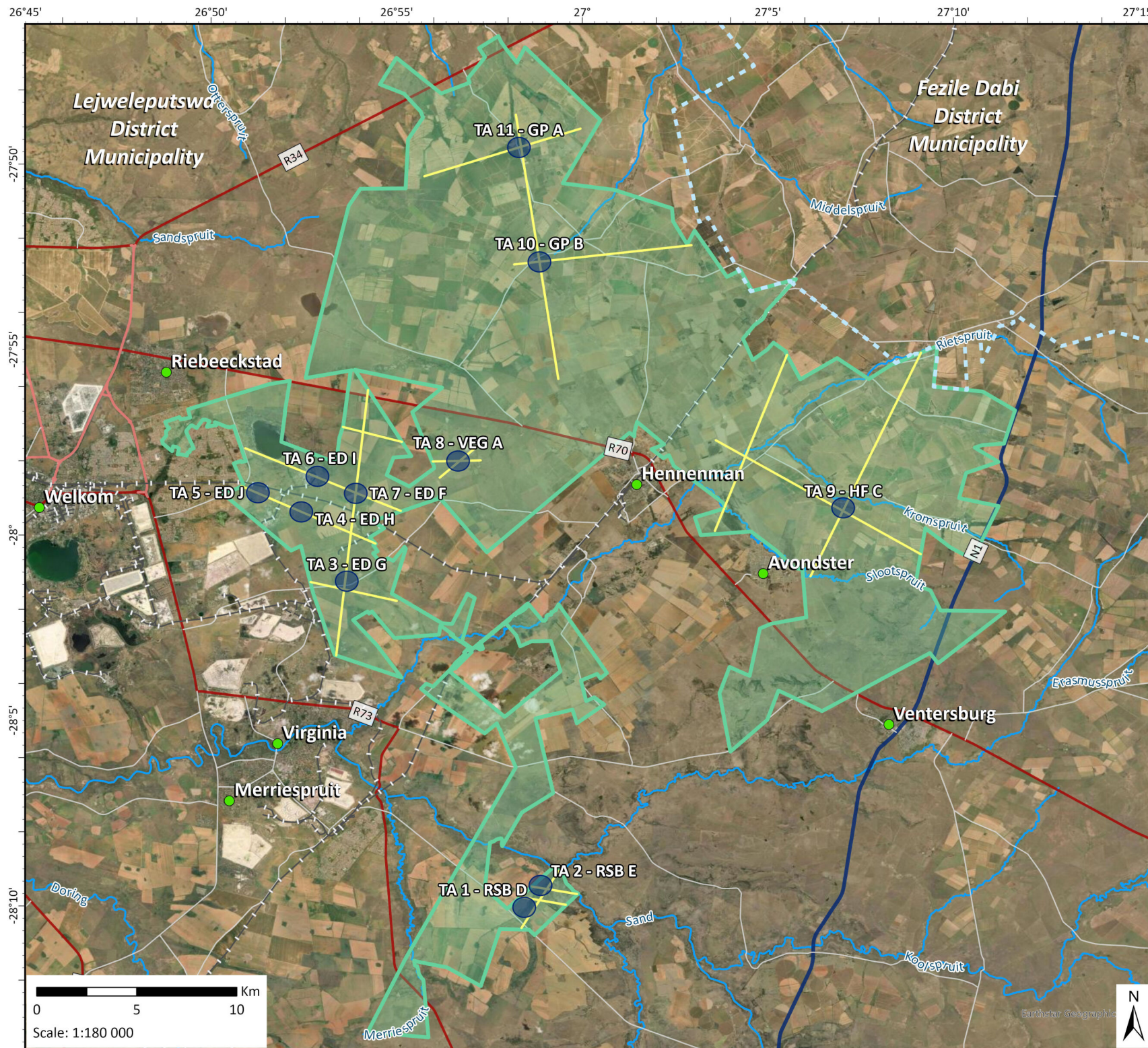


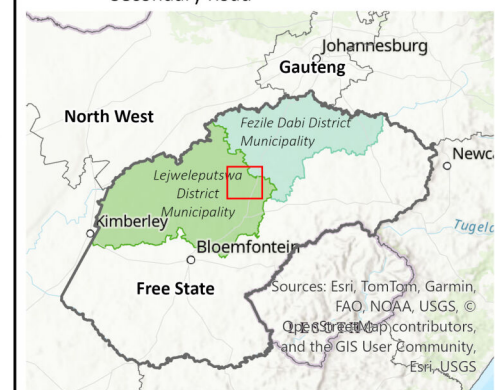


Locality Map

1681 Motuoane ER386 EIA

Legend

- Exploration Right 386 Area
 - Proposed Seismic Transects 50m Corridor
 - Target Areas (TA)
 - District Municipality
 - NFEPA Rivers
 - Towns
 - Railway Line
- Roads**
- National Road
 - Arterial Road
 - Main Road
 - Secondary Road



Data Sources:

CSG; ESRI; MDB; CDNGI; SANBI
Coord System: GCS WGS 1984
Datum: WGS 1984
Units: Degree
Ref: 1681_Locality

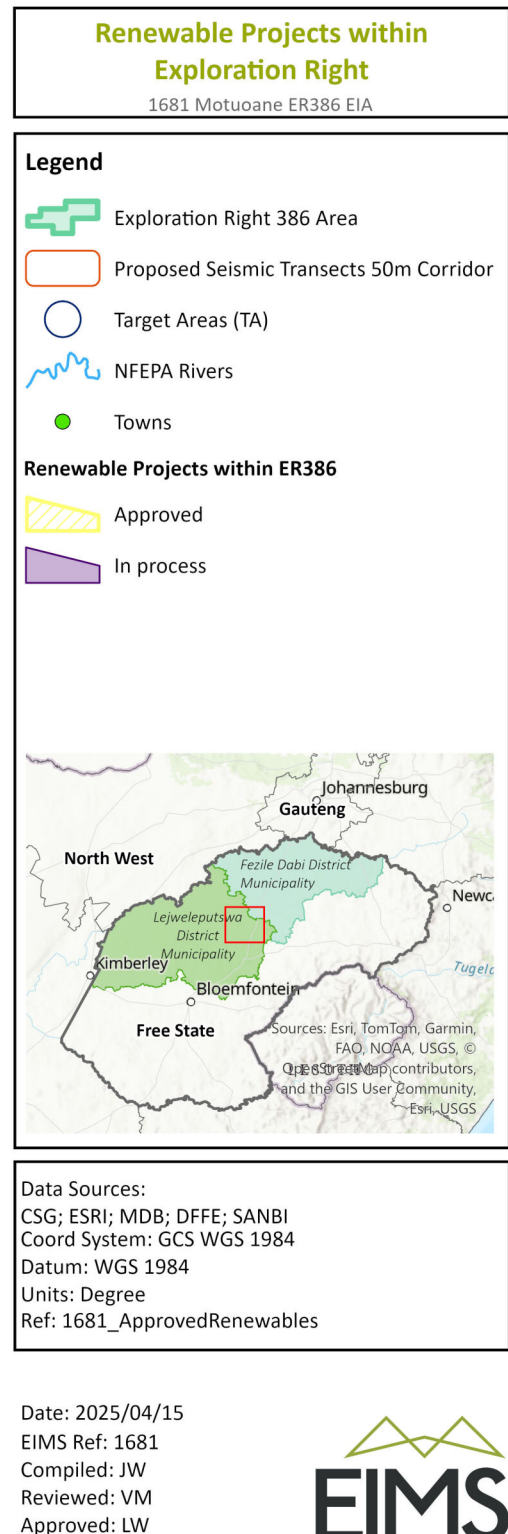
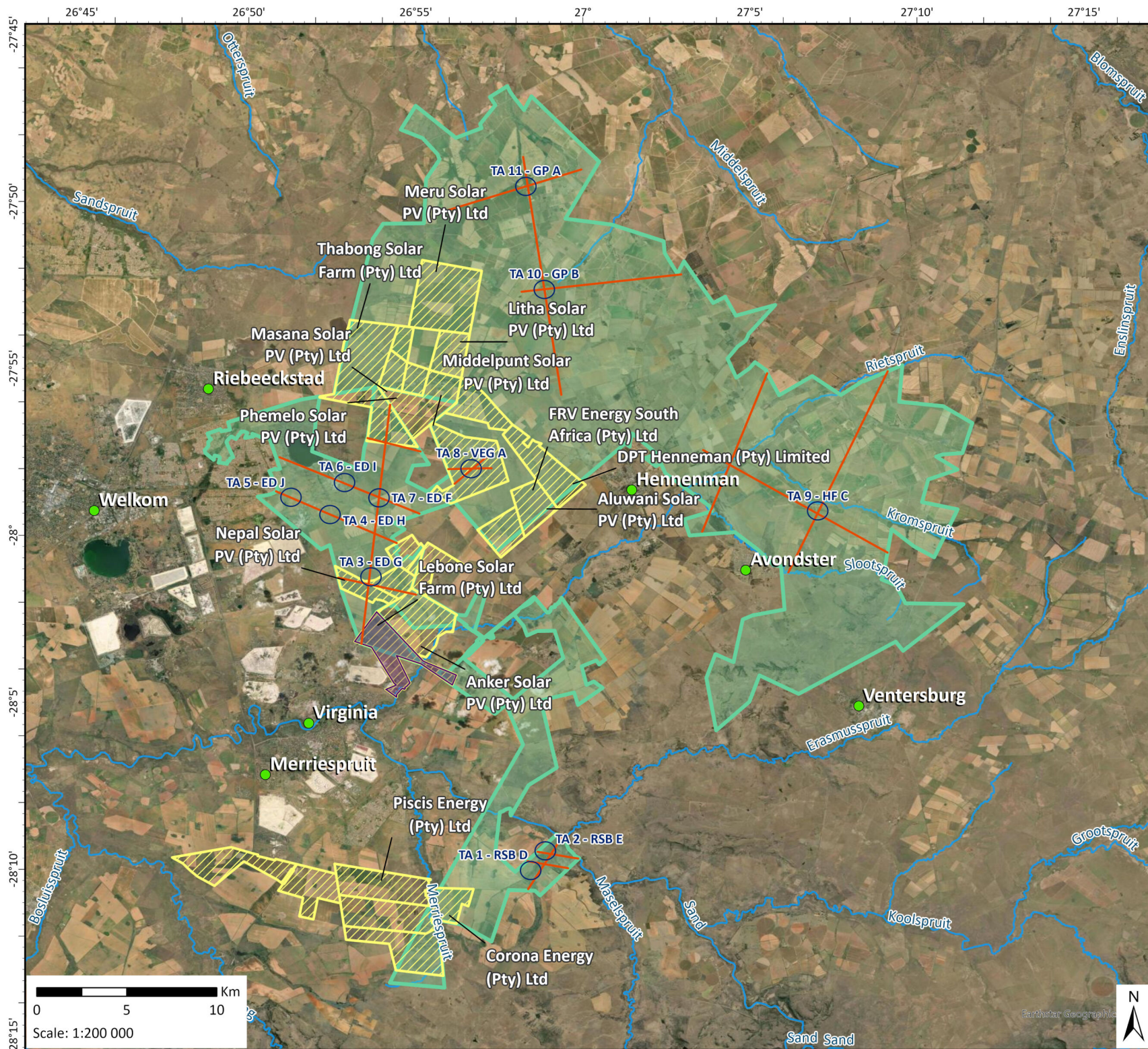
Date: 2025/04/15

