

# Aberdeen 2 Wind Facility Eastern Cape Province

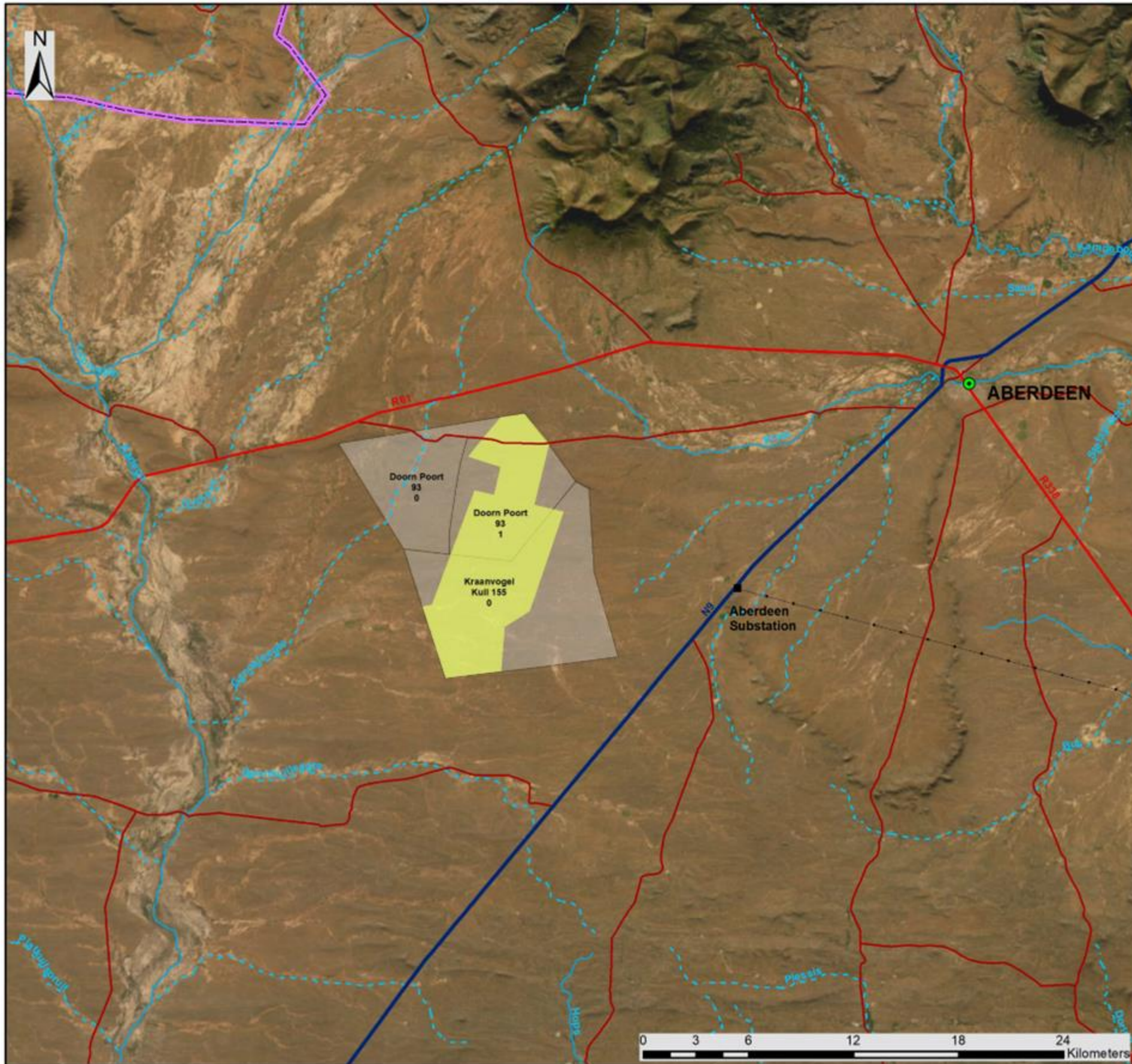
## Locality Map

### Legend

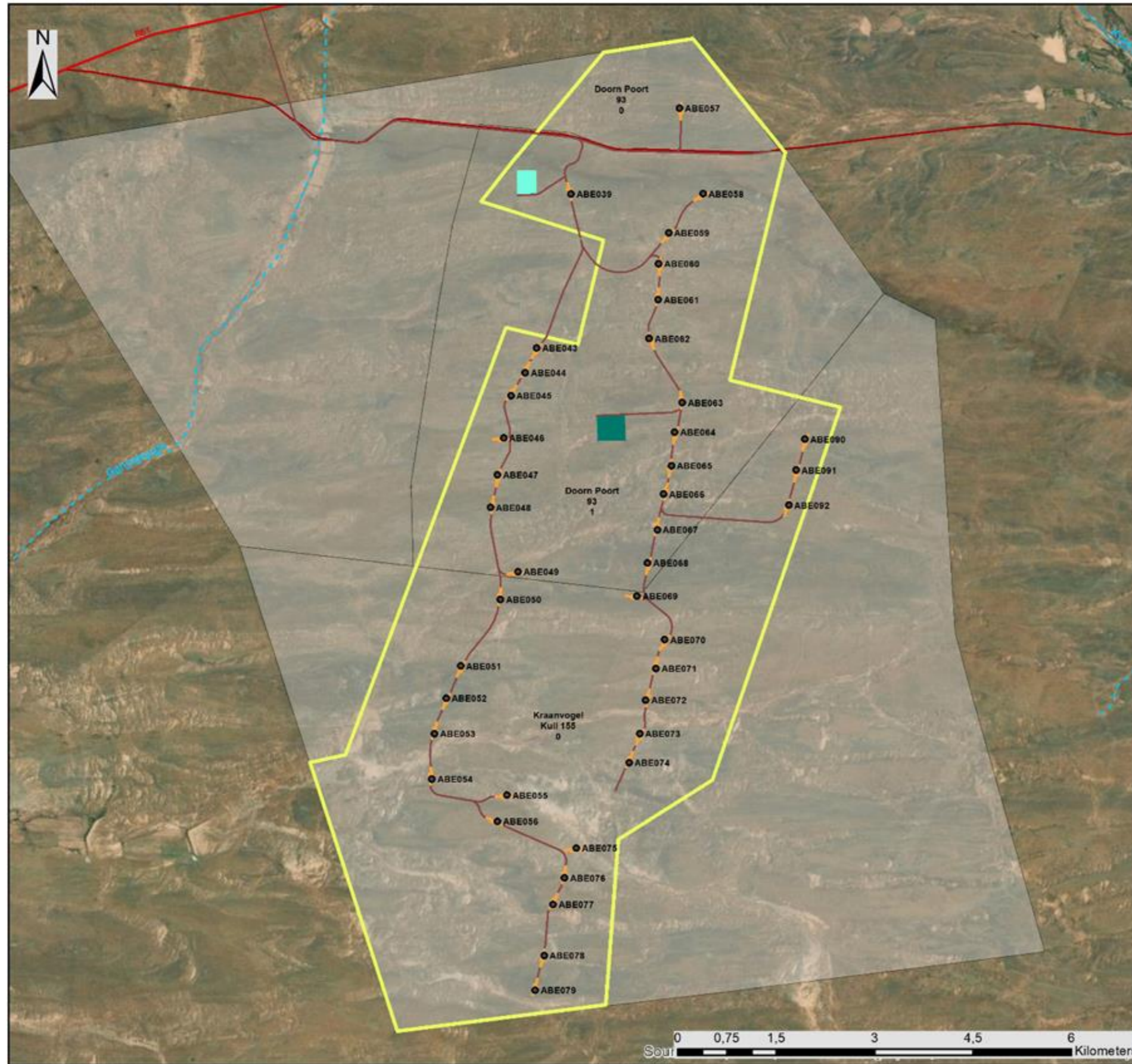
- Town
- Existing Substation
- Eskom Power Line (Existing)
- Regional Road
- National Road
- Main Road
- Perennial River
- - - Non Perennial River
- ▭ Provincial Boundary
- ▭ Aberdeen Wind Facility 2 Development Area
- ▭ Project Site

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

savannah  
environmental







# Aberdeen Wind Facility 2 Eastern Cape Province

## Layout Map

### Legend

- Town
- Regional Road
- Main Road
- Perennial River
- - - Non Perennial River
- Affected Farm Portions

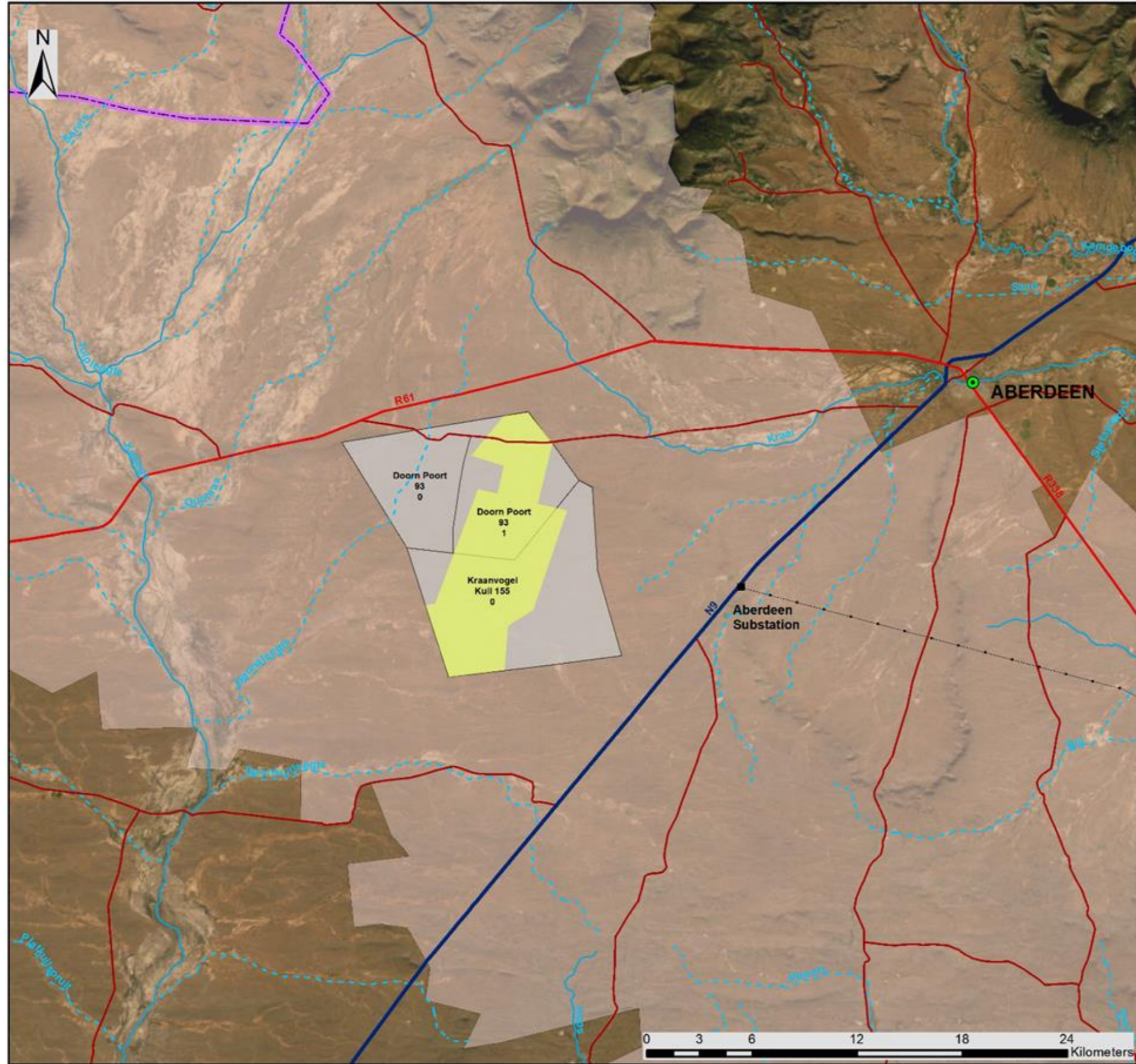
### Proposed Development

- Turbines
- Turbine Hardstands
- Access & Internal Roads
- Substation, BESS and O&M Buildings Hub
- Warehouse, Laydown Area and Site Camp Hub
- Aberdeen Wind Facility 2

Scale: 1:80 000  
 Projection: GCS\_WGS\_1984  
 Map Ref: Aberdeen Layout Map







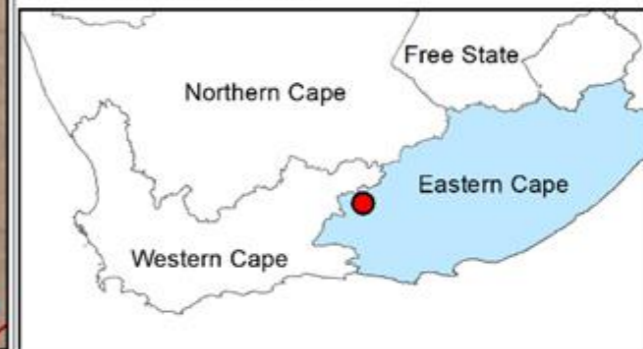
# Aberdeen 2 Wind Facility Eastern Cape Province

