

# Generic EMPr: Appendix 1 - Substations

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## PART B: SECTION 2

### 7. SITE SPECIFIC INFORMATION AND DECLARATION

#### 7.1 Sub-section 1: Contact details and description of the project

##### 7.1.1 Details of the applicant

<b>Applicant name</b>	Ratpan Solar PV1 (Pty) Ltd
<b>Contact person</b>	The Environmental Manager – Mr Andrew Pearson
<b>Physical address</b>	Top Floor Golf Park 4, Raapenberg Rd, Mowbray, 7700
<b>Postal address</b>	PO Box 548, Howard Place, Western Cape, 7450
<b>Email</b>	<a href="mailto:andrew@mulilo.com">andrew@mulilo.com</a>
<b>Telephone</b>	084 722 4855 / 021 685 3240

##### 7.1.2 Details and expertise of the EAP

<b>EAP Name</b>	Susanna Nel
<b>EAP qualifications</b>	B-Econ with EIA and relevant short courses at NWU
<b>Professional affiliation/ registration</b>	EAPASA Registered: Susanna Nel: 2019/519 Member of the IAIASA
<b>Physical address</b>	3 Palomino Avenue, Somerset West, 7130
<b>Postal address</b>	3 Palomino Avenue, Somerset West, 7130
<b>Email</b>	<a href="mailto:info@landscapedynamics.co.za">info@landscapedynamics.co.za</a> / <a href="mailto:susanna@landscapedynamics.co.za">susanna@landscapedynamics.co.za</a>
<b>Telephone</b>	082 888 4060
<b>Curriculum Vitae</b>	The Landscape Dynamics Company Profile and condensed CV of the EAPS are attached hereto

### 7.1.3 Project name

Ratpan Solar PV1

### 7.1.4 Description of the project

Infrastructure	Specifications
<b>Solar PV Array</b>	<p>The Solar PV Array includes the following components:</p> <ul style="list-style-type: none"><li>• Bifacial PV Modules</li><li>• Mounting structures using single axis tracking technology</li><li>• Inverters</li><li>• Transformers</li><li>• Cabling between panels</li></ul>
<b>Development footprint</b>	193 hectares
<b>Onsite 132kV IPP</b>	<p>The IPP Substation includes the following components:</p> <ul style="list-style-type: none"><li>• HV Step-up transformer</li><li>• MV Interconnection building</li><li>• Total area approximately 100m x 100m (1 ha)</li></ul>
<b>Access and internal roads</b>	<ul style="list-style-type: none"><li>• Access is required for the purpose of the Ratpan Solar PV1 directly off R76, approximately 8m wide.</li><li>• Existing internal farm roads to be utilised where possible, re-graveling of roads to take place if required by the provincial roads authority.</li><li>• All internal roads will be up to 6m wide.</li></ul>
<b>Battery Energy Storage System (BESS)</b>	<ul style="list-style-type: none"><li>• Solid State Batteries (SSB) is the preferred battery technology</li><li>• The SSB will make use of Lithium-Ion chemistries.</li><li>• The BESS containers are centralised into one area.</li><li>• It will be constructed on approximately 4.5 ha.</li></ul>
<b>Storage of Dangerous Goods</b>	<ul style="list-style-type: none"><li>• Storage of dangerous goods (Including lubrications, oils, paints, fuel/diesel, etc.) with a combined capacity not exceeding 80 cubic metres is required.</li><li>• Diesel/fuel is generally required for the following purposes:</li><li>• During construction for construction vehicles as well as generators for the construction camp and commissioning whilst waiting for the Eskom grid connection works to be</li></ul>

completed

- During operations, diesel is required for vehicles at the PV plant as well as for backup diesel generators at the substation. The Generators supply auxiliary power to the substation's protection and communications systems, should there be outages on the grid. This is an Eskom requirement together with a battery room at the substations to act as UPS for these critical systems.

#### Ancillary facilities

- Operations and Maintenance Building
- Site Offices
- Construction camps
- Storage Warehouse
- Workshop
- Guard House
- Ablutions with conservancy tanks
- During the construction phase, temporary sanitation facilities will be provided (i.e. chemical toilets) and these toilets will be regularly serviced by a licensed company.

#### Laydown area

- A temporary construction site area of approximately 4.5ha to the south of the BESS area will be required.
- All temporary infrastructure will be rehabilitated following the completion of the construction phase, where it is not required for the operation phase.