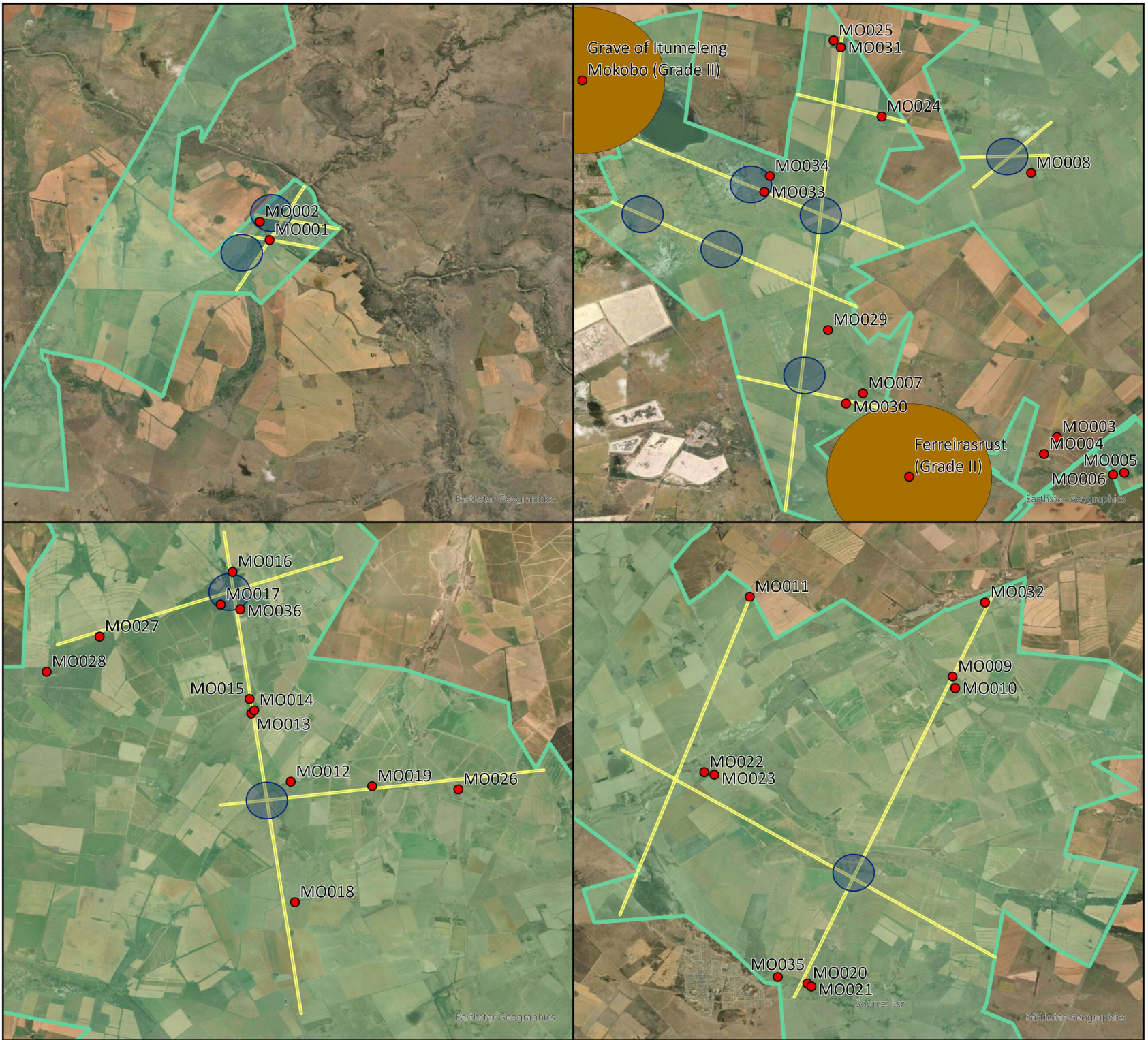
EIMS Ref: 1681

Compiled: JW

Reviewed: VM

Approved: LW



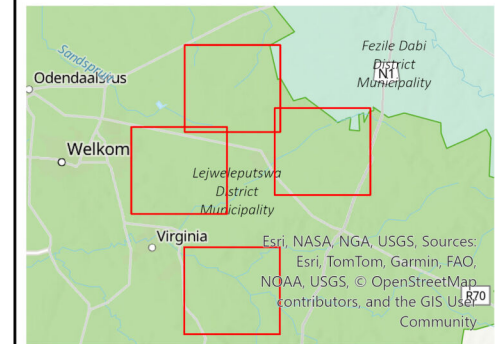


Heritage Finds and Sites (Focused)

1681 Motuoane ER386 EIA

Legend

-  Exploration Right 386 Area
-  Target Areas (TA)
-  Proposed Seismic Transects 50m Corridor
-  Heritage Finds and Sites
-  Grade II Buffer



Data Sources:

CSG; ESRI; MDB; CDNGI; SANBI

Coord System: GCS WGS 1984

Datum: WGS 1984

Units: Degree

Ref: 1681-1 Finds and Sites

Date: 2025/04/29

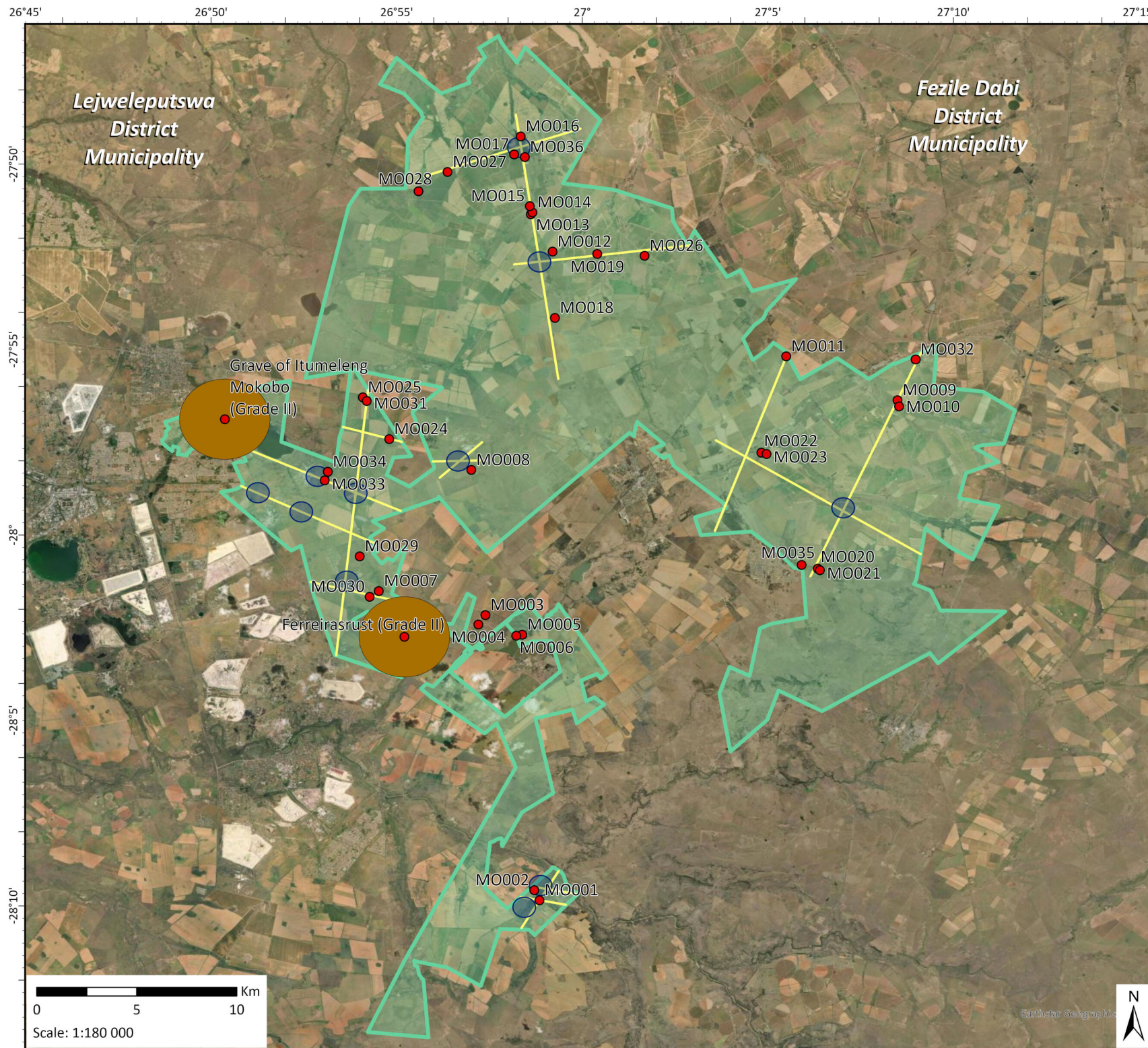
EIMS Ref: 1681

Compiled: JW

Reviewed: VM

Approved: LW



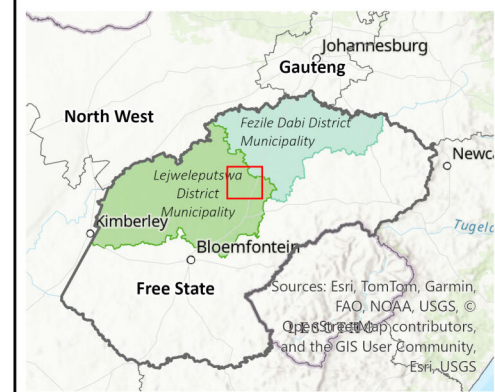


Locality Map

1681 Motuoane ER386 EIA

Legend

-  Exploration Right 386 Area
-  Proposed Seismic Transects 50m Corridor
-  Target Areas (TA)
-  Heritage Finds and Sites
-  Grade II Buffer



Data Sources:

CSG; ESRI; MDB; CDNGI; SANBI
Coord System: GCS WGS 1984
Datum: WGS 1984
Units: Degree
Ref: 1681-1 Finds and Sites

Date: 2025/04/29

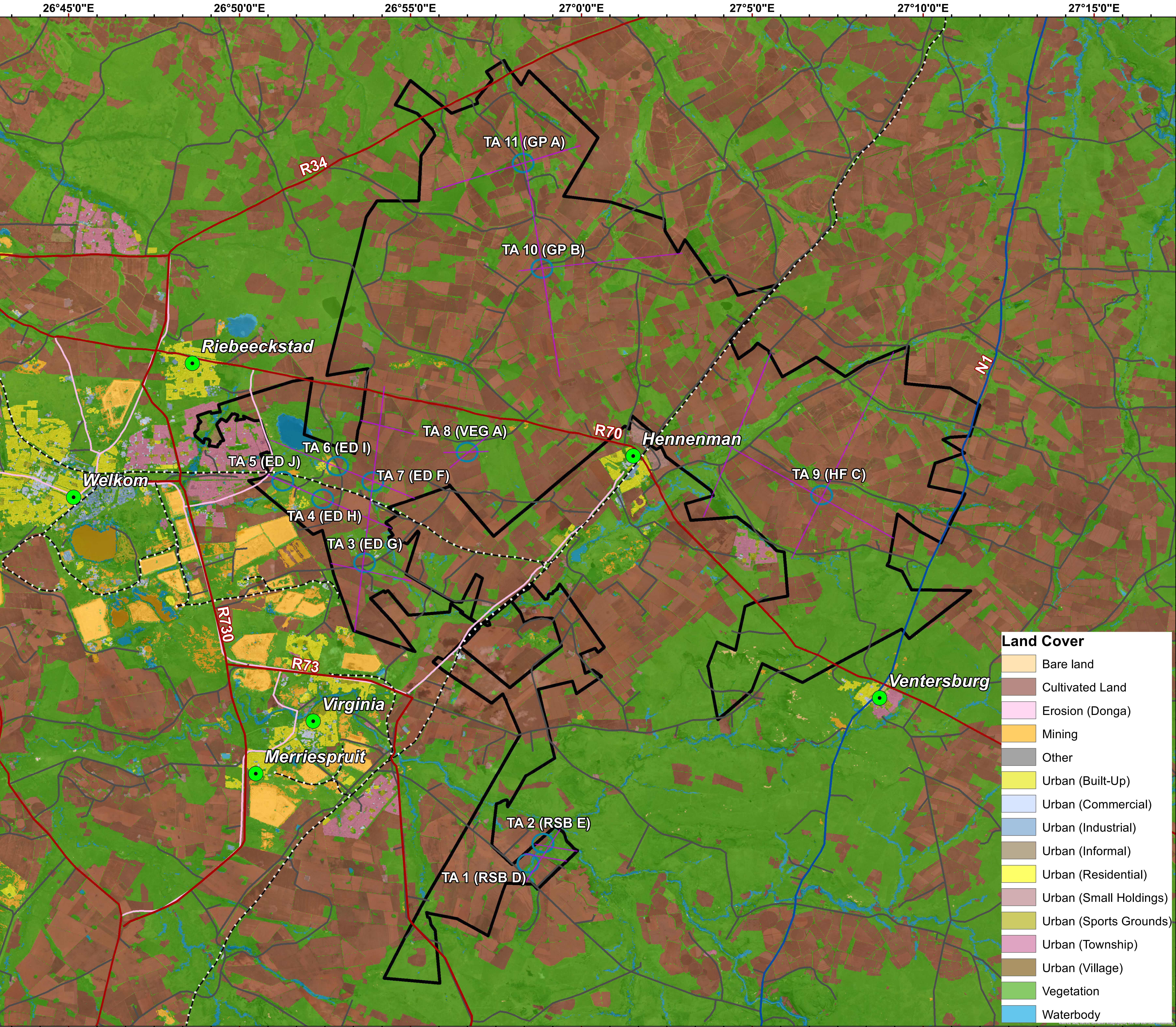
EIMS Ref: 1681

Compiled: JW

Reviewed: VM

Approved: LW





Land Cover Map

1681 Motuoane ER386 EIA

Legend

- Revised ER 386
- ER386 Target Areas
- ER386 Seismic Transects
- National
- Arterial Road
- Main Road
- Secondary Road
- Railway
- Towns

