

# **Vlakfontein Solar PV1**

## **Remainder of Vlakfontein No 15 Portion 1 of Jackalsfontein No 443**

### **SITE VERIFICATION REPORT**

#### **Background to the Site Verification Sensitivity Report**

In terms of the gazetted agricultural protocol, a site sensitivity verification must be submitted that:

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

The DFFE Screening Tool Report dated 31 August 2022 is attached under Addendum B(1)(a) and should be read with this document.

The sensitivities identified in the DFFE Screening Tool Report are indicative only and were verified by suitably qualified persons (the EAP or relevant specialist) which guided the extent of specialist assessments undertaken. More details are provided in the relevant specialist reports contained in Appendix E of the Final Basic Assessment Report.

#### **Content of the Site Verification Sensitivity Report**

The following is supplied with this document:

- Site Verification Table
- The DFFE Screening Tool Report Sensitivity Maps
- The Combined Environmental Sensitivity Report that resulted from Site Verification

## SITE VERIFICATION TABLE

Impact Assessment	Motivation for assessment done or excluded	DFFE Screening Tool Sensitivity	EAP / Specialist Rating : Confirm or dispute the DFFE Screening Tool
Agricultural Impact Assessment	<p>An <b>Agricultural Agro-Ecosystem Specialist Assessment</b> was done (as required in terms of the NEMA protocol) and is summarised in Chapter 6, paragraph 6.6 and is included as Appendix E(8) of this report.</p>	High Sensitivity	<p><b>Dispute the DFFE Screening Tool Rating</b></p> <p>All the land that is rated high sensitivity in the DFFE Screening Tool, is rated as such because those fields are classified as cropland in the data set used by the screening tool. However that data set is outdated and not all of that land is still cropland. The field-verified and updated indication of which lands should be classified as croplands were done. All other land should no longer be classified as cropland or allocated high sensitivity because of it.</p> <p>None of the proposed Vlakfontein site is currently or has recently been cropped. Farming experience showed that it was too marginal for viable crop production. Soils are limited by shallow depths to underlying bedrock in places and by very low water and nutrient holding capacity across the site.</p> <p>The site is therefore confirmed as having a MEDIUM agricultural sensitivity and was recommended for development.</p> <p>The specialist report contains a motivation and evidence of different use of the land and environmental sensitivity.</p>
Landscape / Visual Impact Assessment	<p>A <i>Visual Impact Assessment</i> was done and is summarised in Chapter 6, paragraph 6.5.2 and included as Appendix E(7) of this report.</p>	Very High	

			<p><b>Dispute the DFFE Screening Tool Rating</b></p> <p>No significant landscape or visual resources were located within the project zone of visual influence, with receiving landscape partially degraded by large substation and background views of degraded mining landscapes. No receptors sensitive to landscape change were identified. The specialist finding is the site should have a visual sensitivity rating of <b>MEDIUM TO LOW</b>.</p> <p>The specialist report contains a motivation and evidence of different use of the land and environmental sensitivity. Refer to Pages 12 to 14 of the specialist assessment.</p>
Archaeological and Cultural Heritage Impact Assessment	A Heritage Impact Assessment which includes an Archaeological Specialist Study was done and is summarised in Chapter 6, paragraph 6.4.1 and included under Appendix E(5) of this report.	Low	<p><b>Confirm the DFFE Screening Tool Rating</b></p> <p>No significant archaeological resources were noted within the proposed Vlakfontein Solar PV1 site.</p> <p>The documented archaeology is therefore classified as scientifically LOW significance.</p> <p>The specialist report contains a motivation and evidence of different use of the land and environmental sensitivity.</p>
Palaeontology Impact Assessment	A Palaeontological Desktop Study was done and is summarised in Chapter 6, paragraph 6.4.2 is and included under Appendix E(5) of this report.	High	<p><b>Dispute the DFFE Screening Tool Rating</b></p> <p>Based on experience and the lack of any previously recorded fossils from the area, it is extremely unlikely that any fossils would be preserved in the overlying deep soils and sands of the Quaternary. The</p>

			impact on the palaeontological heritage would be <b>LOW</b> . As far as the palaeontological is concerned, the projects should be authorised.
Terrestrial Biodiversity Impact Assessment	<i>A Terrestrial Ecological Assessment</i> was done and is summarised in Chapter 6.3.1 and is included under Appendix E(1) of this report.	Very High	<p><b>Dispute the DFFE Screening Tool Rating</b></p> <p>The specialist dispute the rating because the site verification confirmed the terrestrial high biodiversity s mostly low ; although smaller sections (watercourse) has a HIGH sensitivity This is due mainly to past and current agricultural activities on this site.</p> <p>No development is allowed within the watercourse areas. These areas had been delineated by the aquatic specialist and are excluded from the PV development area.</p> <p>The specialist report contains a motivation and evidence of different use of the land and environmental sensitivity. Refer also to Page 86.</p>
Plant Species Assessment	This component is addressed under the Terrestrial Ecological Assessment as mentioned above. It is summarised in Chapter 6, paragraph 6.3.1 and is included under Appendix E(1) of this Report.	Medium and Low	<p><b>Confirm the DFFE Screening Tool Rating</b></p> <p>The specialist agrees mostly with the sensitivity rating. He identified the plants within the watercourse area as having a medium sensitivity rating.</p> <p>The specialist report contains a motivation and evidence of different use of the land and environmental sensitivity. Refer also to Page 86.</p>
Animal Species	This component is addressed under	Medium and	<b>Confirm the DFFE Screening Tool Rating</b>