### 7.1.5 Project location

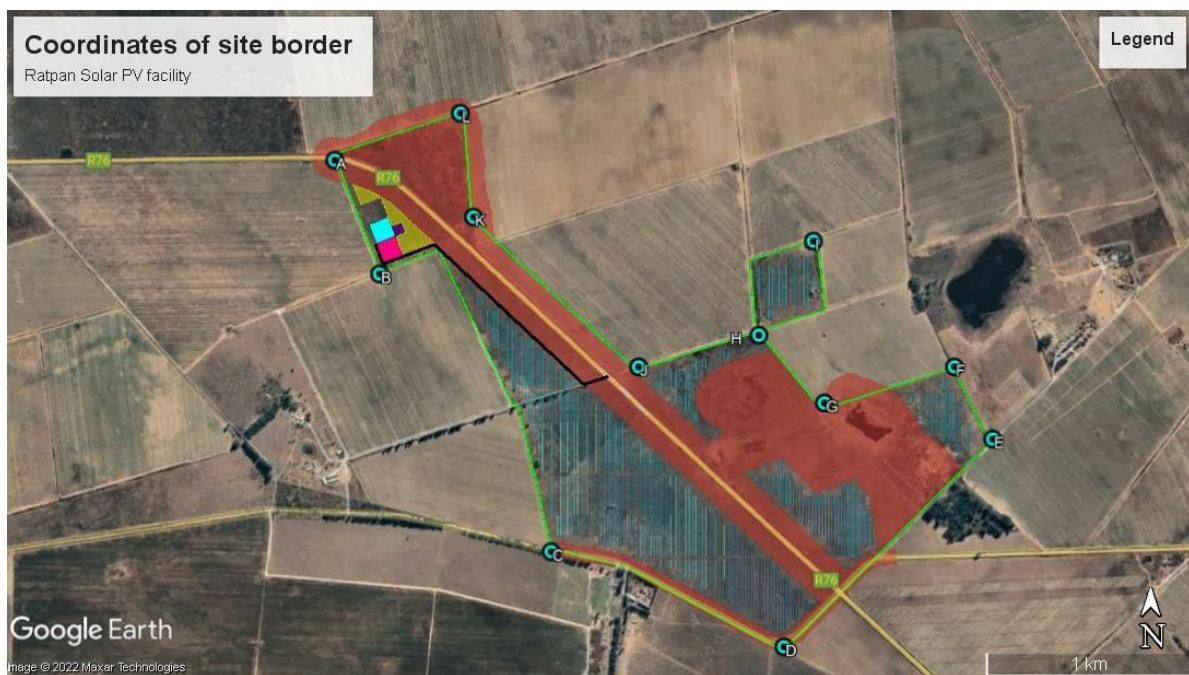
The development site is situated on Remainder of Ratpan No 441, north of the R76 close to the town of Viljoenskroon in the Free State Province. It falls within the jurisdiction of the Moqhaka Local Municipality (MLM) in the Fezile Dabi District Municipality.

### COORDINATES OF PROJECT COMPONENTS

#### *Ratpan PV Development Site*

<b>A</b>	27° 3'0.21"S and 26°48'48.09"E
<b>B</b>	27° 3'18.05"S and 26°48'55.98"E

C	27° 4'1.60"S and 26°49'26.21"E
D	27° 4'16.52"S and 26°50'7.23"E
E	27° 3'43.94"S and 26°50'44.01"E
F	27° 3'32.62"S and 26°50'37.27"E
G	27° 3'38.28"S and 26°50'14.35"E
H	27° 3'27.65"S and 26°50'2.80"E
I	27° 3'12.90"S and 26°50'12.42"E
J	27° 3'32.62"S and 26°49'41.62"E
K	27° 3'9.13"S and 26°49'12.54"E
L	27° 2'52.84"S and 26°49'10.23"E



### IPP Substation

North-western corner	27° 3'10.38"S and 26°48'53.92"E
North-eastern corner	27° 3'9.21"S and 26°48'57.14"E
South-eastern corner	27° 3'12.29"S and 26°48'58.45"E
South-western corner	27° 3'13.46"S and 26°48'55.15"E

### ***Operations & Maintenance Buildings***

<b>North-western corner</b>	27° 3'13.46"S and 26°48'55.15"E
<b>North-eastern corner</b>	27° 3'12.29"S and 26°48'58.45"E
<b>South-eastern corner</b>	27° 3'15.26"S and 26°48'59.80"E
<b>South-western corner</b>	27° 3'16.46"S and 26°48'56.46"E

### ***BESS Area***

<b>North-western corner</b>	27° 3'17.42"S and 26°49'9.39"E
<b>North-eastern corner</b>	27° 3'16.67"S and 26°49'11.34"E
<b>South-eastern corner</b>	27° 3'24.95"S and 26°49'21.21"E
<b>South-western corner</b>	27° 3'28.17"S and 26°49'15.35"E