REDZ and Locality Map

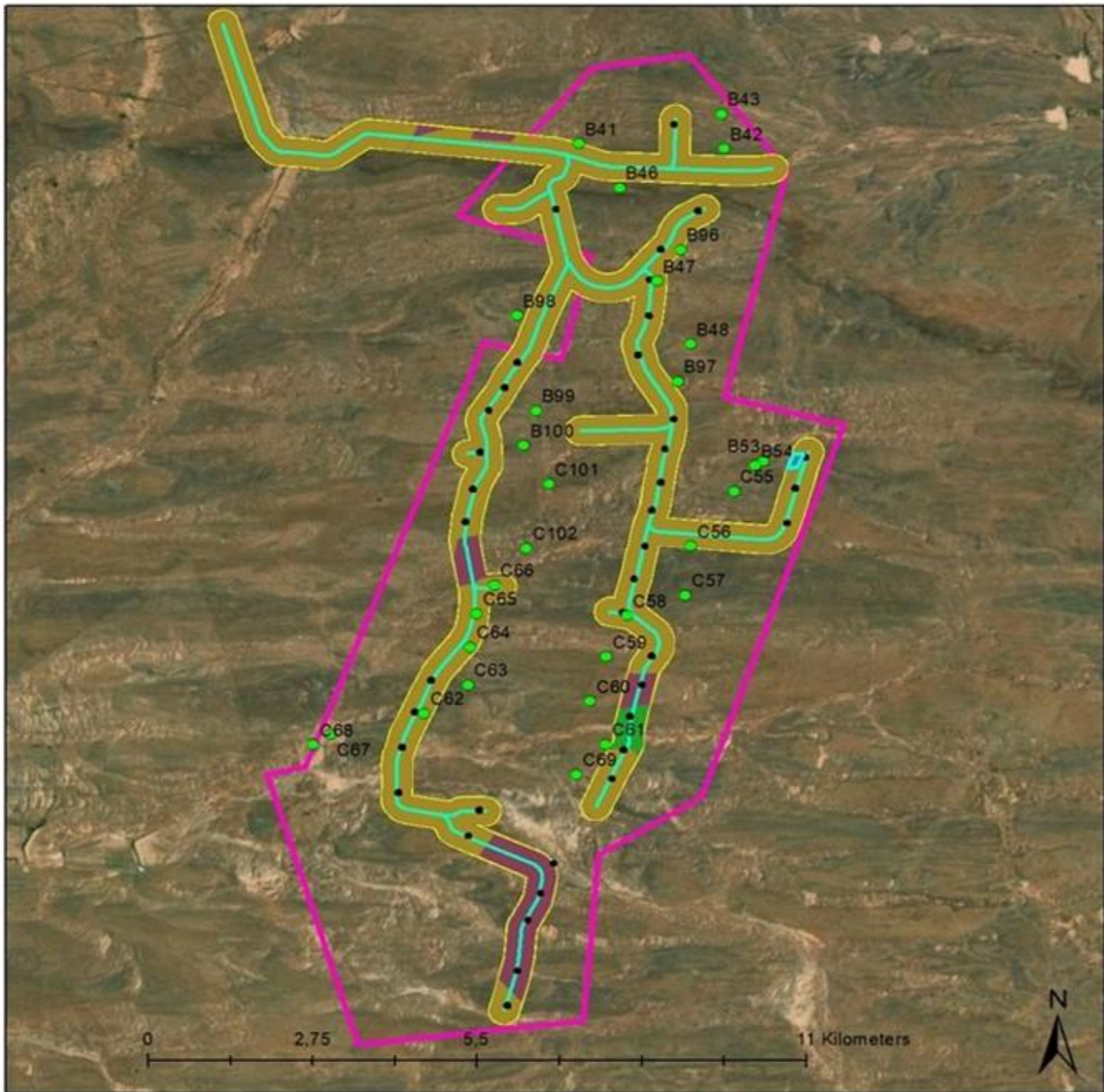
## Legend

- Town
- Existing Substation
- Eskom Power Line (Existing)
- Regional Road
- National Road
- Main Road
- Perennial River
- - - Non Perennial River
- Provincial Boundary
- Aberdeen Wind Facility 2 Development Area
- Project Site
- Beaufort West REDZ

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







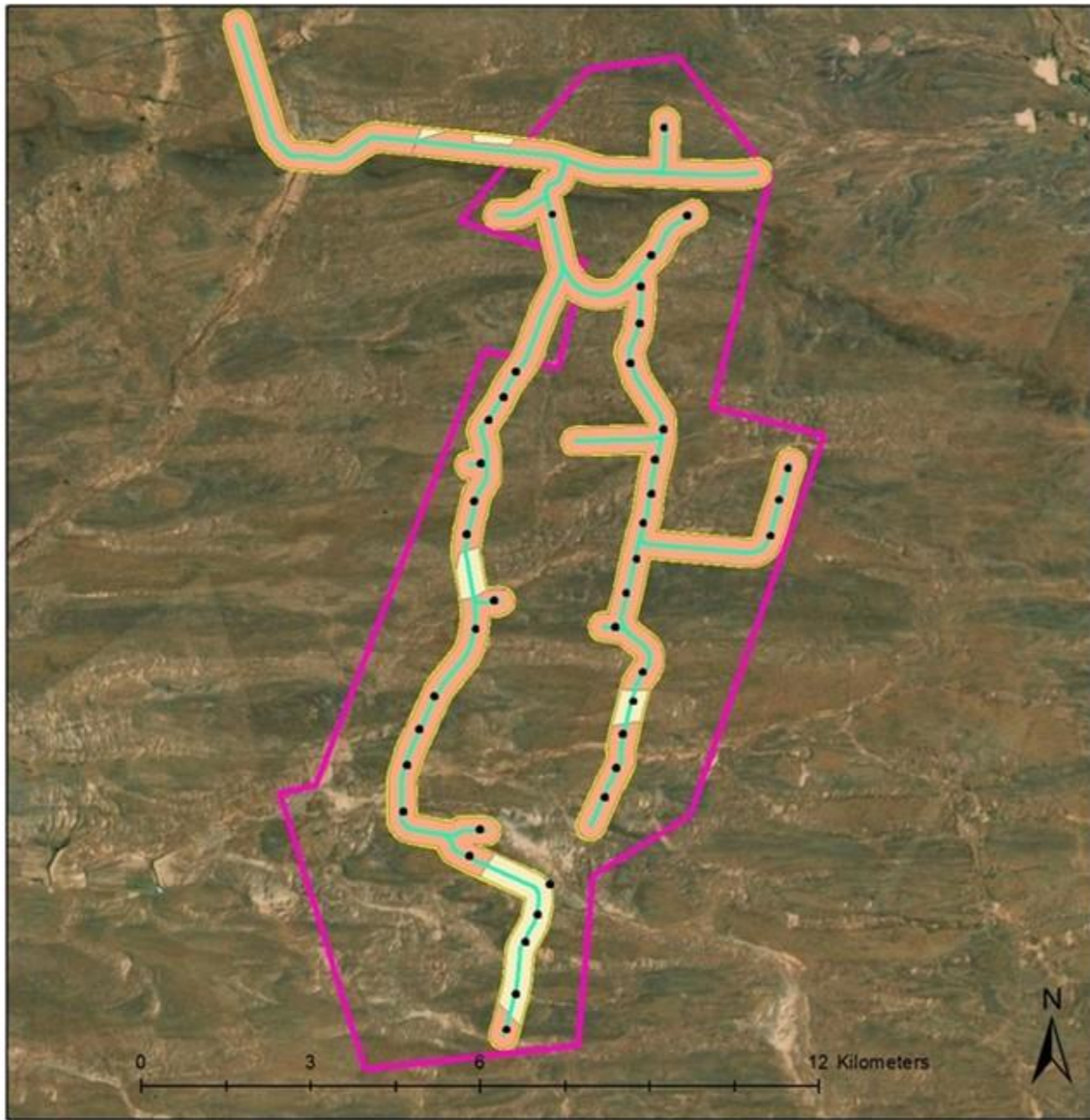
**Legend**

- |                                                                                                              |                                                                                                       |
|--------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
|  Turbines and hardstands  |  Glenrosa-1530 ha  |
|  Wind Farm 2 Roads        |  Nkonkoni-170.2 ha |
|  Study area-1730 ha       |  Swartland-26.9 ha |
|  Development area-6475 ha |  Valsrivier-2.8 ha |
|  Observations             |                                                                                                       |



**TerraAfrica**  
SOIL. AGRICULTURE. ENVIRONMENT.

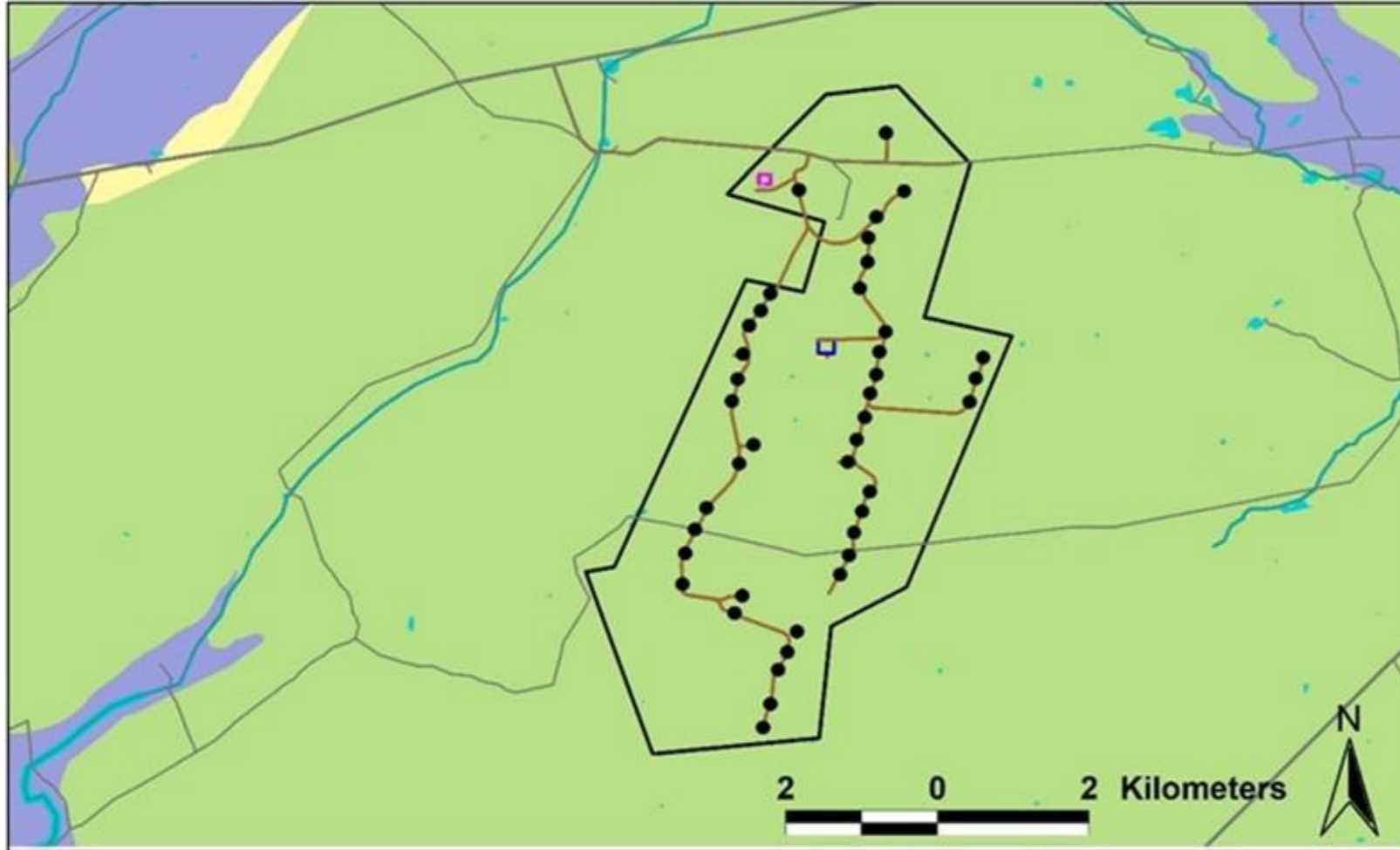




**Legend**

- |                                                                                                              |                                                                                                               |
|--------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
|  Turbines and hardstands  | <b>Land capability</b>                                                                                        |
|  Wind Farm 2 Roads        |  Low (5)-1560.1 ha         |
|  Study area-1730 ha       |  Low-Moderate (7)-170.2 ha |
|  Development area-6475 ha |                                                                                                               |



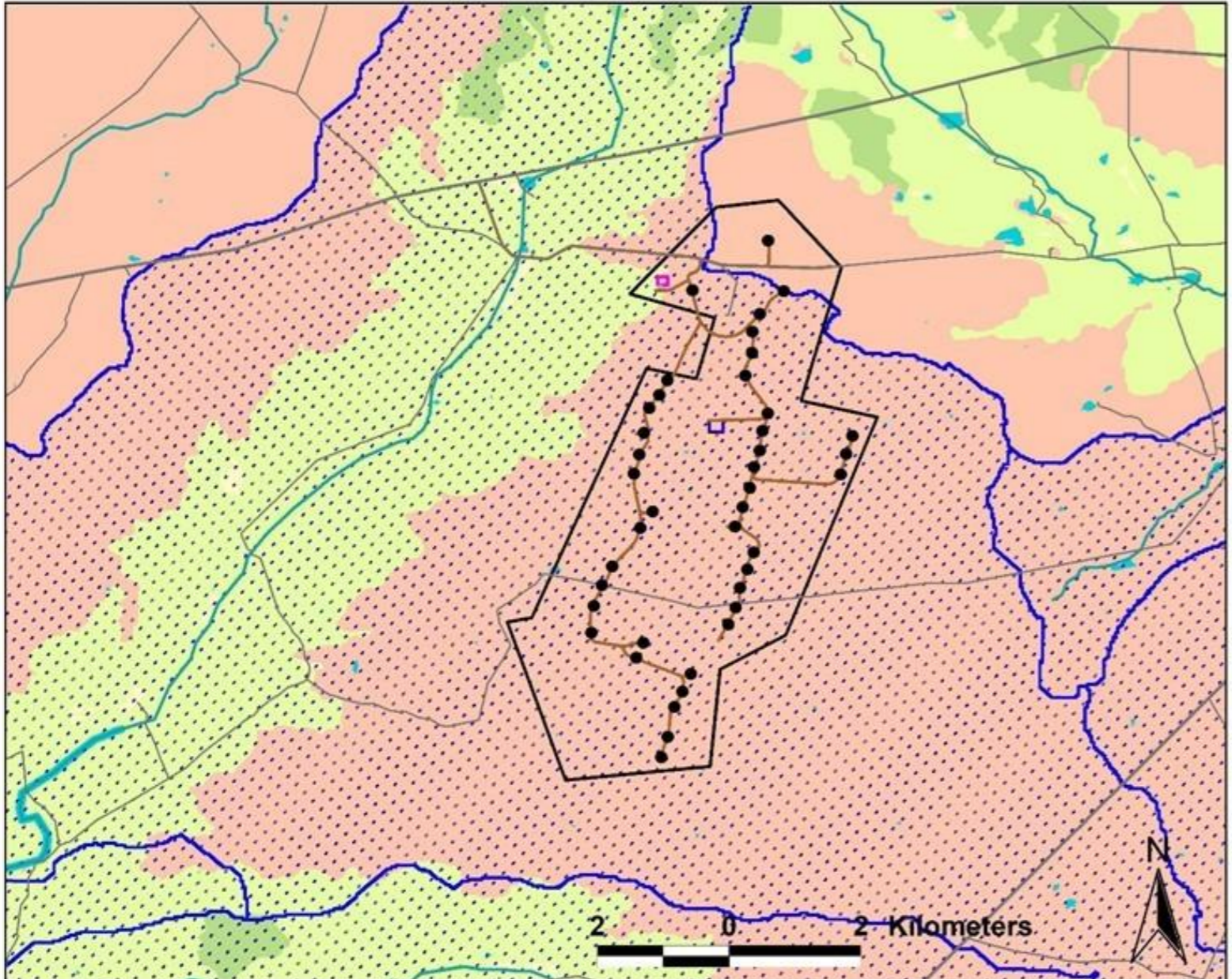



- Aberdeen WEF 2 Boundary
- Aberdeen WEF 2 Turbines
- Aberdeen WEF 2 Roads
- Aberdeen WEF 2 Infrastructure**
- BESS
- O&M Buildings
- Construction laydown area
- Site Camp
- Warehouse

- Vegetation Types**
- Eastern Lower Karoo
- Eastern Upper Karoo
- Gamka Karoo
- Southern Karoo Riviere
- NFEPA Rivers
- NFEPA Wetlands
- Major Roads
- Minor Roads