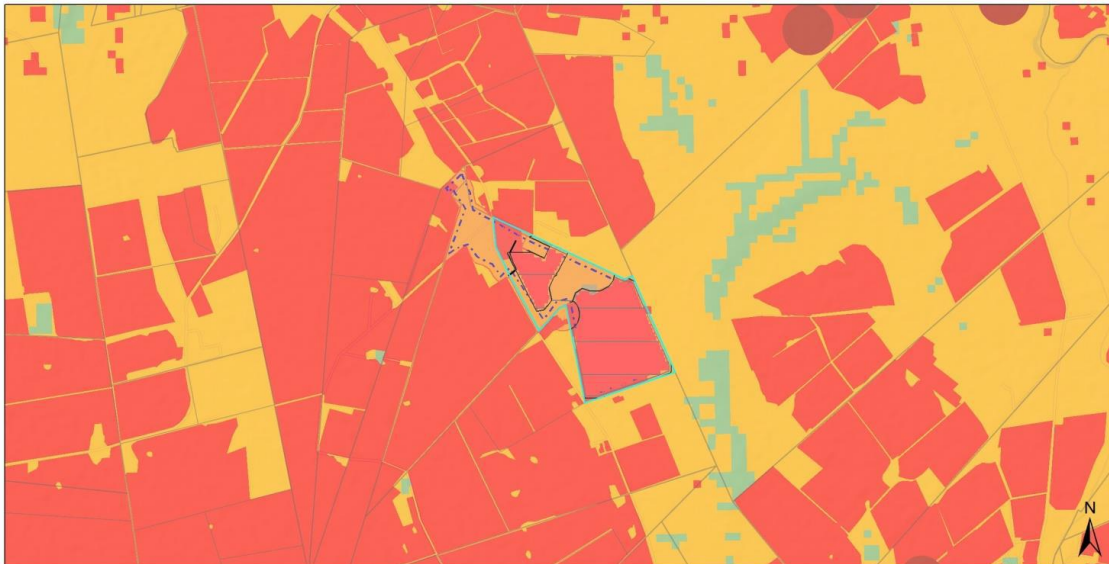
Assessment	the Terrestrial Ecological Assessment as mentioned above. It is summarised in Chapter 6, paragraph 6.3.1 and is included under Appendix E(1) of this Report.	Low	<p>The specialist agrees mostly with the sensitivity rating. He identified the animals within the watercourse area as having a medium sensitivity rating.</p> <p>The specialist report contains a motivation and evidence of different use of the land and environmental sensitivity. Refer also to Page 86.</p> <p><u>Avifauna</u> The medium sensitivity classification is not linked to avifauna. The total assessment area contains no confirmed habitat for species of conservation concern (SCC) as defined in the Protocol for the specialist assessment and minimum report content requirements for environmental impacts on terrestrial animal species (Government Gazette No 43855, 30 October 2020, namely listed on the IUCN Red List of Threatened Species or South Africa's National Red List website as Critically Endangered, Endangered or Vulnerable. The absence of SCC was confirmed during the site surveys. Based on these criteria, the study area is correctly classified as <b>Low</b> sensitivity for avifauna.</p>
Aquatic Biodiversity Impact Assessment	An <i>Aquatic Impact Assessment</i> was done and is summarised in Chapter 6, paragraph 6.3.2 and is included under Appendix E(2) of this report.	Low	<p><b>Dispute the DFFE Screening Tool Rating</b></p> <p>The DFFE Screening Tool mapping for Aquatic Biodiversity Combined Sensitivity has mapped the wider study area as being of LOW sensitivity, with only the larger wetlands mapped as being of very high sensitivity. This assessment has found the larger aquatic features on-site to be of MODERATE sensitivity and the smaller features to be of LOW sensitivity. The proposed activities should avoid impacting the larger aquatic features considered of moderate and moderate to high sensitivity. These areas had been delineated and had been excluded</p>

			<p>from the PV development area. With this proposed mitigation the overall impact would be LOW to NONE.</p> <p>Refer to Pages 41 and 42 of the specialist report.</p>
Civil Aviation Assessment	<p>The Civil Aviation Theme was rated as having a Low Sensitivity and therefore no specialist input is proposed. The SA Civil Aviation Authority (SACAA) was approach for comment and further actions will be based on their instructions.</p>	Low	<p><b>EAP confirm the sensitivity rating</b></p> <p>No obvious aviation infrastructure and/or facilities are situated in close proximity to the proposed PV site. No comment was received from the SACAA. During the PPP undertaken for this project. There is no reason to dispute the rating of LOW.</p> <p>The EAP is confident that the PV solar farm will not impact negatively on any civil aviation activities.</p>
Defence Assessment	<p>The Defence Theme was rated as having a Low sensitivity, and therefore no specialist input is proposed.</p>	Low	<p><b>EAP confirm the sensitivity rating</b></p> <p>No obvious defence infrastructure and/or facilities are situated in close proximity to the proposed PV site. There is no reason to dispute the rating of LOW.</p> <p>The EAP is confident that the PV solar farm will not impact negatively on any defence activity.</p>

RFI Assessment	The RFI theme was rated as low sensitivity; however an <i>RFI Assessment</i> was done and is summarised in Chapter 7, paragraph 7.3 and is included under Appendix F(3) of this report.	Low	<b>Specialist confirm the DFFE Screening Tool Rating</b>  The proposed Vlakplaats Solar PV1 has a direct line of sight to the Kopanang Gold Plant, but at a distance of 12,8km. Pathloss over this distance is high enough to have no significant Radio Frequency Interference (RFI) or Electro Magnetic Interference (EMI) impact on the electrical infrastructure at the gold plant. The impact is therefore considered LOW or NONE.  The specialist report contains a more detailed motivation for this recommendation.
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# DFFE Screening Tool Sensitivity Maps