### ***Diesel storage***

<b>North-western corner</b>	27° 3'10.75"S and 26°48'57.80"E
<b>North-eastern corner</b>	27° 3'10.16"S and 26°48'59.56"E
<b>South-eastern corner</b>	27° 3'11.68"S and 26°49'0.25"E
<b>South-western corner</b>	27° 3'12.29"S and 26°48'58.45"E

### ***Laydown area***

<b>Northern corner</b>	27° 3'3.27"S and 26°48'50.54"E
<b>North-eastern corner</b>	27° 3'7.34"S and 26°48'52.42"E
<b>North-western corner</b>	27° 3'6.14"S and 26°48'55.80"E
<b>South-eastern corner</b>	27° 3'13.15"S and 26°49'6.31"E
<b>South-western corner</b>	27° 3'15.26"S and 26°48'59.80"E

### ***Main internal access road***

<b>Entrance of the R76</b>	27° 3'34.30"S and 26°49'36.05"E
<b>South-western turning point</b>	27° 3'38.29"S and 26°49'22.03"E

**End point at the Eskom Switching Station** (note that the Switching Station doesn't form part of this project and will be authorised separately, but the access road ends at this point)

27° 3'8.91"S and 26°48'53.46"E

### SG21 Digit Codes

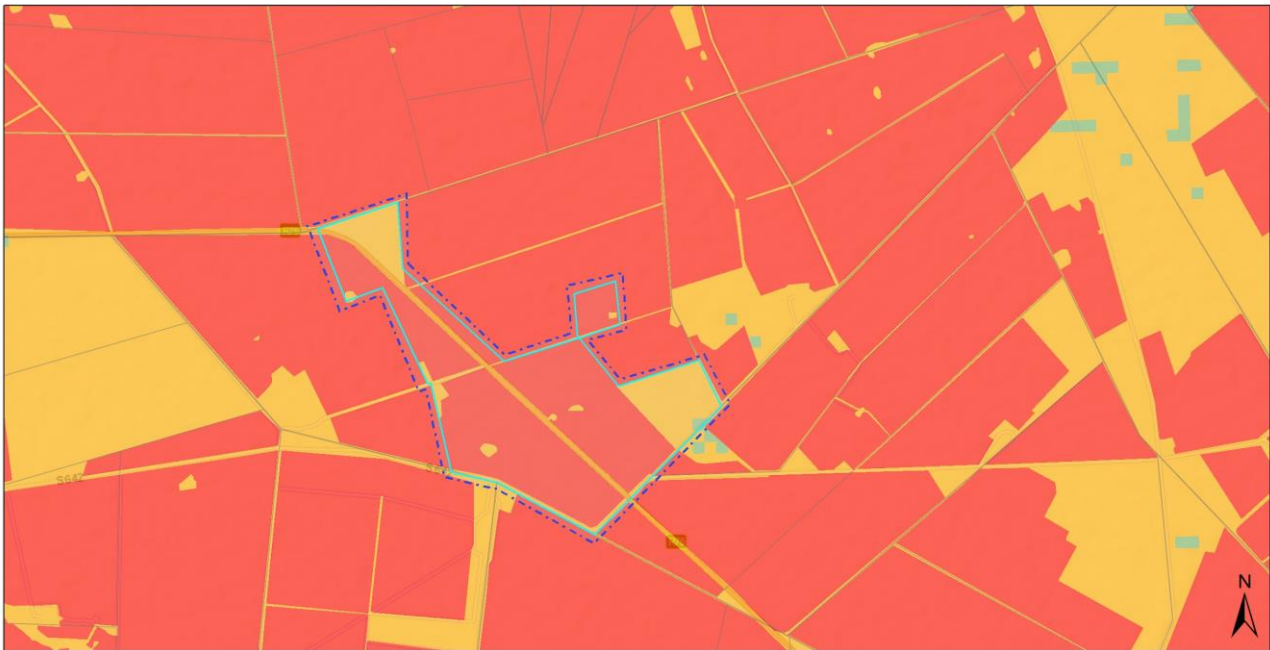
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## 7.2 Sub-section 2: Development footprint site map

This sub-section must include a map of the site sensitivity overlaid with the preliminary infrastructure layout. The sensitivity map must be prepared from the national web based environmental screening tool, when available for compulsory use at: <https://screening.environment.gov.za/screeningtool>. The sensitivity map shall identify the nature of each sensitive feature e.g. threatened plant species, archaeological site, etc. Sensitivity maps shall identify features both within the planned working area and any known sensitive features within 50m from the development footprint.

The Screening Tool maps below were compiled on 24 November 2022.