Aberdeen WEF 2
Vegetation Types
3Foxes Biodiversity Solutions



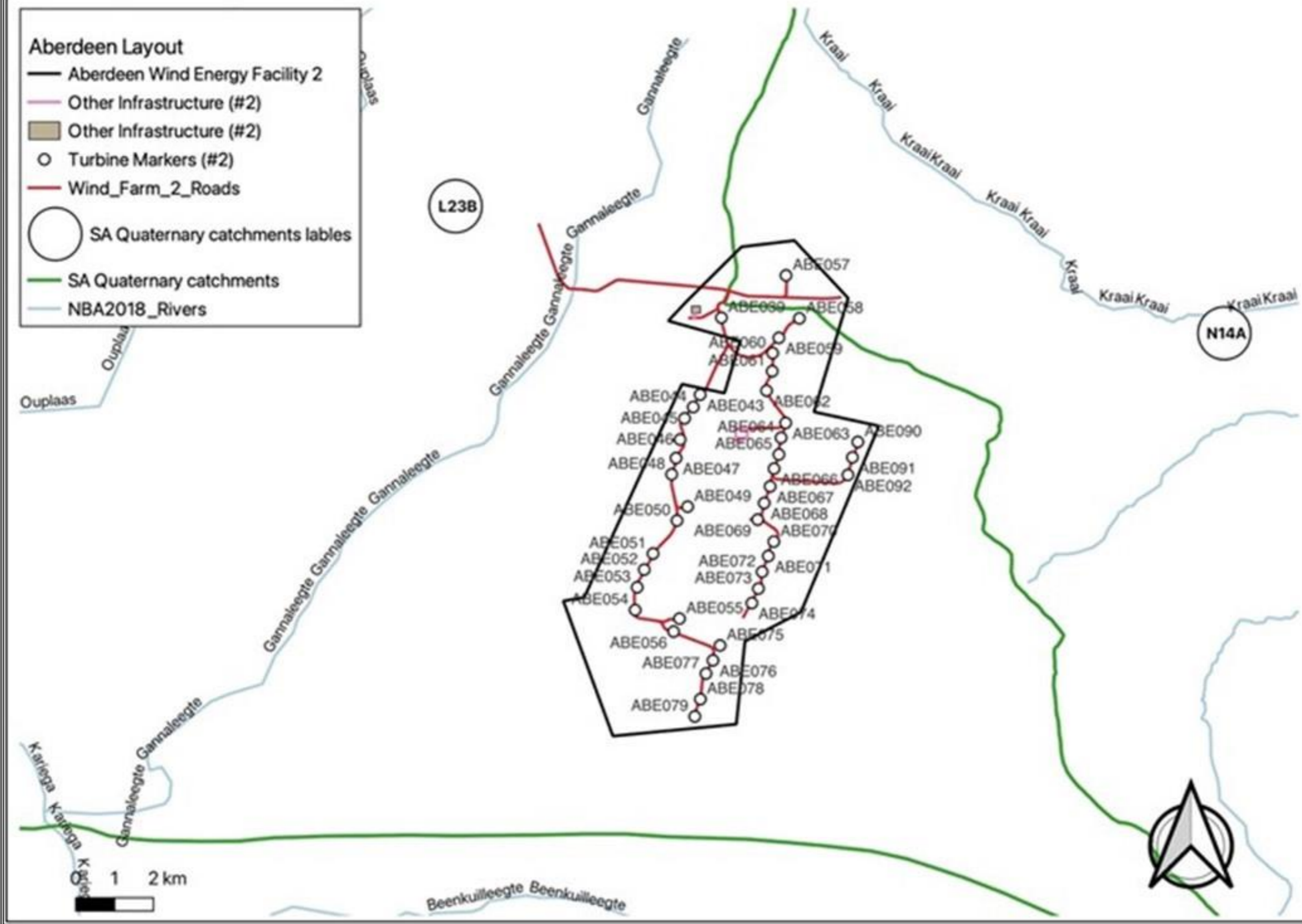


<ul style="list-style-type: none"> <li> Aberdeen WEF 2 Boundary</li> <li> Aberdeen WEF 2 Turbines</li> <li> Aberdeen WEF 2 Roads</li> </ul>	<ul style="list-style-type: none"> <li> EC - CBAs</li> <li> CBA 1</li> <li> CBA 2</li> <li> ESA 1</li> <li> ESA 2</li> <li> Other Areas</li> </ul>	<p>Aberdeen WEF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



### Aberdeen Layout

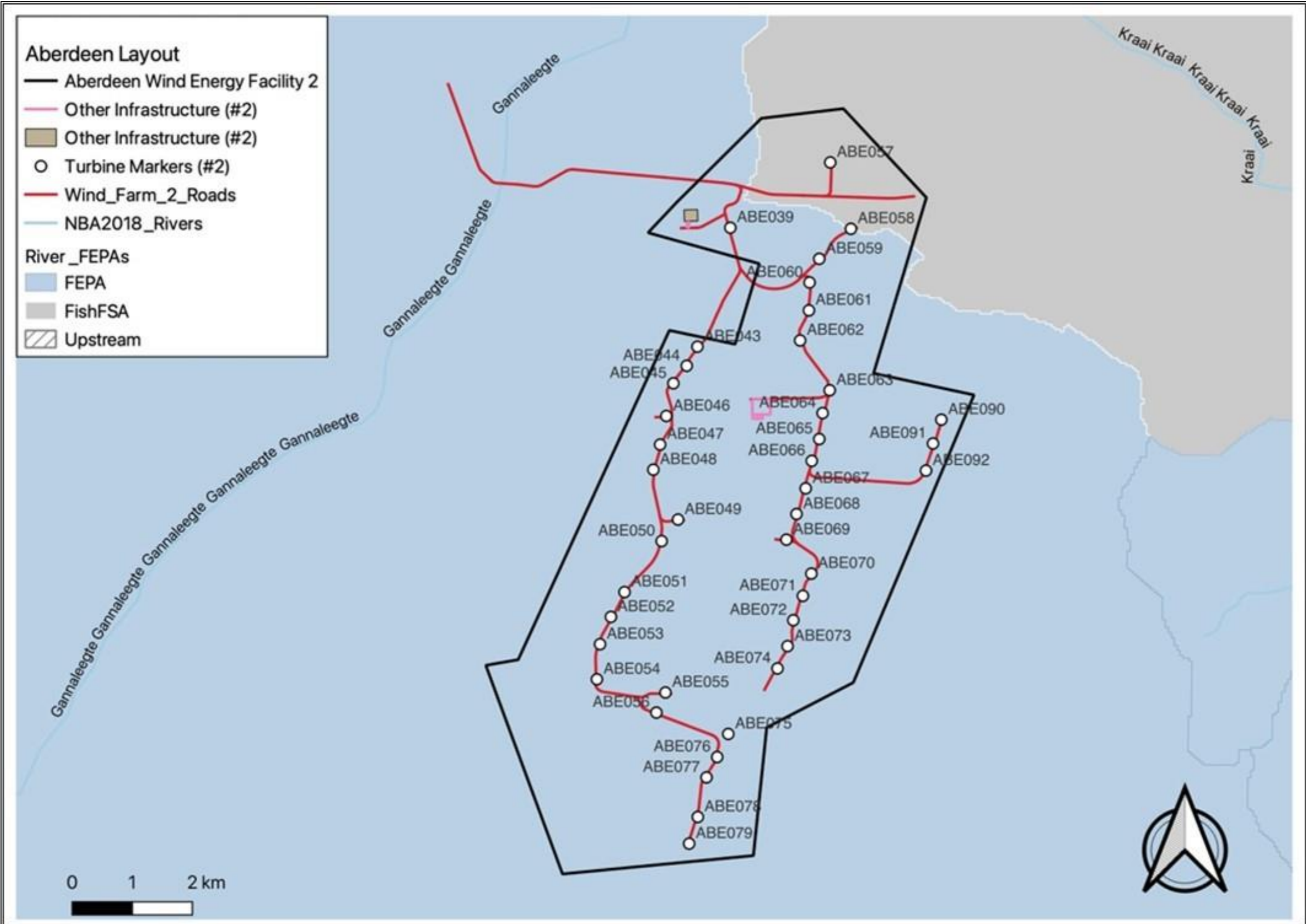
- Aberdeen Wind Energy Facility 2
- Other Infrastructure (#2)
- Other Infrastructure (#2)
- Turbine Markers (#2)
- Wind\_Farm\_2\_Roads
- SA Quaternary catchments labels
- SA Quaternary catchments
- NBA2018\_Rivers



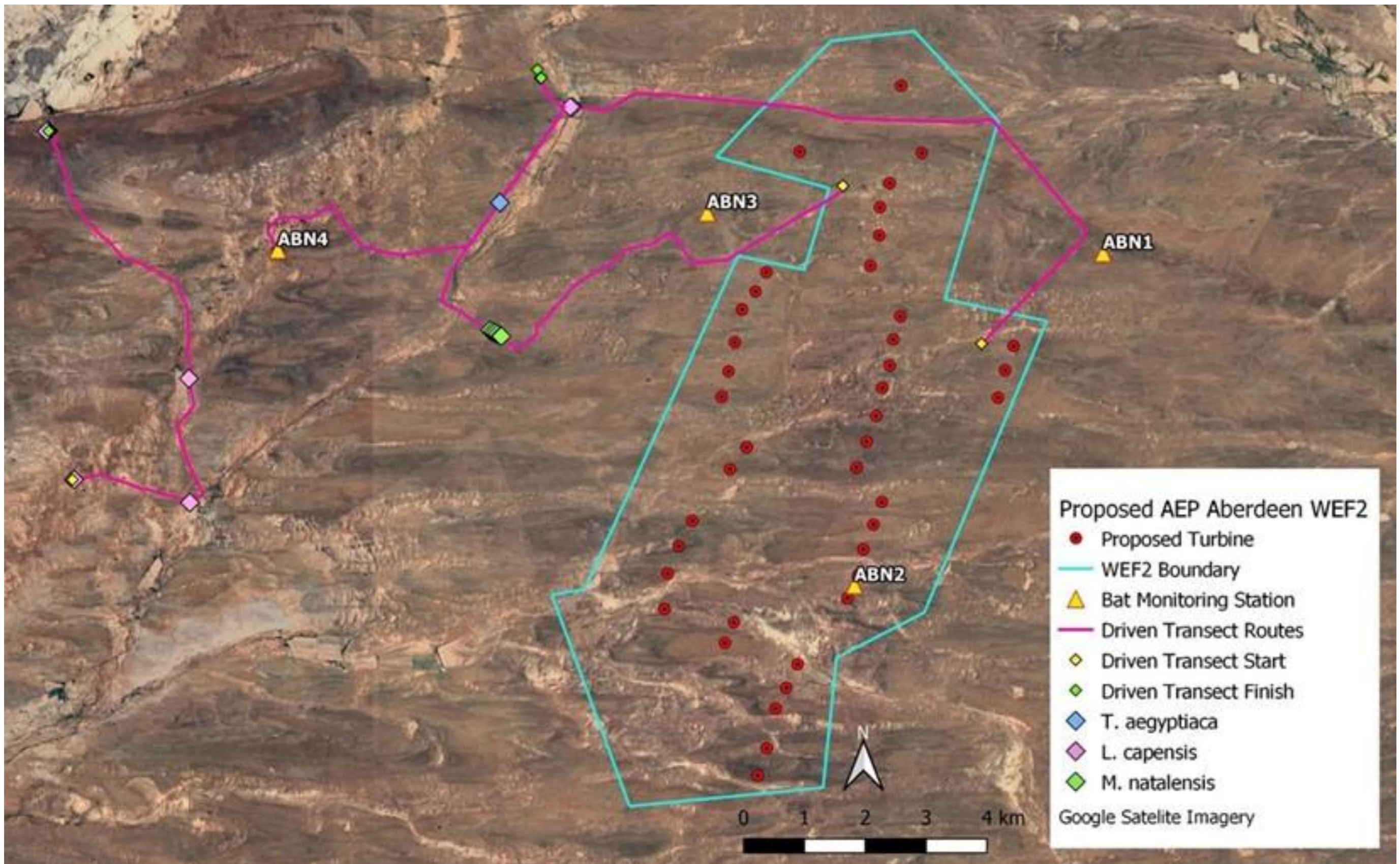


### Aberdeen Layout

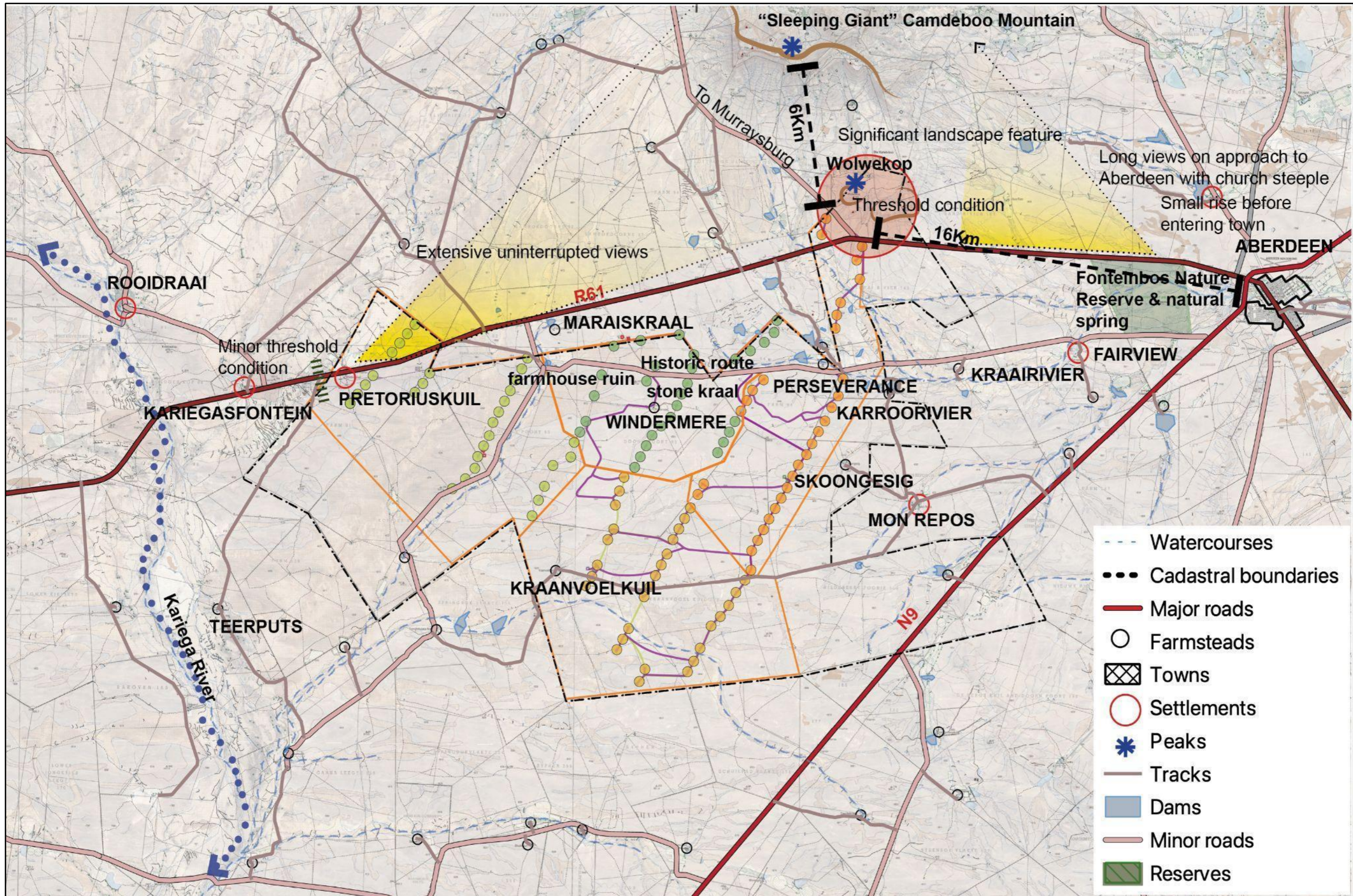
- Aberdeen Wind Energy Facility 2
  - Other Infrastructure (#2)
  - Other Infrastructure (#2)
  - Turbine Markers (#2)
  - Wind\_Farm\_2\_Roads
  - NBA2018\_Rivers
- River\_FEPAs
- FEPA
  - FishFSA
  - ▨ Upstream











