

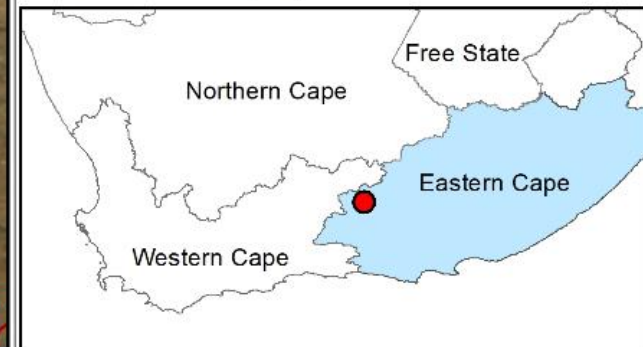
# Aberdeen 1 Wind Facility Eastern Cape Province

## Locality Map

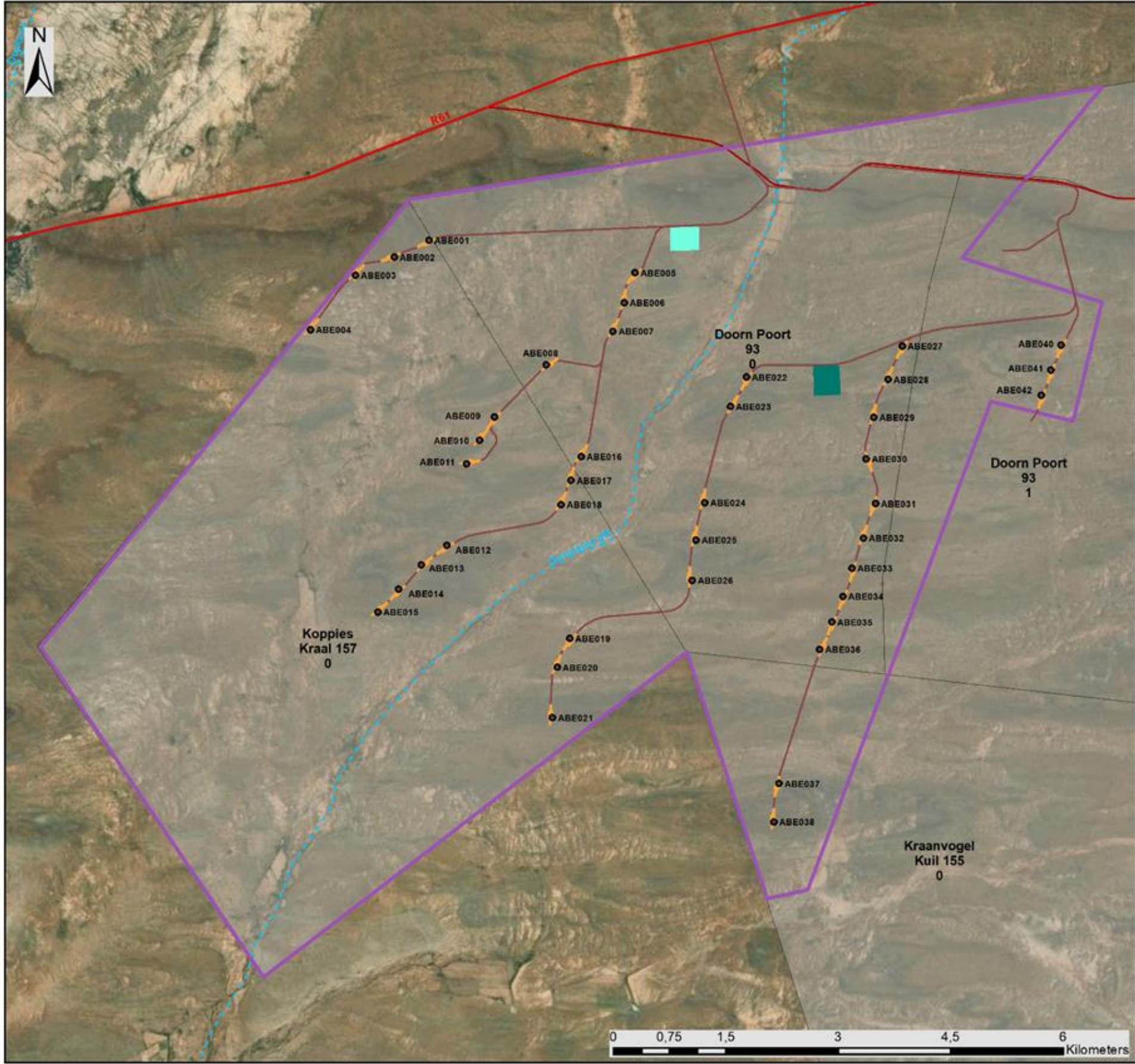
### Legend

- Town
- Existing Substation
- · — Eskom Power Line (Existing)
- Regional Road
- National Road
- Main Road
- Perennial River
- - - Non Perennial River
- Provincial Boundary
- Aberdeen Wind Facility 1 Development Area
- Project Site

Scale: 1:300 000  
 Projection: GCS\_WGS\_1984  
 Map Ref: Aberdeen Locality Map







# Aberdeen Wind Facility 1 Eastern Cape Province

## Layout Map

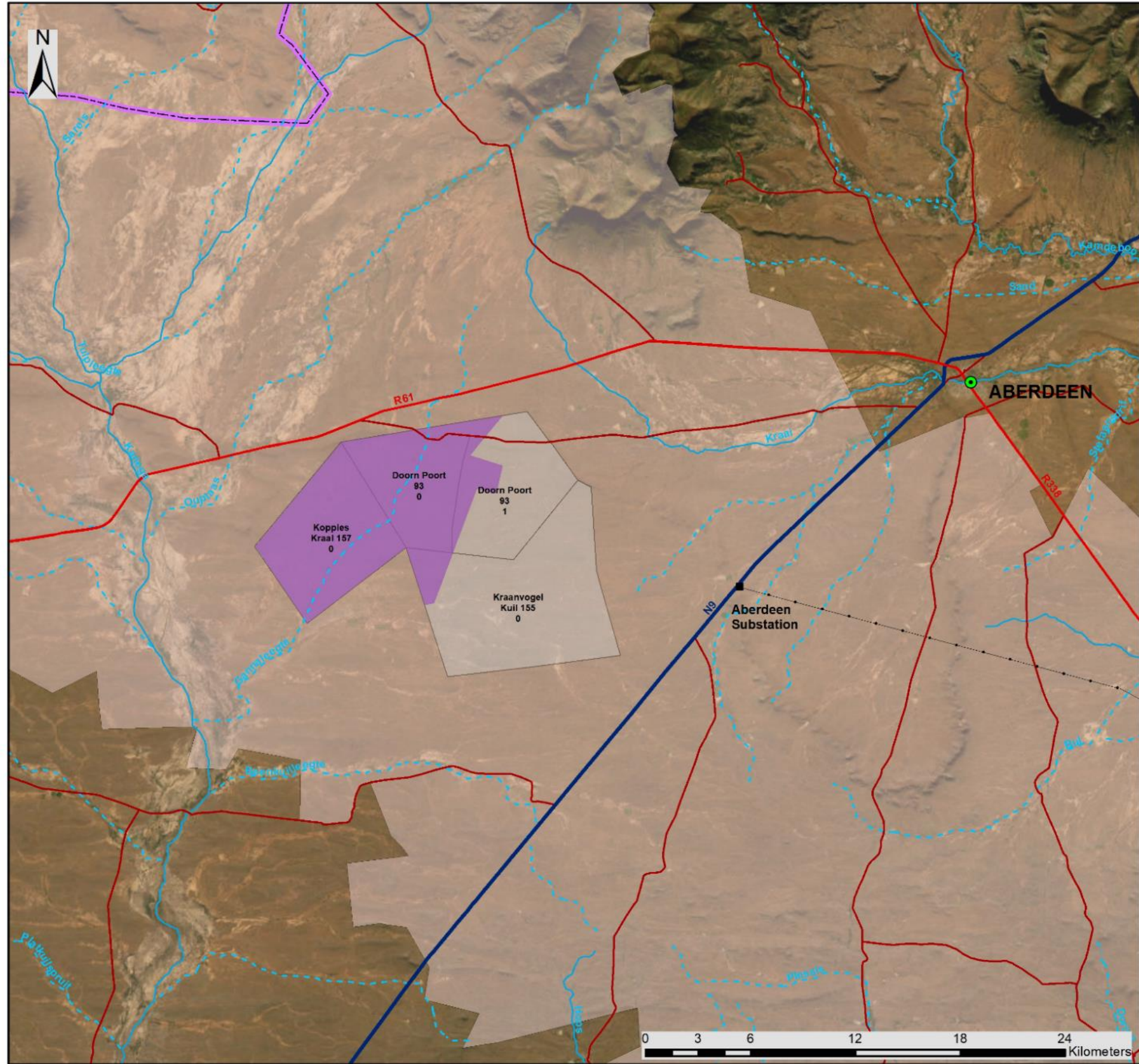
### Legend

- Town
  - Regional Road
  - Main Road
  - Perennial River
  - Non Perennial River
  - Affected Farm Properties
- Proposed Development**
- Turbines
  - Turbine Hardstands
  - Access & Internal Roads
  - Substation, BESS and O&M Buildings Hub
  - Warehouse, Laydown Area and Site Camp Hub
  - Aberdeen Wind Facility 1

Scale: 1:70 000  
 Projection: GCS\_WGS\_1984  
 Map Ref: Aberdeen Layout Map







# Aberdeen 1 Wind Facility Eastern Cape Province

REDZ and Locality Map

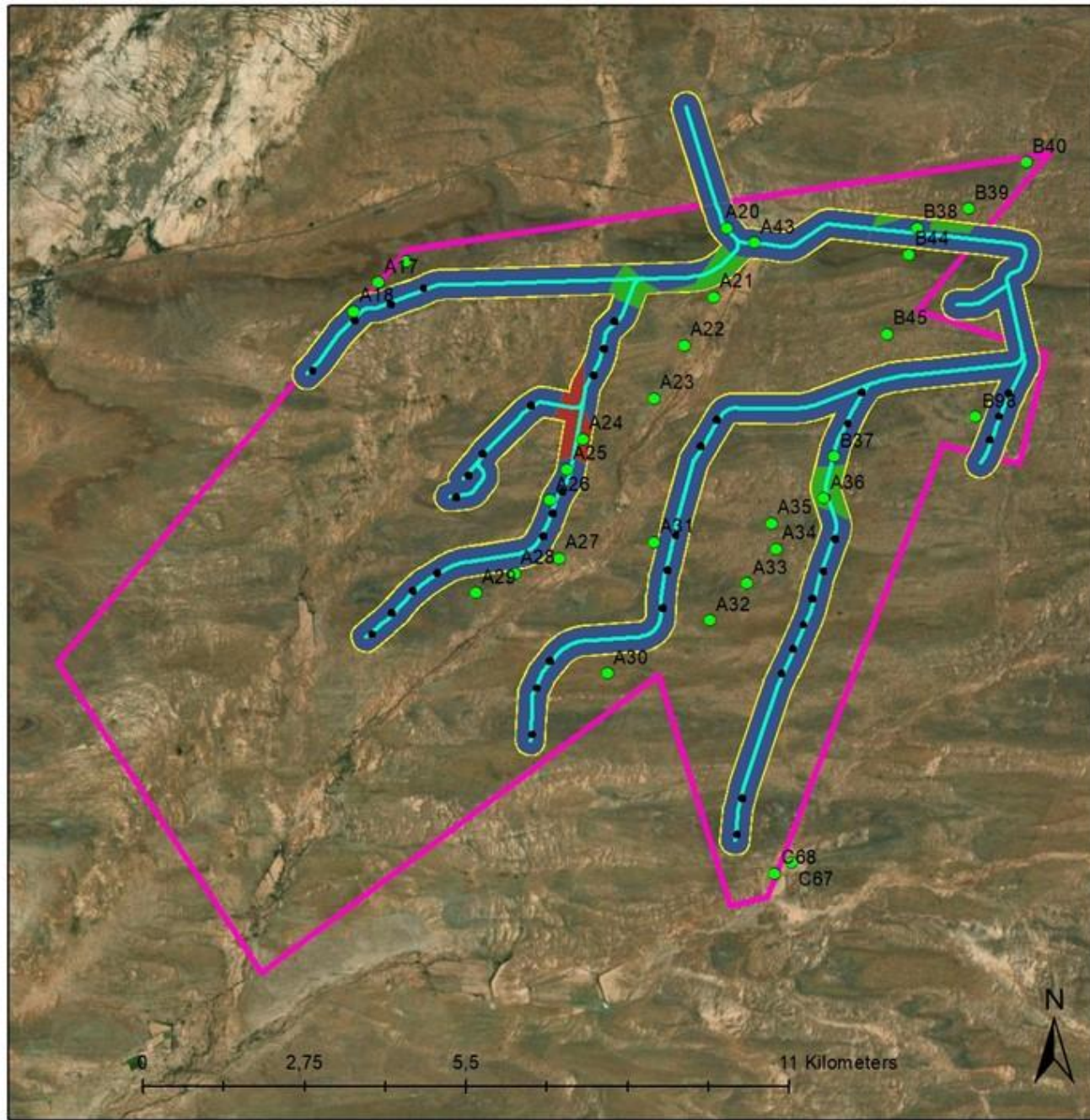
### Legend

- Town
- Existing Substation
- Eskom Power Line (Existing)
- Regional Road
- National Road
- Main Road
- Perennial River
- - - Non Perennial River
- Provincial Boundary
- Aberdeen Wind Facility 1 Development Area
- Project Site
- Beaufort West REDZ