## Agricultural Theme Sensitivities



24 November 2022

**Legend**

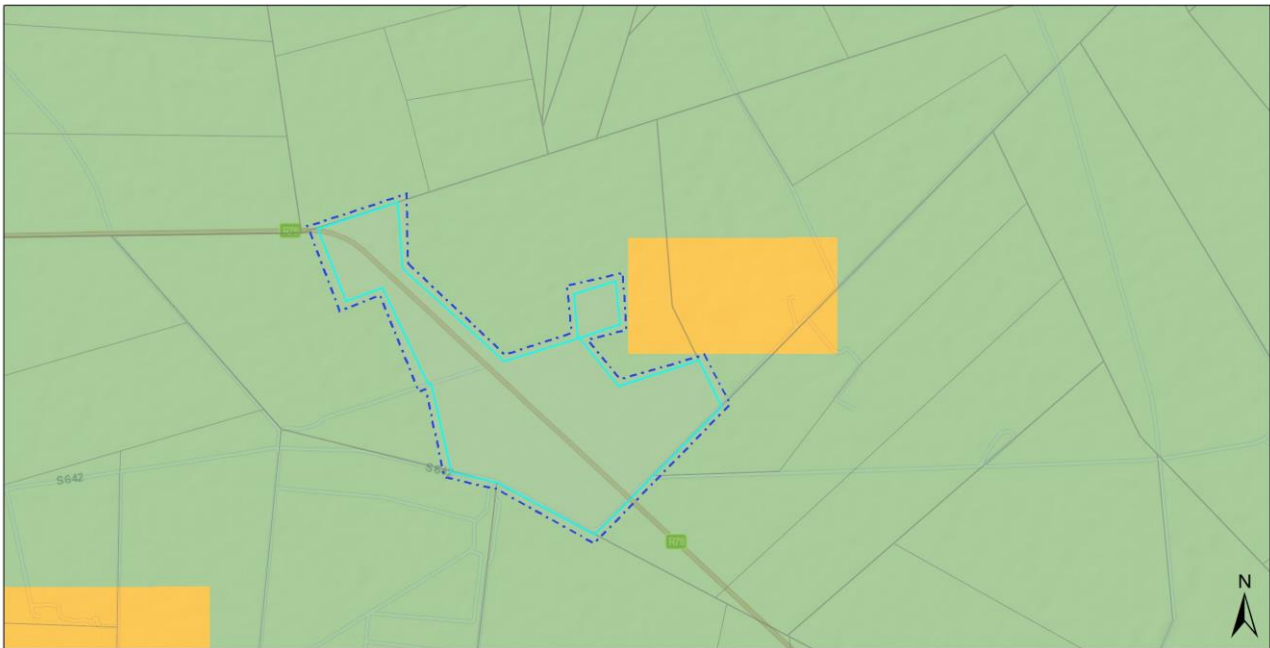
- |                                       |              |   |     |
|---------------------------------------|--------------|---|-----|
| Site Area                             | Cadastre     | Public Place                            | Low |
| EIA Application Development Footprint | Erven        | <b>Agriculture Combined Sensitivity</b> |     |
| EIA Application Site                  | Farm Portion | Very High                               |     |
| National Jurisdiction Area            | Farm         | High                                    |     |
|                                       | Agri Holding | Medium                                  |     |

0 1.25 2.5 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 Theme Sensitivities