"Sleeping Giant" Camdeboo Mountain

6km

Significant landscape feature

Wolwekop

Threshold condition

16km

Long views on approach to Aberdeen with church steeple

Small rise before entering town

ABERDEEN

Extensive uninterrupted views

ROOIDRAAI

Minor threshold condition

KARIEGASFONTEIN

PRETORIUSKUIL

MARAIKRAAL

Historic route

farmhouse ruin

stone kraal

WINDERMERE

PERSEVERANCE

KARROORIVIER

KRAAIRIVIER

FAIRVIEW

Fonteinbos Nature Reserve & natural spring

TEERPUTS

KRAANVOELKUIL

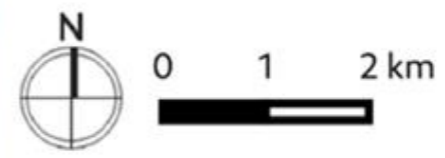
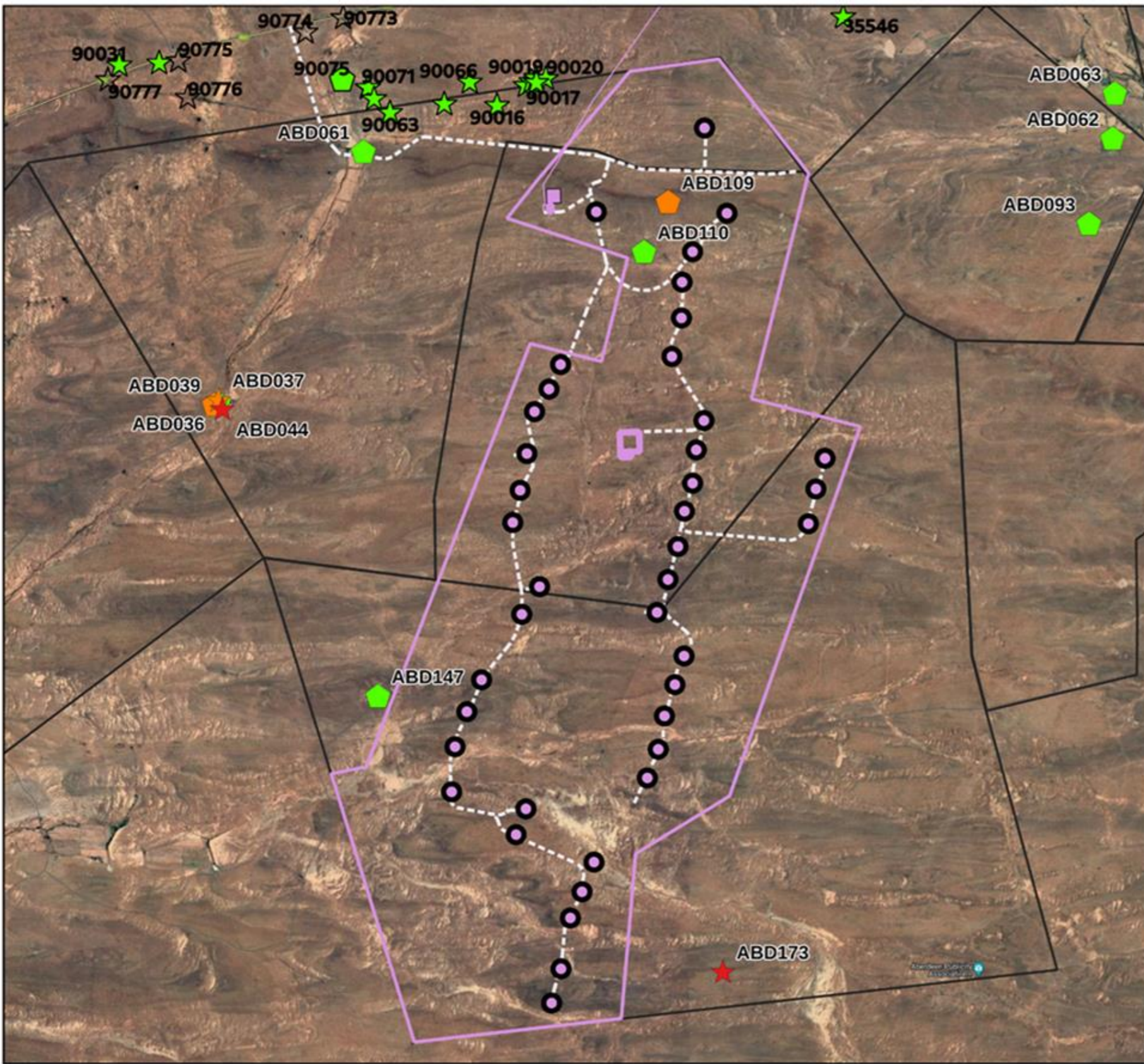
SKOONGESIG

MON REPOS

N9

- - - Watercourses
- Cadastral boundaries
- Major roads
- Farmsteads
- ▣ Towns
- Settlements
- \* Peaks
- Tracks
- Dams
- Minor roads
- Reserves



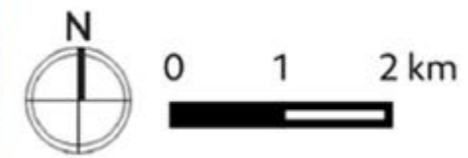
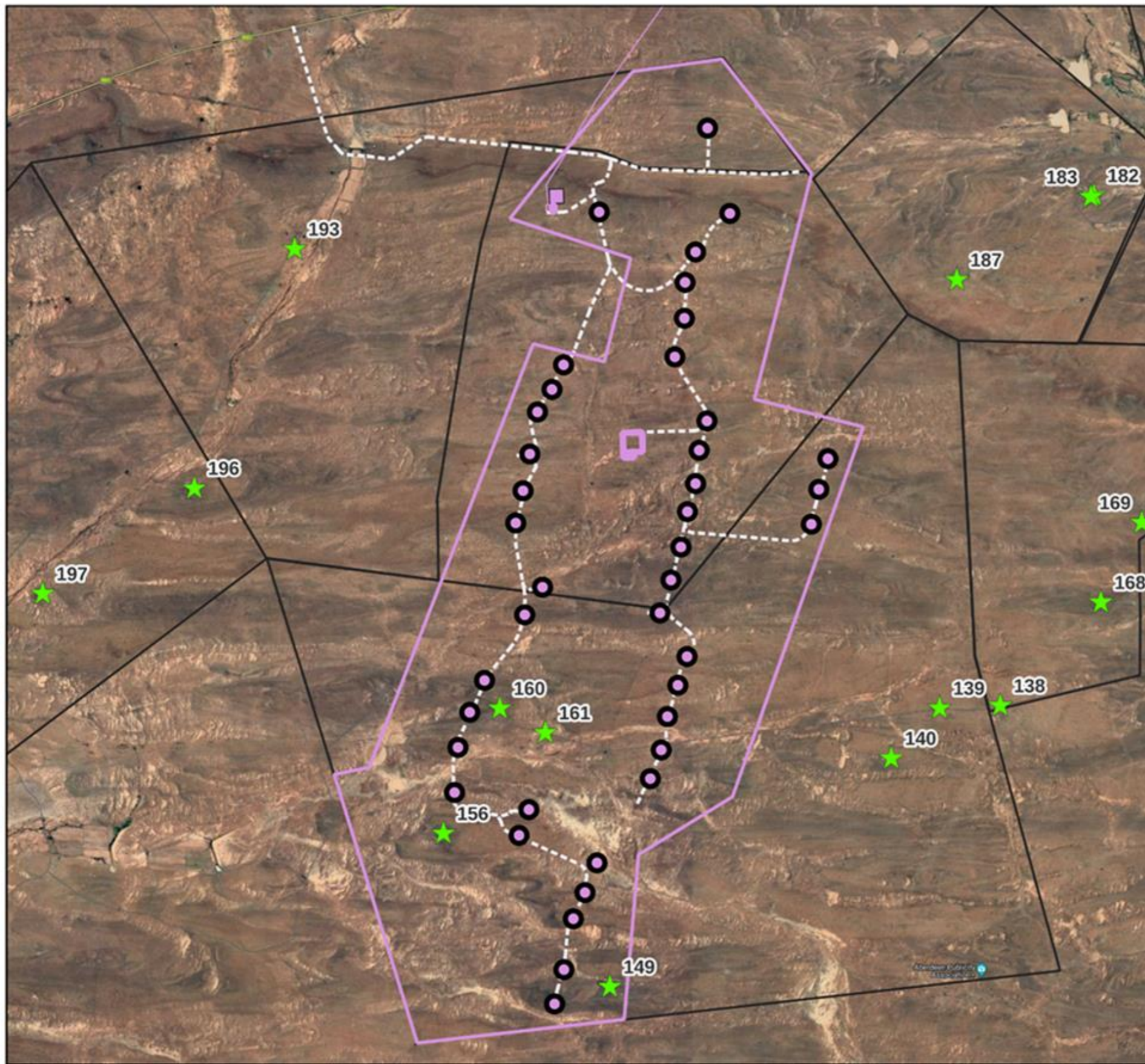


- HERITAGE RESOURCES**
- ☆ Arch, Bat, Geo, Met, Pal, Und
  - ⬠ Structures, Monuments & Memorials
  - Liv. Heritage/Sacred sites, Burial Grounds and Graves, Natural Place
  - △ Conservation Area, Cultural Landscape
  - WEF 2 Turbine Markers
  - Aberdeen WEF Access Roads
  - 9 km 132 kV SC Twin Tern OHL
  - WEF 2 Boundary
  - WEF 2 Construction
  - WEF 2 BESS
  - Aberdeen Properties

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







**HERITAGE RESOURCES**

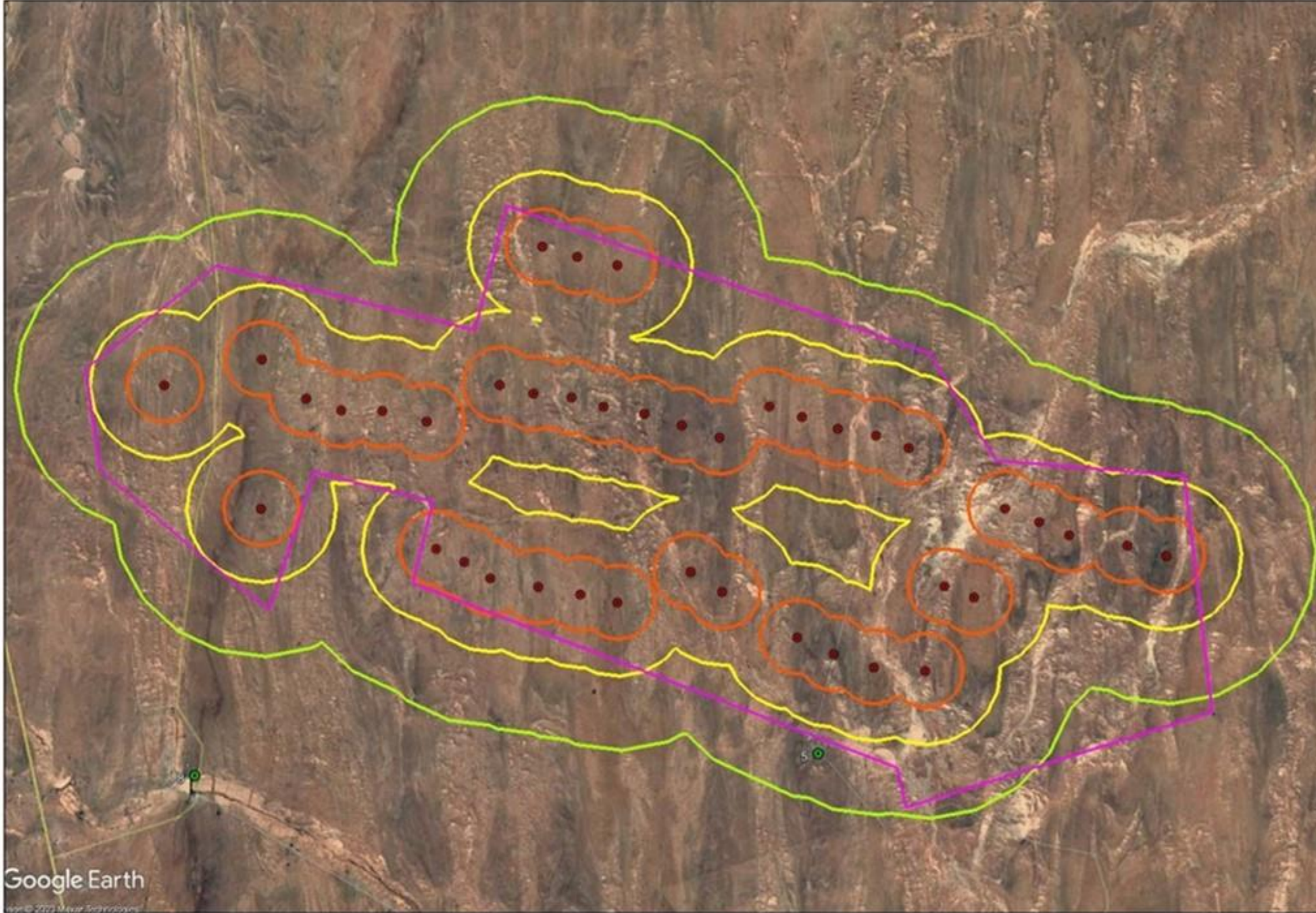
- ☆ Arch, Bat, Geo, Met, Pal, Und
- ⬡ Structures, Monuments & Memorials
- Liv. Heritage/Sacred sites, Burial Grounds and Graves, Natural Place
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- WEF 2 Turbine Markers
- Aberdeen WEF Access Roads
- 9 km 132 kV SC Twin Tern OHL
- WEF 2 Boundary
- WEF 2 Construction
- WEF 2 BESS
- Aberdeen Properties

**GRADING**

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







- LEGEND**
-  - Local roads (Google Earth)
  -  - Project Focus Area
  -  - 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 2: Closest identified NSR and buffer areas**

CLIENT  
**Savannah Environmental (Pty) Ltd for Aberdeen Wind Facility 2 (Pty) Ltd**