Scale: 1:300 000  
 Projection: GCS\_WGS\_1984  
 Map Ref: REDZ and Locality Map





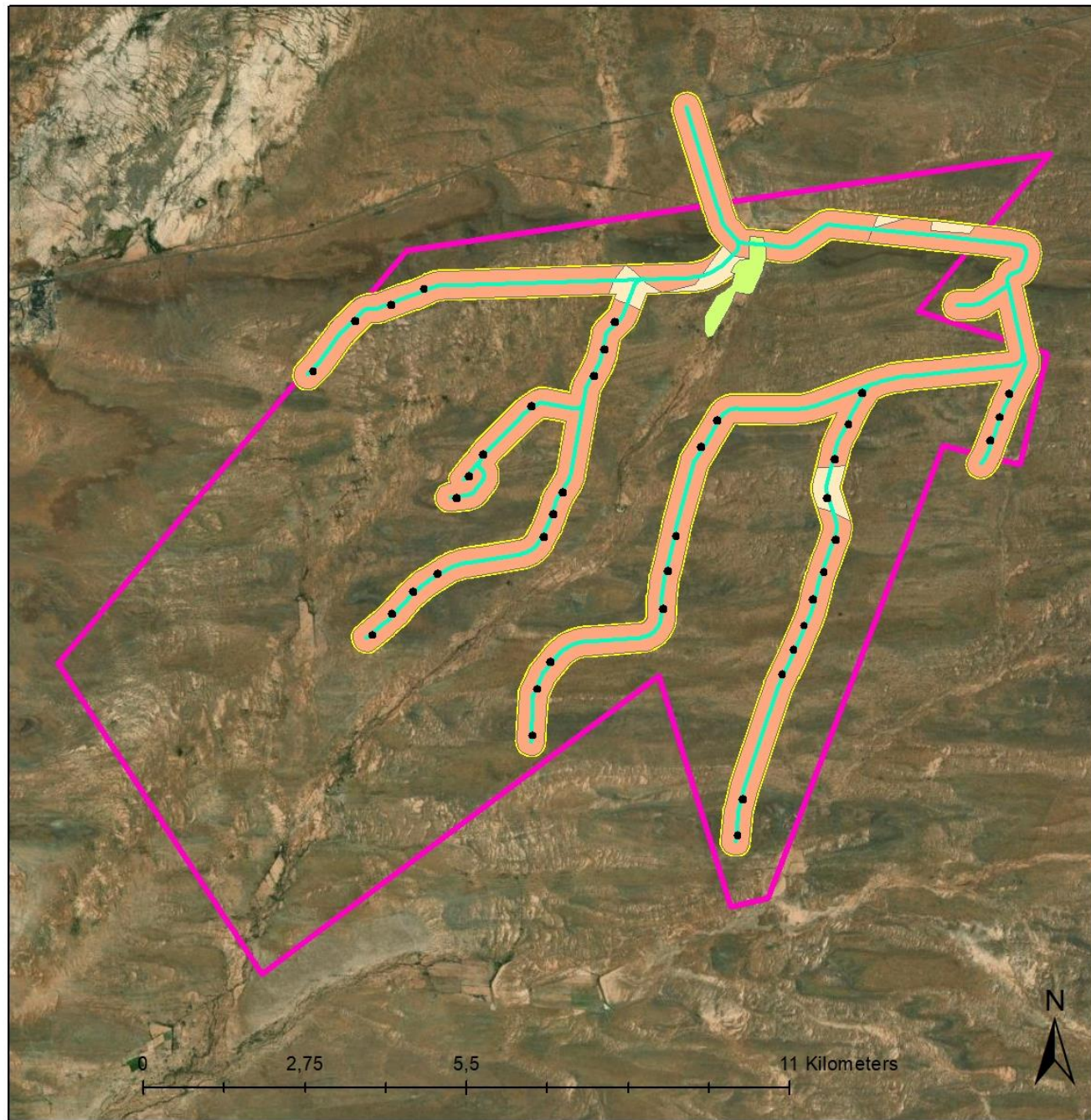


### Legend








- |  |  |
|--|--|
|  Turbines and hardstands  | <b>Soil forms</b>  |
|  Wind Farm 1 Roads        |  Glenrosa-1656.4 ha |
|  Study area-1785 ha       |  Nkonkoni-86.3 ha   |
|  Development area-9180 ha |  Olienhout-43.1 ha  |
|  Observations             |  |





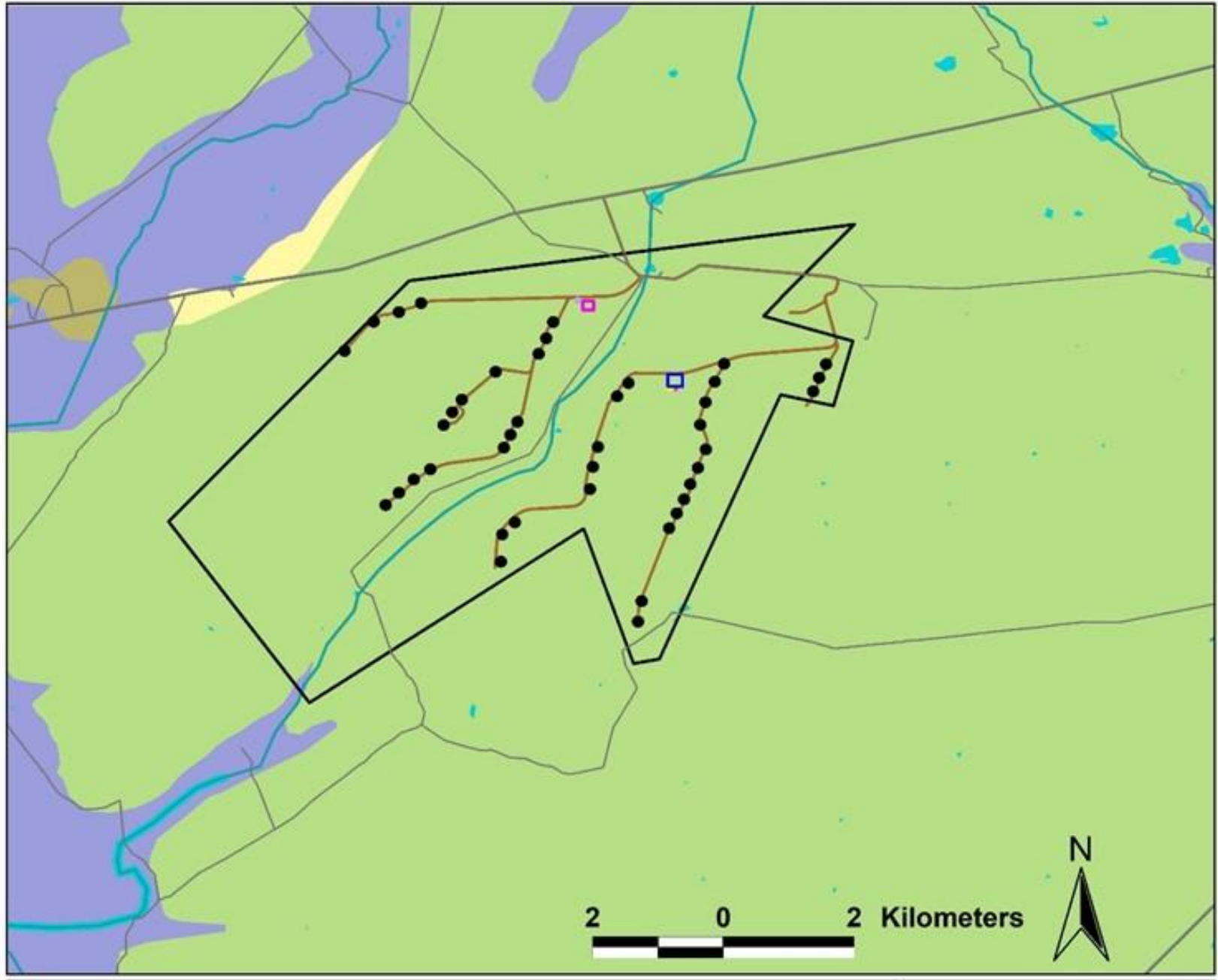


**Legend**

- |  |  |
|--|--|
|  Turbines and hardstands  | <b>Land capability</b>   |
|  Wind Farm 1 Roads        |  Low (5)-1699.5 ha          |
|  Study area-1785 ha       |  Low-Moderate (7)- 44.9 ha  |
|  Development area-9180 ha |  Moderate-High (9)- 41.3 ha |

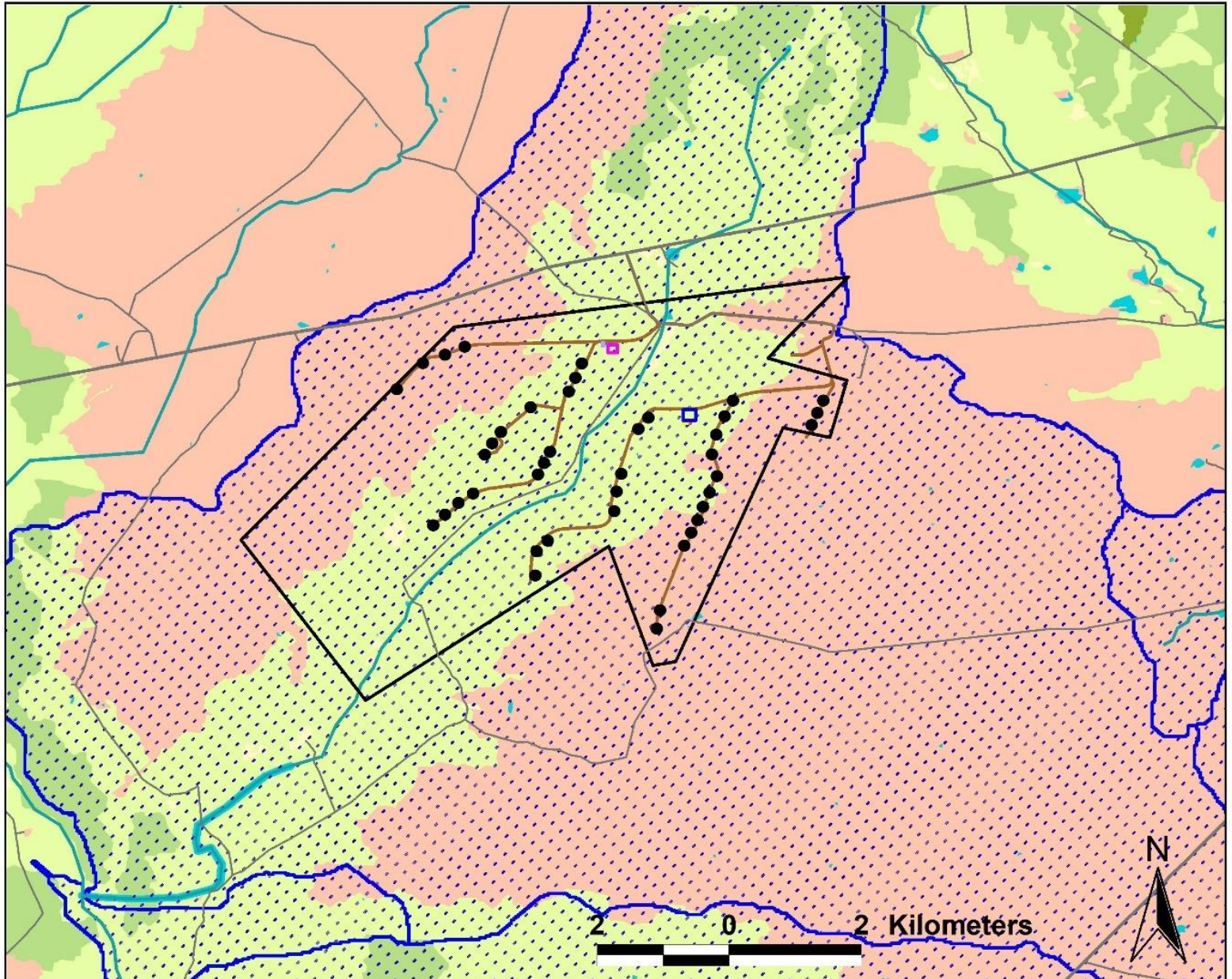







<ul style="list-style-type: none"> <li> Aberdeen WEF 1 Boundary</li> <li> Aberdeen WEF 1 Turbines</li> <li> Aberdeen Roads 1</li> </ul> <p>Aberdeen WEF 1 Infrastructure</p> <ul style="list-style-type: none"> <li> BESS</li> <li> O&amp;M Buildings</li> <li> Construction laydown area</li> <li> Site Camp</li> <li> Warehouse</li> </ul>	<p>Vegetation Types</p> <ul style="list-style-type: none"> <li> Eastern Lower Karoo</li> <li> Eastern Upper Karoo</li> <li> Gamka Karoo</li> <li> Southern Karoo Riviere</li> </ul> <p>NFEPA Rivers</p> <ul style="list-style-type: none"> <li> NFEPA Rivers</li> <li> NFEPA Wetlands</li> </ul> <p>Roads</p> <ul style="list-style-type: none"> <li> Major Roads</li> <li> Minor Roads</li> </ul>	<p>Aberdeen WEF 1</p> <hr/> <p>Vegetation Types</p> <hr/> <p>3Foxes Biodiversity Solutions</p>
--	--	--



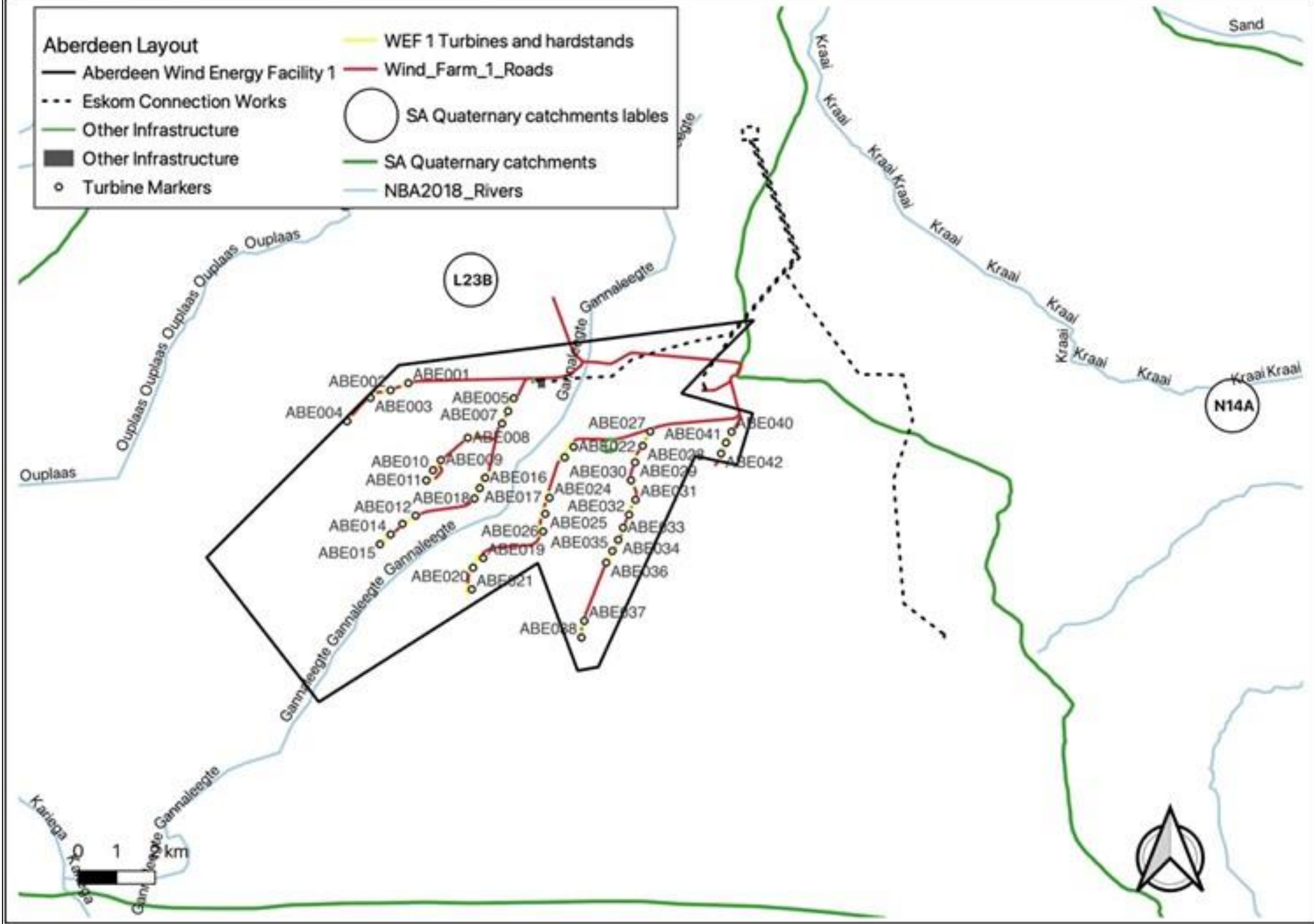


<ul style="list-style-type: none"> <li> Aberdeen WEF 1 Boundary</li> <li> Aberdeen WEF 1 Turbines</li> <li> Aberdeen Roads 1</li> </ul>	<ul style="list-style-type: none"> <li> EC - CBAs</li> <li> CBA 1</li> <li> CBA 2</li> <li> ESA 1</li> <li> ESA 2</li> <li> Other Areas</li> </ul>	<p>Aberdeen WEF 1</p> <hr/> <p>Critical Biodiversity Areas</p> <hr/>  <p>3Foxes Biodiversity Solutions</p>
<ul style="list-style-type: none"> <li><b>Aberdeen WEF 1 Infrastructure</b></li> <li> BESS</li> <li> O&amp;M Buildings</li> <li> Construction laydown area</li> <li> Site Camp</li> <li> Warehouse</li> </ul>	<ul style="list-style-type: none"> <li> NFEPA Rivers</li> <li> NFEPA Wetlands</li> <li> FEPA Subcatchment</li> </ul>	
<ul style="list-style-type: none"> <li> Major Roads</li> <li> Minor Roads</li> </ul>		