24 November 2022

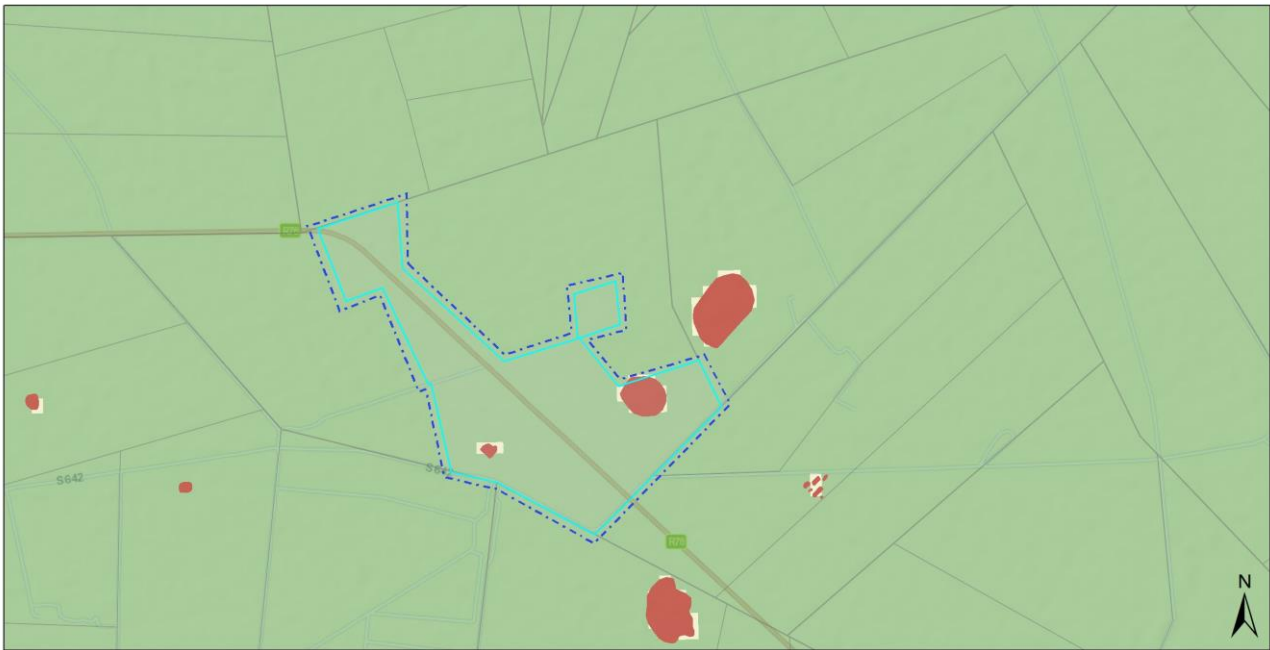
**Legend**

- |                                       |              |  |     |
|---------------------------------------|--------------|--|-----|
| Site Area                             | Cadastre     | Public Place                               | Low |
| EIA Application Development Footprint | Erven        | <b>Animal Species Combined Sensitivity</b> |     |
| EIA Application Site                  | Farm Portion | Very High                                  |     |
| National Jurisdiction Area            | Farm         | High                                       |     |
|                                       | Agri Holding | Medium                                     |     |

0 1.25 2.5 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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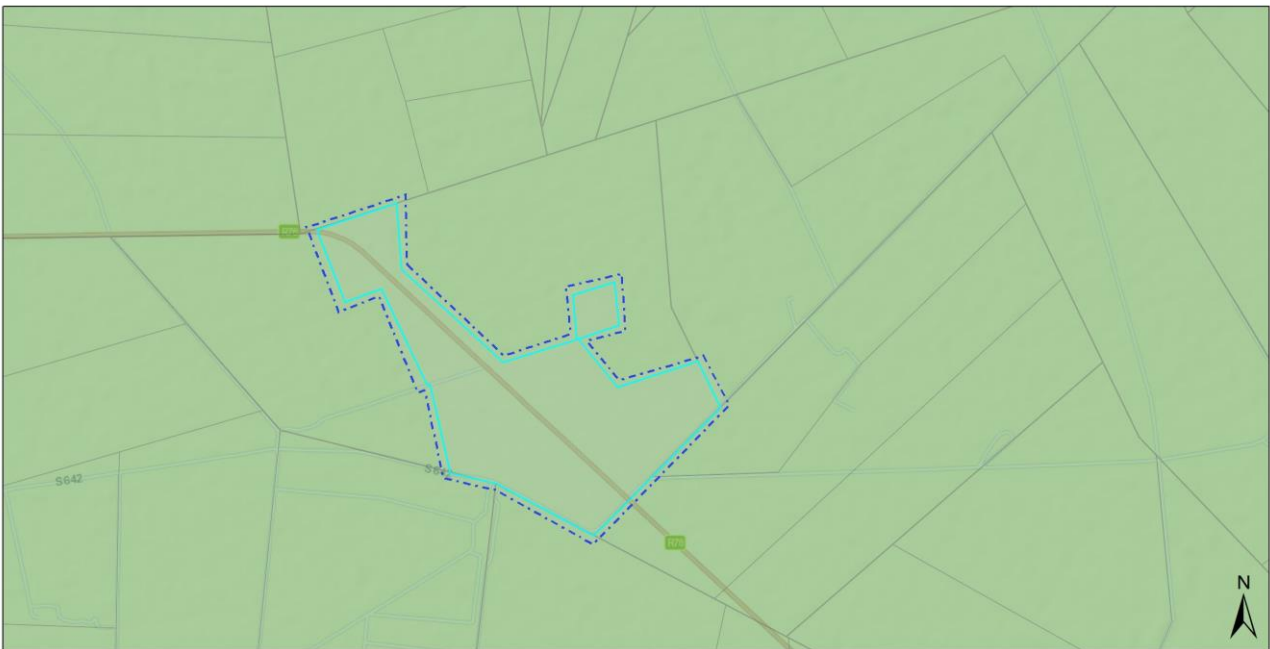
24 November 2022

**Legend**

- |              |  |                      |                            |
|--------------|--|----------------------|----------------------------|
| Site Area    | EIA Application Development Footprint            | EIA Application Site | National Jurisdiction Area |
| Erven        | Farm Portion                                     | Farm                 | Agri Holding               |
| Public Place | <b>Aquatic Biodiversity Combined Sensitivity</b> |                      |                            |
|              | Very High  | Low                  |                            |