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



REFERENCES AND SOURCES  
 Google Earth

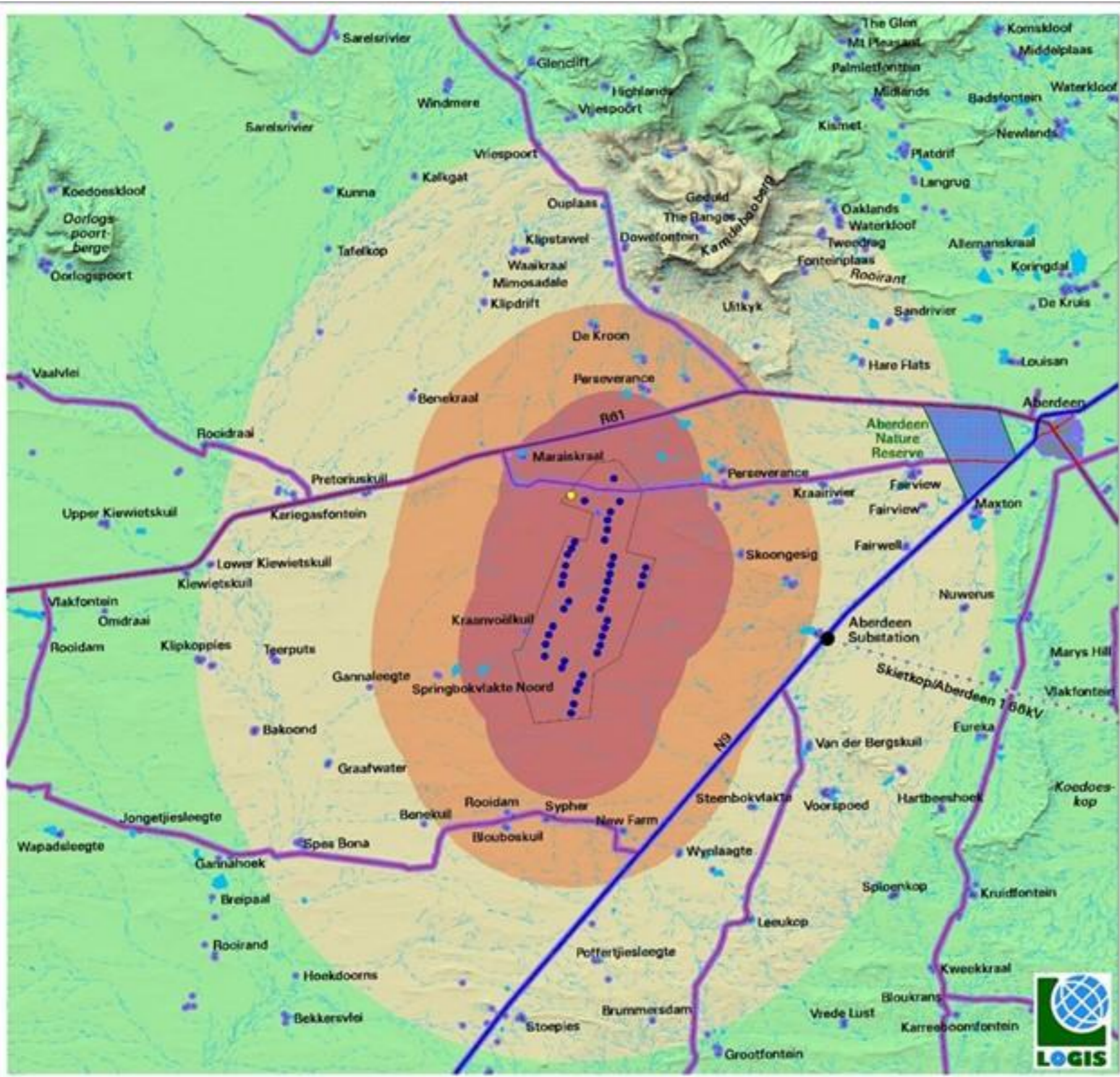


Google Earth

© 2022 Mapbox

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 2 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**

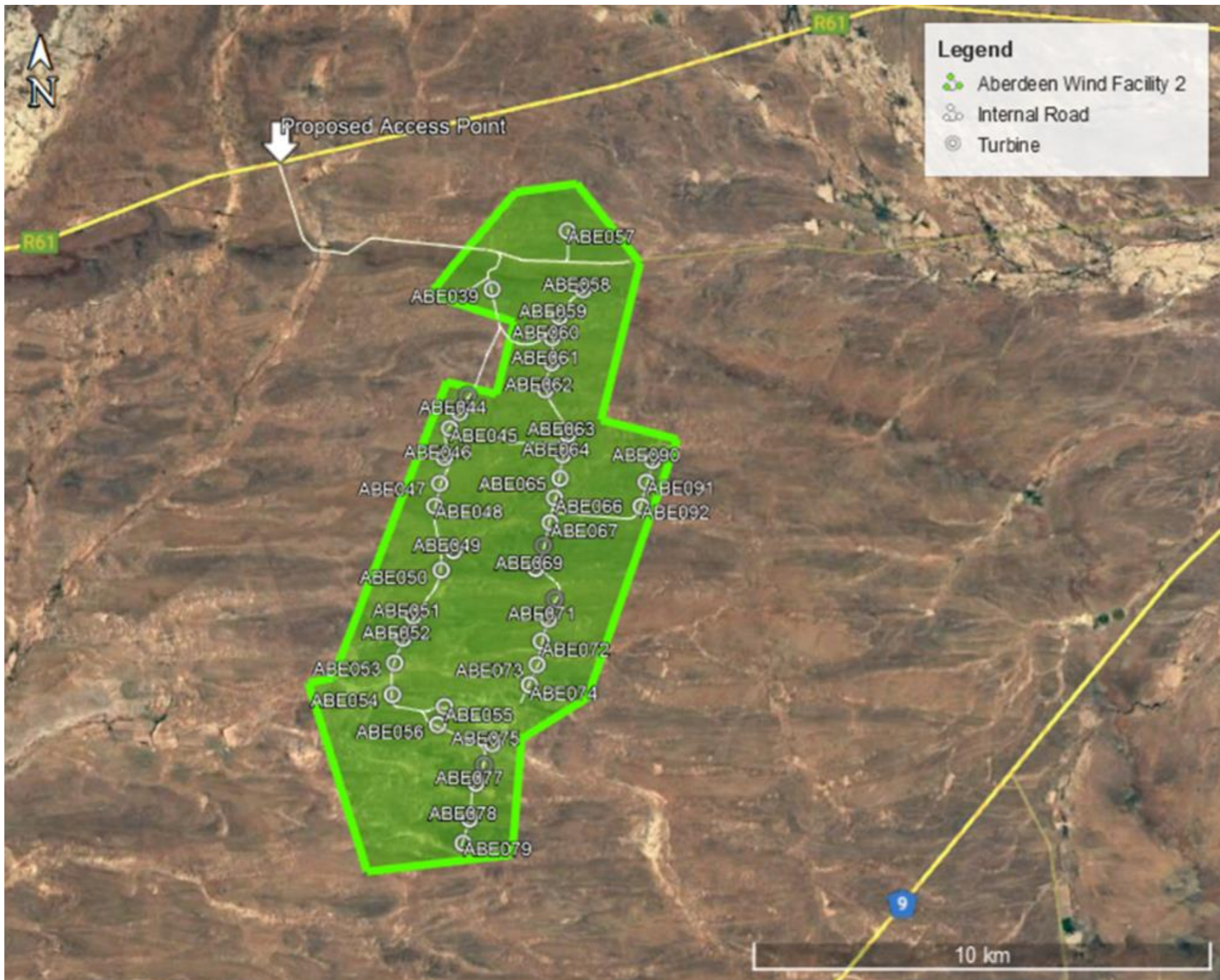
- Residents of farm dwellings/homesteads
- Observers travelling along local roads
- Protected/Conservation Areas

**Scale:** 10 0 10km

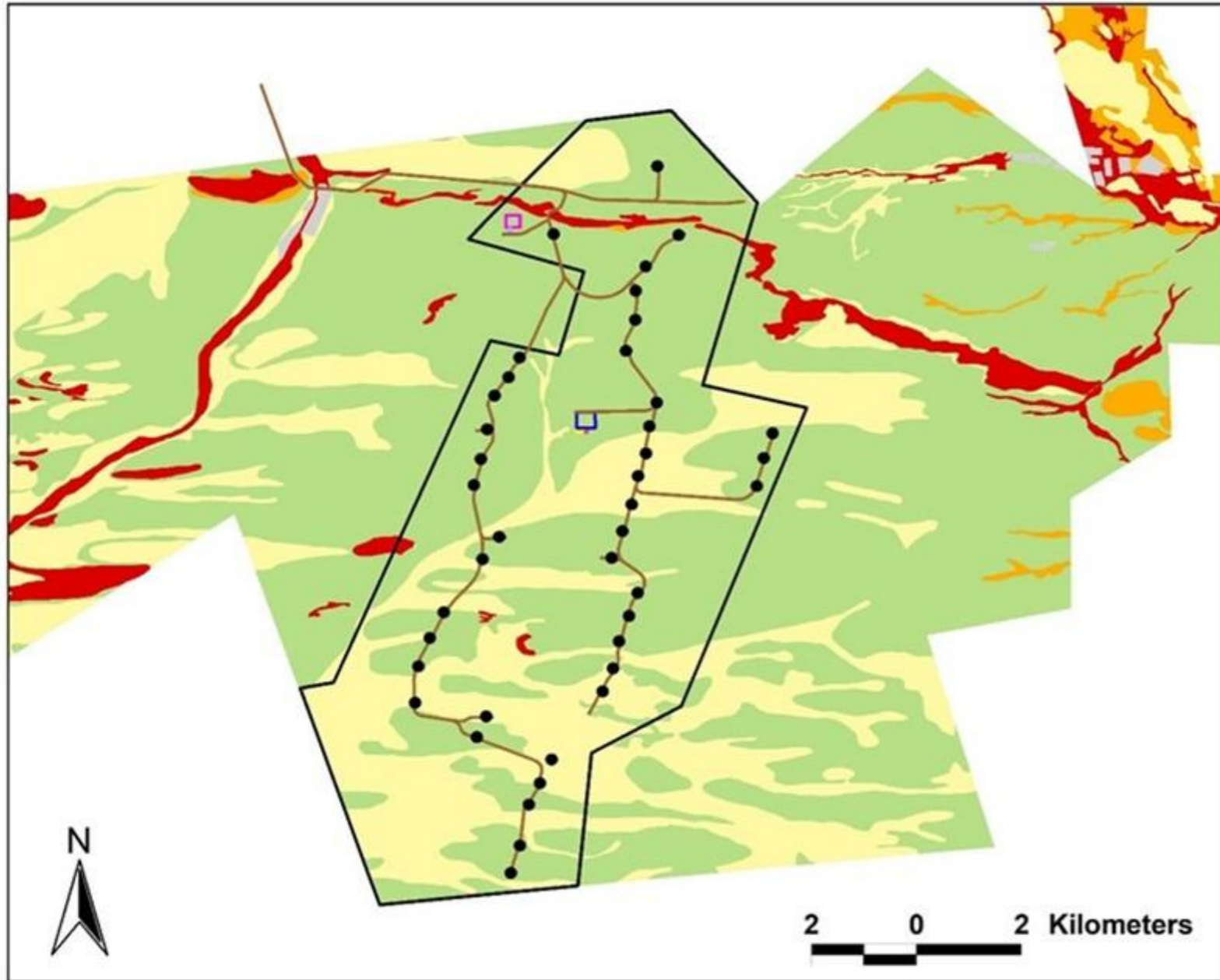
**North Arrow:** N, S, E, W

**LOGIS**










- Aberdeen WEF 2 Boundary
- Aberdeen WEF 2 Turbines
- Aberdeen WEF 2 Roads
- Aberdeen WEF 2 Infrastructure**
- BESS
- O&M Buildings
- Construction laydown ar
- Site Camp
- Warehouse

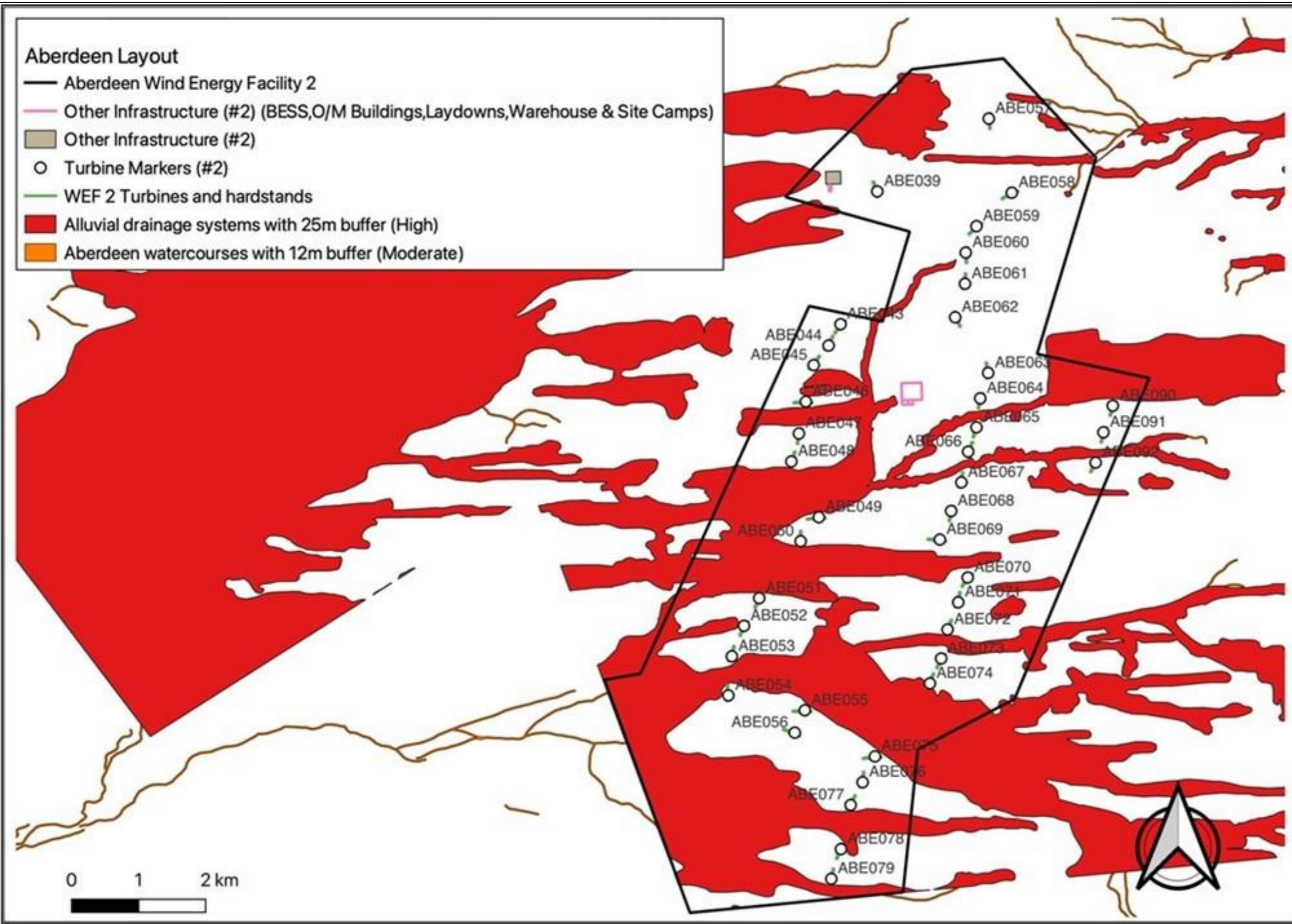
- Ecological Sensitivity**
- Very High
  - High
  - Medium
  - Low
  - Transformed