**Aberdeen Layout**

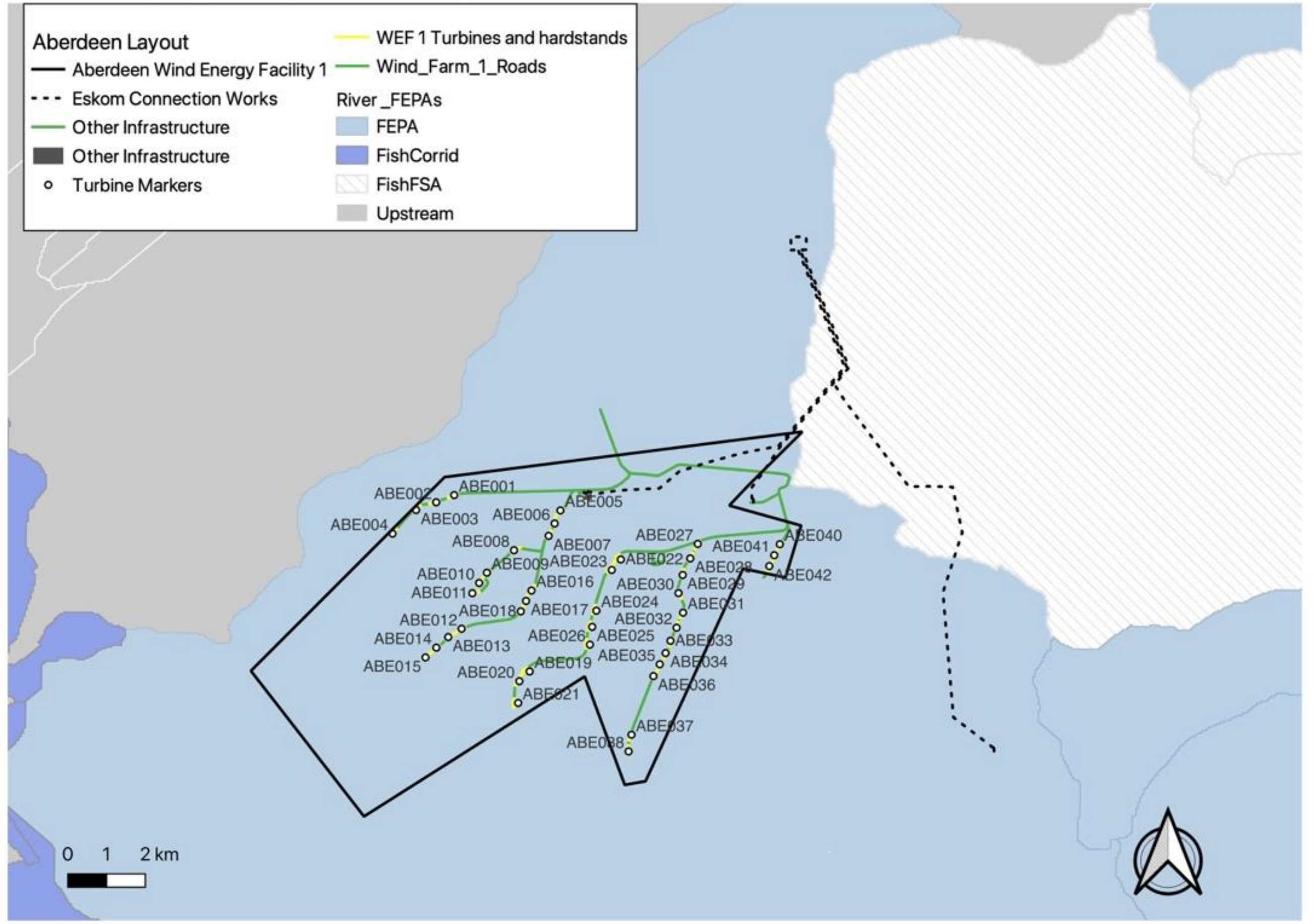
- Aberdeen Wind Energy Facility 1
- Eskom Connection Works
- Other Infrastructure
- Other Infrastructure
- Turbine Markers
- WEF 1 Turbines and hardstands
- Wind\_Farm\_1\_Roads
- SA Quaternary catchments labels
- SA Quaternary catchments
- NBA2018\_Rivers



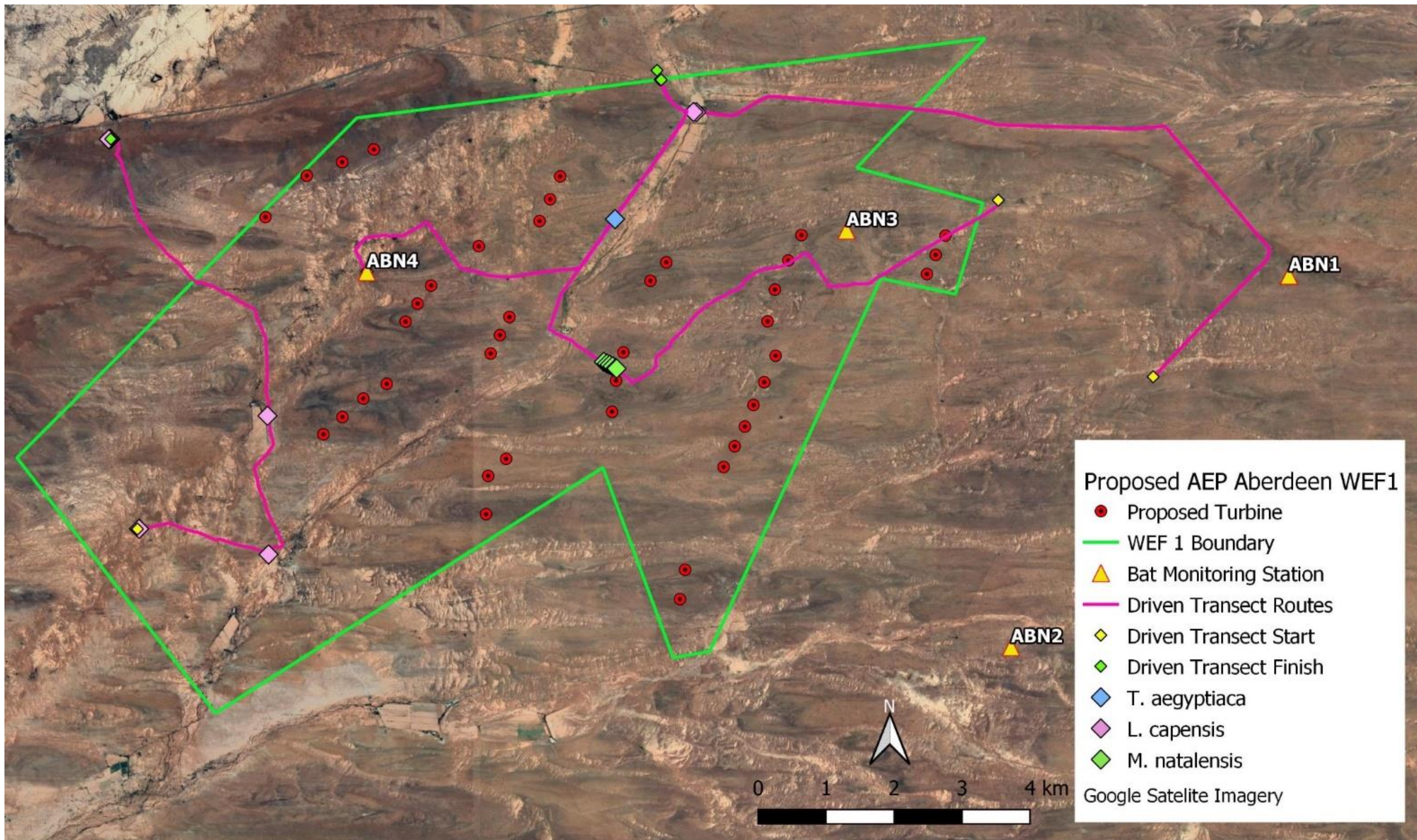


**Aberdeen Layout**

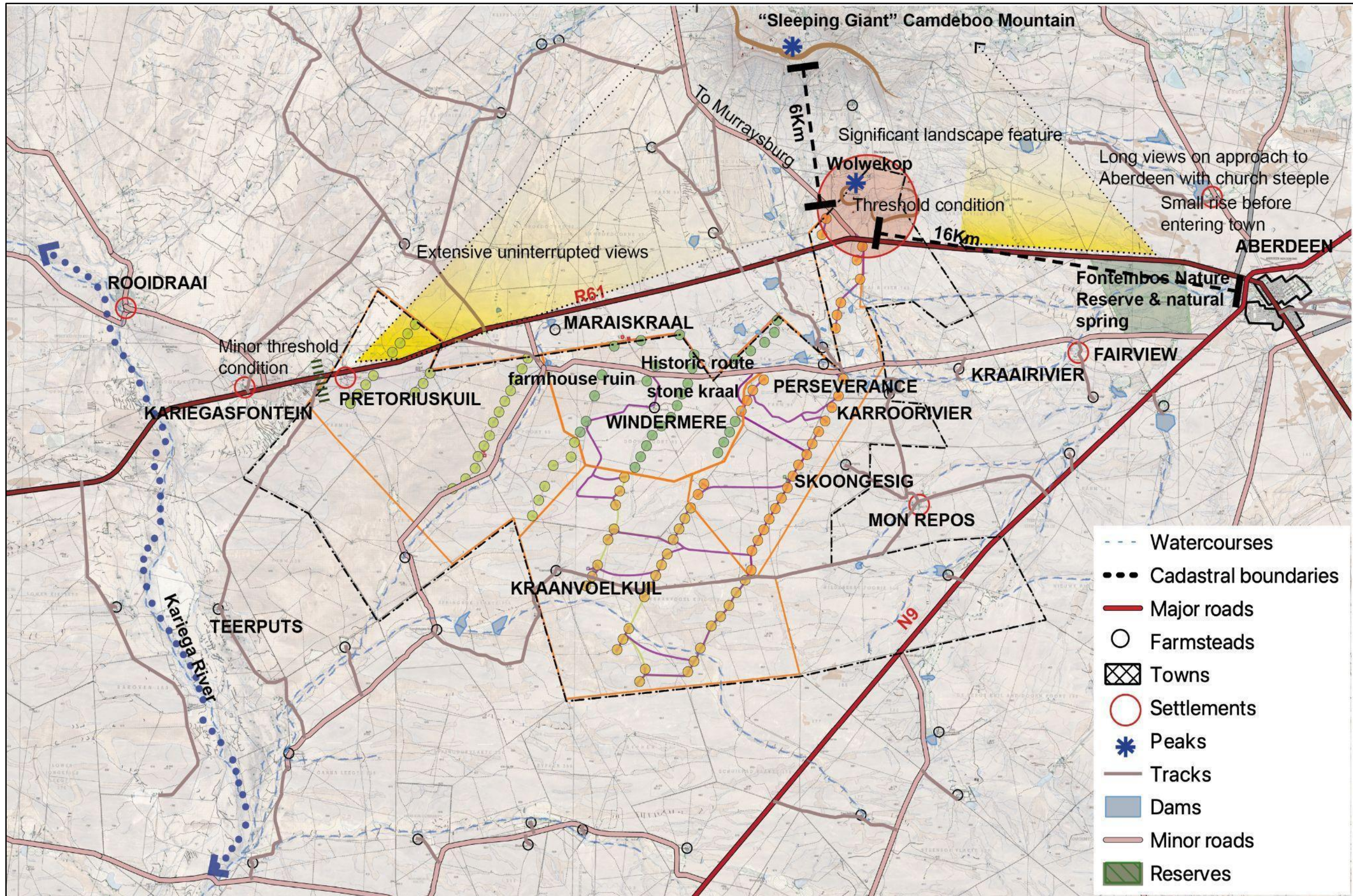
-  Aberdeen Wind Energy Facility 1
-  Eskom Connection Works
-  Other Infrastructure
-  Other Infrastructure
-  Turbine Markers
-  WEF 1 Turbines and hardstands
-  Wind\_Farm\_1\_Roads
- River\_FEPAs**
-  FEPA
-  FishCorrid
-  FishFSA
-  Upstream