0 1.25 2.5 km  
 Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGIS, (c) OpenStreetMap contributors, and the GIS User Community

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**Legend**

- |              |  |                      |                            |
|--------------|--|----------------------|----------------------------|
| Site Area    | EIA Application Development Footprint                            | EIA Application Site | National Jurisdiction Area |
| Erven        | Farm Portion   | Farm                 | Agri Holding               |
| Public Place | <b>Archaeological and Cultural Heritage Combined Sensitivity</b> |                      |                            |
|              | Very High  | High                 | Low                        |

0 1.25 2.5 km  
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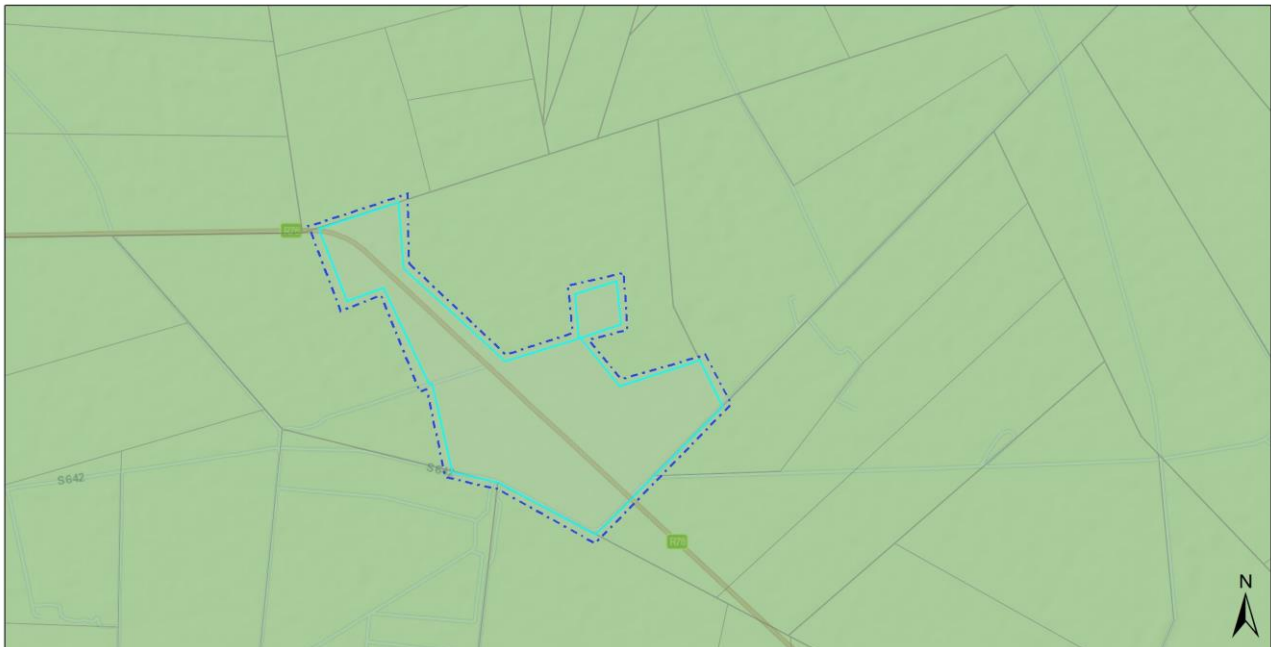
24 November 2022