## Agricultural Sensitivities



12 October 2022

**Legend**

kmi-Vlakkfontein Solar PV1.kmz-06758185057964823

- sn\_ylw-pushpin
- Line\_CIVIL\_Roads\_width6.06
- Line\_CIVIL\_Fence\_width1.09
- kmi-Vlakkfontein Solar PV1.kmz-04986783981756384

- Site Area
- EIA Application Development Footprint
- EIA Application Site
- National Jurisdiction Area

- Cadastre**
- Erven
  - Farm Portion
  - Farm
  - Agri Holding

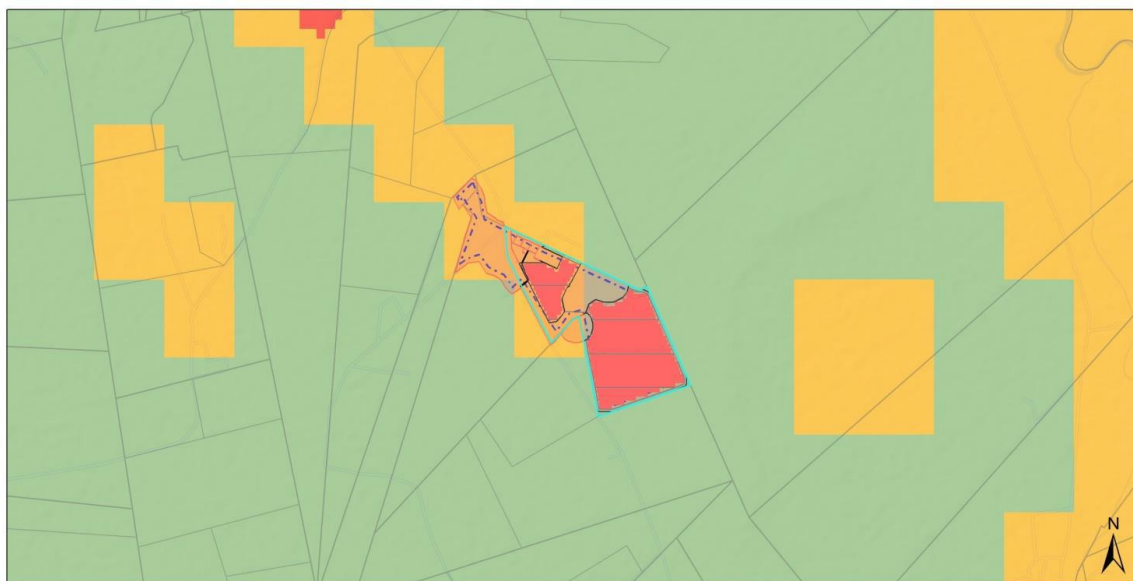
- Public Place**
- Low
- Agriculture Combined Sensitivity**
- Very High
  - High
  - Medium

0 1.75 3.5 km

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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## Animal Species Sensitivities



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**Legend**

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- sn\_ylw-pushpin
- Line\_CIVIL\_Roads\_width6.06
- Line\_CIVIL\_Fence\_width1.09
- kmi-Vlakkfontein Solar PV1.kmz-04986783981756384
- Site Area

- EIA Application Development Footprint
  - EIA Application Site
  - National Jurisdiction Area
- Cadastre**
- Erven
  - Farm Portion

- Farm
- Agri Holding
- Public Place

- Animal Species Combined Sensitivity**
- Very High
  - High

- Medium
- Low

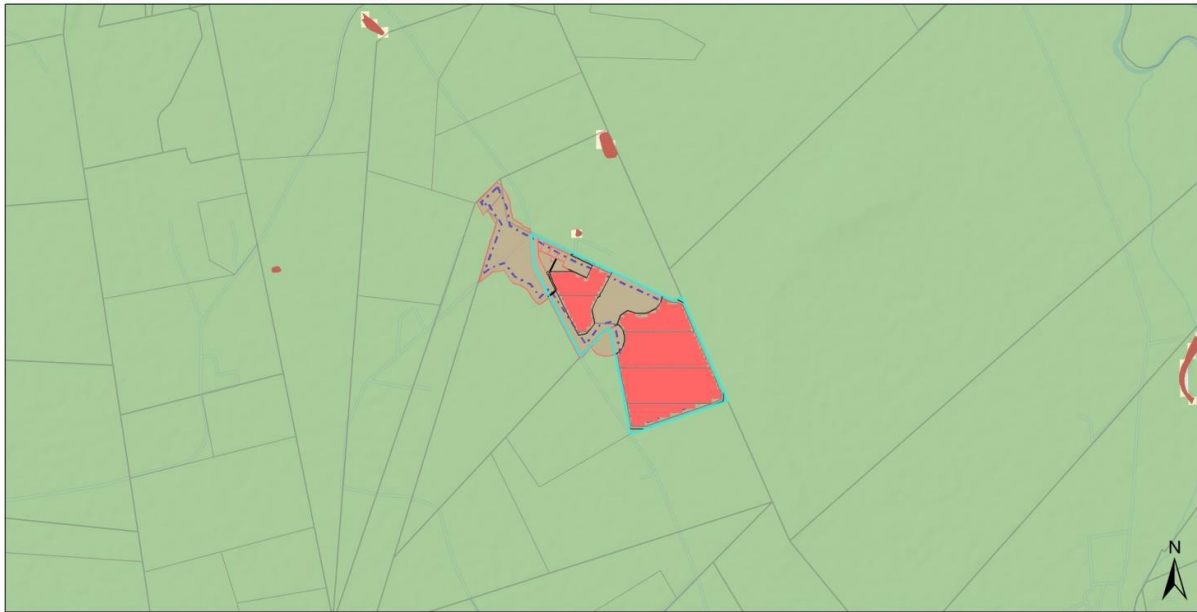
0 1.75 3.5 km

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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### Aquatic Sensitivities