Aberdeen WEF 2
Ecological Sensitivity

<b>3Foxes Biodiversity Solutions</b>



### Aberdeen Layout

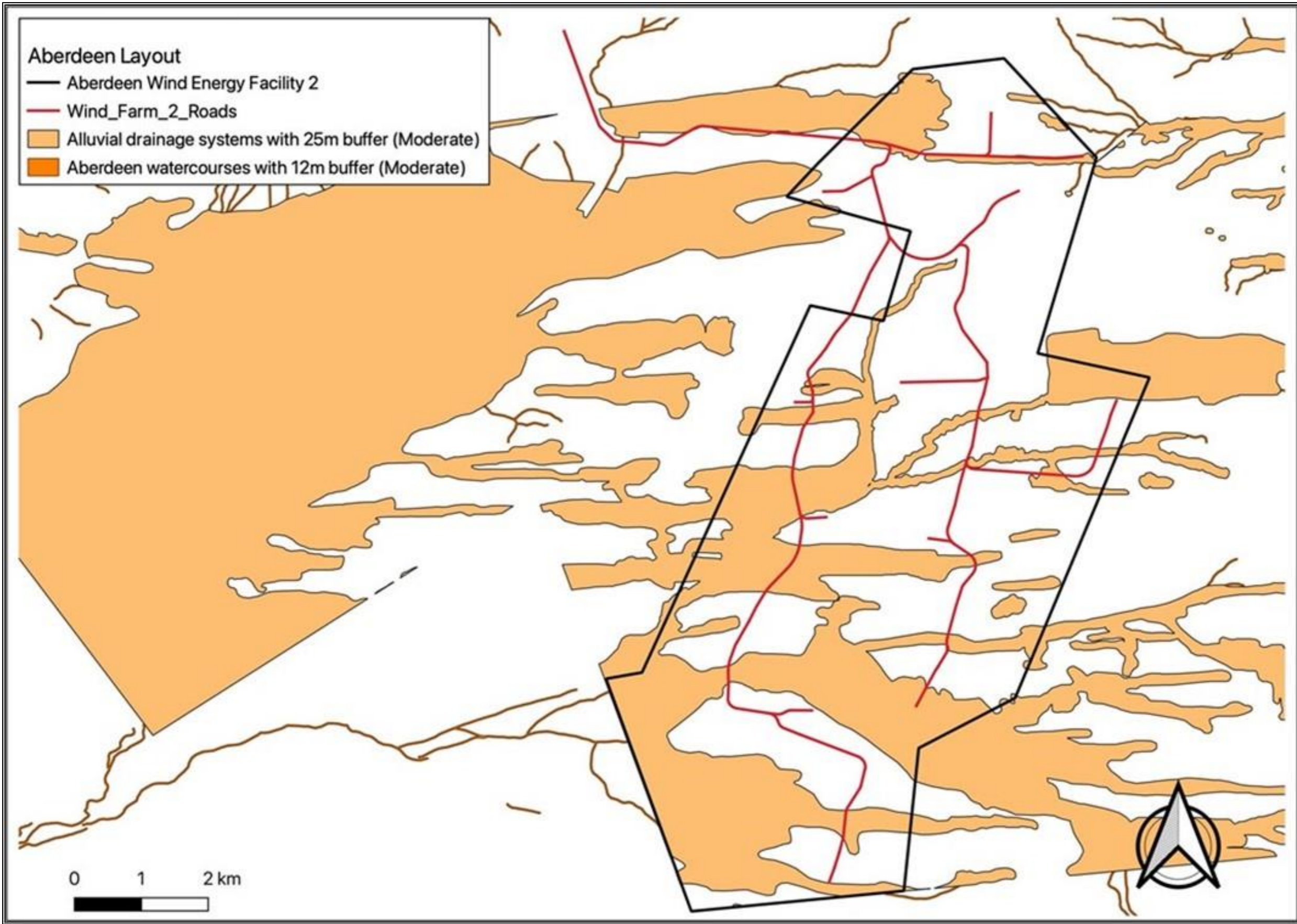
- Aberdeen Wind Energy Facility 2
- Other Infrastructure (#2) (BESS, O/M Buildings, Laydowns, Warehouse & Site Camps)
- Other Infrastructure (#2)
- Turbine Markers (#2)
- WEF 2 Turbines and hardstands
- Alluvial drainage systems with 25m buffer (High)
- Aberdeen watercourses with 12m buffer (Moderate)





**Aberdeen Layout**

- Aberdeen Wind Energy Facility 2
- Wind\_Farm\_2\_Roads
- Alluvial drainage systems with 25m buffer (Moderate)
- Aberdeen watercourses with 12m buffer (Moderate)



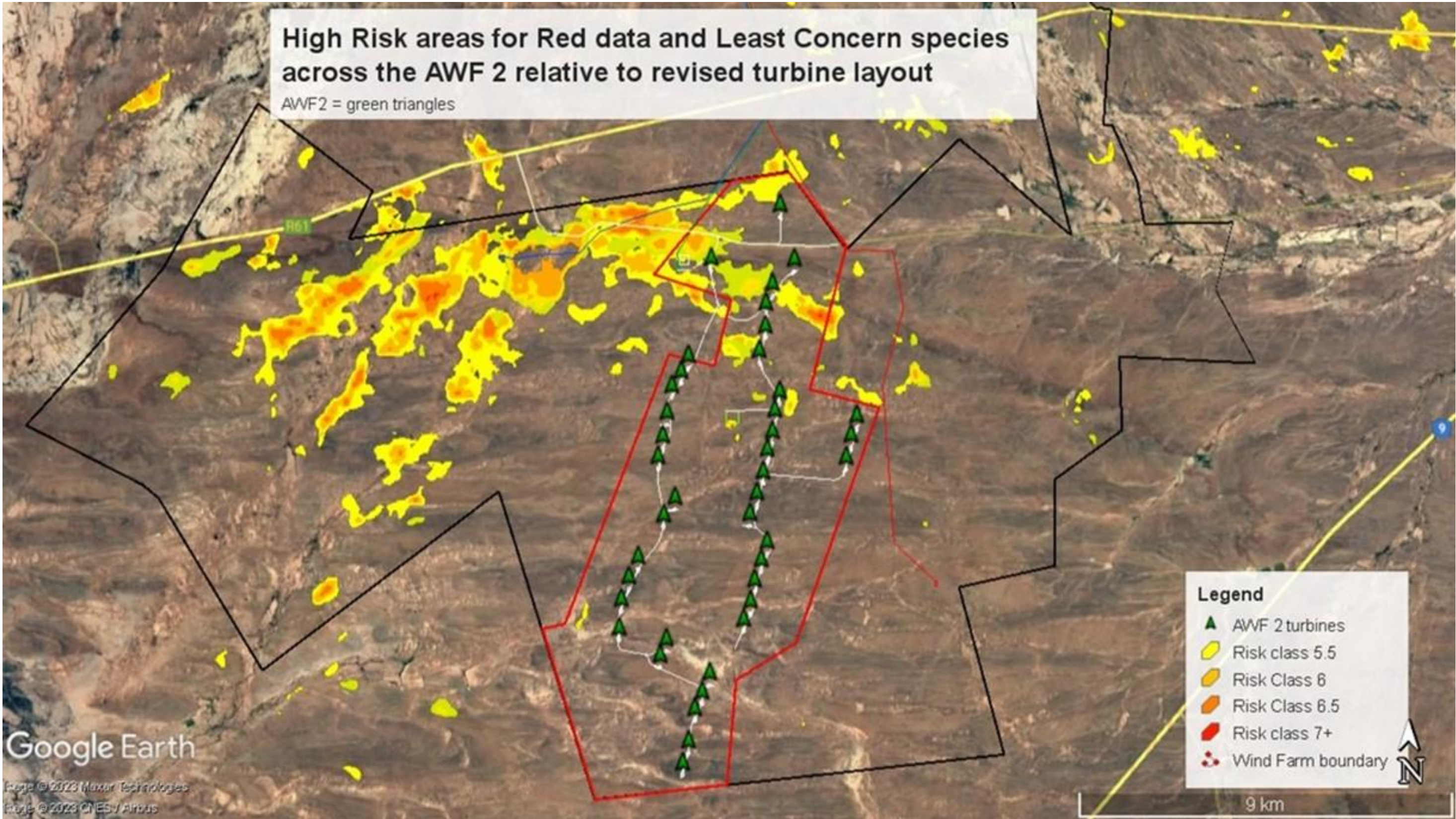
0 1 2 km





# High Risk areas for Red data and Least Concern species across the AWF 2 relative to revised turbine layout

AWF2 = green triangles



Google Earth

Image © 2023 Maxar Technologies  
Map © 2023 CNES/Airbus

9 km



### Legend

- WEF
- 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

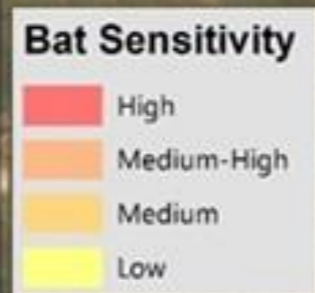
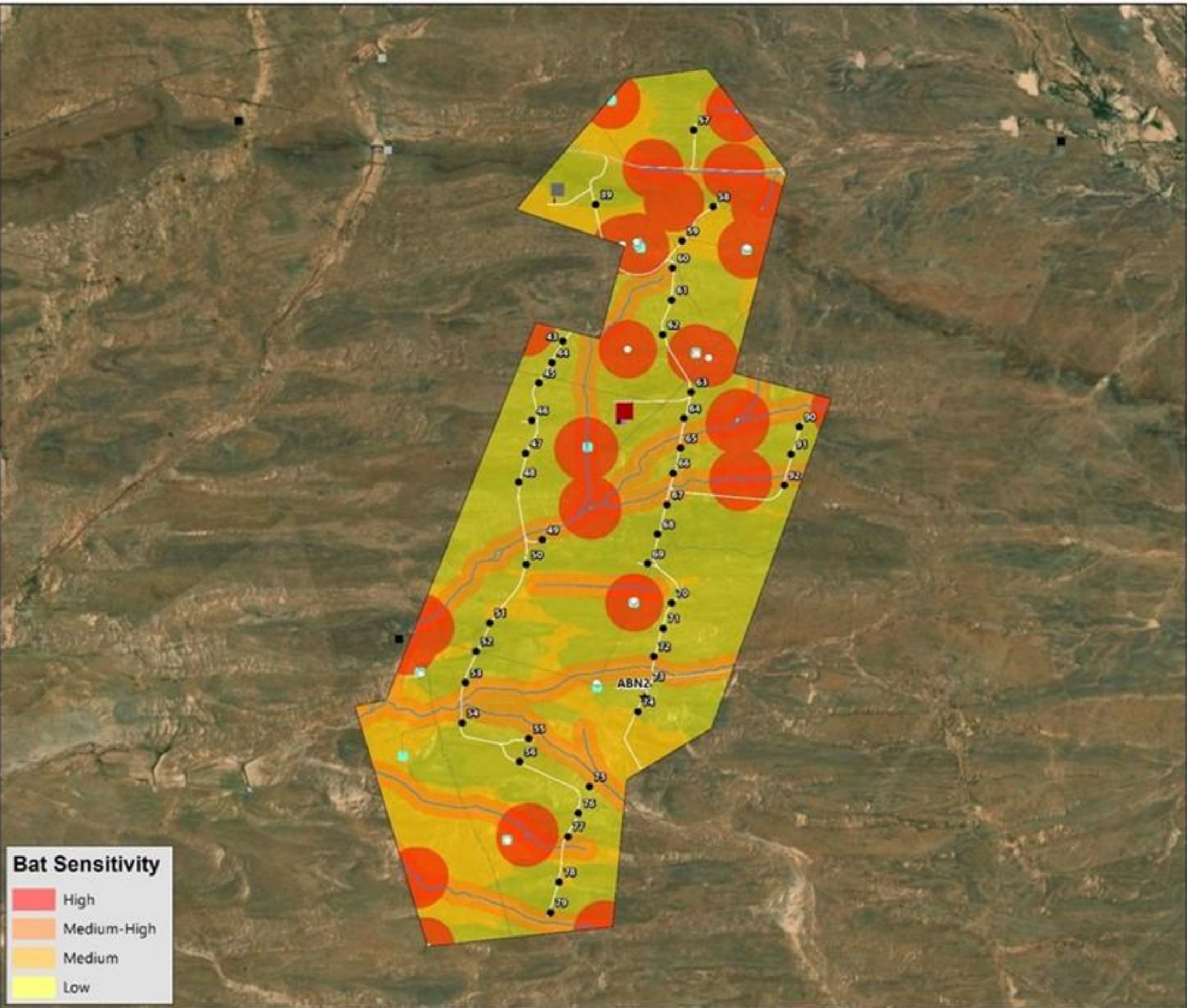


Map Produced by  
Wilding Geospatial Solutions  
Data sources:  
Infrastructure Data - IWS, 2022  
SANLC Data - 2020, Dept. Forest,  
Fisheries & the Environment, Available  
[https://legis.environment.gov.za/data\\_egis](https://legis.environment.gov.za/data_egis)  
Topographic Data - CDNGI, 2020, Available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