**Legend**

- |                                       |              |                                   |     |
|---------------------------------------|--------------|-----------------------------------|-----|
| 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 1.25 2.5 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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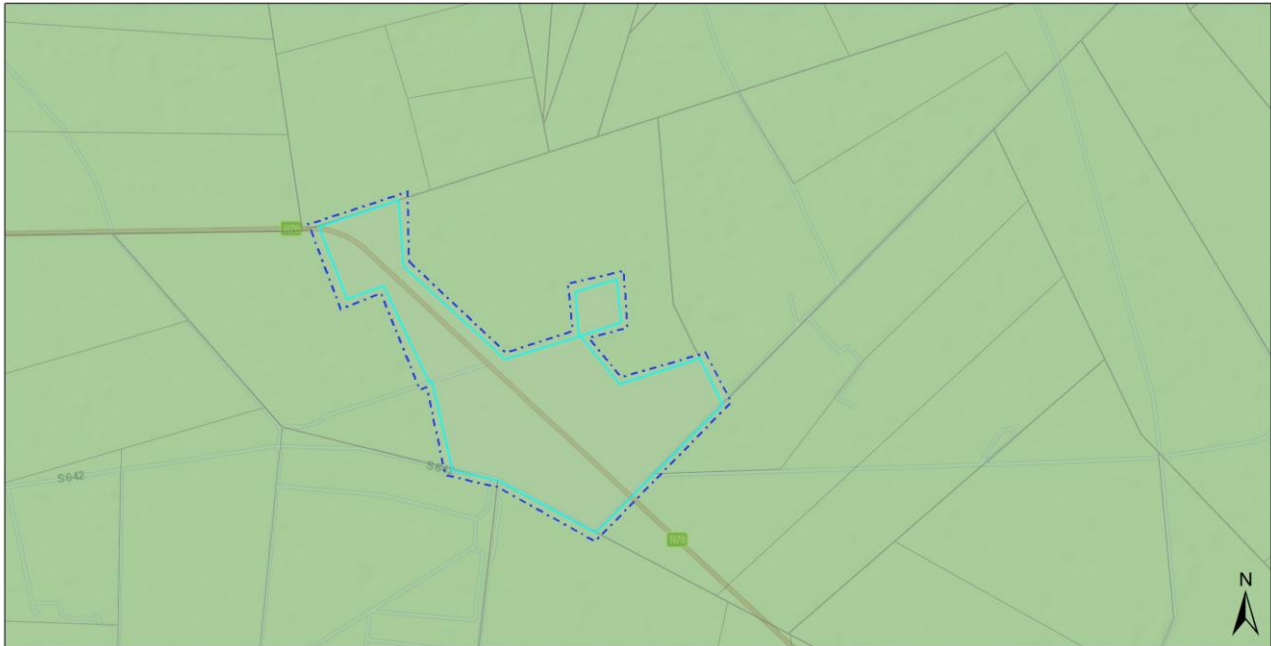
24 November 2022

**Legend**

- |                                       |              |   |  |
|---------------------------------------|--------------|---|--|
| 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 1.25 2.5 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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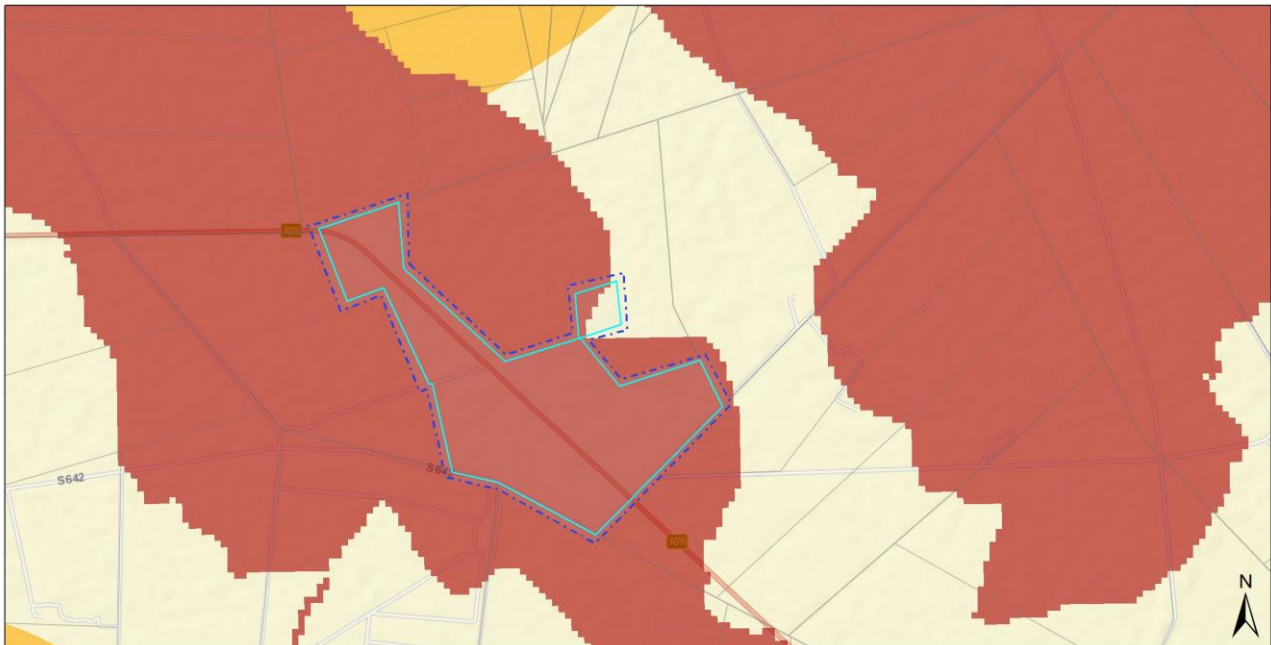
24 November 2022

