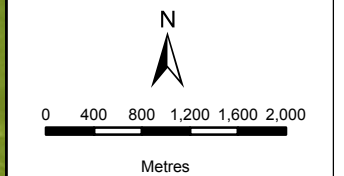


**BIOTERM ENERGY
(PTY) LTD**
STATUS QUO
MARALLA WEST

Legend

- Non-Perennial Rivers
- Maralla East Wind Facility
- NFEPA Wetlands
- Heritage**
- No-Go Areas
- Protected Vegetation**
- Western Karoo



DATA SOURCE:
CHIEF DIRECTORATE: NATIONAL GEO-
SPATIAL INFORMATION
NFEPA, SANBI

PROJECTION: WGS HARTEBEEHOCK 94

PROJECT TITLE: WIND AND SOLAR RENEWABLES

PROJECT NO: 47579

SCALE: 1:63,000 AT A4 | DATE: 08/12/2016

DRAWN BY: SABELO DUBE | FIGURE NO:

REVIEWED BY: ASHLEA STRONG

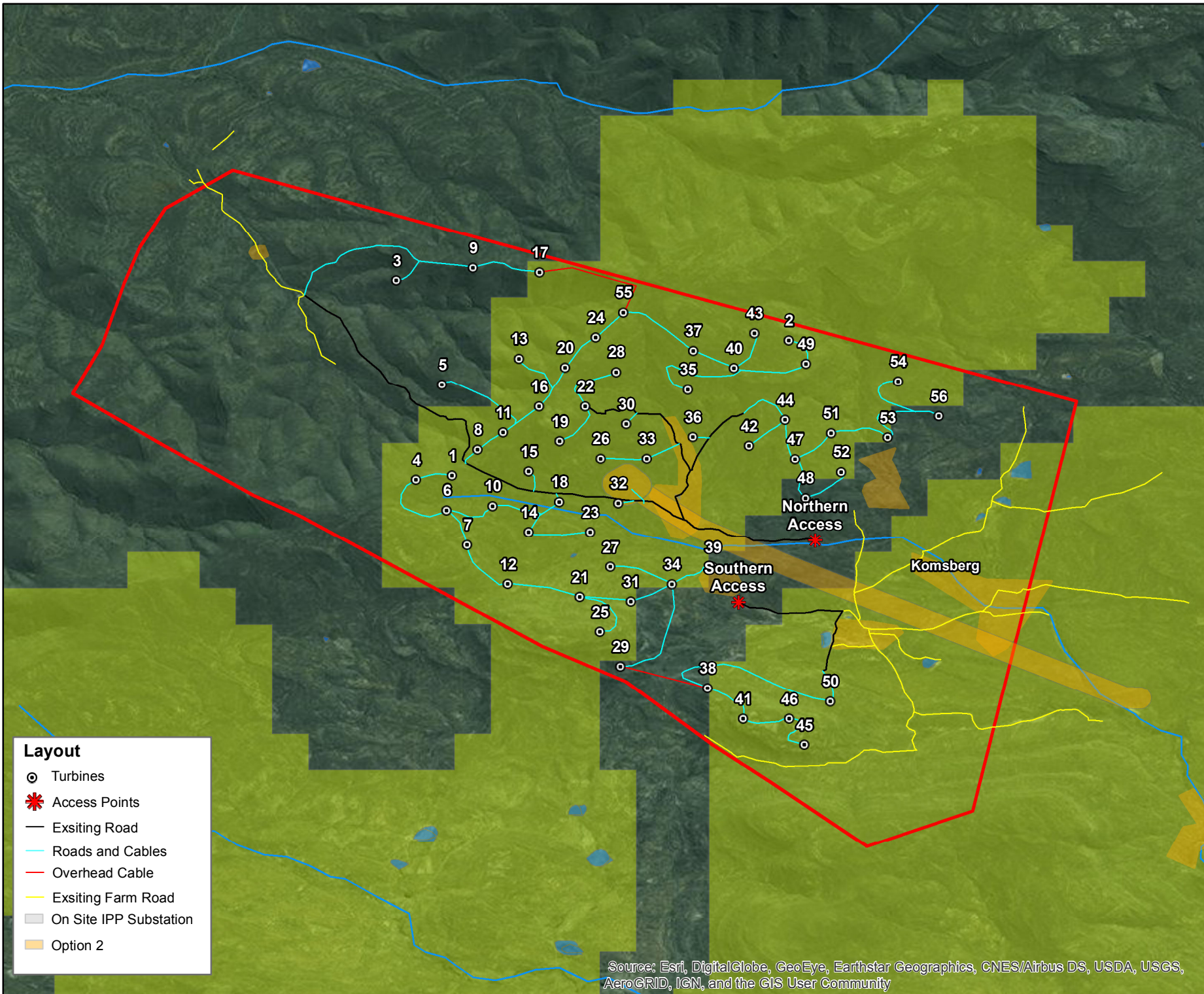


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- Layout**
- Turbines
 - * Access Points
 - Existing Road
 - Roads and Cables
 - Overhead Cable
 - Existing Farm Road