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**Legend**  
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- Line\_CIVIL Fence\_width1.09
- kmi-Vlakfontein Solar PV1.kmz-04986783981756384

- Site Area
- ▭ EIA Application Development Footprint
- ▭ EIA Application Site
- ⋯ National Jurisdiction Area

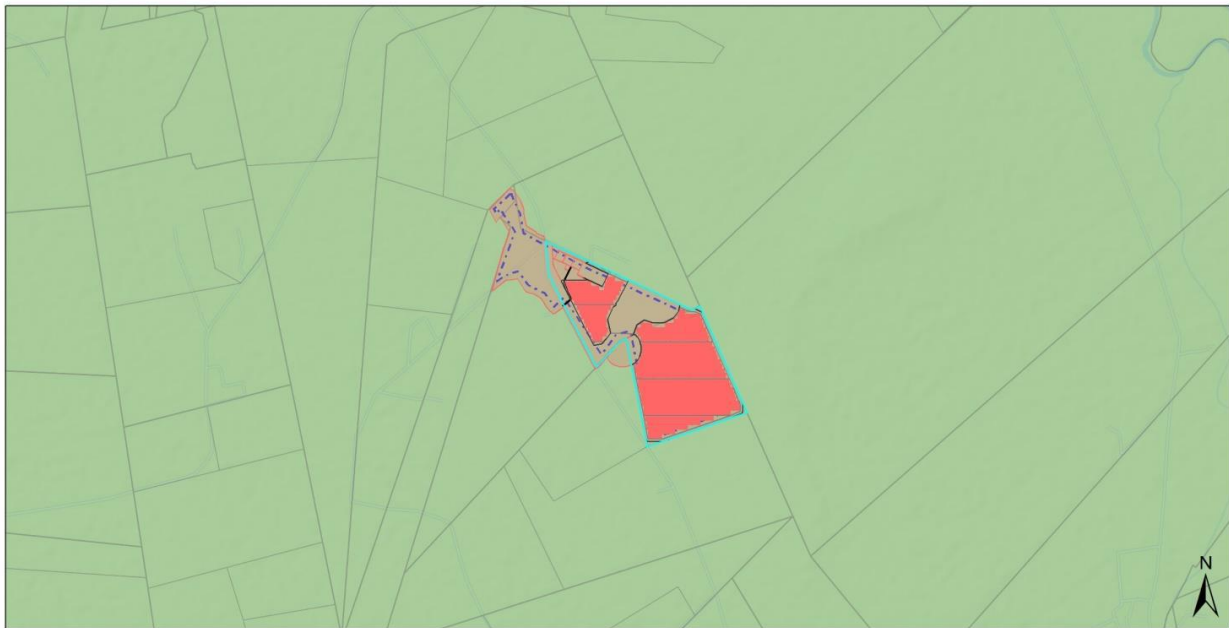
- Cadastre**
- Erven
  - Farm Portion
  - Farm
  - Agri Holding

- Public Place**
- Public Place

- Aquatic Biodiversity Combined Sensitivity**
- Very High
  - Low

0 1.75 3.5 km  
 Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community  
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### Archaeological and Cultural Heritage Sensitivities



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**Legend**  
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- Line\_CIVIL Fence\_width1.09
- kmi-Vlakfontein Solar PV1.kmz-04986783981756384

- Site Area
- ▭ EIA Application Development Footprint
- ▭ EIA Application Site
- ⋯ National Jurisdiction Area

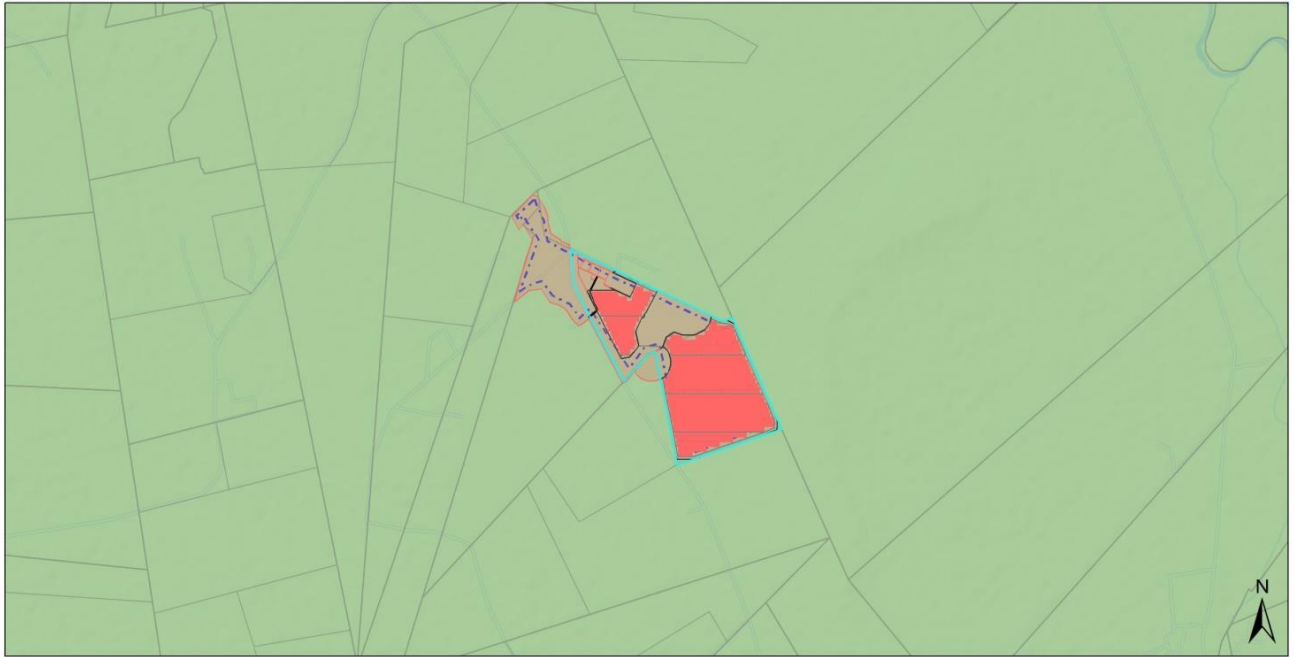
- Cadastre**
- Erven
  - Farm Portion
  - Farm
  - Agri Holding