Legend

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

0 1.25 2.5 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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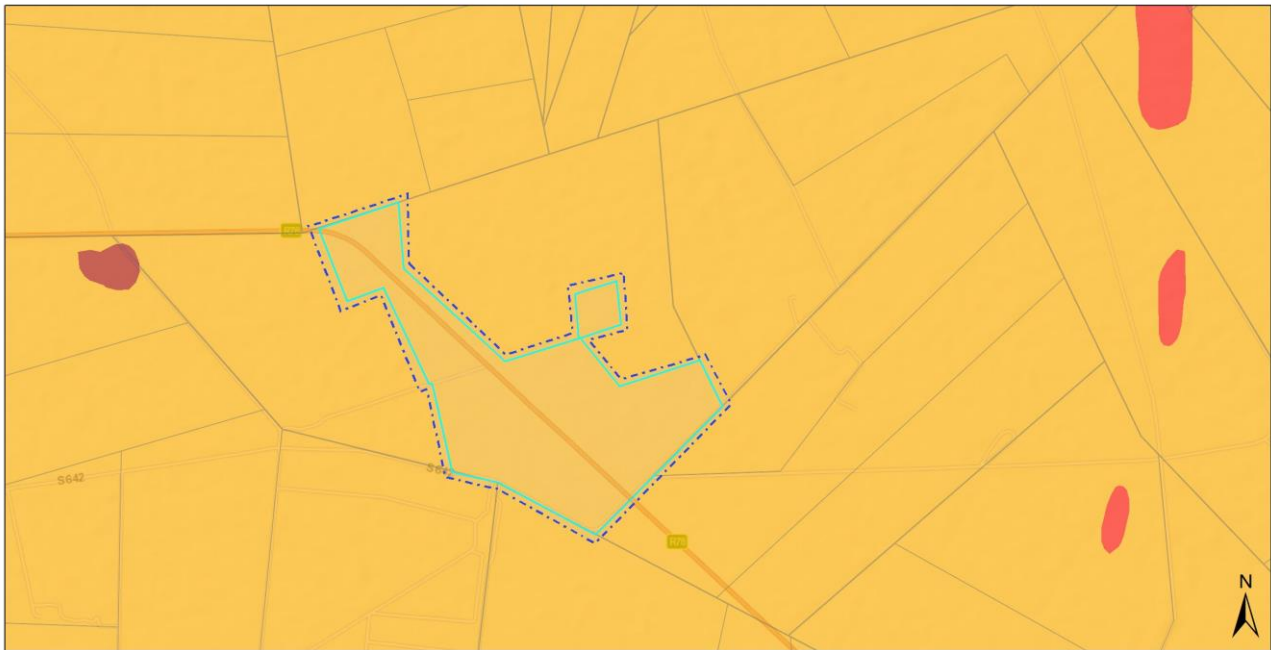
Legend

- |                                       |              |   |     |
|---------------------------------------|--------------|---|-----|
| Site Area                             | Erven        | Public Place                                  | Low |
| EIA Application Development Footprint | Farm Portion | <b>Landscape (Solar) Combined Sensitivity</b> |     |
| EIA Application Site                  | Farm         | Very High                                     |     |
| National Jurisdiction Area            | Agri Holding | High  |     |
|                                       |              | Medium  |     |

0 1.25 2.5 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 Theme Sensitivities



24 November 2022

**Legend**

- |                                       |              |  |     |
|---------------------------------------|--------------|--|-----|
| Site Area                             | Cadastre     | Public Place                             | Low |
| EIA Application Development Footprint | Erven        | <b>Paleontology Combined Sensitivity</b> |     |
| EIA Application Site                  | Farm Portion | Very High                                |     |
| National Jurisdiction Area            | Farm         | High                                     |     |
|                                       | Agri Holding | Medium                                   |     |

0 1.25 2.5 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 Theme Sensitivities



24 November 2022

**Legend**

- |                                       |              |   |     |
|---------------------------------------|--------------|---|-----|
| Site Area                             | Cadastre     | Public Place                              | Low |
| EIA Application Development Footprint | Erven        | <b>Plant Species Combined Sensitivity</b> |     |
| EIA Application Site                  | Farm Portion | Very High                                 |     |
| National Jurisdiction Area            | Farm         | High                                      |     |
|                                       | Agri Holding | Medium                                    |     |

0 1.25 2.5 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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### **7.3 Sub-section 3: Declaration**

The proponent/applicant or holder of the EA affirms that he/she will abide and comply with the prescribed impact management outcomes and impact management actions as stipulated in part B: section 1 of the generic EMPr and have the understanding that the impact management outcomes and impact management actions are legally binding. The proponent/applicant or holder of the EA affirms that he/she will provide written notice to the CA 14 day prior to the date on which the activity will commence of commencement of construction to facilitate compliance inspections.



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**Signature Proponent/applicant/ holder of EA**

22 March 2023

**Date**