 - On Site IPP Substation
 - Option 2

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



**BIOHERM ENERGY
(PTY) LTD**
SLOPE ANALYSIS
MARALLA WEST

Legend

Maralla West Wind Facility

Slope

- 0 - 9%
- 15 - 25%
- 9 - 15%
- > 25%

Layout

- ⊙ Turbines
- * Access Points
- Exsiting Road
- Roads and Cables
- Overhead Cable
- Exsiting Farm Road
- On Site IPP Substations
- Option 2
- Option 1



0 1,300 2,600 3,900 5,200 6,500

Metres

DATA SOURCE:
CHIEF DIRECTORATE: NATIONAL GEO-
SPATIAL INFORMATION
NFEPA, SANBI

PROJECTION: WGS HARTEBEEHOEK 94

PROJECT TITLE: WIND AND SOLAR RENEWABLES

PROJECT NO: 47579

SCALE: 1:200,000 AT A4 DATE: 09/12/2016

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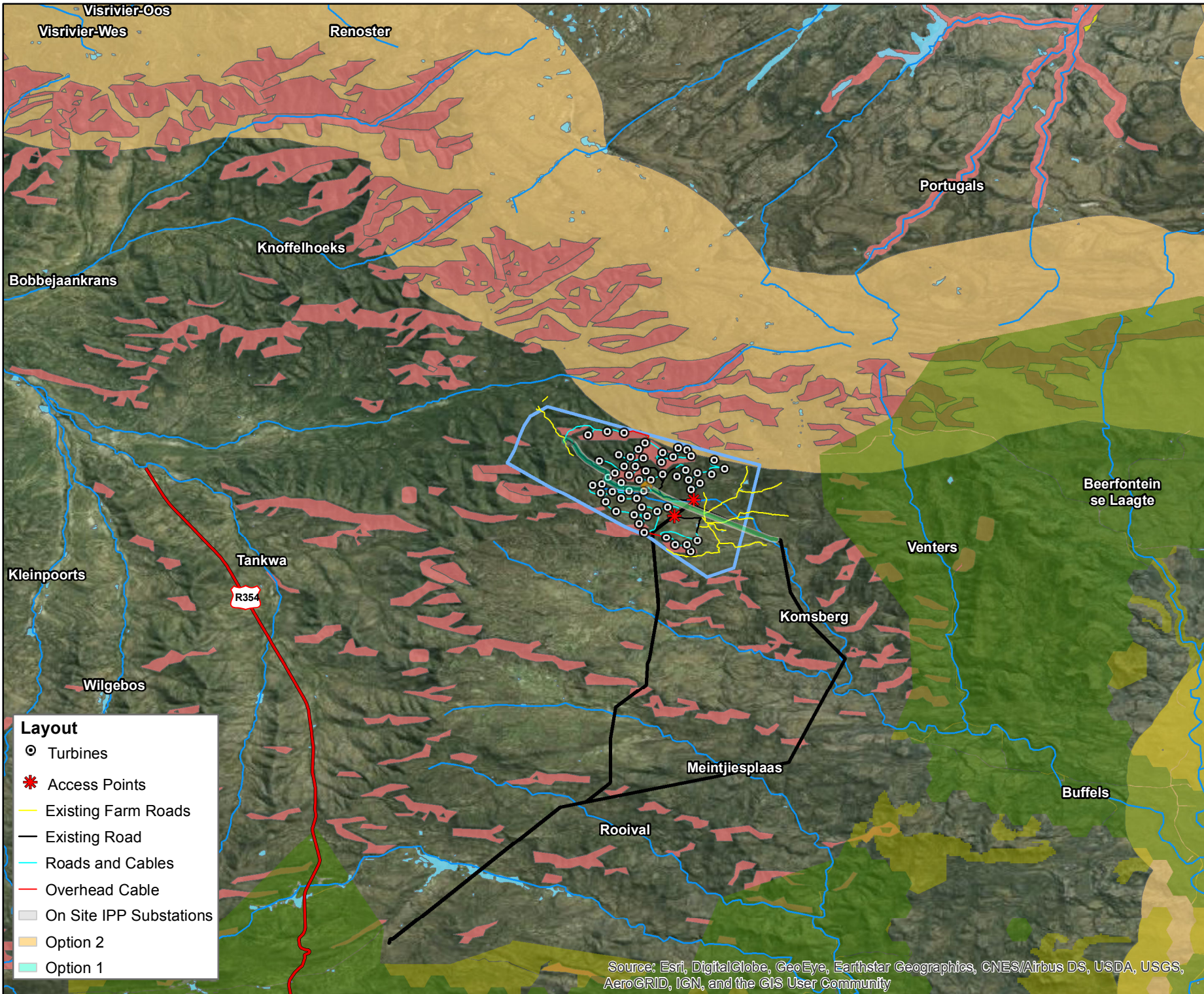