- Public Place**
- Public Place

- Archaeological and Cultural Heritage Combined Sensitivity**
- Very High
  - High
  - Low

0 1.75 3.5 km  
 Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community  
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### Avian Sensitivities



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**Legend**

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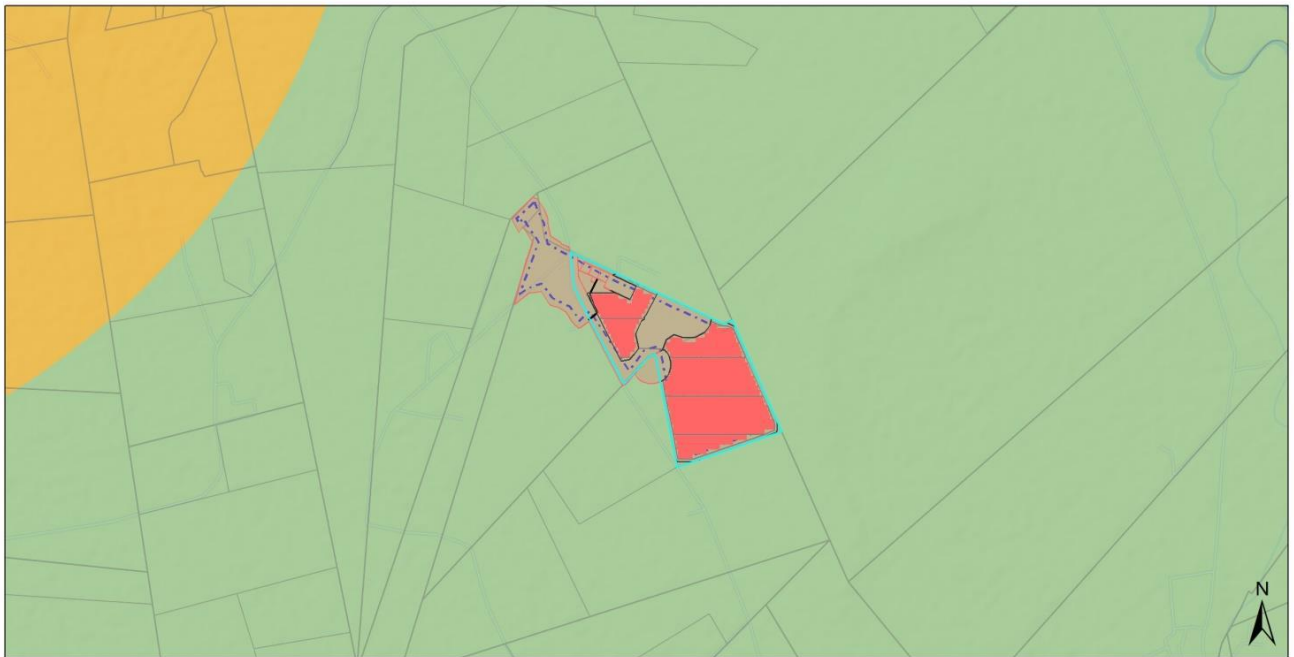
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- Line\_CIVIL\_Fence\_width1.09
- kmi-Vlakfontein Solar PV1.kmz-04986783981756384

- |   |                |                                   |       |
|---|----------------|-----------------------------------|-------|
| ■ Site Area                             | □ Erven        | □ Public Place                    | ≡ Low |
| ▣ EIA Application Development Footprint | □ Farm Portion | <b>Avian Combined Sensitivity</b> |       |
| ▣ EIA Application Site                  | □ Farm         | ■ Very High                       |       |
| ⋯ National Jurisdiction Area            | □ Agri Holding | ■ High                            |       |
|   |                | ■ Medium                          |       |

0 1.75 3.5 km  
 Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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### Civil Aviation Sensitivities