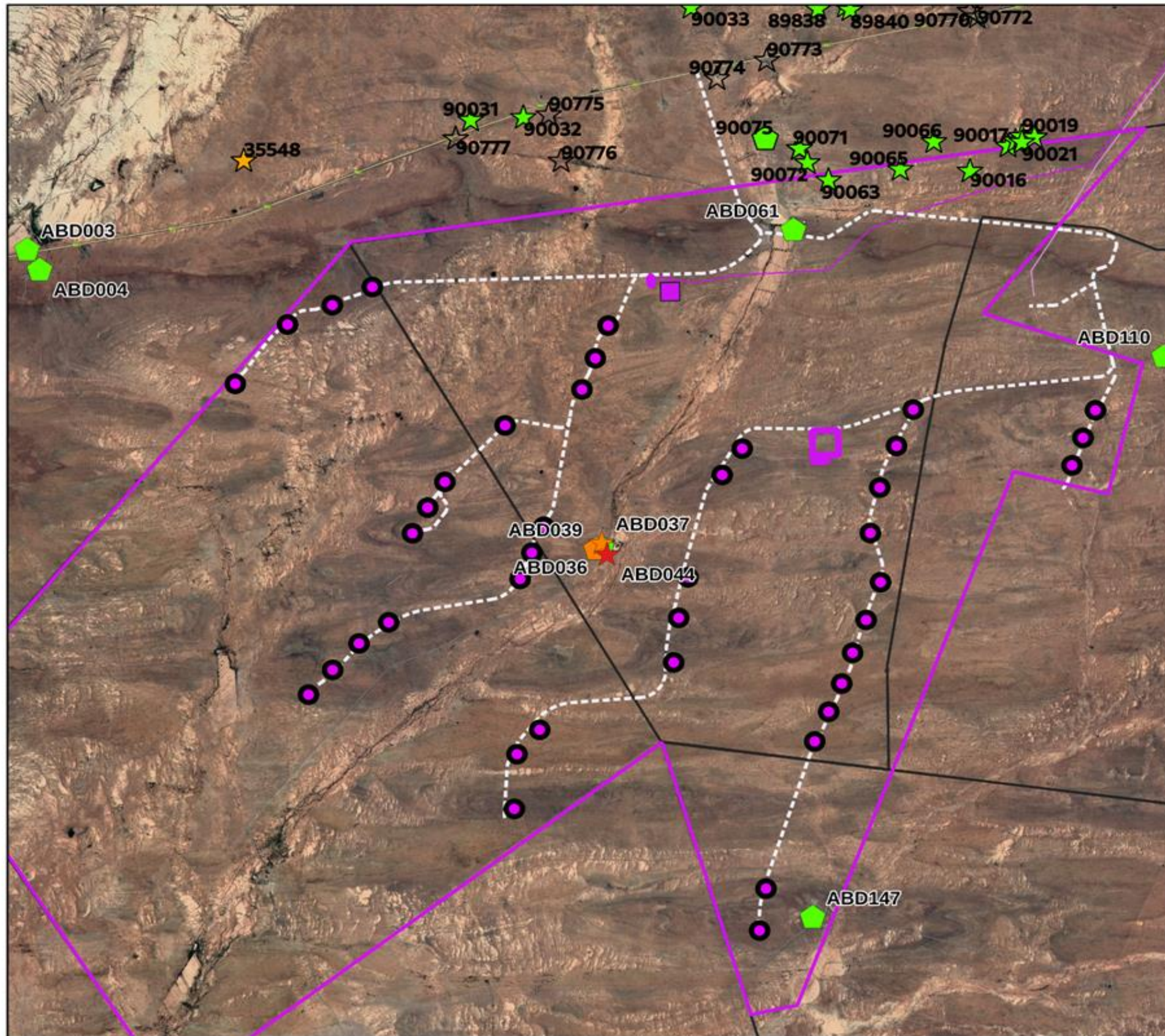












**HERITAGE RESOURCES**

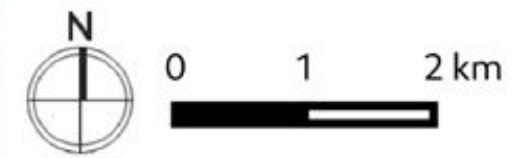
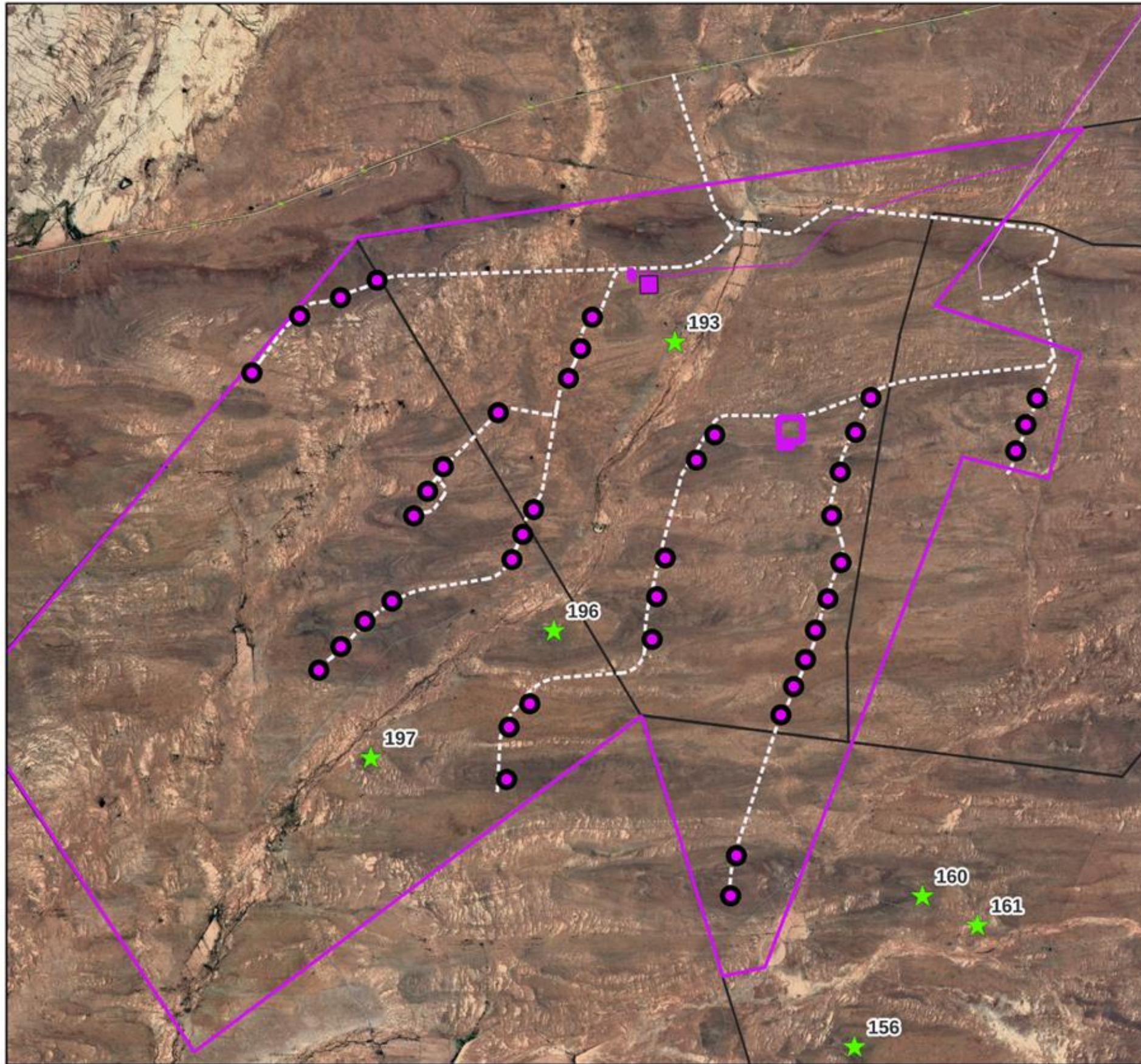
- ☆ Arch, Bat, Geo, Met, Pal, Und
- ⬡ Structures, Monuments & Memorials
- Liv. Heritage/Sacred sites, Burial Grounds and Graves, Natural Place
- △ Conservation Area, Cultural Landscape
- WEF 1 Turbine Markers
- Aberdeen WEF Access Roads
- 12 km 132 kV SC Twin Tern OHL
- 9 km 132 kV SC Twin Tern OHL
- WEF 1 Boundary
- WEF 1 Construction laydown area
- WEF 1 BESS
- Aberdeen Properties

**GRADING**

- DARK RED** I & II
- RED** IIIa
- ORANGE** IIIb
- GREEN** IIIc
- WHITE** NCW







**HERITAGE RESOURCES**

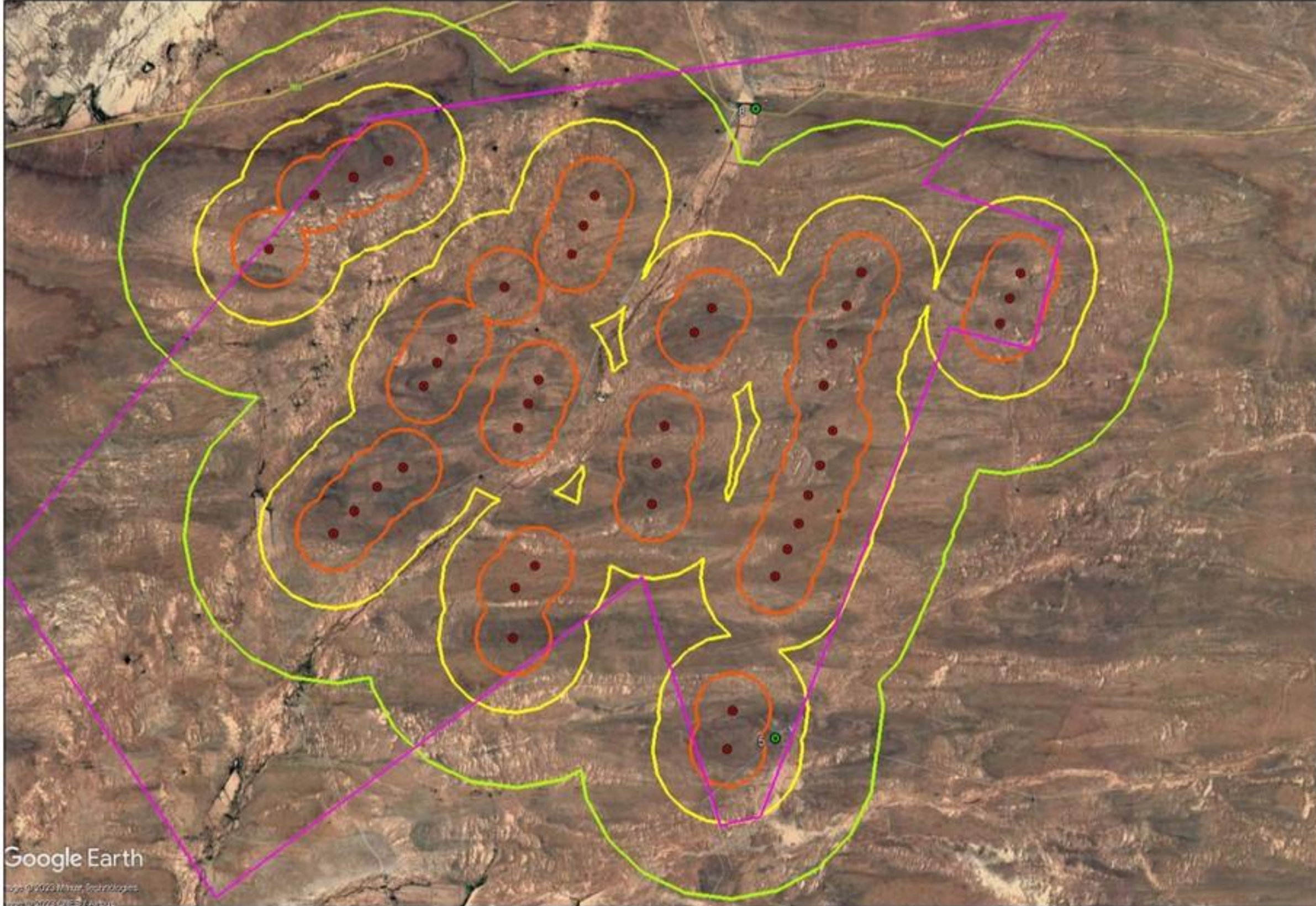
- ☆ Arch, Bat, Geo, Met, Pal, Und
- ⬠ Structures, Monuments & Memorials
- Liv. Heritage/Sacred sites, Burial Grounds and Graves, Natural Place
- △ Conservation Area, Cultural Landscape
- WEF 1 Turbine Markers
- Aberdeen WEF Access Roads
- 12 km 132 kV SC Twin Tern OHL
- 9 km 132 kV SC Twin Tern OHL
- WEF 1 Boundary
- WEF 1 Construction laydown area
- WEF 1 BESS
- Aberdeen Properties








**GRADING**

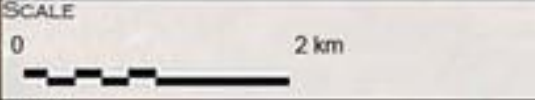
- DARK RED** I & II
- RED** IIIa
- ORANGE** IIIb
- GREEN** IIIc
- WHITE** NCW







- LEGEND**
-  - Local roads (Google Earth)
  -  - Proposed Project Boundary
  -  - Potential Noise-sensitive receptors
  -  - Conceptual noise source - WTG
  -  - Buffer: 500 m from WTG
  -  - Buffer: 1,000 m from WTG
  -  - Buffer: 2,000 m from WTG



TITLE  
**Aberdeen WF 1: Closest identified NSR and buffer areas**

CLIENT  
**Savannah Environmental (Pty) Ltd for Aberdeen Wind Facility 1 (Pty) Ltd**

Enviro-Acoustic Research  
 726 Wiedrich st  
 Moreleta Park  
 0181  
 Tel: 012 004 362  
 Fax: 086 621 0292  
 email: mome@eares.co.za



REFERENCES AND SOURCES  
 Google Earth



Google Earth

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4 km



## Proposed Aberdeen Wind Energy Facility Cluster

**LEGEND**

- National Road
- Arterial/Main Road
- Secondary Road
- Power Line
- Substation
- Dam
- Non-perennial River
- Town/Built-up Area
- Homestead/Farm Dwelling

**Aberdeen WEF Cluster**

- WEF 1 Turbines
- Battery Energy Storage System (BESS)

**PROXIMITY ANALYSIS (Visual Distance)**

- Short distance (0 - 5km)
- Medium distance (5 - 10km)
- Medium to longer distance (10 - 20km)
- Long distance (> 20km)