N

0 5 10 Km

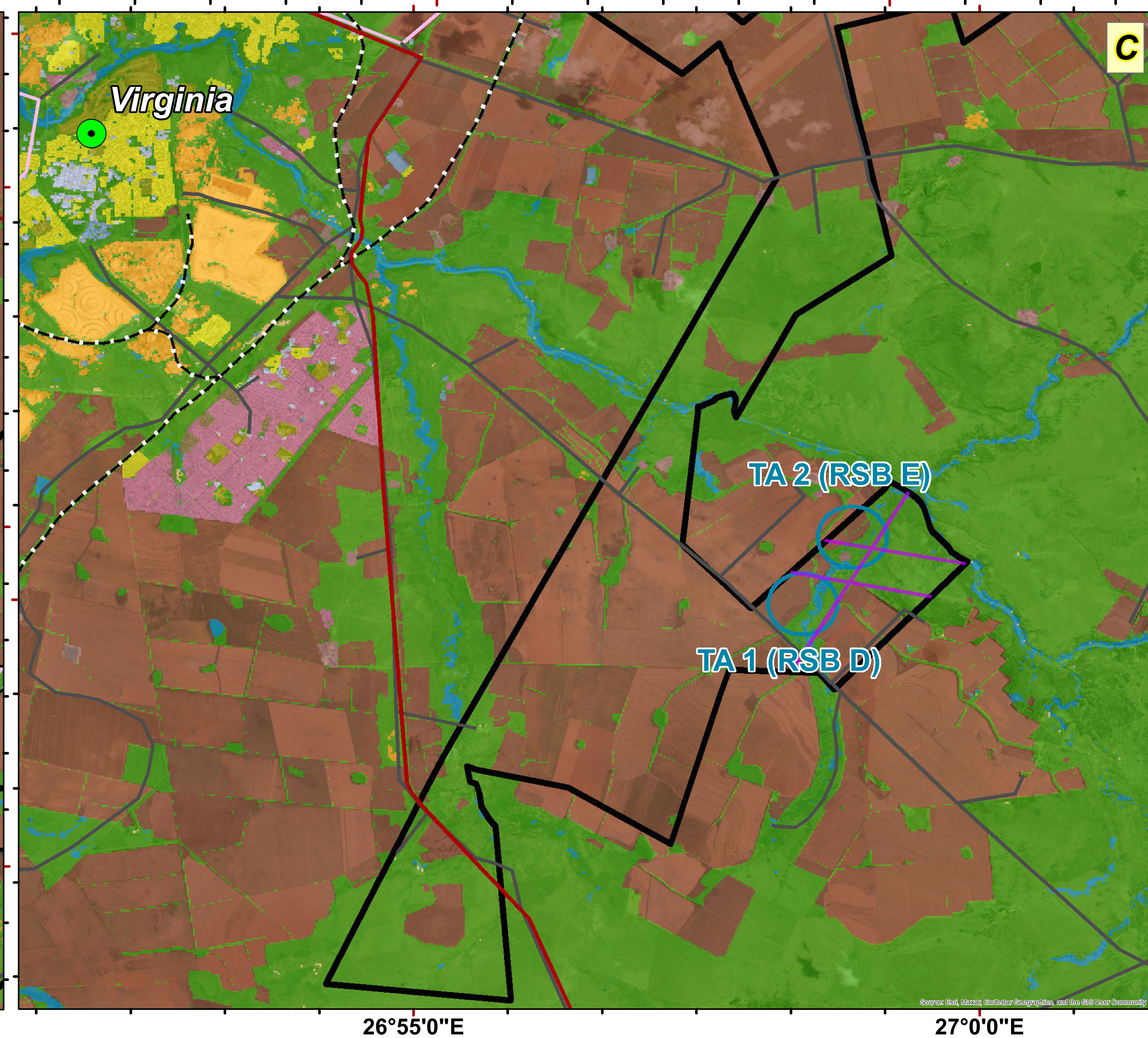
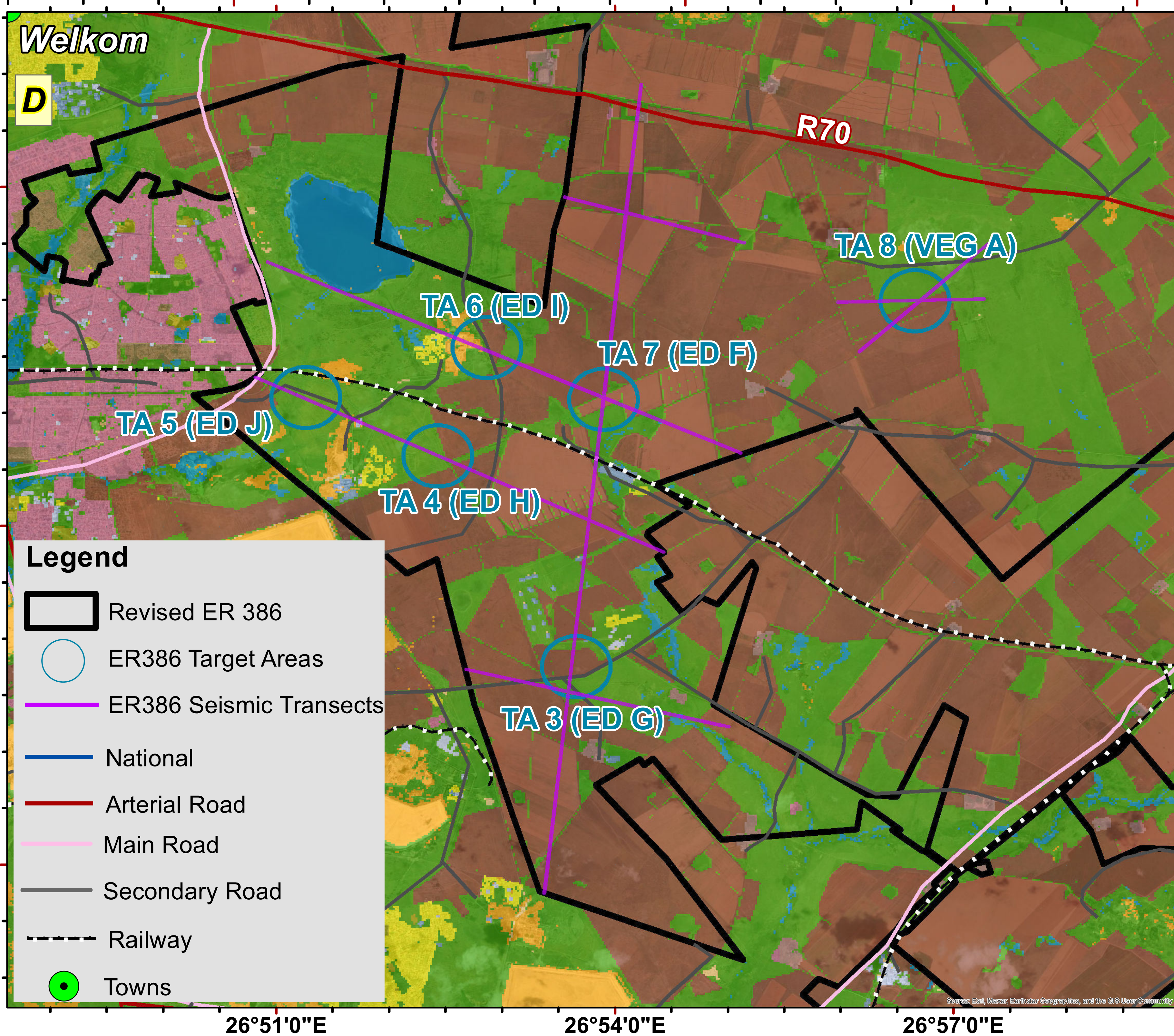
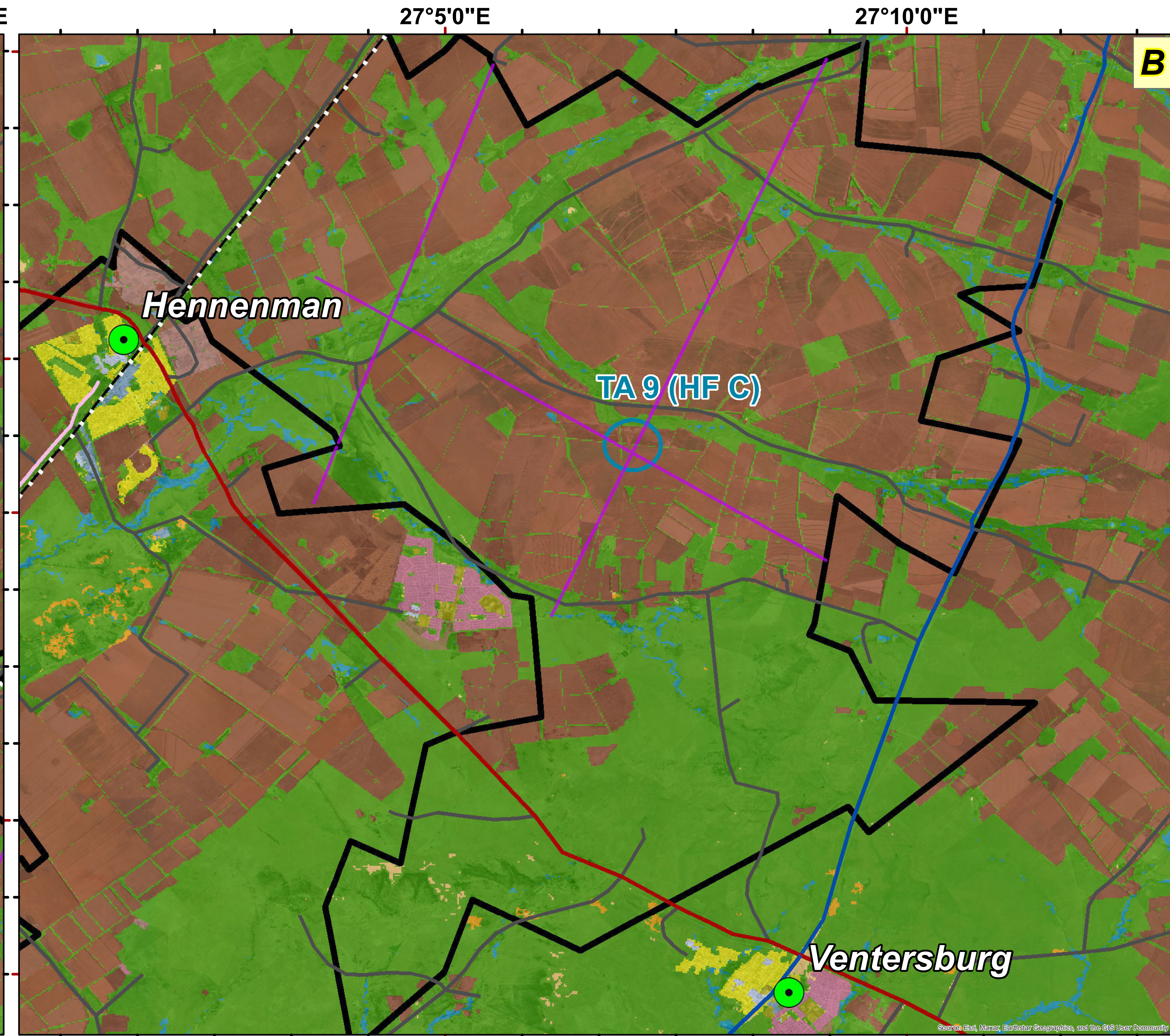
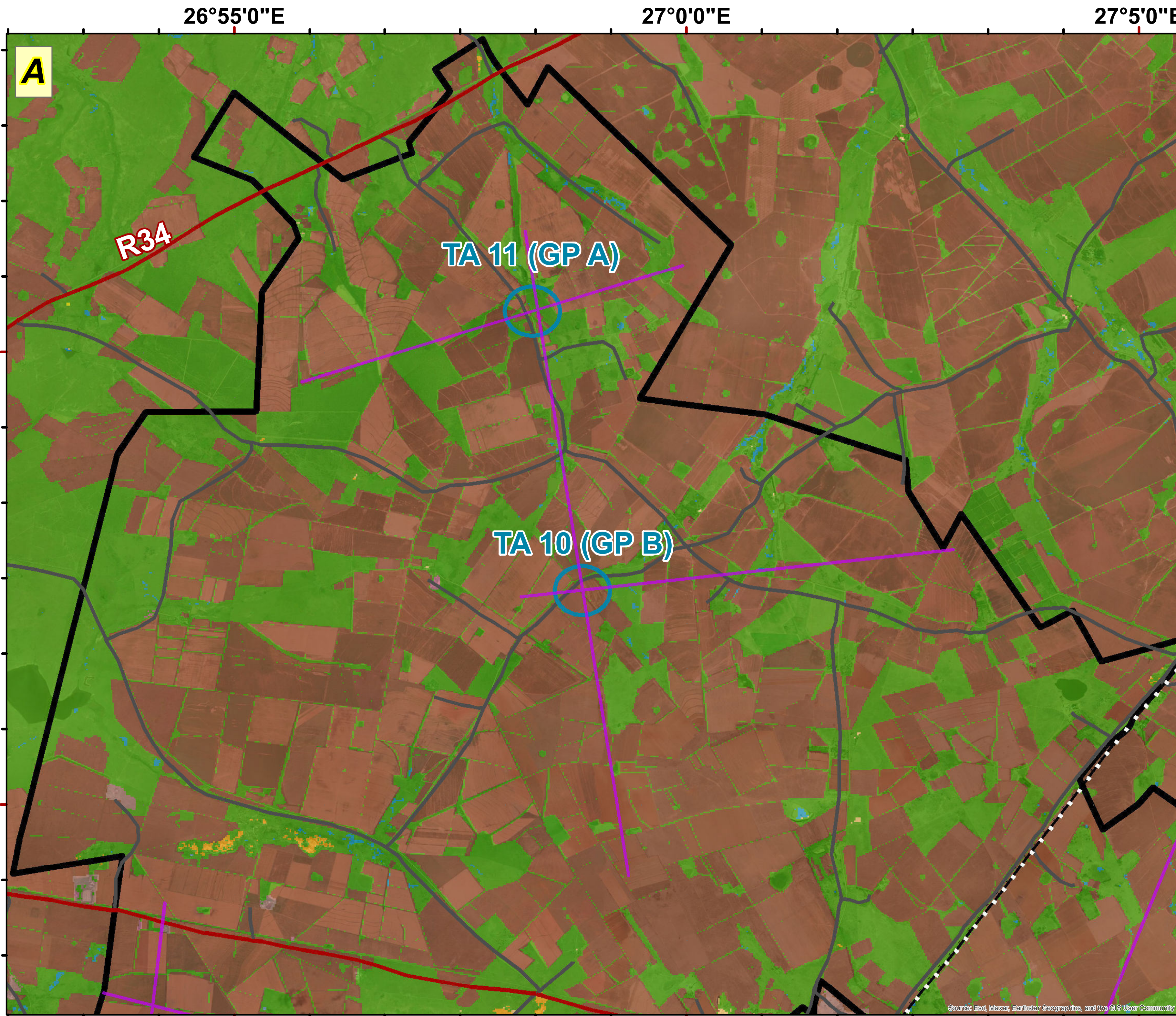
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- #### Land Cover
- Bare land
 - Cultivated Land
 - Erosion (Donga)
 - Mining
 - Other
 - Urban (Built-Up)
 - Urban (Commercial)
 - Urban (Industrial)
 - Urban (Informal)
 - Urban (Residential)
 - Urban (Small Holdings)
 - Urban (Sports Grounds)
 - Urban (Township)
 - Urban (Village)
 - Vegetation
 - Waterbody