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**Legend**

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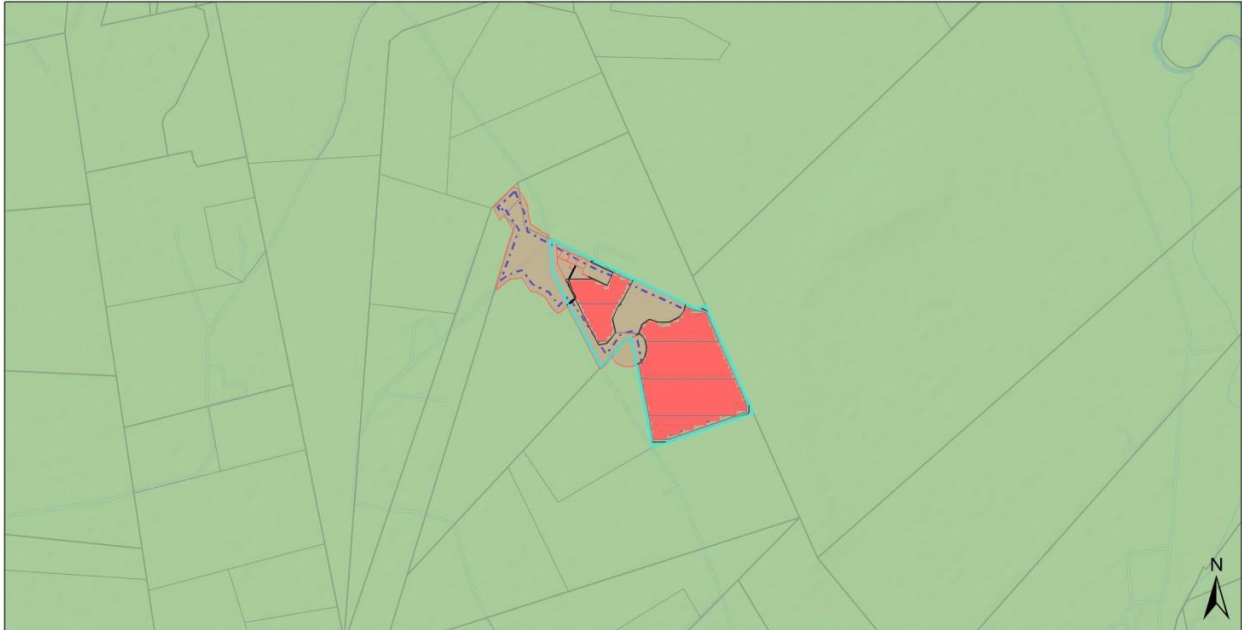
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- Line\_CIVIL\_Roads\_width6.06
- Line\_CIVIL\_Fence\_width1.09
- kmi-Vlakfontein Solar PV1.kmz-04986783981756384

- |   |                |   |  |
|---|----------------|---|--|
| ■ Site Area                             | □ Erven        | □ Public Place  |  |
| ▣ EIA Application Development Footprint | □ Farm Portion | <b>Civil Aviation (Solar PV) Combined Sensitivity</b> |  |
| ▣ EIA Application Site                  | □ Farm         | ■ Medium  |  |
| ⋯ National Jurisdiction Area            | □ Agri Holding | ≡ Low   |  |

0 1.75 3.5 km  
 Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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### Defence Sensitivities



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**Legend**

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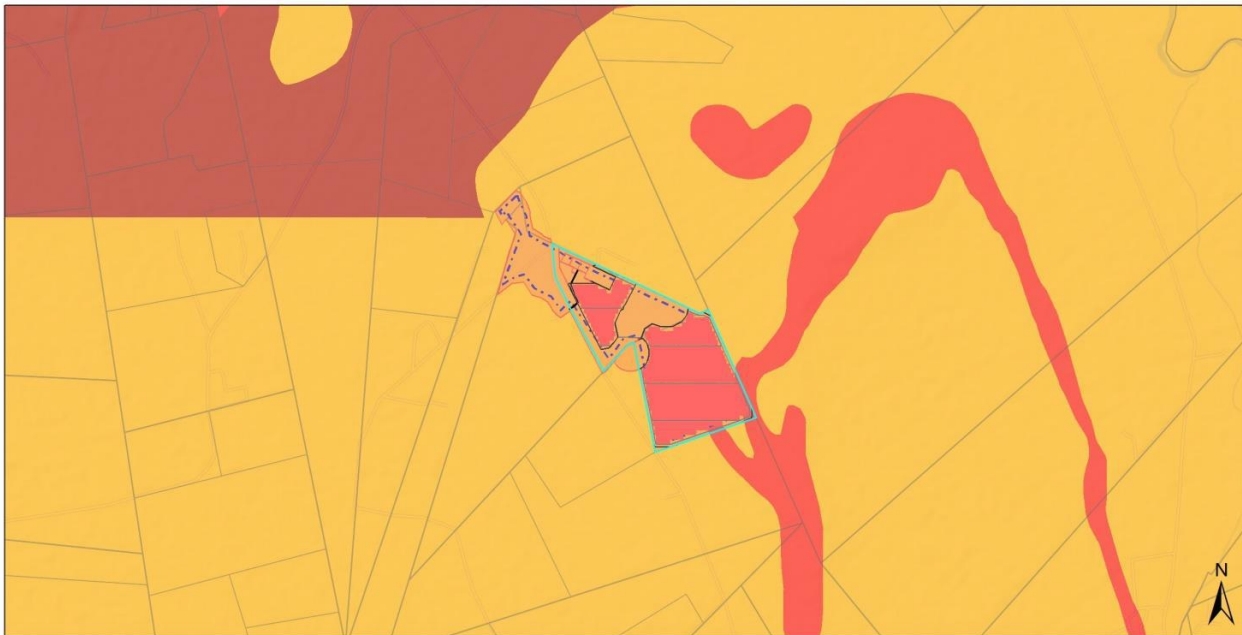
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- Line\_CIVIL Roads\_width6.06
- Line\_CIVIL Fence\_width1.09
- kml-Vlaktefontein Solar PV1.kmz-04986783981756384