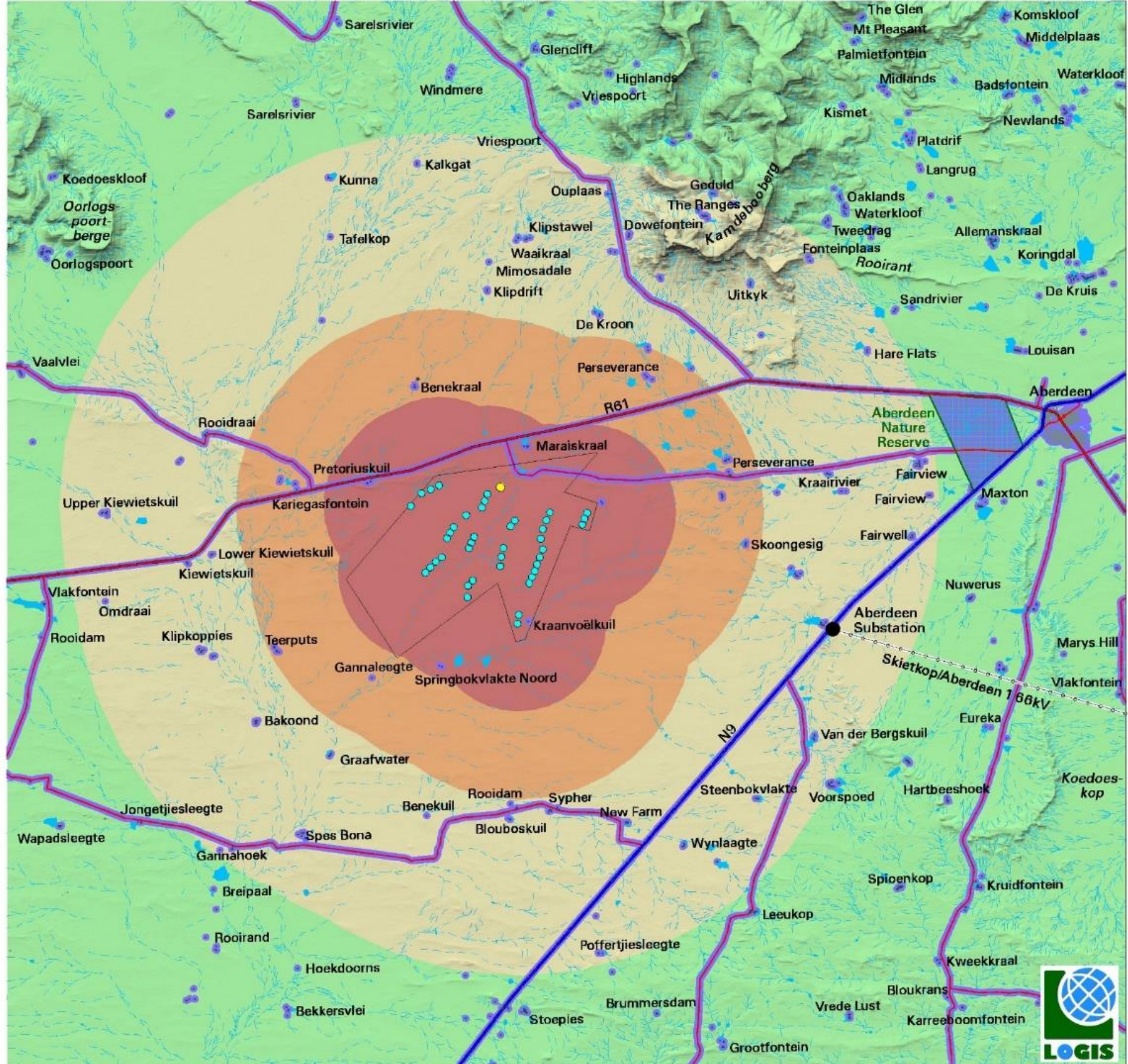
**POTENTIAL SENSITIVE VISUAL RECEPTORS**

- Residents of farm dwellings/homesteads
- Observers travelling along local roads
- Protected/Conservation Areas

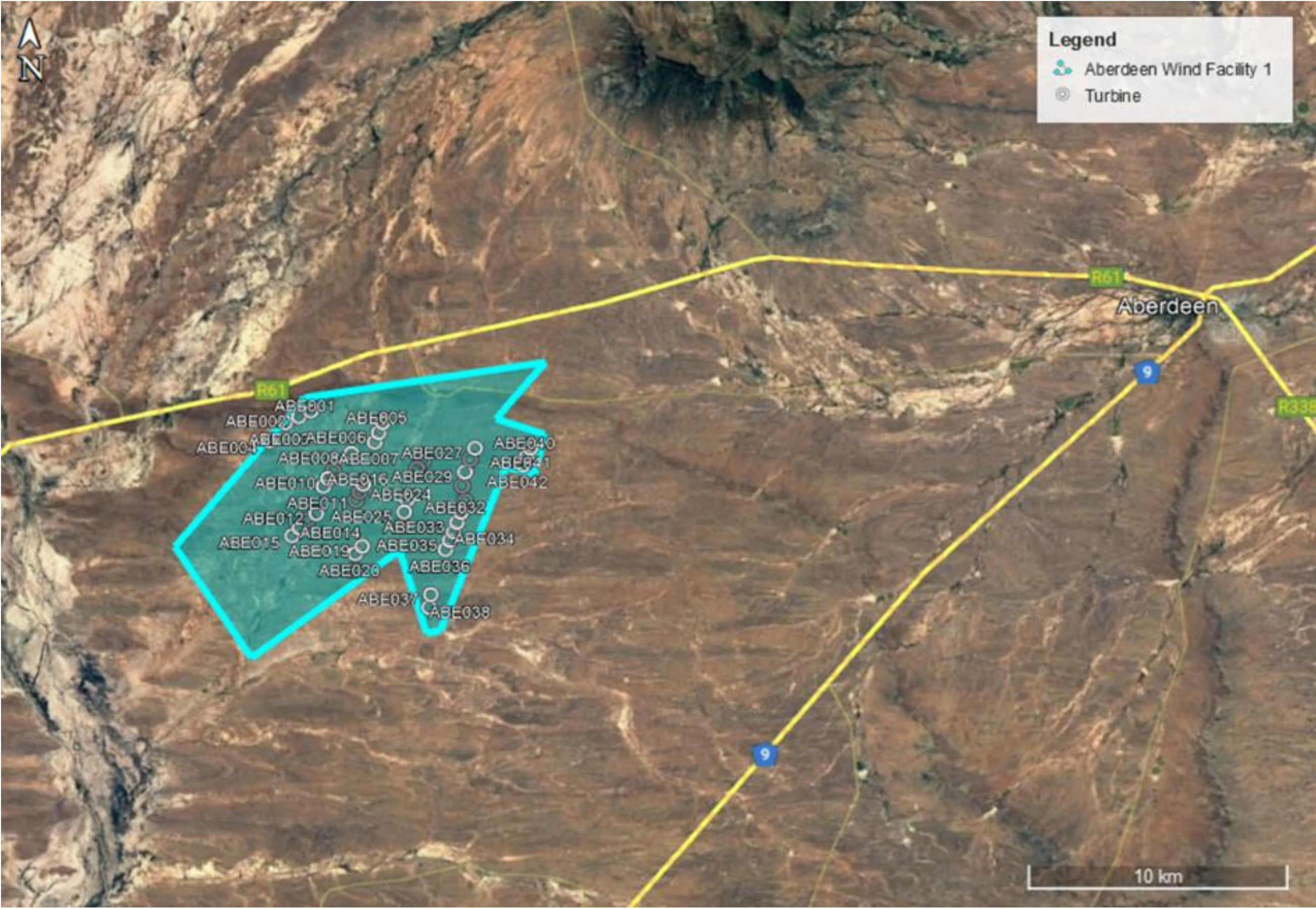
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**Compass Rose:** N, S, E, W

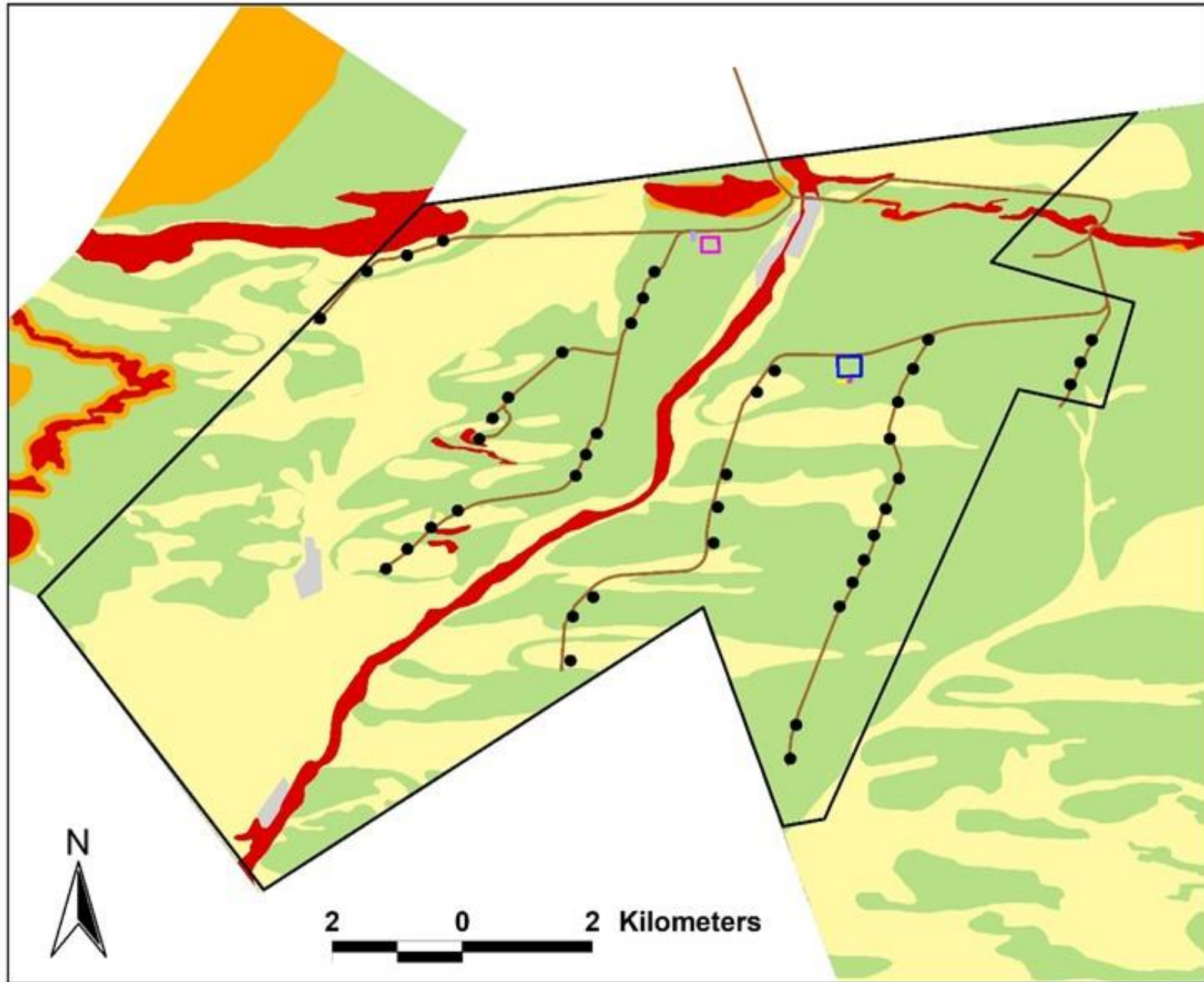
**LOGIS**
















-  Aberdeen WEF 1 Boundary
-  Aberdeen WEF 1 Turbines
-  Aberdeen WEF 1 Roads
- Aberdeen WEF 1 Infrastructure
  -  BESS
  -  O&M Buildings
  -  Construction laydown ar
  -  Site Camp
  -  Warehouse

- Ecological Sensitivity
-  Very High
  -  High
  -  Medium
  -  Low
  -  Transformed

Aberdeen WEF 1

Ecological Sensitivity

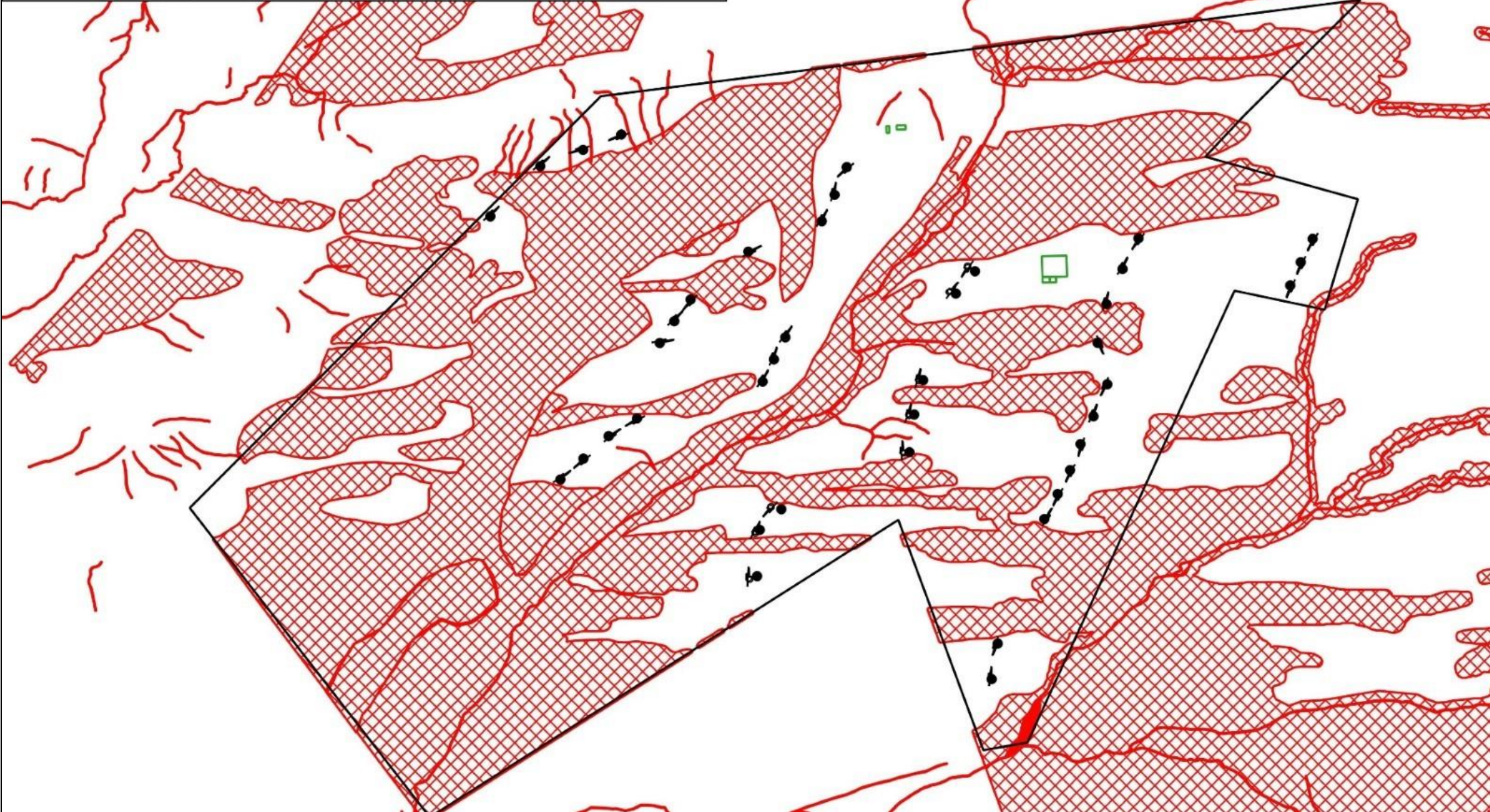


3Foxes Biodiversity Solutions



### Layout - WTG, Hardstands, Buildings, Substations, BESS

- Site Boundary
- Turbines and hardstands
- ▨ High Sensitive - Major Drainage (inclusive of 25m buffer)
- High Sensitive - Minor Drainage (inclusive of 12m buffer)
- Other Infrastructure (BESS, O&M buildings, site camps, warehouse, laydown)