Data Sources:
CSG; ESRI; MDB; CDNGI; DFFE; Project Team
Coord System: GCS WGS 1984
Datum: WGS 1985
Units: Degrees
Ref: 1681 Land Cover Map

Date: 2025/04/17
EIMS Ref: 1681
Compiled: VM
Reviewed: SM
Approved: LW





Sectional Land Cover Map

1681 Motuoane ER386 EIA

Land Cover

- Bare land
- Cultivated Land
- Erosion (Donga)
- Mining
- Other
- Urban (Built-Up)
- Urban (Commercial)
- Urban (Industrial)
- Urban (Informal)
- Urban (Residential)
- Urban (Small Holdings)
- Urban (Sports Grounds)
- Urban (Township)
- Urban (Village)
- Vegetation
- Waterbody

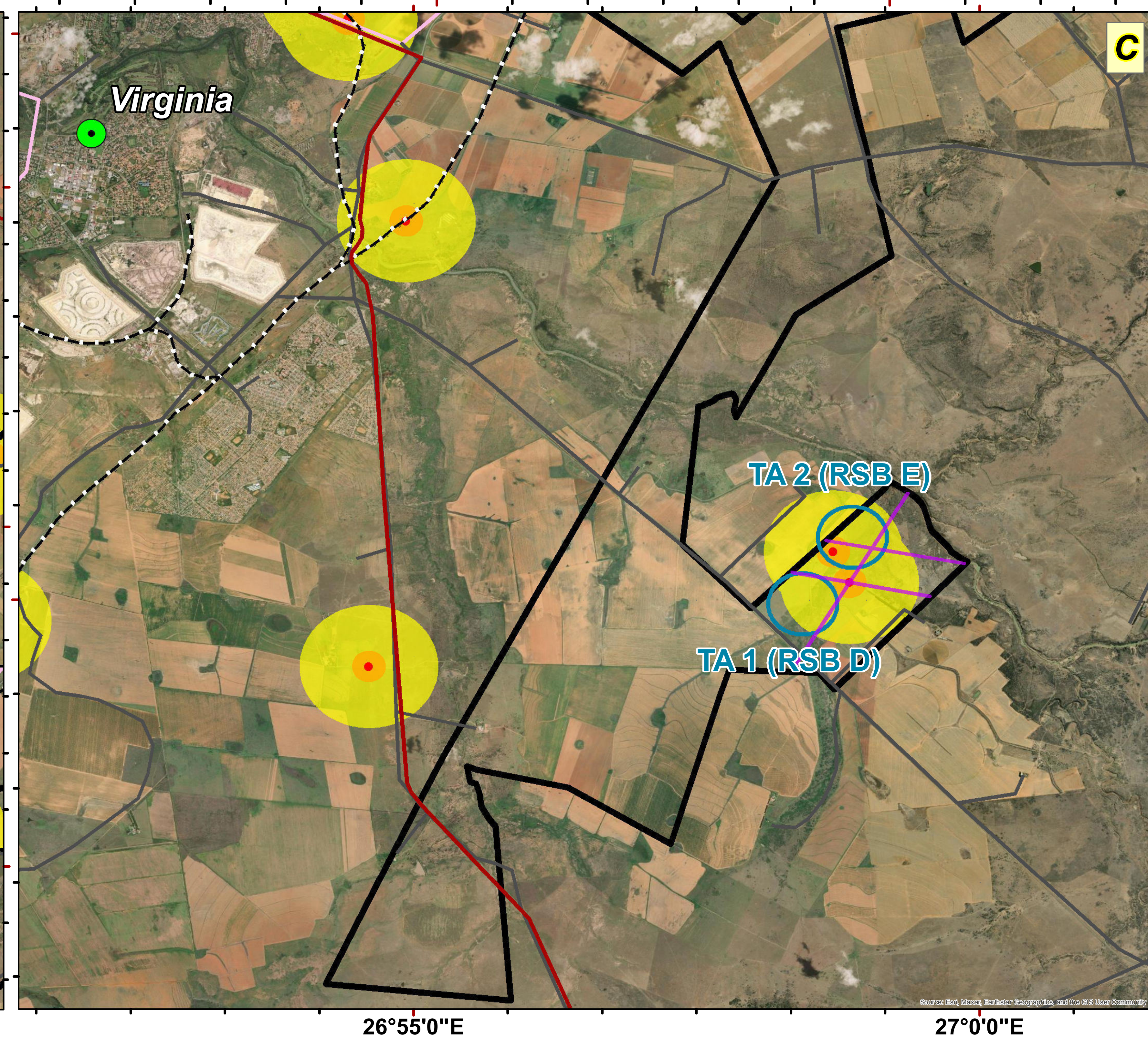
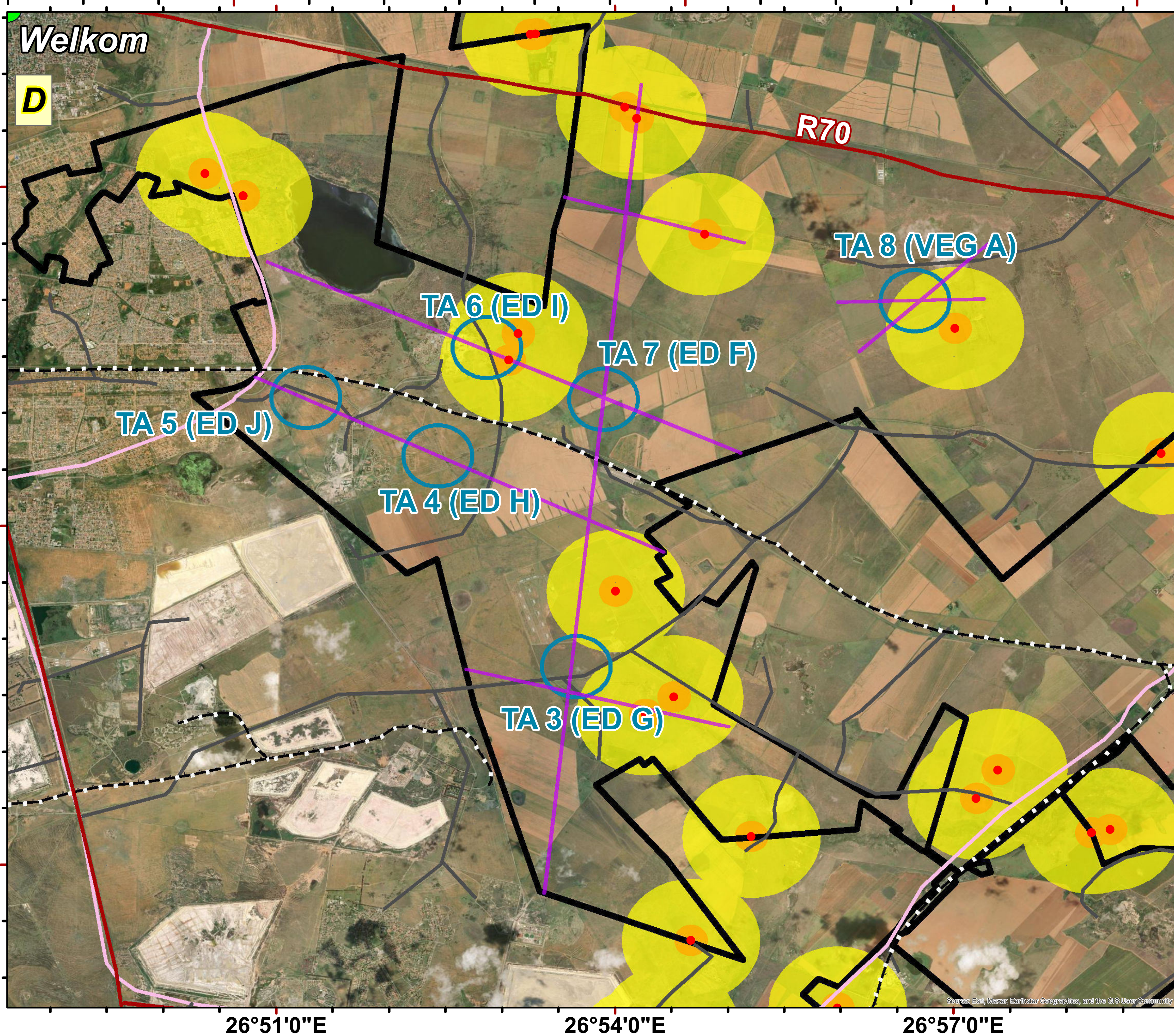
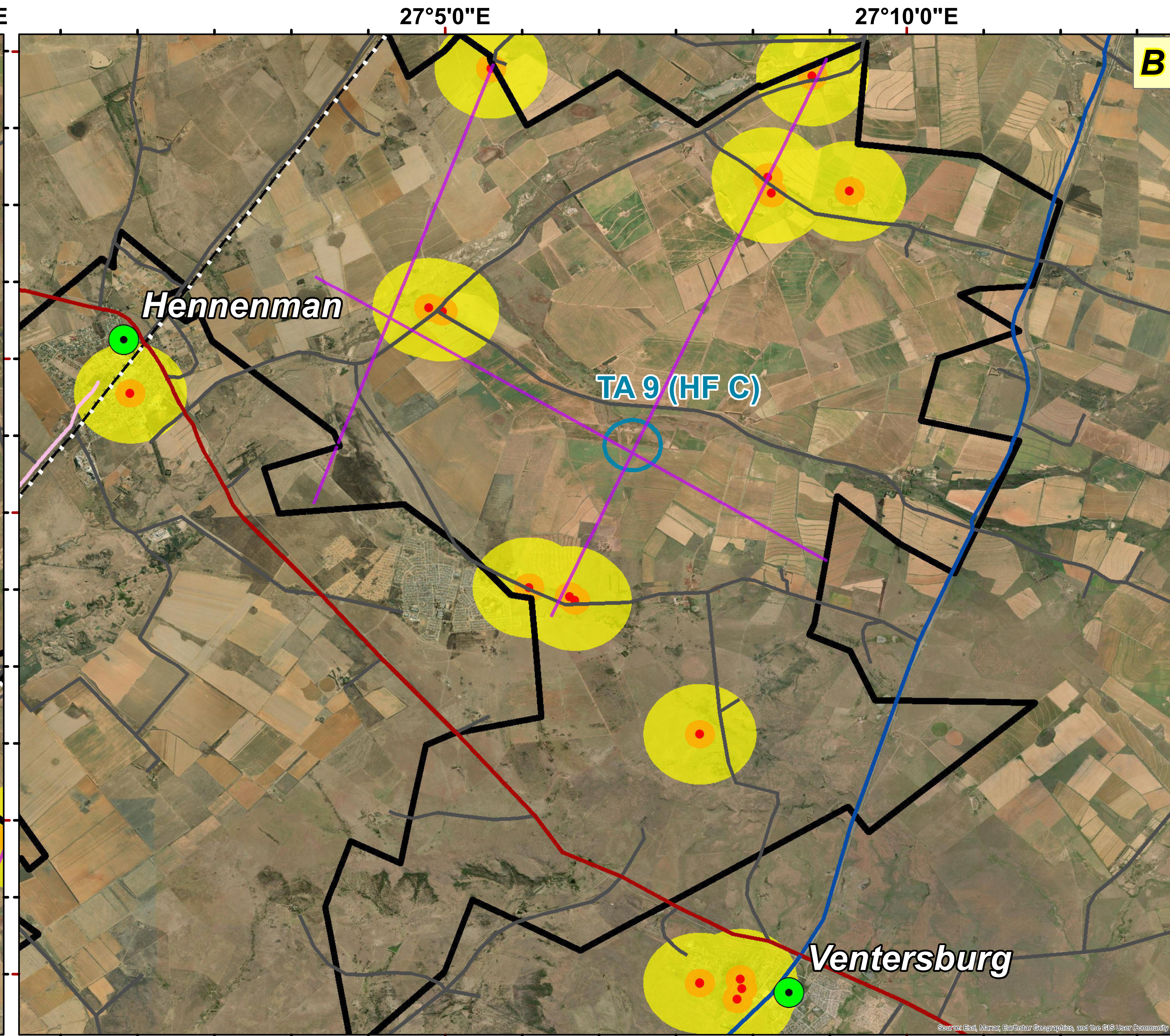
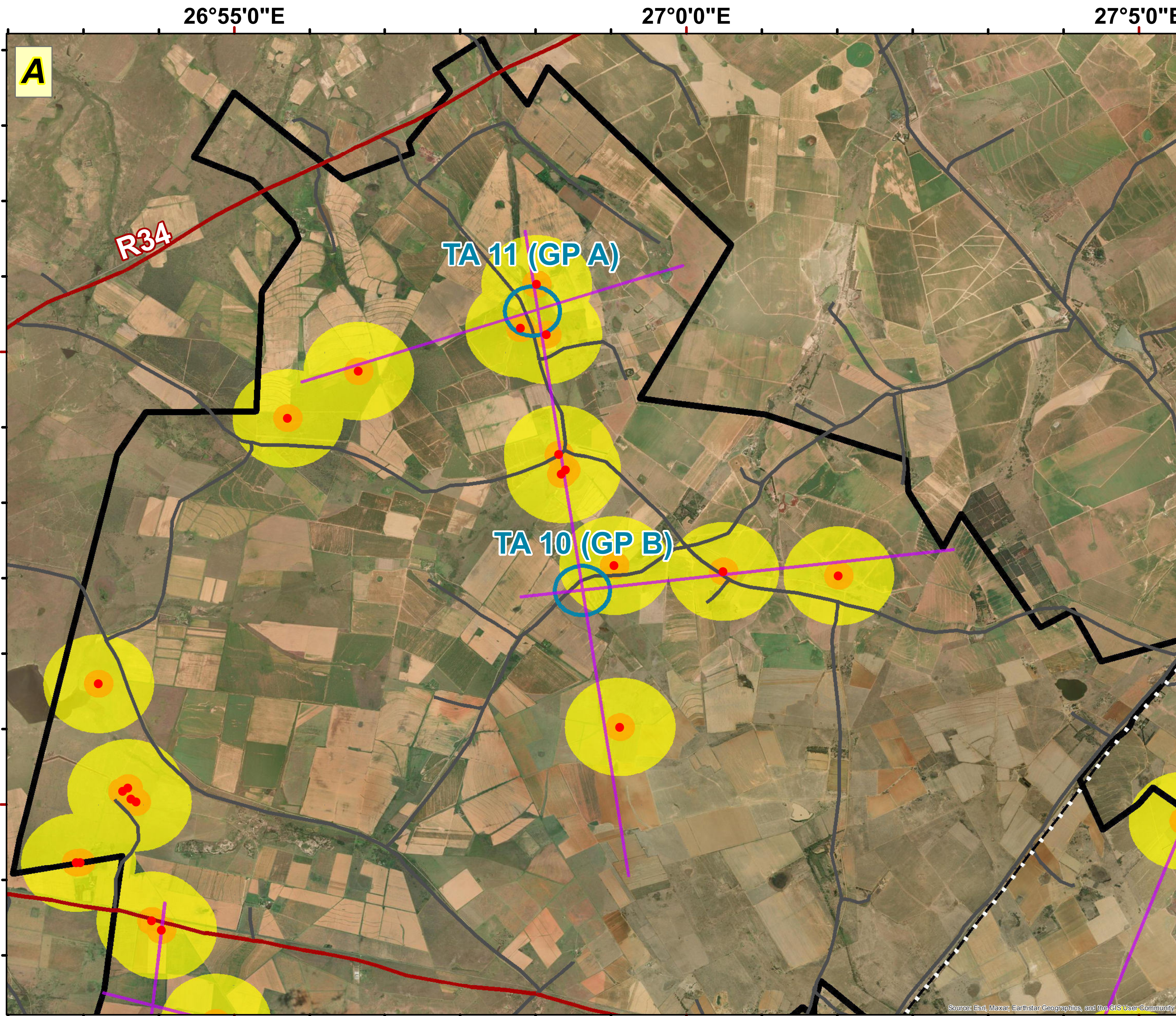
Legend