- |   |                |                                |
|---|----------------|--------------------------------|
| ■ Site Area                             | □ Erven        | □ Public Place                 |
| □ EIA Application Development Footprint | □ Farm Portion | ■ Defence Combined Sensitivity |
| ■ EIA Application Site                  | □ Farm         | ■ Very High                    |
| □ National Jurisdiction Area            | □ Agri Holding | ■ Medium                       |
|   |                | ■ Low                          |

0 1.75 3.5 km  
 Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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### Paleontological Sensitivities



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**Legend**

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- sn\_ylw-pushpin
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- Line\_CIVIL Fence\_width1.09
- kml-Vlaktefontein Solar PV1.kmz-04986783981756384

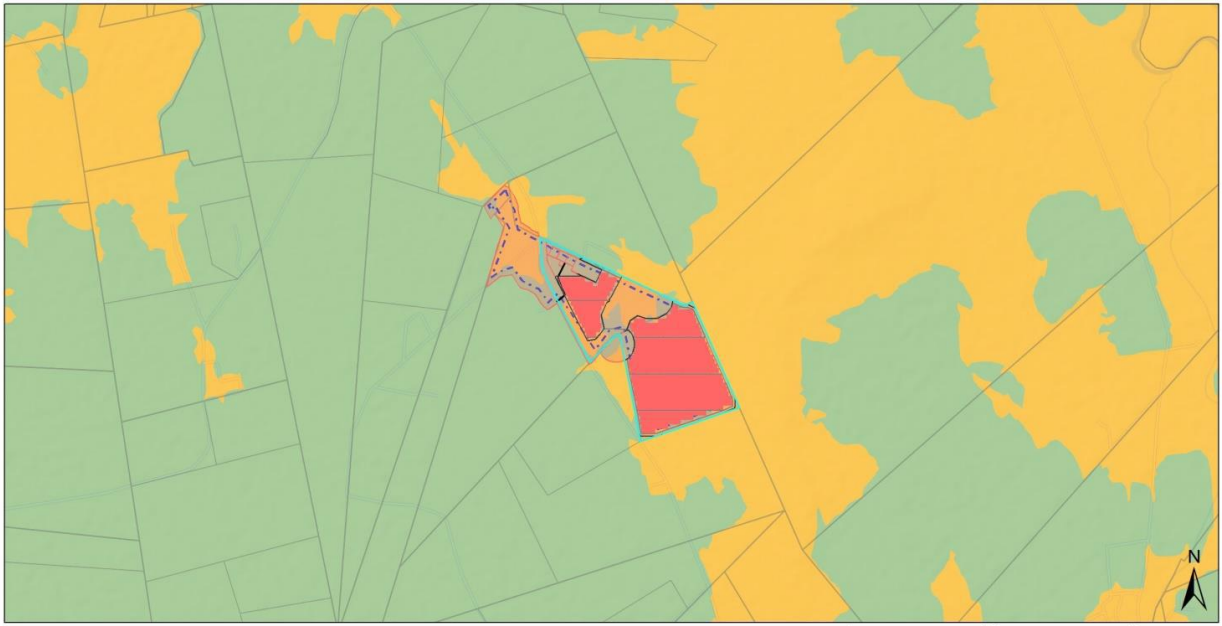
- |   |                |                                     |
|---|----------------|-------------------------------------|
| ■ Site Area                             | □ Erven        | □ Public Place                      |
| □ EIA Application Development Footprint | □ Farm Portion | ■ Paleontology Combined Sensitivity |
| ■ EIA Application Site                  | □ Farm         | ■ Very High                         |
| □ National Jurisdiction Area            | □ Agri Holding | ■ High                              |
|   |                | ■ Medium                            |
|   |                | ■ Low                               |

0 1.75 3.5 km  
 Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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### Plant Species Sensitivities



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**Legend**

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- sn\_ylw-pushpin
- Line\_CIVIL Roads\_width6.06
- Line\_CIVIL Fence\_width1.09
- kmi-Vlaktefontein Solar PV1.kmz-04986783981756384

- Site Area
- EIA Application Development Footprint
- EIA Application Site
- ⋯ National Jurisdiction Area