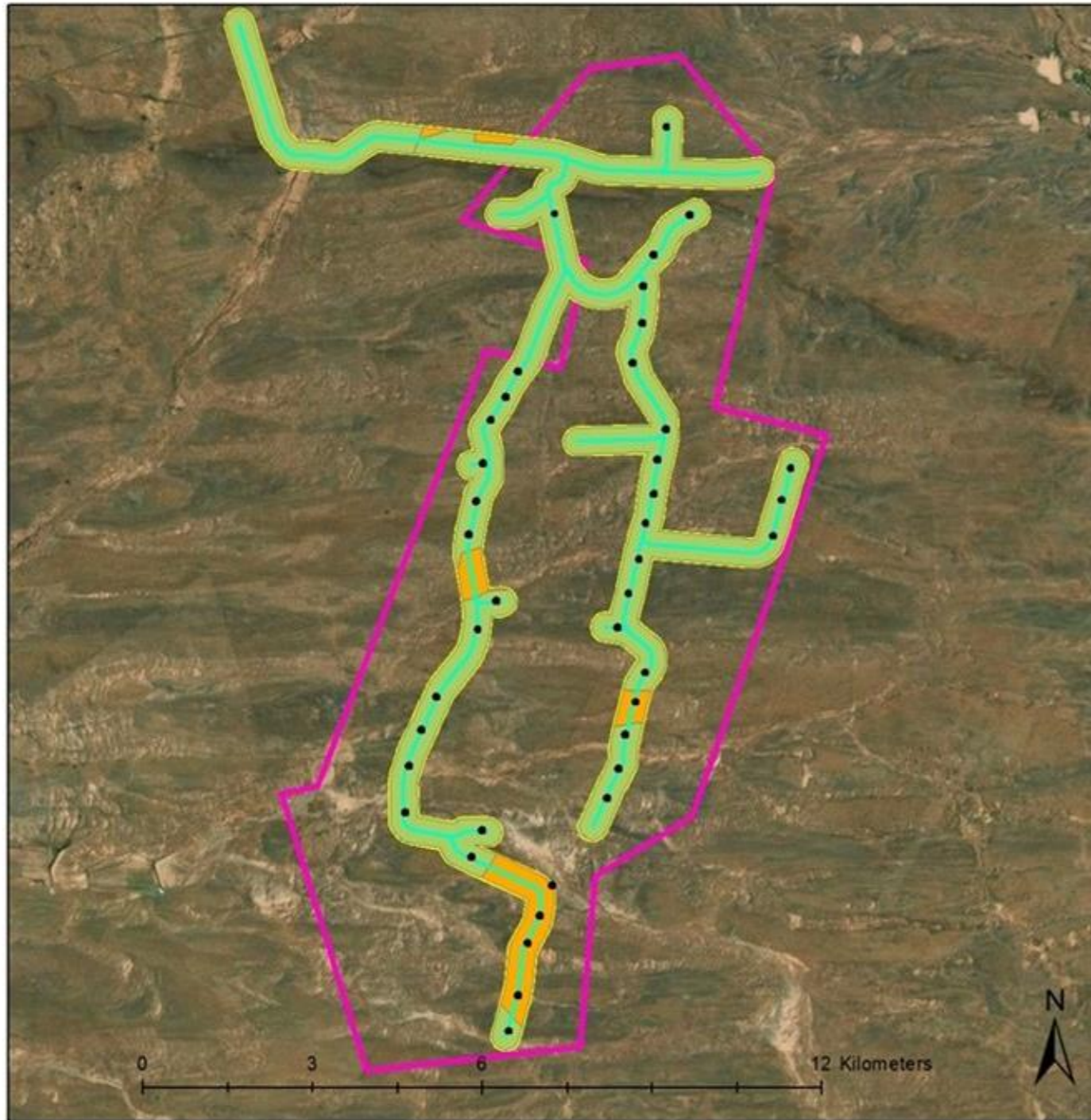
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Central Meridian: 23  
Units: Meter  
Date of Print: 1/20/2023  
Scale: 1:60,000



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Email: info@iws-za.co.za





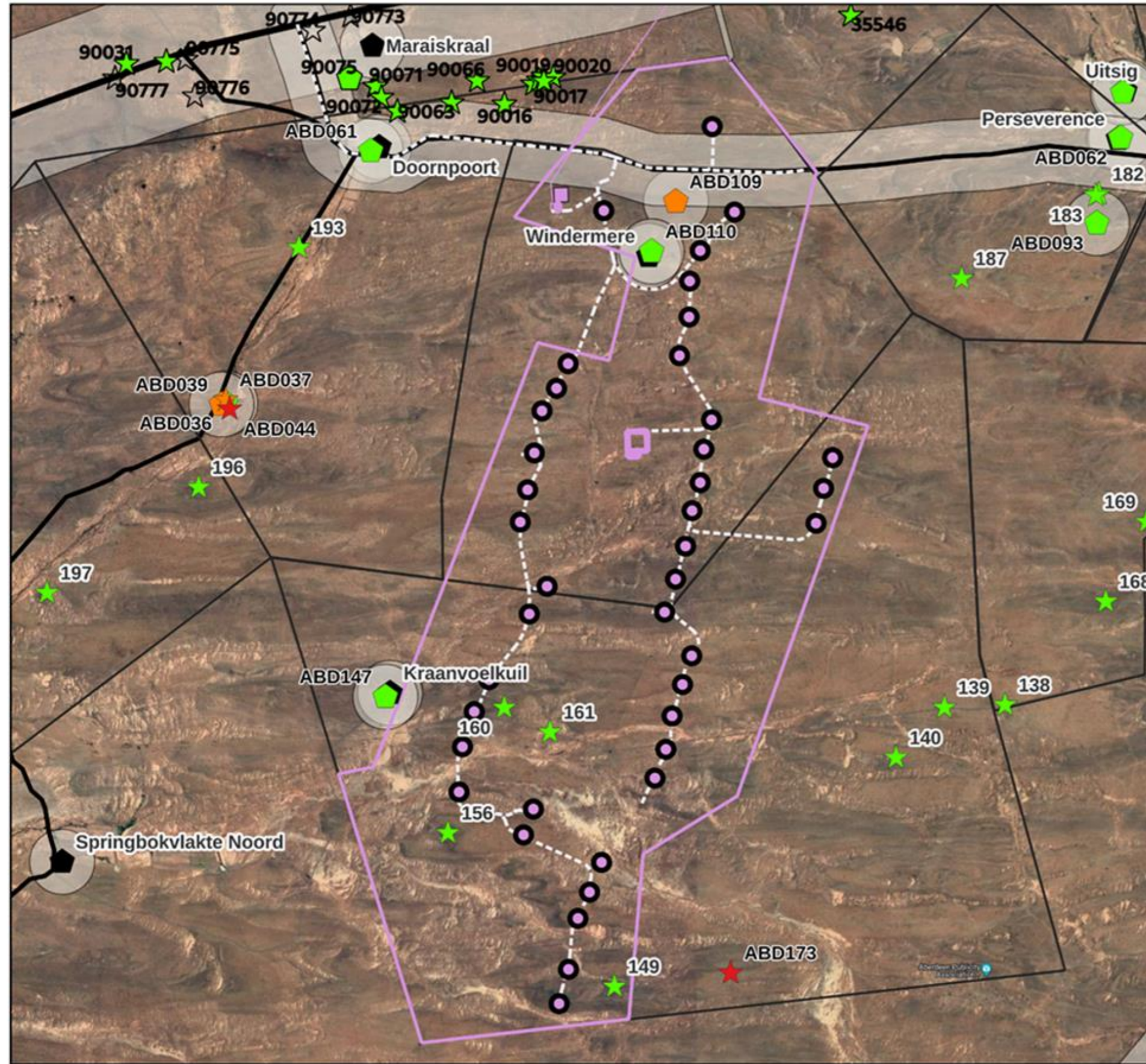


**Legend**

- |                                                                                                              |                                                                                                     |
|--------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
|  Turbines and hardstands  | <b>Sensitivity</b>                                                                                  |
|  Wind Farm 2 Roads        |  Low-1560.1 ha   |
|  Study area-1730 ha       |  Medium-170.2 ha |
|  Development area-6475 ha |                                                                                                     |







**HERITAGE RESOURCES**

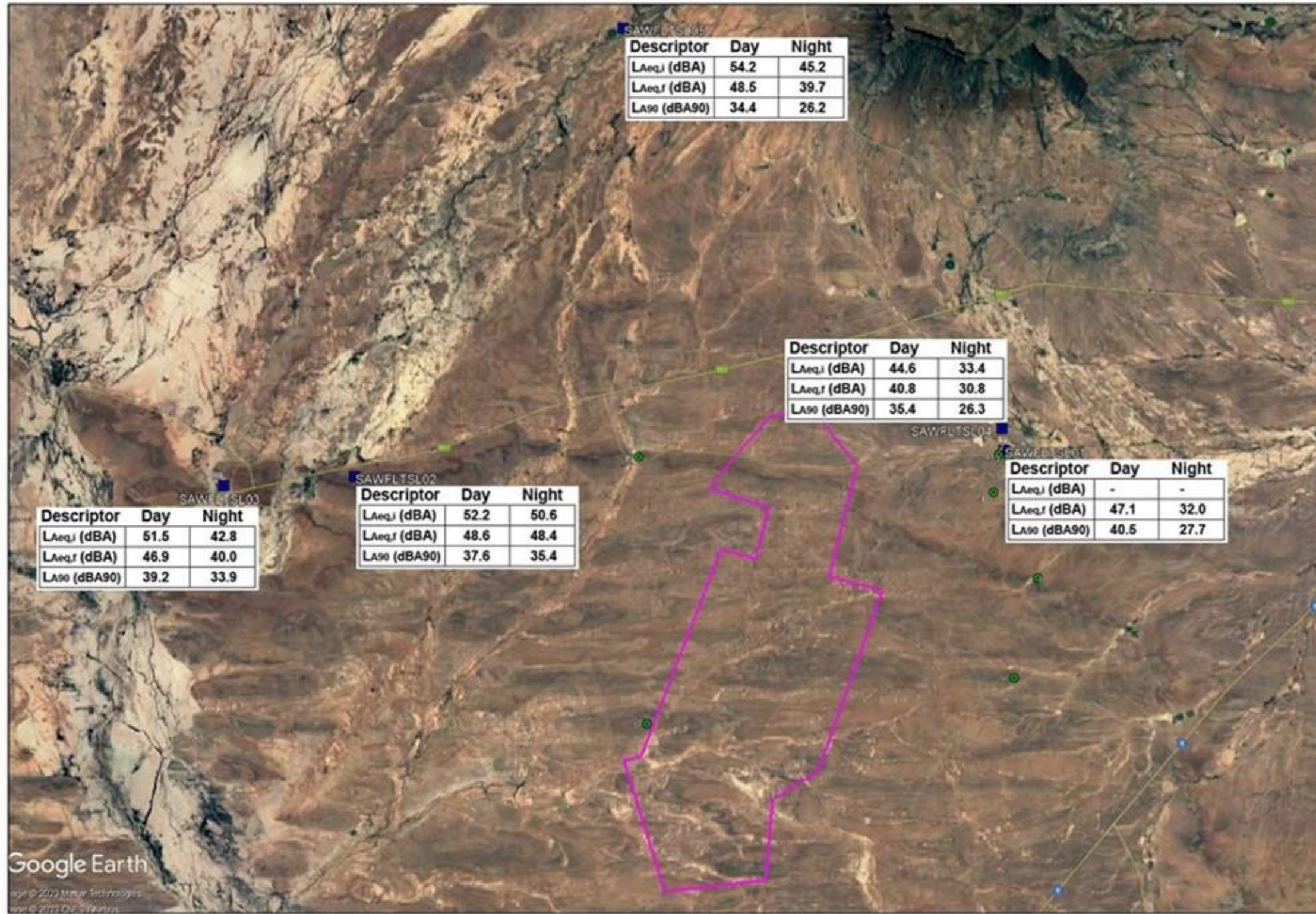
- ☆ Arch, Bat, Geo, Met, Pal, Und
- ⬠ Structures, Monuments & Memorials
- Liv. Heritage/Sacred sites, Burial Grounds and Graves, Natural Place
- △ Conservation Area, Cultural Landscape
- WEF 2 Turbine Markers
- ⬠ Farms
- Scenic Routes
- Road
- - - Aberdeen WEF Access Roads
- 9 km 132 kV SC Twin Tern OHL
- WEF 2 Boundary
- WEF 2 Construction
- WEF 2 BESS
- Aberdeen Properties
- Recommended Buffers

**GRADING**

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







Descriptor	Day	Night
L <sub>Aeq,L</sub> (dBA)	54.2	45.2
L <sub>Aeq,T</sub> (dBA)	48.5	39.7
L <sub>A90</sub> (dBA90)	34.4	26.2

Descriptor	Day	Night
L <sub>Aeq,L</sub> (dBA)	44.6	33.4
L <sub>Aeq,T</sub> (dBA)	40.8	30.8
L <sub>A90</sub> (dBA90)	35.4	26.3

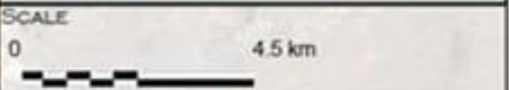
Descriptor	Day	Night
L <sub>Aeq,L</sub> (dBA)	-	-
L <sub>Aeq,T</sub> (dBA)	47.1	32.0
L <sub>A90</sub> (dBA90)	40.5	27.7

Descriptor	Day	Night
L <sub>Aeq,L</sub> (dBA)	52.2	50.6
L <sub>Aeq,T</sub> (dBA)	48.6	48.4
L <sub>A90</sub> (dBA90)	37.6	35.4

Descriptor	Day	Night
L <sub>Aeq,L</sub> (dBA)	51.5	42.8
L <sub>Aeq,T</sub> (dBA)	46.9	40.0
L <sub>A90</sub> (dBA90)	39.2	33.9

### LEGEND

- Local roads (Google Earth)
- Project Focus Area
- Potential Noise-sensitive receptors
- Measurement Locations



TITLE  
Aberdeen WF 2: Locations where ambient sound levels were measured

CLIENT  
Savannah Environmental (Pty) Ltd for Aberdeen Wind Facility 2 (Pty) Ltd

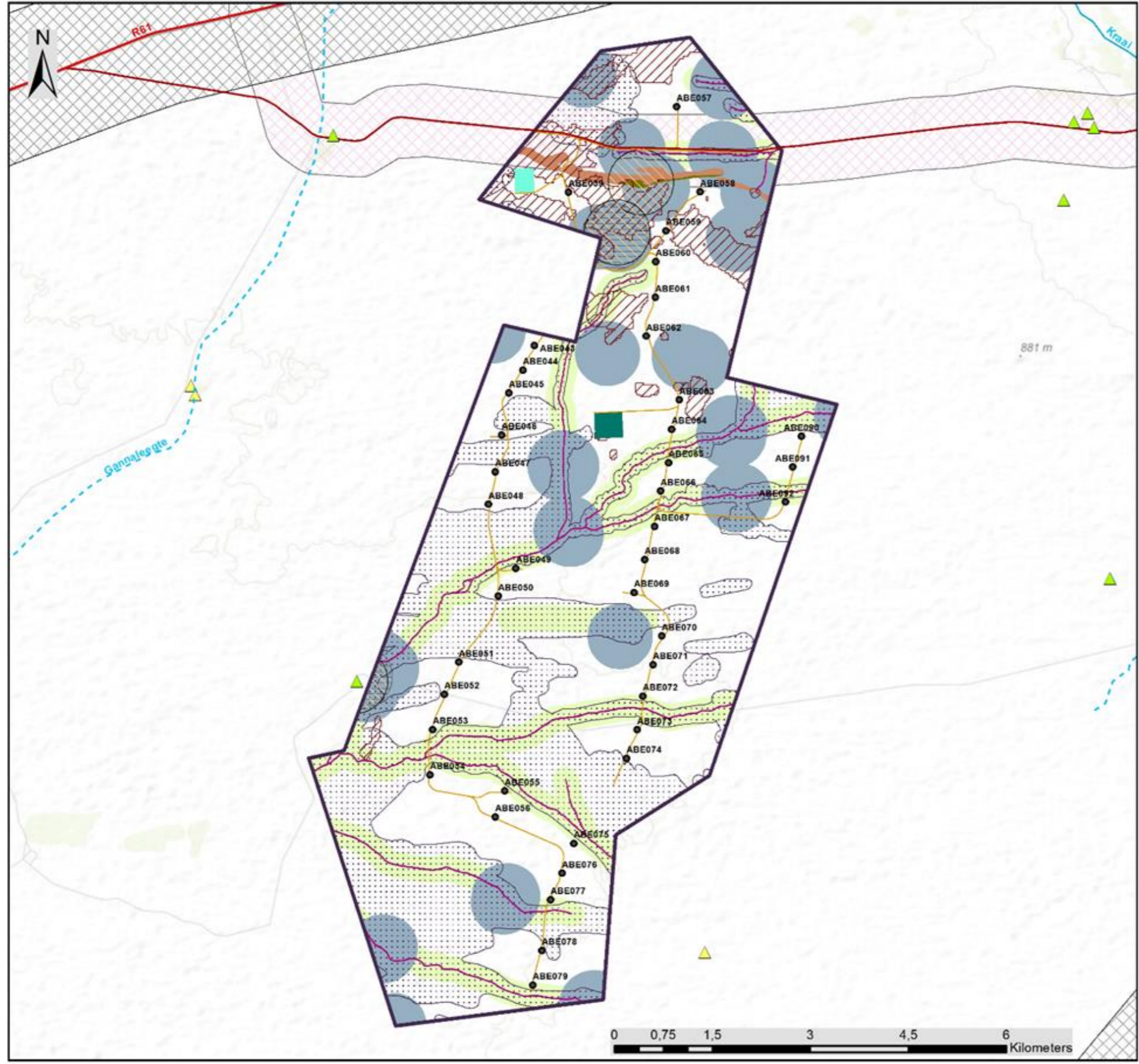
Enviro-Acoustic Research  
726 Wiedrigh st  
Moreleta Park  
0181  
Tel: 012 004 362  
Fax: 086 621 0292  
email: mome@eares.co.za