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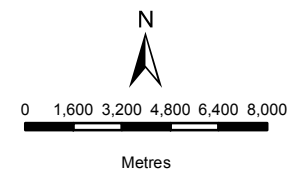
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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



BIOTERM ENERGY (PTY) LTD
 REGIONAL MAP
 MARALLA WEST

- Legend**
- Non-Perennial Rivers
 - Regional Road
 - Powerlines
 - ▭ Maralla West Wind Facility
 - ▭ NFEPA Wetlands
- CBA Terrestrial**
- CBA Type**
- ▭ ESA_T
 - ▭ T1
 - ▭ T2
- CBA & ESA CentralKaroo**
- CBA Category**
- ▭ CBA
 - ▭ CBA (known agric landuse)
 - ▭ ESA



DATA SOURCE:
 CHIEF DIRECTORATE: NATIONAL GEO-SPATIAL INFORMATION
 NFEPA, SANBI

PROJECTION: WGS HARTEBEESHOEK 94

PROJECT TITLE: WIND AND SOLAR RENEWABLES

PROJECT NO: 47579

SCALE: 1:250,000 AT A4 DATE: 30/01/2017

DRAWN BY: SABELO DUBE FIGURE NO:

REVIEWED BY: ASHLEA STRONG

- Layout**
- ⊙ Turbines
 - * Access Points
 - Existing Farm Roads
 - Existing Road
 - Roads and Cables
 - Overhead Cable
 - ▭ On Site IPP Substations
 - ▭ Option 2
 - ▭ Option 1



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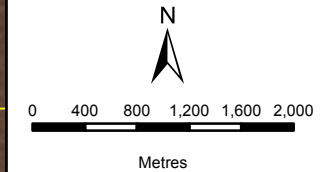
**BIOTERM ENERGY
(PTY) LTD**
LAYOUT MAP
MARALLA WEST

Legend

- Non-Perennial Rivers
- Maralla West Wind Facility
- NFEPA Wetlands

SANBI Wetland Vegetation

- Karoo Shale Renosterveld
- Rainshadow Valley Karoo (Skv)