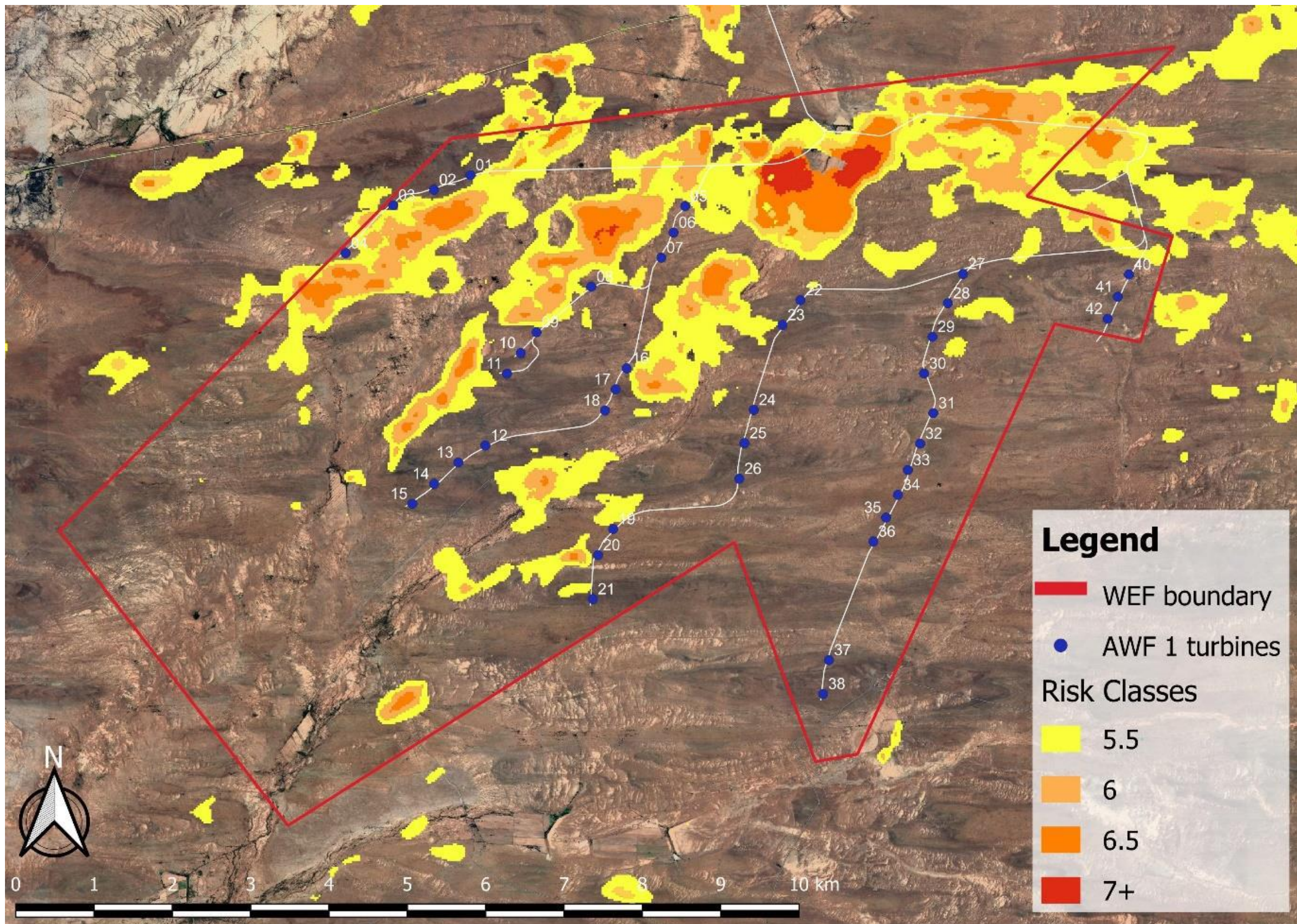


### Layout - Roads & Transmission (MV)

- Site Boundary
- Roads & MV
- ▨ Moderate Sensitivity - Major Drainage (inclusive of 25m buffer)
- Moderate Sensitivity - Minor Drainage (inclusive of 12m buffer)









### Legend

- WEF1
- Bat Monitoring Stations
- Confirmed Bat Roost
- Potential Bat Roost
- Infrastructure**
  - Proposed Turbines
  - Existing Roads
  - New Roads
  - Construction laydown area
  - O&M Buildings
  - Site Camp (including batching plant)
  - Warehouse
  - BESS
- Hydrology**
  - Non-Perennial River
  - Furrow
  - Wind Pump
  - Water Supply Point
  - Reservoir
  - Dam
  - Non-perennial Pan



Map Produced by  
Wooding Geospatial Solutions  
Data source's:  
Infrastructure Data - IWS, 2022  
SANLC Data - 2020, Dept. Forest,  
Fisheries & the Environment. Available:  
[https://legis.environment.gov.za/data\\_egis](https://legis.environment.gov.za/data_egis)  
Topographic Data - CDNGI, 2020. Available:  
<http://www.cdngportal.co.za/cdngportal/>

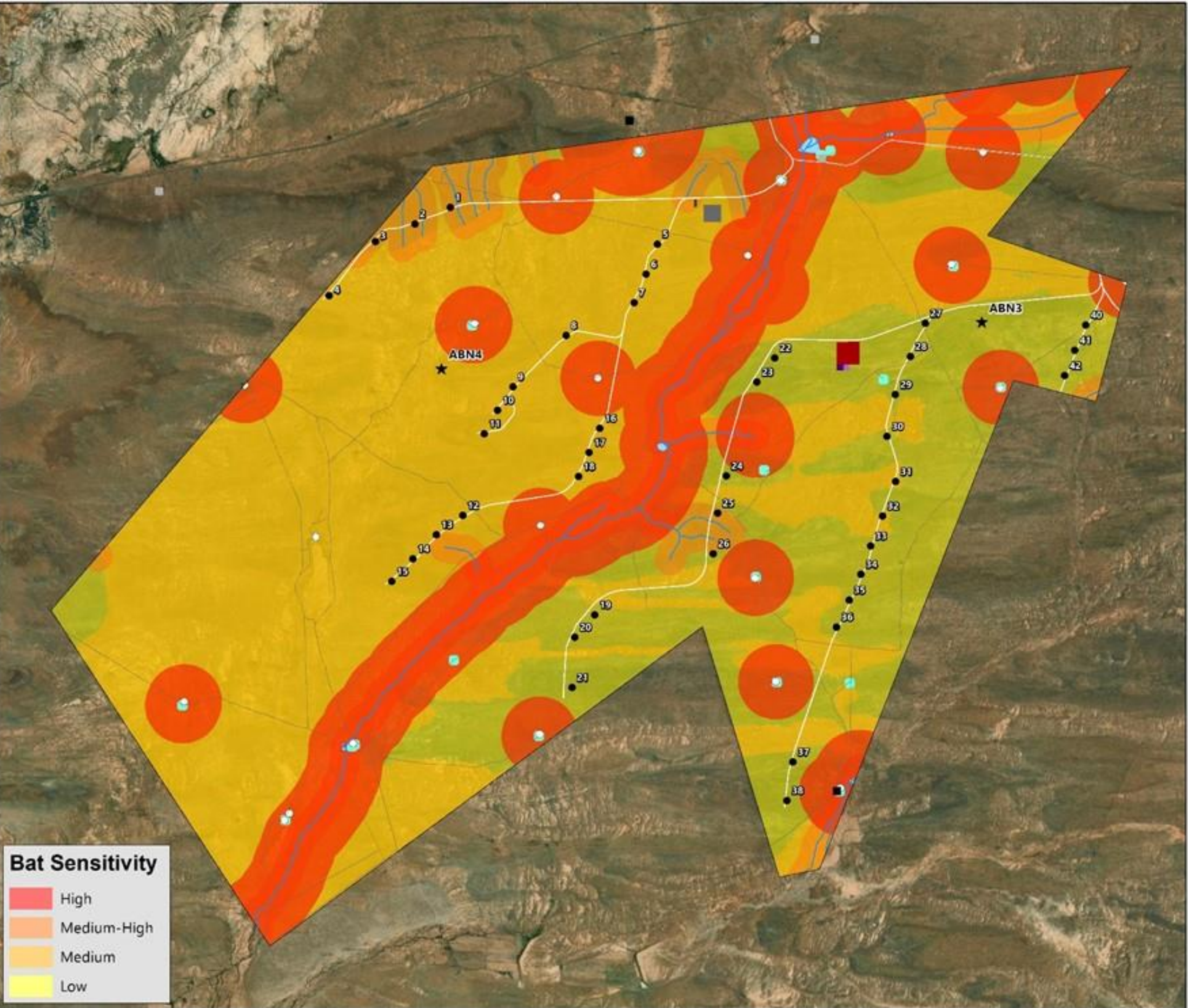
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Date of Print: 1/20/2023

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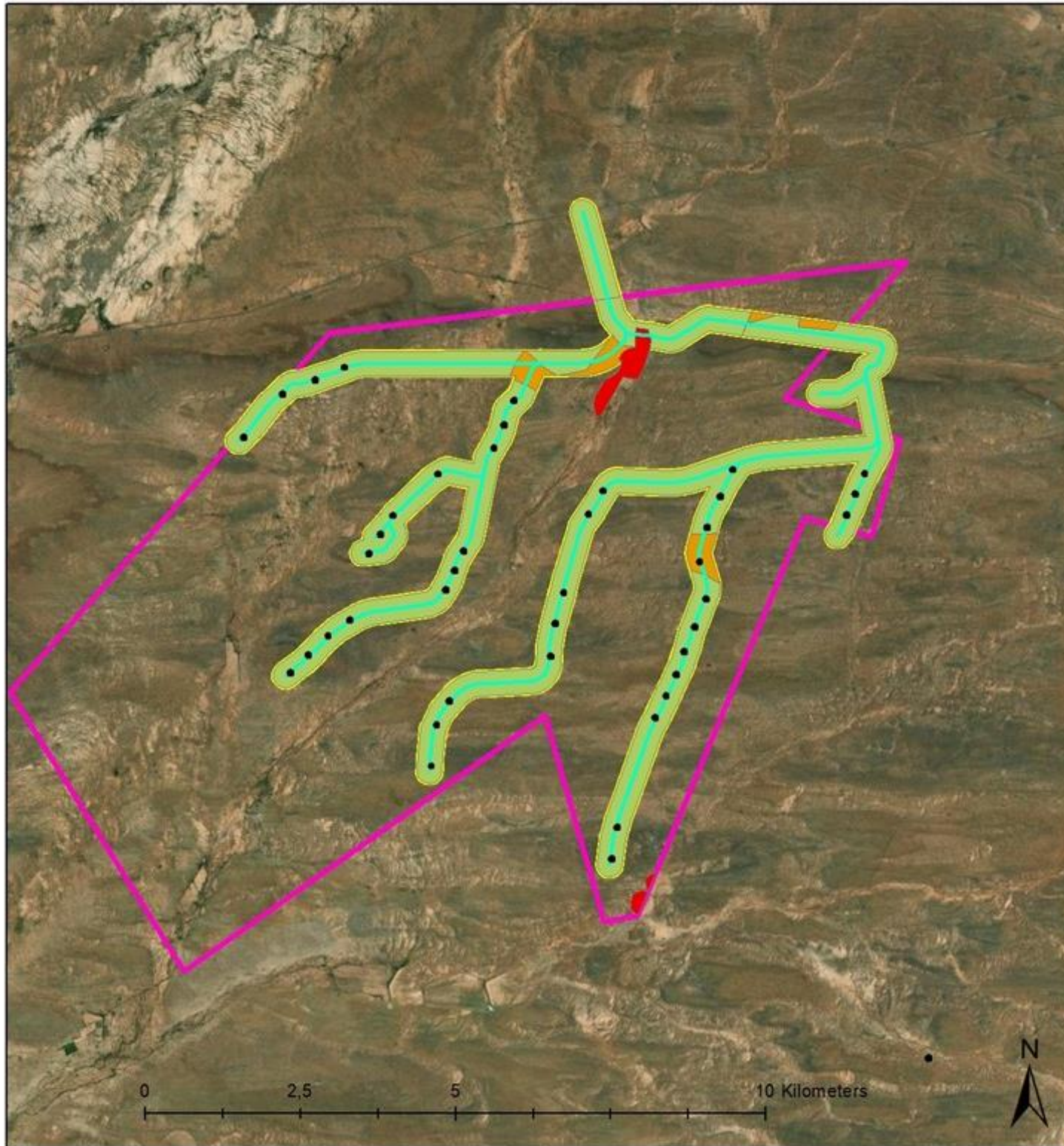
0 0.5 1 2 Km



Mobile: +27 (0)79 313 3479  
Email: info@iws-sa.co.za





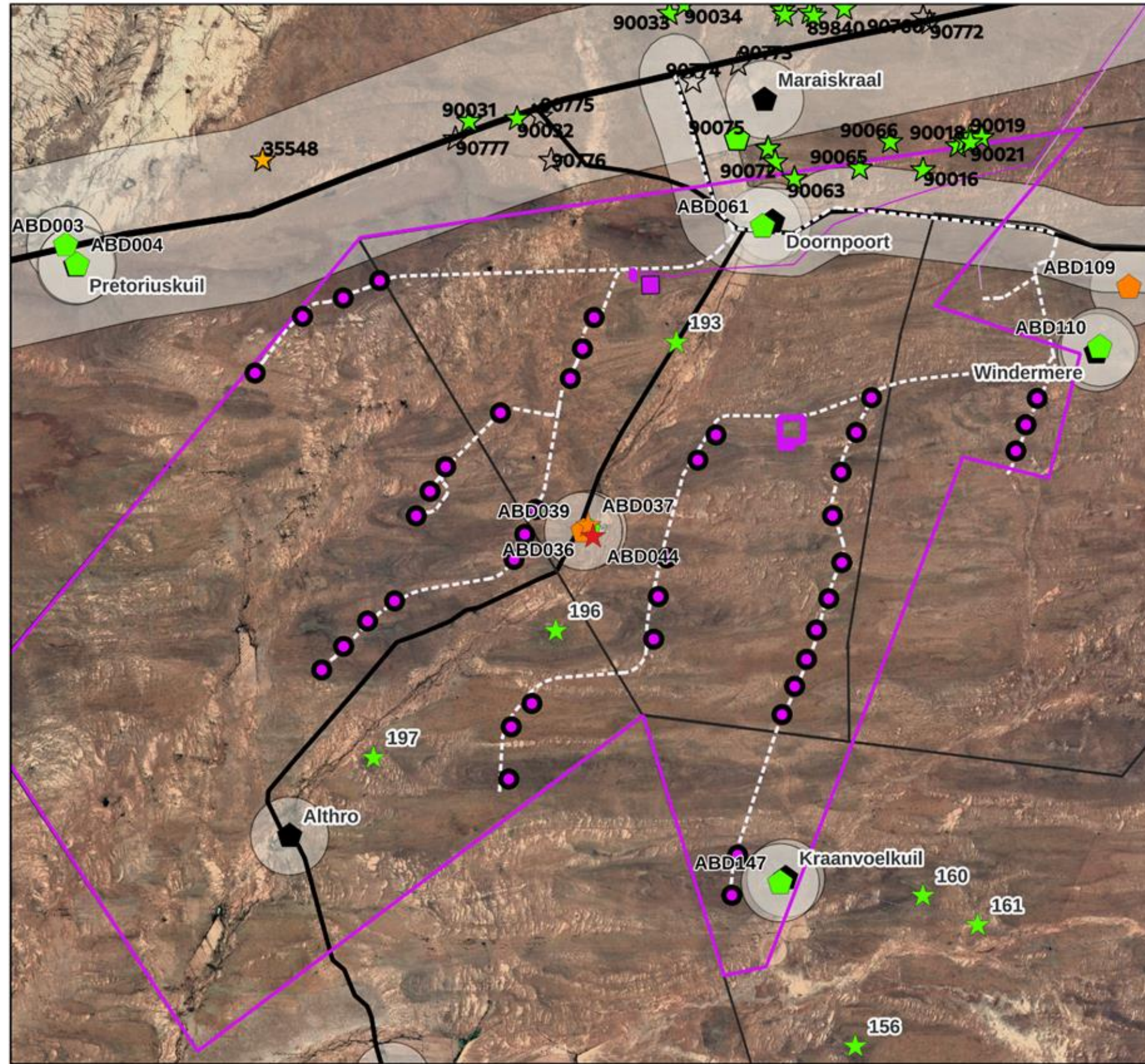


**Legend**

- Development area-9180 ha
  - Study area-1785 ha
  - Wind Farm 1 Roads
  - Turbines and hardstands
- Sensitivity**
- Low-1316.65 ha
  - Medium-421.85 ha
  - High-49.71 ha







