broader Soventix solar project area - including, most recently, to the previously unassessed Phase 3 project areas – this sensitivity rating is *contested* in this report. No High Sensitivity fossil sites are recorded within any of the Soventix Phase 1 to Phase 3 solar project areas (including all associated infrastructure such as grid connections, substations, access roads *etc*). This is probably largely due to rarity of well-preserved fossil remains within the bedrocks concerned, the generally very poor levels of bedrock exposure (especially in flat-lying regions) as well as extensive baking of the sedimentary bedrocks by dolerite intrusions in the region. It is concluded that, in practice, all these sites – including the Soventix Phase 3 project area - are of LOW Palaeosensitivity (*Site Sensitivity Verification Report prepared by John E. Almond PhD (Cantab.), dated May 2022*).

The potential for rare, largely unpredictable fossil sites of High Palaeosensitivity within the Permian bedrocks or associated with older alluvial and pan deposits hidden in the subsurface cannot be entirely discounted (*Site Sensitivity Verification Report prepared by John E. Almond PhD (Cantab.), dated May 2022*).

Motivation for Sensitivity Rating (*incl. actual rating if different from the Screening Tool*):

A low sensitivity and compliance statement are supported for the following reason(s):

- The public access road section and more than half of the private road section is existing and therefore constitutes areas already disturbed by road works.
- Pending the discovery of significant new fossil finds before or during construction, no further specialist palaeontological studies, monitoring or mitigation are recommended for these renewable energy projects (*Site Sensitivity Verification Report prepared by John E. Almond PhD (Cantab.), dated May 2022*).
- A Chance Fossils Finds Protocol shall be included within the EMPrs for the Soventix Solar PV Facilities and associated infrastructure developments in case any fossiliferous deposits are exposed by surface clearance or excavations during the construction phase of the development (*Site Sensitivity Verification Report prepared by John E. Almond PhD (Cantab.), dated May 2022*).

Photograph (*include photo no. from phone or camera, indicate cardinal direction the camera is facing and if possible, a GPS co-ordinate*):

Other Identified Specialist Assessments (without Environmental Themes)

MEMBERS: J.A. Bowers (M Tech, Pr.Sci.Nat.) & S.D. MacGregor (M.Sc., Pr.Sci.Nat.)
Reg: 2006/023163/23

1) Landscape/Visual Impact Assessment

Two potentially sensitive receptors (homesteads) are within proximity to the proposed access road (**Photo 18**). However, it is unlikely the road will have any significant visual impact as the surface layer(s) will be no more than 350 mm above NGL, and road crossing structures are likely to be a concrete drift with rock fill built at the riverbed OGL. Consequently, the landscape/visual impact is of a Low severity, and a Level 2 Visual Impact Assessment will be undertaken.

2) Noise Impact Assessment

A baseline noise survey and compliance statement will be undertaken as the study area as the noise impact is of a Low severity given the sparsely populated rural or agricultural setting, and only two potentially sensitive receptors (homesteads) within proximity to the proposed access road (**Photo 18**).