REFERENCES AND SOURCES  
Google Earth







# Aberdeen Wind Facility 2 Eastern Cape Province

## Sensitivity and Layout Map

### Legend

- Regional Road
- Main Road
- Perennial River
- - - Non Perennial River
- Turbines
- Access & Internal Roads with Cabling
- Substation, BESS and O&M Buildings Hub
- Warehouse, Laydown Area and Site Camp Hub
- Aberdeen Wind Facility 2 Development Area

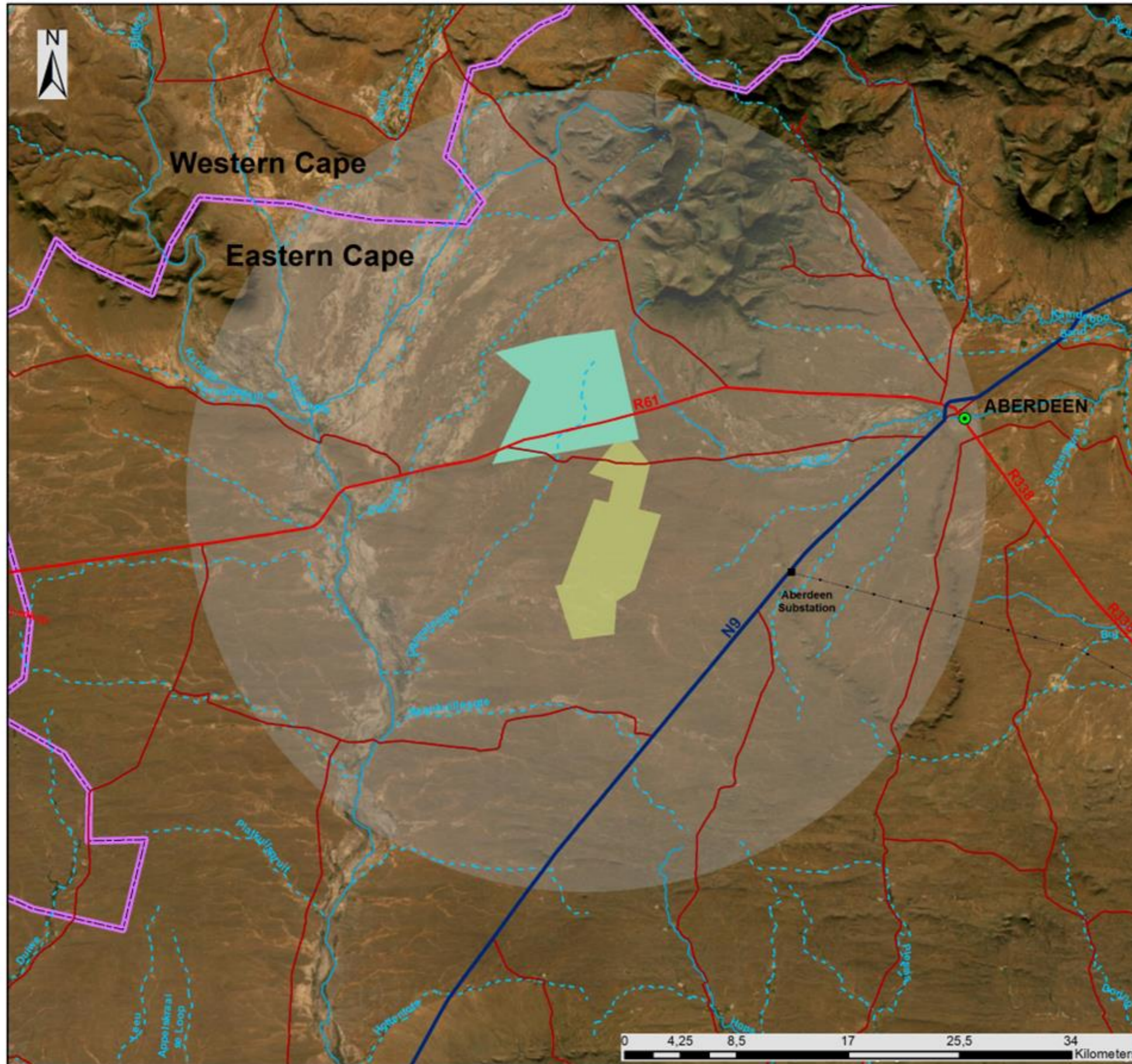
### Environmental Sensitivity

- ▲ Noise Sensitive Receptors
- ▲ Heritage sites
- 500m Structures Buffer (High Heritage Sensitivity)
- Farm Werf Buffers (High Heritage Sensitivity)
- SAHRA site buffer (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)
- Avifauna (High Avifauna Sensitivity applicable to turbines)
- Ridge (Very High Terrestrial Ecology Sensitivity)
- Minor slopes and drainage (High Terrestrial Ecology Sensitivity)
- Bat (Medium-High Bat Sensitivity)
- Bat (High Bat Sensitivity)

Scale: 1:80 000  
 Projection: GCS\_WGS\_1984  
 Map Ref: Aberdeen Sensitivity Map







## Aberdeen Wind Facility 2 Eastern Cape Province

Cumulative Map

### Legend

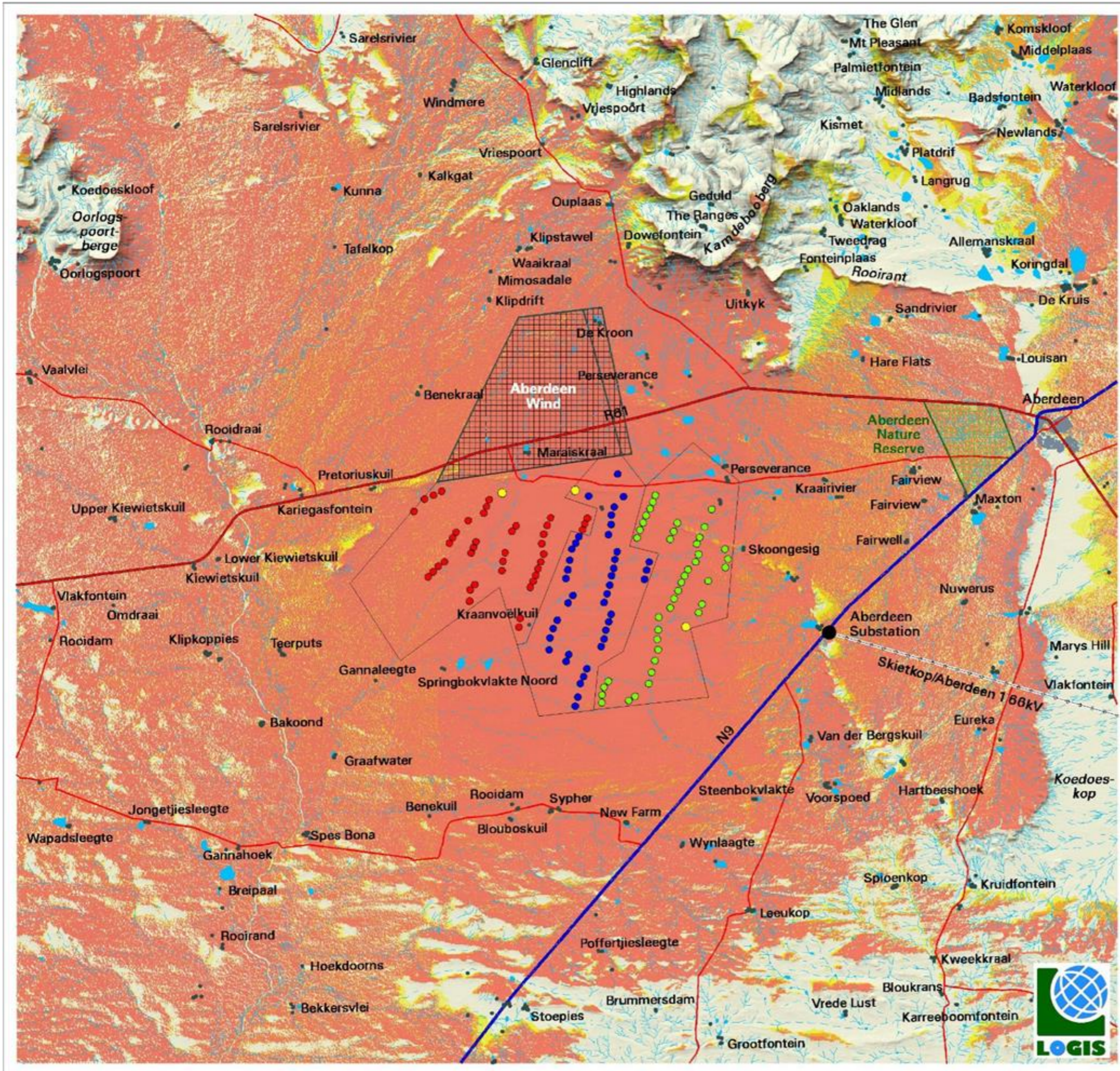
- Town
- Existing Substation
- Eskom Power Line (Existing)
- National Road
- Regional Road
- Main Road
- Perennial River
- - - Non Perennial River
- Provincial Boundary
- Facility 30km Radius
- Aberdeen Wind Facility 2 Development Area
- Properties linked to Renewable Energy Facilities (REEA 2022 Q3)
- Eskom Aberdeen Wind

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

savannah  
 environmental







## 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

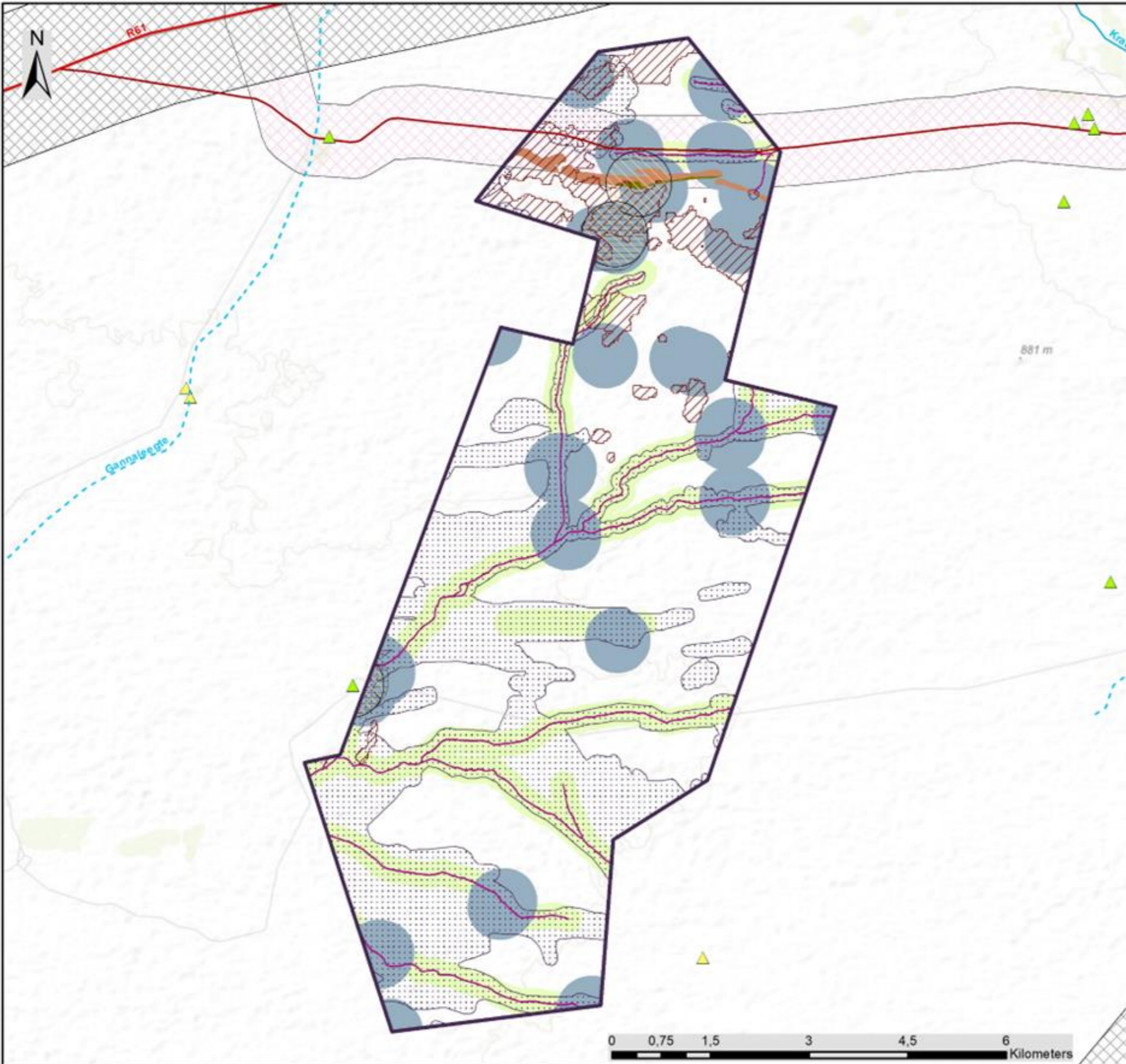
Notes:  
Visibility calculated at 300m above ground level

- RENEWABLE ENERGY PROJECTS**
- Approved

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







# Aberdeen Wind Facility 2 Eastern Cape Province

## Sensitivity Map

### Legend

- Regional Road
- Main Road
- Perennial River
- Non Perennial River
- Aberdeen Wind Facility 2 Development Area

### Environmental Sensitivity

- Noise Sensitive Receptors
- Heritage sites
- 500m Structures Buffer (High Heritage Sensitivity)
- Farm Werf Buffers (High Heritage Sensitivity)
- SAHRA site buffer (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)
- Avifauna (High Avifauna Sensitivity applicable to turbines)
- Ridge (Very High Terrestrial Ecology Sensitivity)
- Minor slopes and drainage (High Terrestrial Ecology Sensitivity)
- Bat (Medium-High Bat Sensitivity)
- Bat (High Bat Sensitivity)

Scale: 1:80 000  
 Projection: GCS\_WGS\_1984  
 Map Ref: Aberdeen Sensitivity Map

