**HERITAGE RESOURCES**

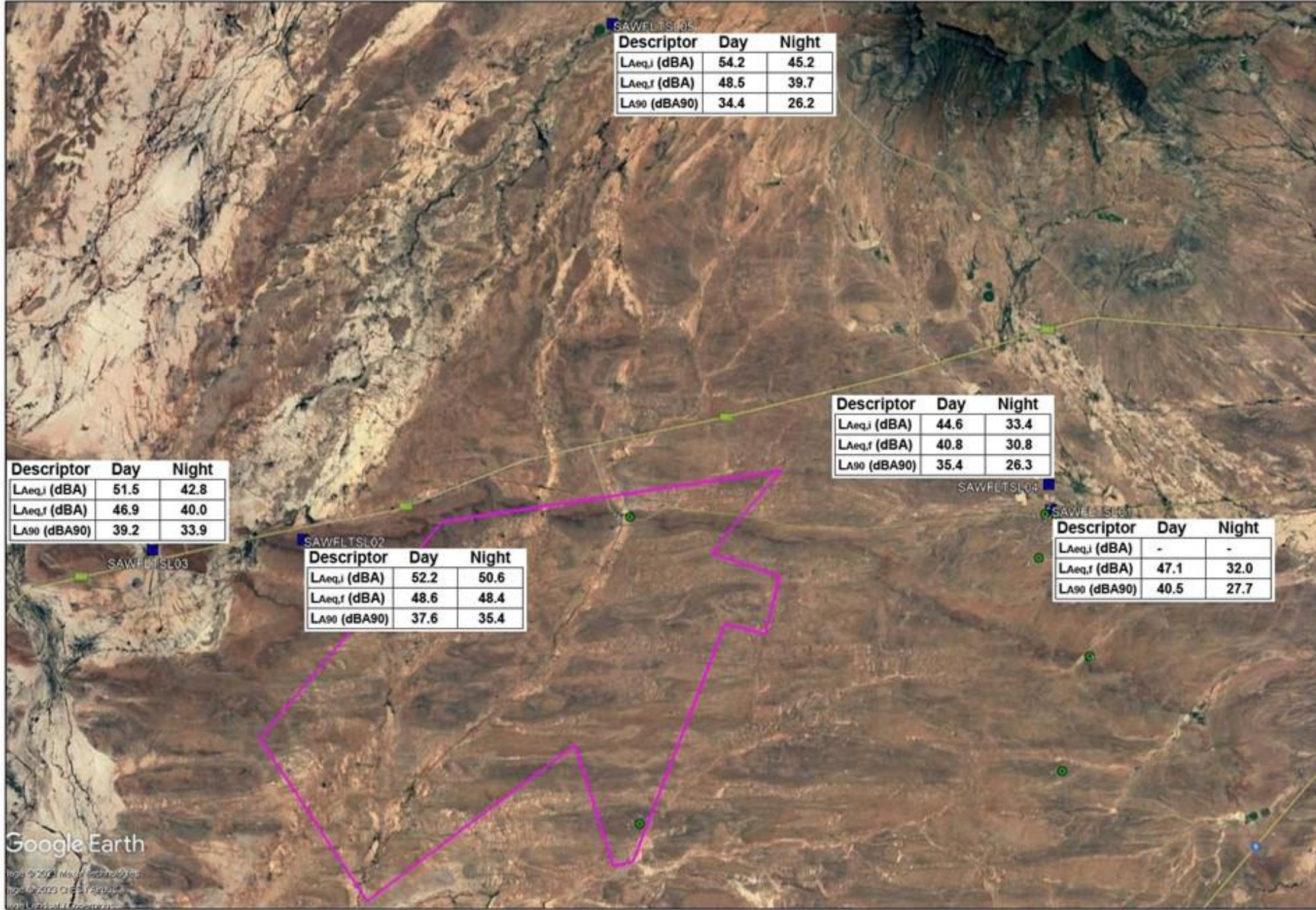
- ☆ Arch, Bat, Geo, Met, Pal, Und
- ⬡ Structures, Monuments & Memorials
- Liv. Heritage/Sacred sites, Burial Grounds and Graves, Natural Place
- △ Conservation Area, Cultural Landscape
- WEF 1 Turbine Markers
- ⬢ Farms
- Scenic Routes
- Road
- - - Aberdeen WEF Access Roads
- 12 km 132 kV SC Twin Tern OHL
- 9 km 132 kV SC Twin Tern OHL
- WEF 1 Boundary
- WEF 1 Construction laydown area
- WEF 1 BESS
- Aberdeen Properties
- Recommended Buffers

**GRADING**

- |                 |                   |
|-----------------|-------------------|
| <b>DARK RED</b> | <b>I &amp; II</b> |
| <b>RED</b>      | <b>IIIa</b>       |
| <b>ORANGE</b>   | <b>IIIb</b>       |
| <b>GREEN</b>    | <b>IIIc</b>       |
| <b>WHITE</b>    | <b>NCW</b>        |







Descriptor	Day	Night
LAeq,i (dBA)	54.2	45.2
LAeq,f (dBA)	48.5	39.7
LA90 (dBA90)	34.4	26.2

Descriptor	Day	Night
LAeq,i (dBA)	44.6	33.4
LAeq,f (dBA)	40.8	30.8
LA90 (dBA90)	35.4	26.3

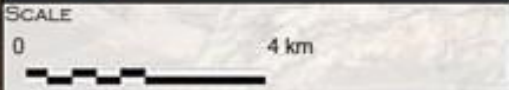
Descriptor	Day	Night
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LAeq,f (dBA)	46.9	40.0
LA90 (dBA90)	39.2	33.9

Descriptor	Day	Night
LAeq,i (dBA)	52.2	50.6
LAeq,f (dBA)	48.6	48.4
LA90 (dBA90)	37.6	35.4

Descriptor	Day	Night
LAeq,i (dBA)	-	-
LAeq,f (dBA)	47.1	32.0
LA90 (dBA90)	40.5	27.7

### LEGEND

- Local roads (Google Earth)
- Proposed Project Boundary
- Potential Noise-sensitive receptors
- Measurement Locations



**TITLE**  
Aberdeen WF 1: Locations where ambient sound levels were measured

**CLIENT**  
Savannah Environmental (Pty) Ltd for Aberdeen Wind Facility 1 (Pty) Ltd

Enviro-Acoustic Research  
726 Wiedrich st  
Moreleta Park  
0181  
Tel: 012 004 362  
Fax: 086 621 0292  
email: mame@eares.co.za



**REFERENCES AND SOURCES**  
Google Earth

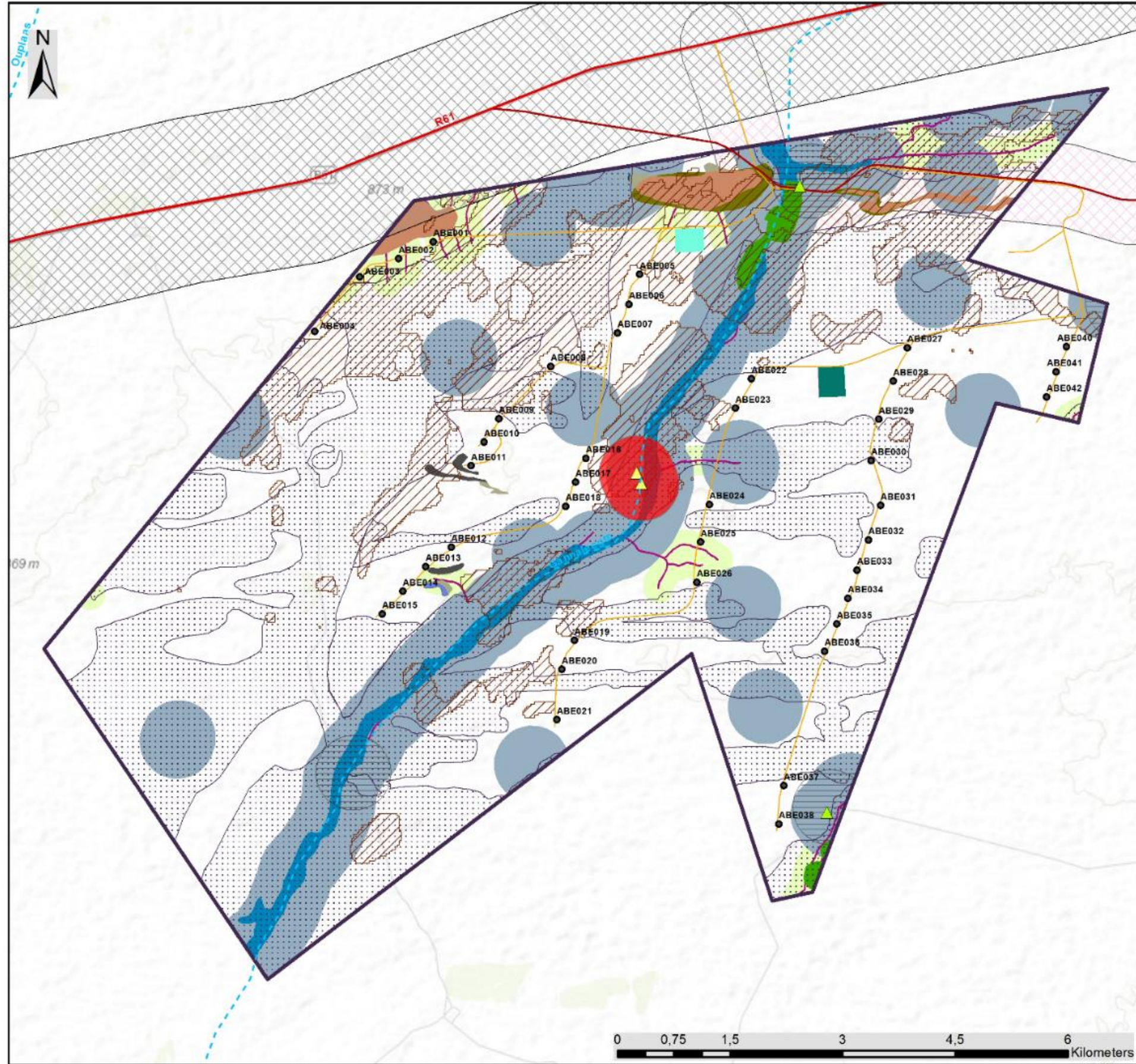


Google Earth

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8 km





# Aberdeen Wind Facility 1 Eastern Cape Province

## Sensitivity and Layout Map

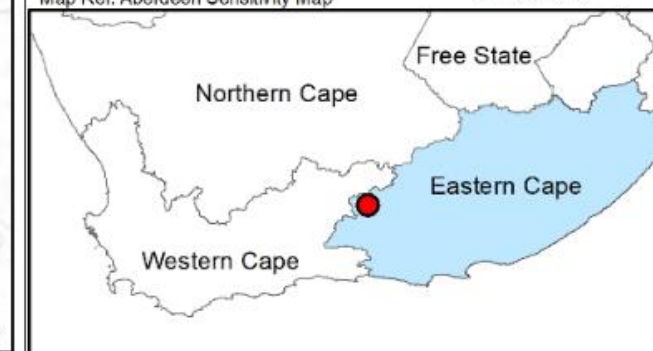
### Legend

- Regional Road
- Main Road
- Perennial River
- Non Perennial River
- Substation, BESS and O&M Buildings Hub
- Warehouse, Laydown Area and Site Camp Hub
- Turbines
- Access & Internal Roads with Cabling
- Aberdeen Wind Facility 1 Development Area