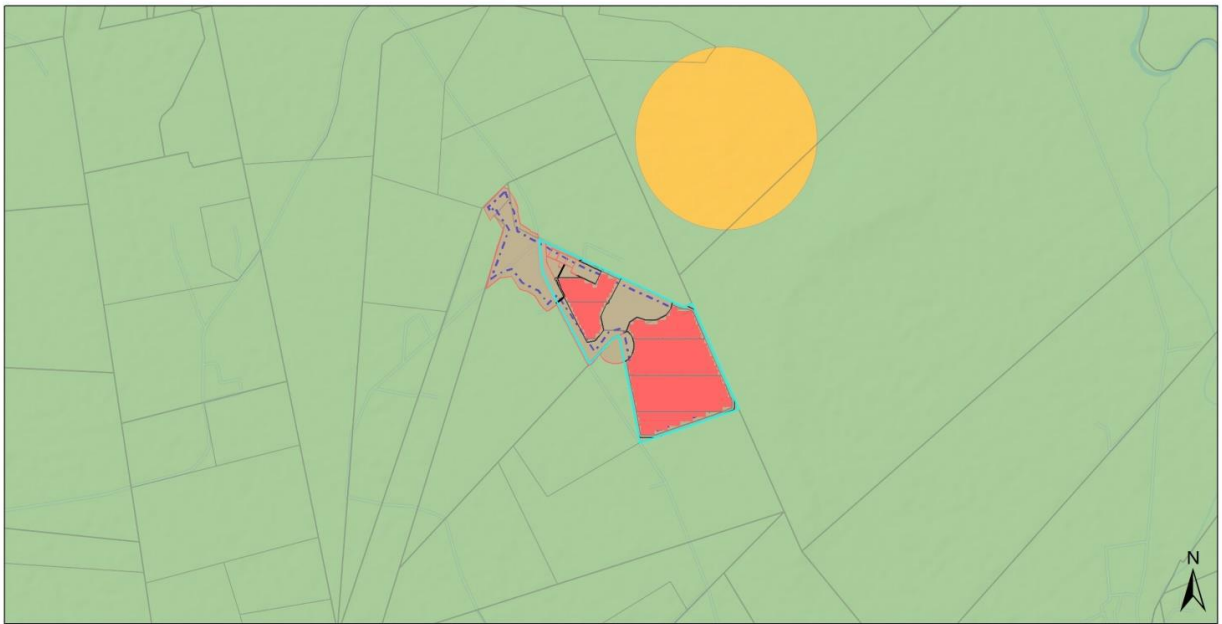
- Cadastral**
- Erven
  - Farm Portion
  - Farm
  - ⋯ Agri Holding

- Public Place**
- Public Place
- Plant Species Combined Sensitivity**
- Very High
  - High
  - Medium
  - Low

0 1.75 3.5 km  
 Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), IGN, (c) OpenStreetMap contributors, and the GIS User Community

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### RFI Sensitivities



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**Legend**

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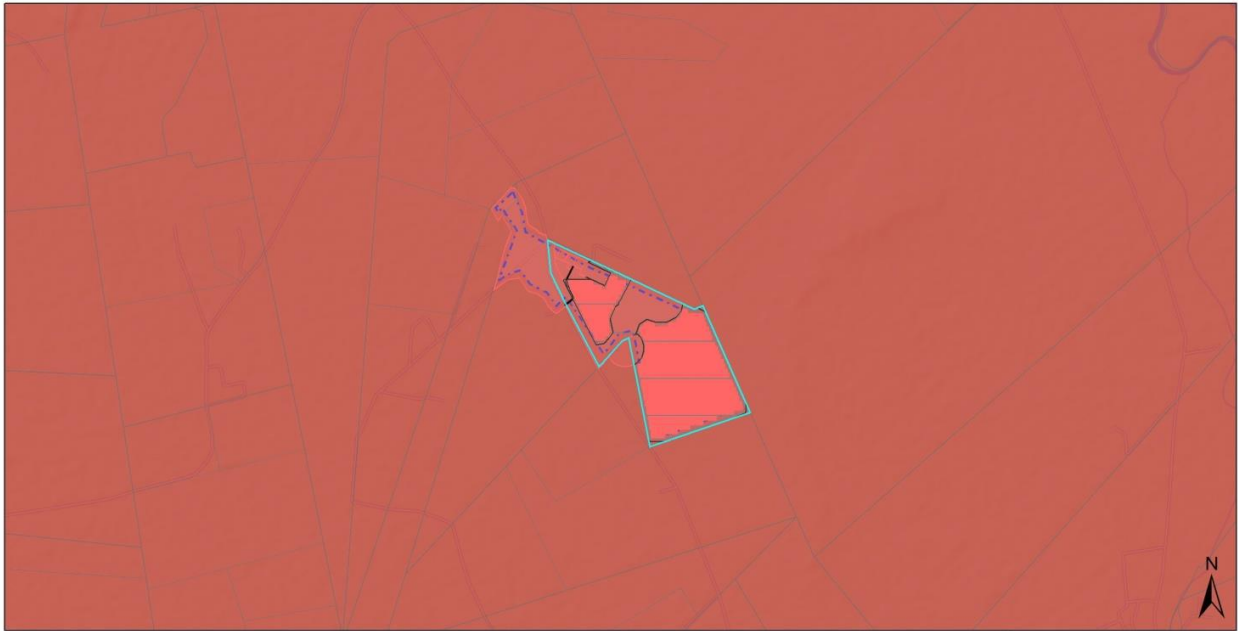
- Site Area
- EIA Application Development Footprint
- EIA Application Site
- ⋯ National Jurisdiction Area

- Cadastral**
- Erven
  - Farm Portion
  - Farm
  - ⋯ Agri Holding

- Public Place**
- Public Place
- RFI Combined Sensitivity**
- Very High
  - High
  - Medium
  - Low

0 1.75 3.5 km  
 Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), IGN, (c) OpenStreetMap contributors, and the GIS User Community

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**Legend**

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- Line\_CIVIL Fence\_width1.09
- kmi-Vlaktefontein Solar PV1.kmz-04986783981756384

- Site Area**
- EIA Application Development Footprint
  - EIA Application Site
  - ⋯ National Jurisdiction Area

- Cadastral**
- Erven
  - Farm Portion
  - Farm
  - Agri Holding

- Public Place

**Terrestrial Biodiversity Combined Sensitivity**

- Very High

- Low



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# Combined Environmental Sensitivity Map resulting from Site Verifications

Vlakfontein Solar PV1 on the Remainder of Vlakfontein No 15 and Portion 1 of Jackalsfontein No 443  
Combined Environmental Sensitivity Map