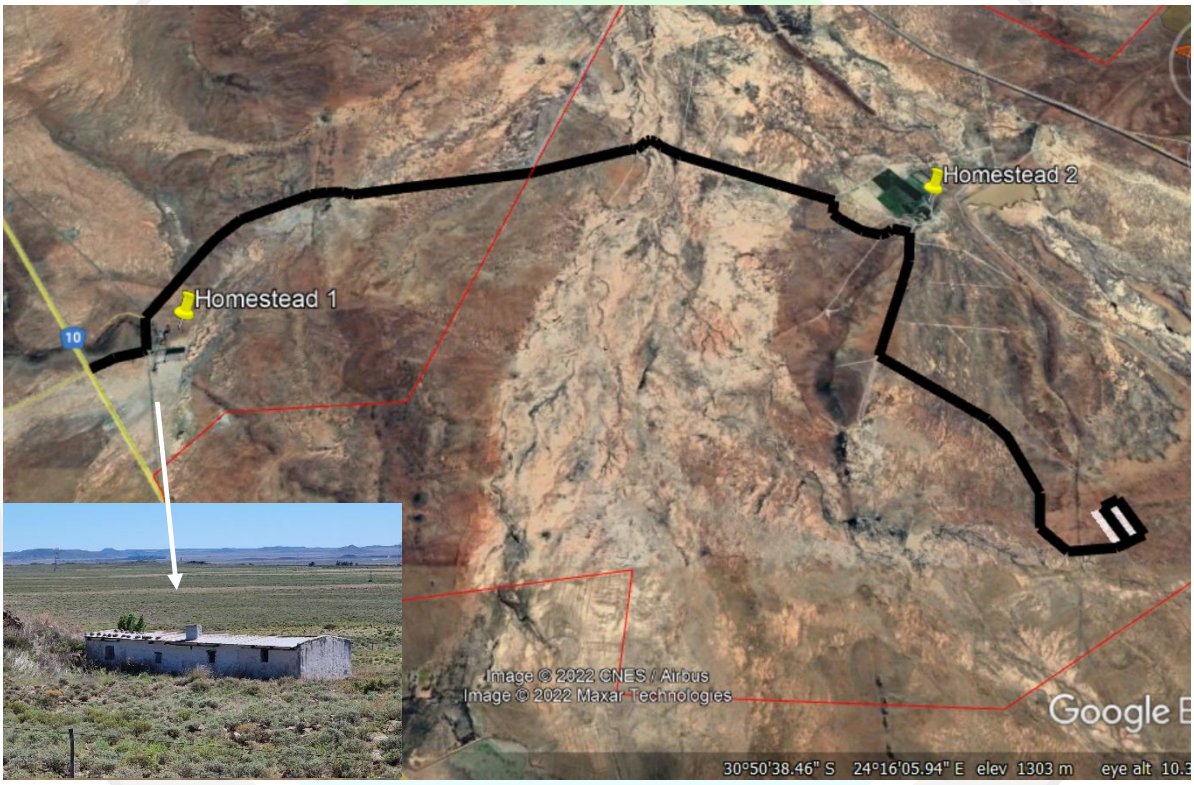

Photo 18. Two potentially sensitive receptors (homesteads) are within proximity to the proposed access road.

3) Traffic Impact Study

The screening tool identified a traffic impact assessment for upgrading the **public road**. Traffic Impact Assessments were undertaken for all three phases (Solar PV Facilities), linked by a common access road to site from the N10/ District 'Burgerville' (2448) Road turn-off. So, this study will update the existing Traffic Impact Assessment Report(s) by assessing the impact of roadworks, particularly on the District 'Burgerville' (2448) Road as it is used mainly by farm traffic and local residents in the area.

4) Geotechnical assessment

MEMBERS: J.A. Bowers (M Tech, Pr.Sci.Nat.) & S.D. MacGregor (M.Sc., Pr.Sci.Nat.)
Reg: 2006/023163/23

The screening tool identified a geotechnical assessment. The principal aim of the geotechnical assessment will be to determine the founding stability and extent of reconstruction required (**Photo 19**) to ensure compliance with Eskom minimum road specifications and support the weight of the heavy transport vehicles carrying the abnormally large loads (transformers) to the MTS.

Photo 19. A Geotechnical Assessment will be undertaken to determine the founding stability and extent of reconstruction required on the public (above) and private sections of road.

5) Socio-economic assessment

The screening tool identified a Socio-economic Impact assessment (SIA). Socio-economic Impact Assessments were undertaken for all three phases (Solar PV Facilities) over a period of five years (2017 to 2022). Consequently, an updated SIA has been suggested to consider the additional construction phase impacts when upgrading and developing the principal access road to all three facilities.

6) Ambient Air Quality Impact Assessment

The screening tool identified an ambient air quality impact assessment for upgrading the **public road**. A high-level air quality assessment shall be undertaken to assess the impact during construction of the access road, model the results of dust generation on the access road during its operation, e.g., during the construction of the MTS and Cluster 1, as well as comment on the impacts for remaining sections of the District Road that will be used to access Clusters 2 and 3.

7) Hydrology Assessment

MEMBERS: J.A. Bowers (M Tech, Pr.Sci.Nat.) & S.D. MacGregor (M.Sc., Pr.Sci.Nat.)
Reg: 2006/023163/23

No. 3 Generaal Street, Machadodorp (eNtokozweni), 1170,
PO Box 516, Machadodorp, 1170, www.ecoleges.co.za

A Hydrology Impact Assessment shall be undertaken to assess the impacts of reconstruction and construction activities within or close to a watercourse (**Photo 20**) as well as the Integrated Water Use License Application, which will be submitted to the Department of Water and Sanitation.

Photo 20. The proposed access road does intersect several watercourses.

Please do not hesitate to contact Mr Shaun MacGregor (064 885 2240) should you have any queries or concerns relating to this report.

Shaun MacGregor *(Reg. EAP.)*
Professional Environmental Assessment Practitioner (ecoleges)
Cell: +27 (0)64 885 2240
Email: shaun@ecoleges.co.za
Website: www.ecoleges.co.za

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