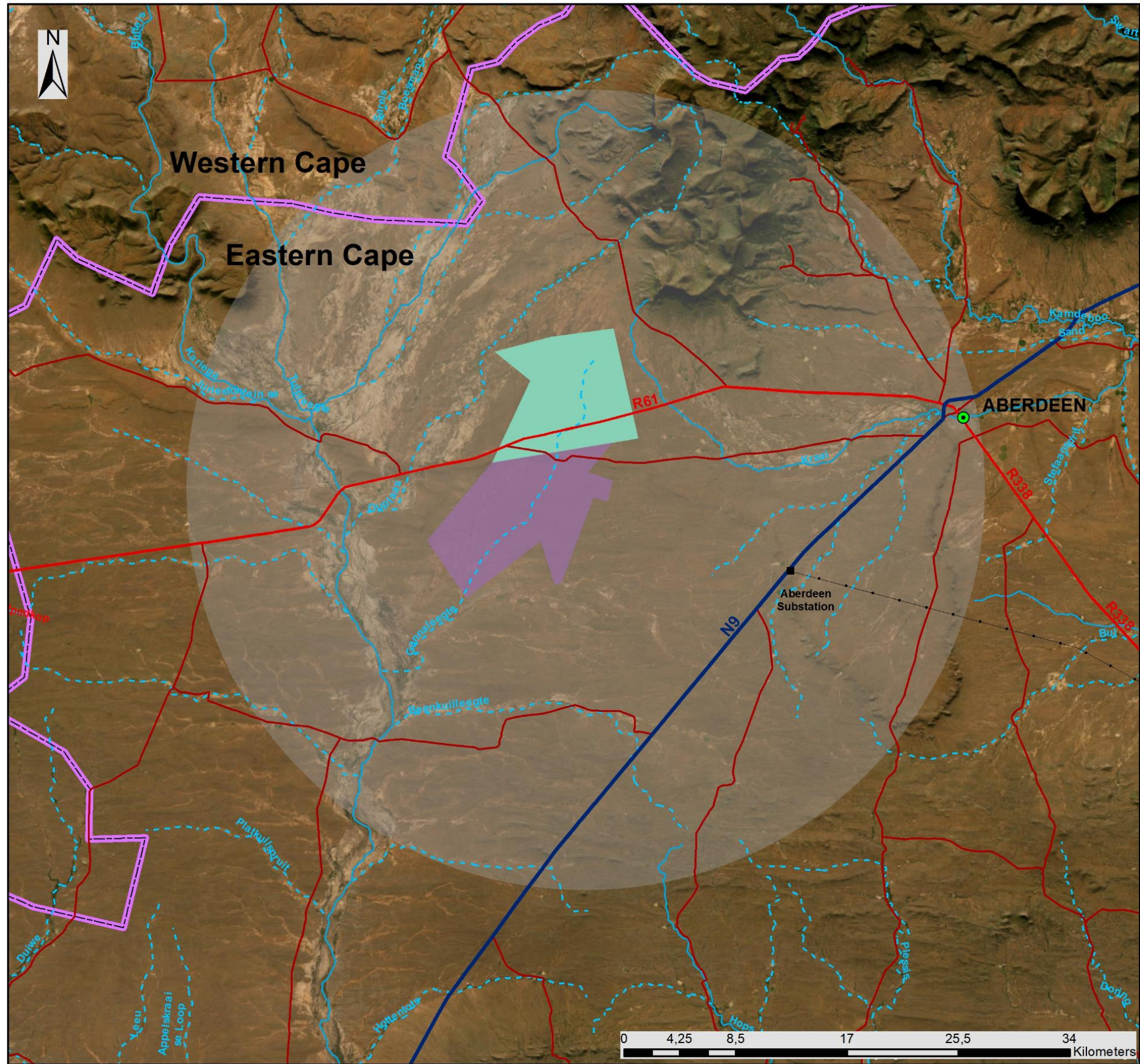
### Environmental Sensitivity

- ▲ Noise Sensitive Receptors
- ▲ Heritage sites
- 500m Artefacts Buffer (High Heritage Sensitivity)
- Farm Werf Buffers (High Heritage Sensitivity)
- R61/N9 Road 1km Buffer (High Heritage Sensitivity)
- Historical route 500m Buffer (High Heritage Sensitivity)
- Minor Drainage (High Aquatic Sensitivity for all infrastructure except Roads and MV)
- Major Drainage (High Aquatic Sensitivity for all infrastructure except Roads and MV)
- Soil (High Soil Sensitivity)
- Avifauna (High Avifauna Sensitivity applicable to turbines)
- Drainage (Very High Terrestrial Ecology Sensitivity)
- Plains (Very High Terrestrial Ecology Sensitivity)
- Ridge (Very High Terrestrial Ecology Sensitivity)
- Rocky (Very High Terrestrial Ecology Sensitivity)
- Sheetwash (Very High Terrestrial Ecology Sensitivity)
- Stony Ground (Very High Terrestrial Ecology Sensitivity)
- Minor slopes and drainage (High Terrestrial Ecology)
- Bat (Medium-High Bat Sensitivity)
- Bat (High Bat Sensitivity)

Scale: 1:70 000  
 Projection: GCS\_WGS\_1984  
 Map Ref: Aberdeen Sensitivity Map







# Aberdeen Wind Facility 1 Eastern Cape Province

Cumulative Map

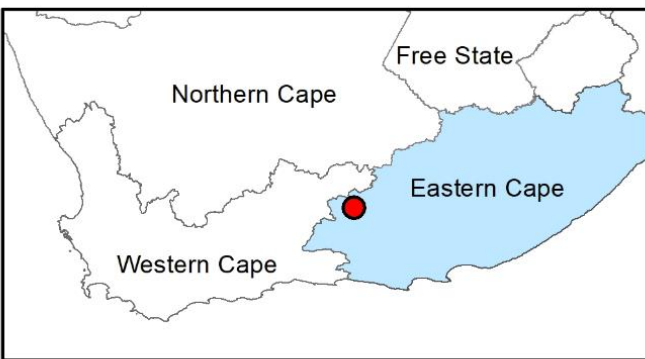
## Legend

- Town
- Existing Substation
- Eskom Power Line (Existing)
- National Road
- Regional Road
- Main Road
- Perennial River
- - - Non Perennial River
- Provincial Boundary
- Facility 30km Radius
- Aberdeen Wind Facility 1 Development Area

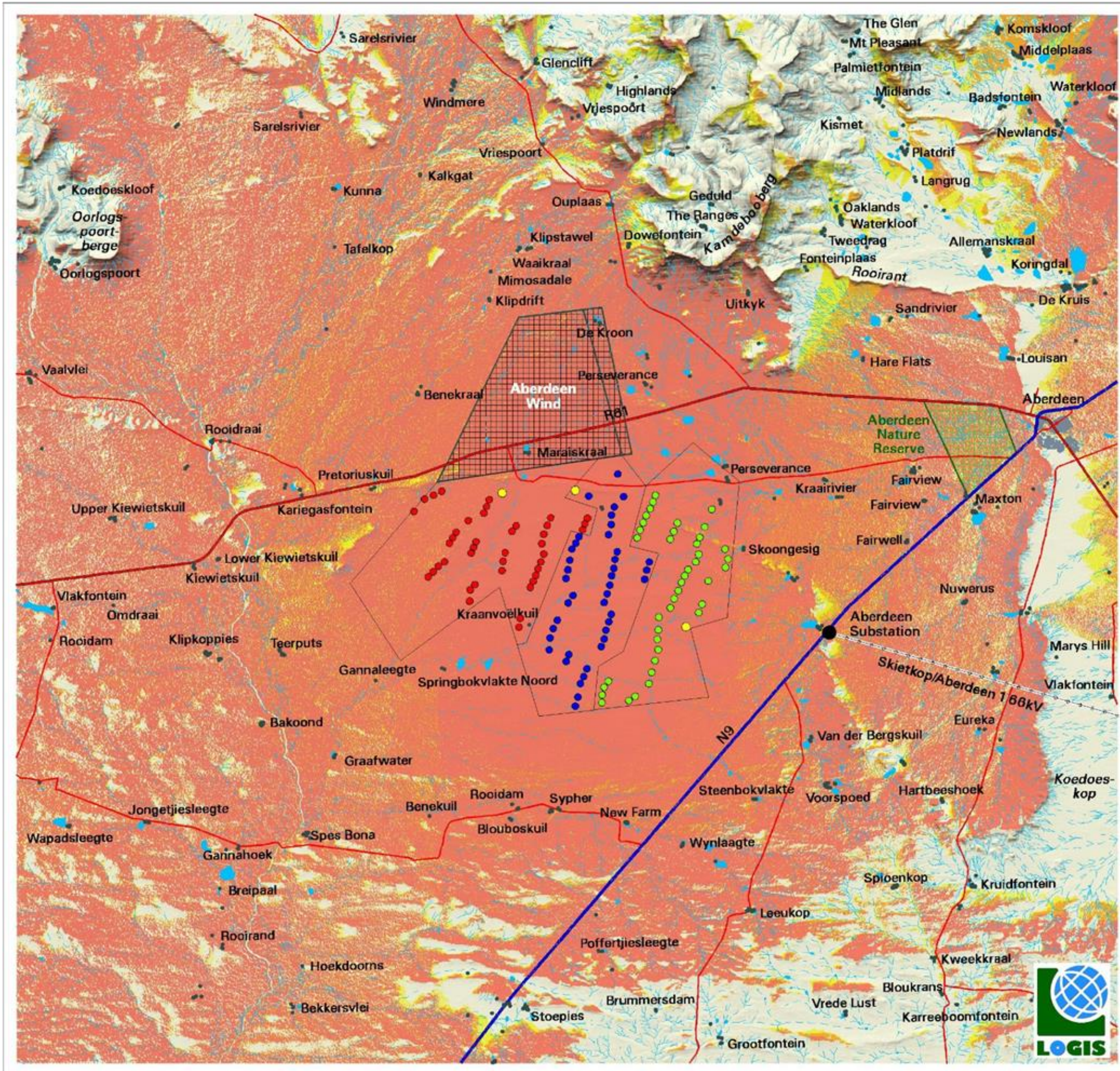
## Properties linked to Renewable Energy Facilities (REEA 2022 Q3)

- Eskom Aberdeen Wind

Scale: 1:400 000  
 Projection: GCS\_WGS\_1984  
 Map Ref: Aberdeen Cumulative Map







## Proposed Aberdeen Wind Energy Facility Cluster

- LEGEND**
- National Road
  - Arterial/Main Road
  - Secondary Road
  - Power Line
  - Substation
  - Dam
  - Non-perennial River
  - Town/Built-up Area
  - Homestead/Farm Dwelling
- Aberdeen WEF Cluster**
- WEF 1 Turbines
  - WEF 2 Turbines
  - WEF 3 Turbines
  - Battery Energy Storage System (BESS)

- CUMULATIVE VIEWSHED ANALYSIS**
- Not Visible
  - Turbines from only one WEF visible
  - Turbines from two WEFs visible
  - Turbines from three WEFs visible

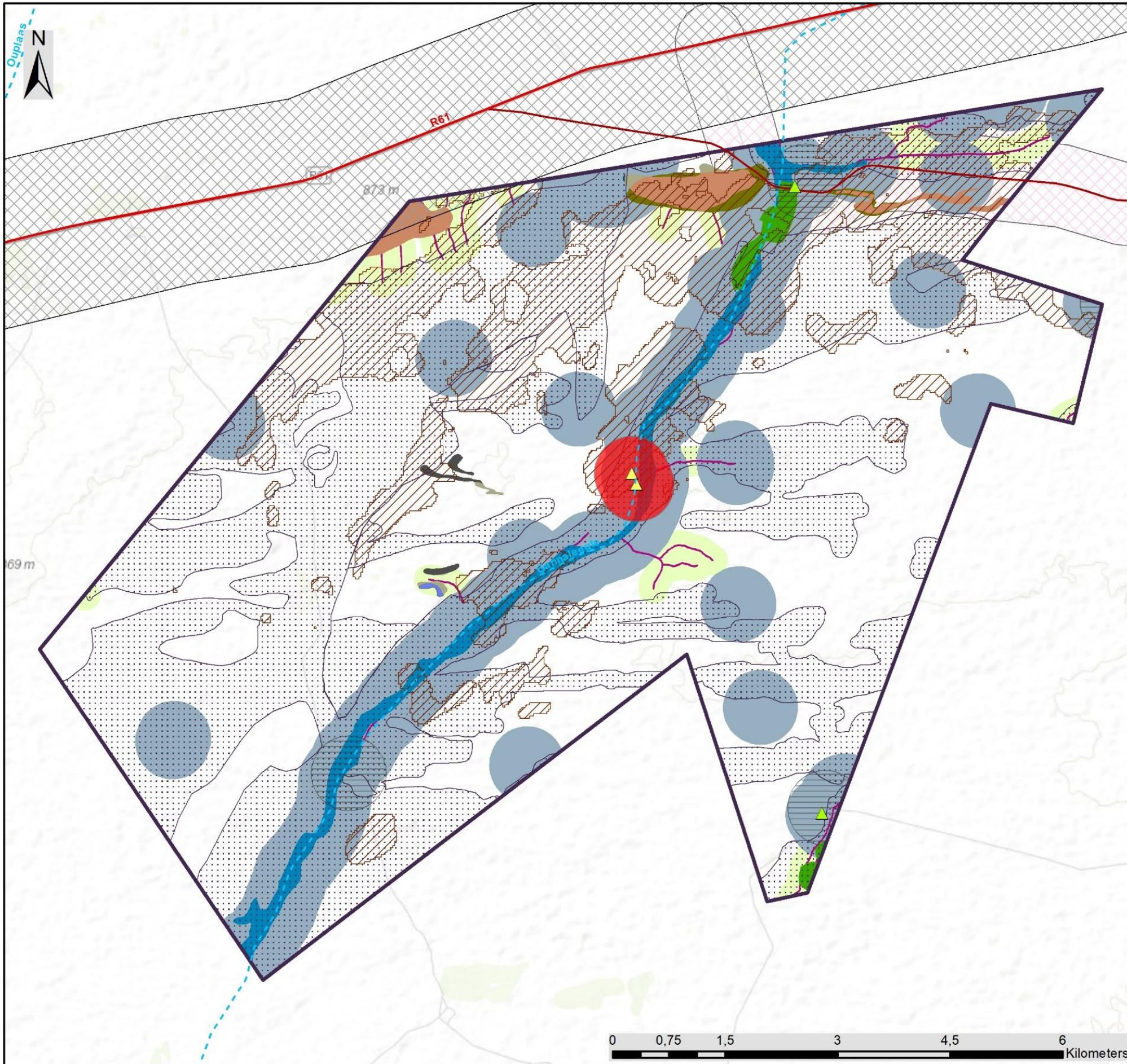
Notes:  
Visibility calculated at 300m above ground level

- RENEWABLE ENERGY PROJECTS**
- Approved

Source:  
Department Forestry, Fisheries and the Environment (DFFE), Renewable Energy EIA Applications Database (REEA 2021 Q4)







# Aberdeen Wind Facility 1 Eastern Cape Province Sensitivity Map

## Legend

- Regional Road
- Main Road
- Perennial River
- - - Non Perennial River
- Aberdeen Wind Facility 1 Development Area

## Environmental Sensitivity

- ▲ Noise Sensitive Receptors
- ▲ Heritage sites
- 500m Artefacts Buffer (High Heritage Sensitivity)
- Farm Werf Buffers (High Heritage Sensitivity)
- R61/N9 Road 1km Buffer (High Heritage Sensitivity)
- Historical route 500m Buffer (High Heritage Sensitivity)
- Minor Drainage (High Aquatic Sensitivity for all infrastructure except Roads and MV)
- Major Drainage (High Aquatic Sensitivity for all infrastructure except Roads and MV)
- Soil (High Soil Sensitivity)
- Avifauna (High Avifauna Sensitivity applicable to turbines)
- Drainage (Very High Terrestrial Ecology Sensitivity)
- Plains (Very High Terrestrial Ecology Sensitivity)
- Ridge (Very High Terrestrial Ecology Sensitivity)
- Rocky (Very High Terrestrial Ecology Sensitivity)
- Sheetwash (Very High Terrestrial Ecology Sensitivity)
- Stony Ground (Very High Terrestrial Ecology Sensitivity)
- Minor slopes and drainage (High Terrestrial Ecology Sensitivity)
- Bat (Medium-High Bat Sensitivity)
- Bat (High Bat Sensitivity)

Scale: 1:70 000  
 Projection: GCS\_WGS\_1984  
 Map Ref: Aberdeen Sensitivity Map