DATA SOURCE:
CHIEF DIRECTORATE: NATIONAL GEO-
SPATIAL INFORMATION
NFEPA, SANBI

PROJECTION: WGS HARTEBEEHOEK 94

PROJECT TITLE: WIND AND SOLAR RENEWABLES

PROJECT NO: 47579

SCALE: 1:58,000 AT A4 DATE: 30/01/2017

DRAWN BY: SABELO DUBE FIGURE NO:

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Layout

- Turbines
- * Access Points
- Existing Farm Roads
- Existing Road
- Roads and Cables
- Overhead Cable
- On Site IPP Substations
- Option 2
- Option 1
- Maralla West Wind Facility

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**BIO THERM ENERGY
(PTY) LTD**

**COMBINED SENSITIVITY
MAP**

Legend

- ▲ Ridgelines
- Homesteads
- == Wolwenhoek Pass
- ⌞ Homesteads Buffers
- ▭ Esizayo Wind Facility

Biodiversity

- Medium Low Sensitivity
- Medium Sensitivity
- Medium High Sensitivity
- High Sensitivity
- Very High Sensitivity



0 450 900 1,350 1,800 2,250

Metres

DATA SOURCE:

CHIEF DIRECTORATE: NATIONAL GEO-SPATIAL INFORMATION

PROJECTION: WGS 21 HARTEBEEHOEK 94

PROJECT TITLE: WIND AND SOLAR RENEWABLES

PROJECT NO: 47579

SCALE: 1:70,000 AT A4 DATE: 16 /01/2017

DRAWN BY: SABELO DUBE FIGURE NO: 6

REVIEWED BY: ASHLEA STRONG



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SENSITIVITY

▭ Visually Sensitive Zones: 500 m around Komsberg Pass

Bat Sensitivity

- High sensitivity areas
- ▭ High sensitivity buffer
- Moderate sensitivity areas
- ▭ Moderate sensitivity buffer

Heritage and Palaeontology Sensitivity

■ No-Go Areas

Avifauna Sensitivity

■ Avifauna

Visually Sensitive Zones: Klein Roggeveld Rd

- Highly Sensitive Zone: 250 m
- Moderately Sensitive Zone: 500 m

Esizayo Slope

Gridcode

- < 20 %
- > 20 % (1:5)

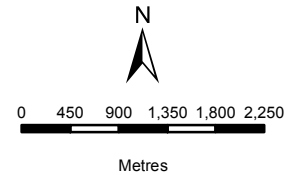
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**BIO THERM ENERGY
(PTY) LTD**

**COMBINED SENSITIVITY
MAP**

Legend

- Turbines
- Ridgelines
- Homesteads
- Wolvenhoek Pass
- Existing Farm Roads
- Existing Road
- Roads and Cables
- Overhead Cable
- Homesteads Buffers
- Maralla West Wind Facility
- On Site IPP Substations
- Option 2
- Option 1
- Biodiversity**
- Medium Low Sensitivity
- Medium Sensitivity
- Medium High Sensitivity
- High Sensitivity
- Very High Sensitivity



DATA SOURCE:
CHIEF DIRECTORATE: NATIONAL GEO-
SPATIAL INFORMATION

PROJECTION: WGS 21 HARTEBESHOEK 94

PROJECT TITLE: WIND AND SOLAR RENEWABLES

PROJECT NO: 47579

SCALE: 1:70,000 AT A4 DATE: 16 / 01 / 2017

DRAWN BY: SABELO DUBE FIGURE NO:

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SENSITIVITY

Visually Sensitive Zones: 500 m around Komsberg Pass

Bat Sensitivity

- High sensitivity areas
- High sensitivity buffer
- Moderate sensitivity areas
- Moderate sensitivity buffer

Heritage and Palaeontology Sensitivity

No-Go Areas

Avifauna Sensitivity

Avifauna

Visually Sensitive Zones: Klein Roggeveld Rd

- Highly Sensitive Zone: 250 m
- Moderately Sensitive Zone: 500 m

Esizayo Slope

Gridcode

- < 20 %
- > 20 % (1:5)

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community