- Revised ER 386
- ER386 Target Areas
- ER386 Seismic Transects
- National
- Arterial Road
- Main Road
- Secondary Road
- Railway
- Towns

Scale: 1:50,000

Data Sources:
CSG; ESRI; MDB; CDNGI; DFFE; Project Team
Coord System: GCS WGS 1984
Datum: WGS 1985
Units: Degrees
Ref: 1681 Sectional Land Cover Map

Date: 2025/04/17
EIMS Ref: 1681
Compiled: VM
Reviewed: SM
Approved: LW



Sectional Heritage Map

1681 Motuoane ER386 EIA

Legend

- Revised ER 386
- ER386 Target Areas
- ER386 Seismic Transects
- National
- Arterial Road
- Main Road
- Secondary Road
- Railway
- Towns

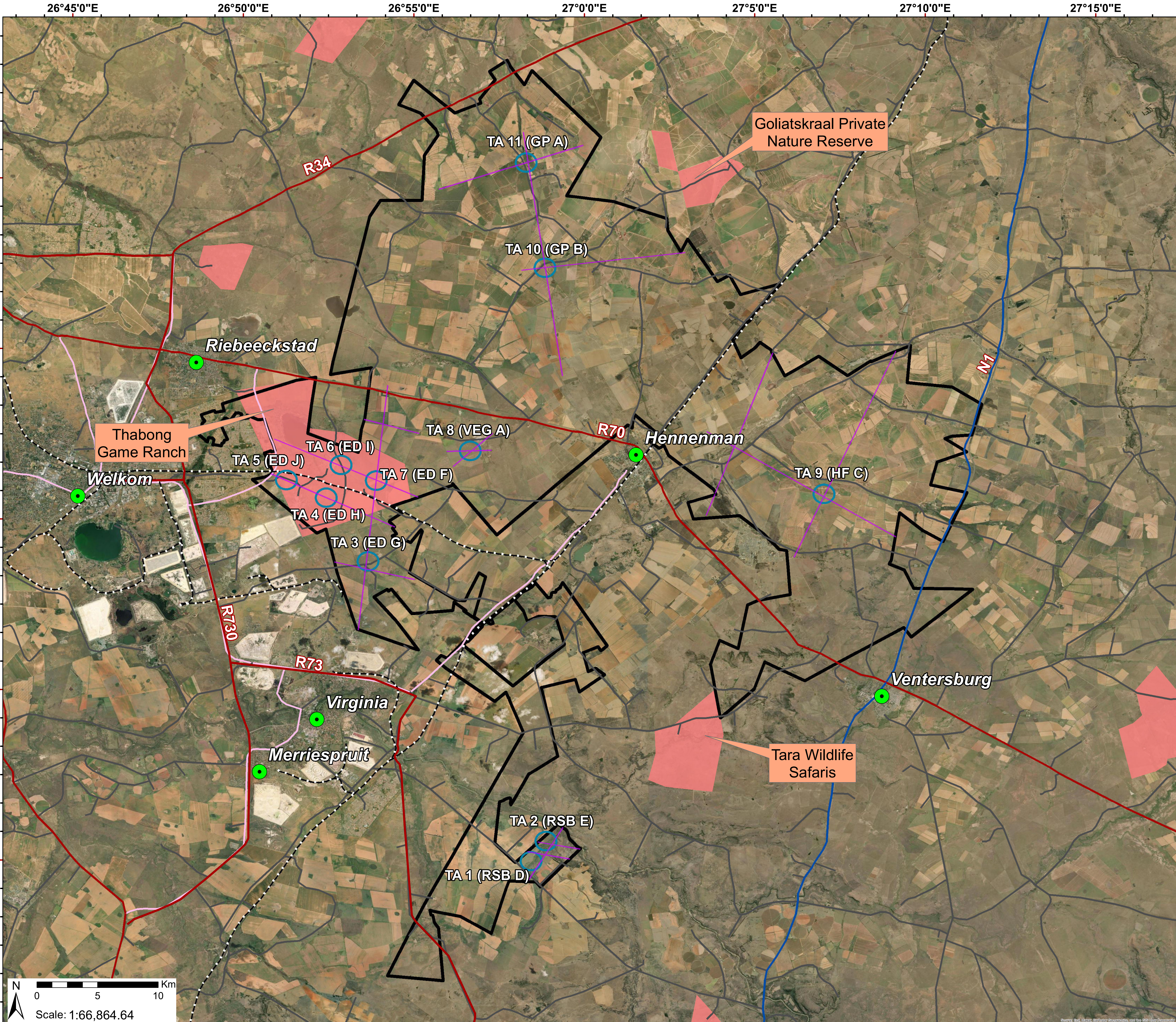
Sensitivity Rating for Features

- Medium (1km from feature)
- High (150m from feature)
- No-Go (heritage Feature)

N 0 5 10 Km
Scale: 1:50,000

Data Sources:
CSG; ESRI; MDB; CDNGI; SAHRIS; Project Team
Coord System: GCS WGS 1984
Datum: WGS 1985
Units: Degrees
Ref: 1681 Sectional Heritage Map

Date: 2025/04/17
EIMS Ref: 1681
Compiled: VM
Reviewed: SM
Approved: LW



Protected Areas Map

1681 Motuoane ER386 EIA

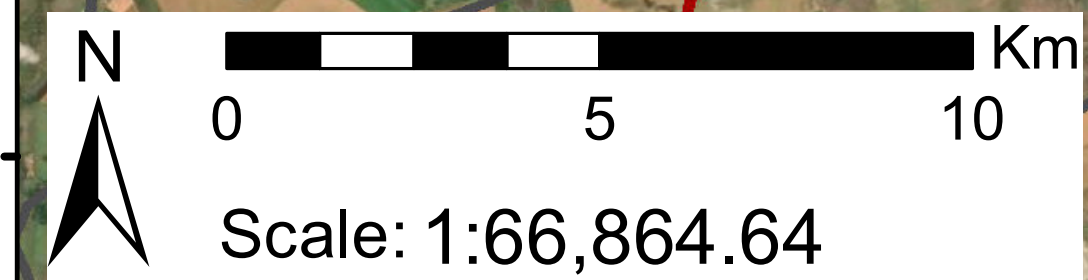
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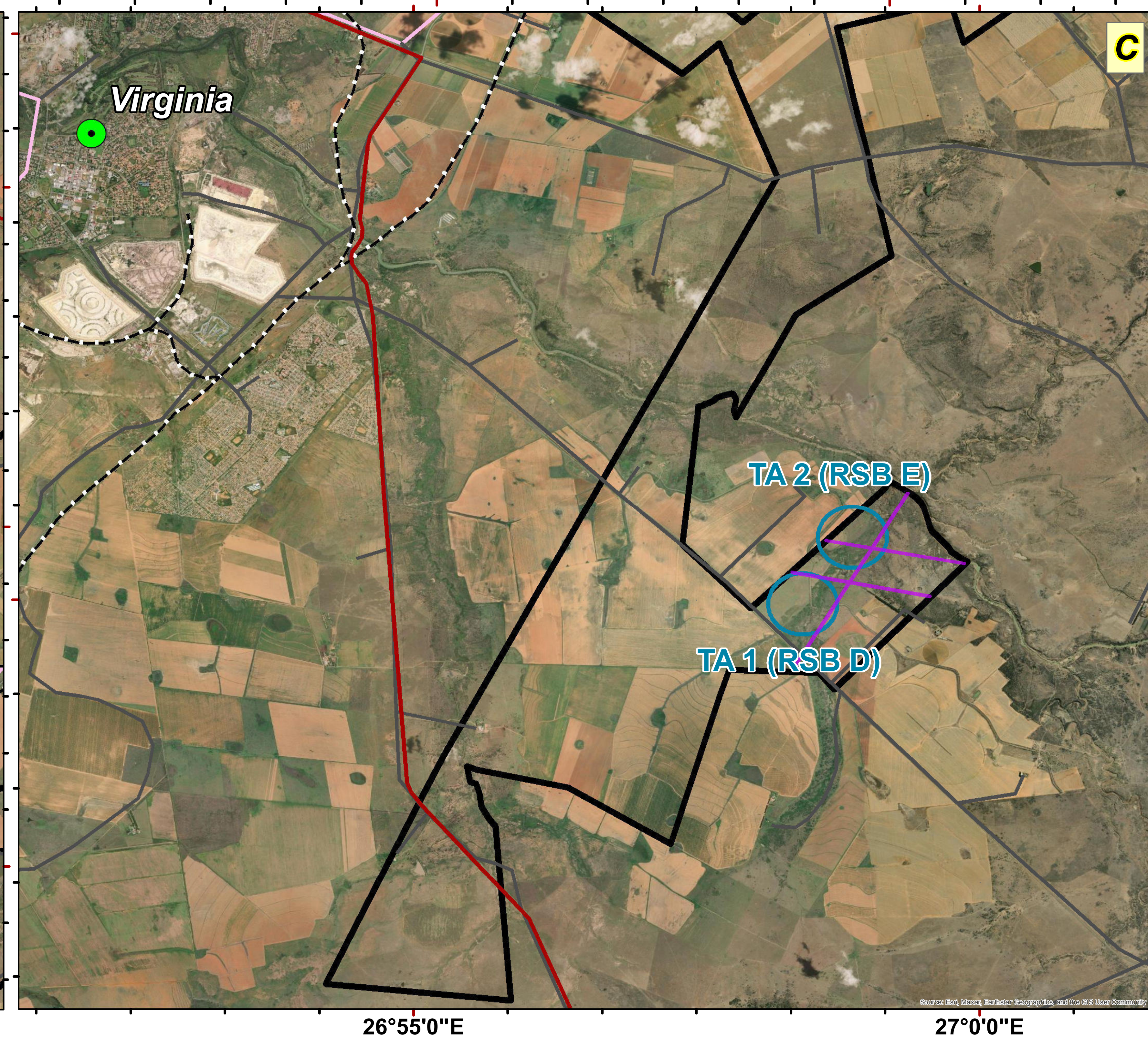
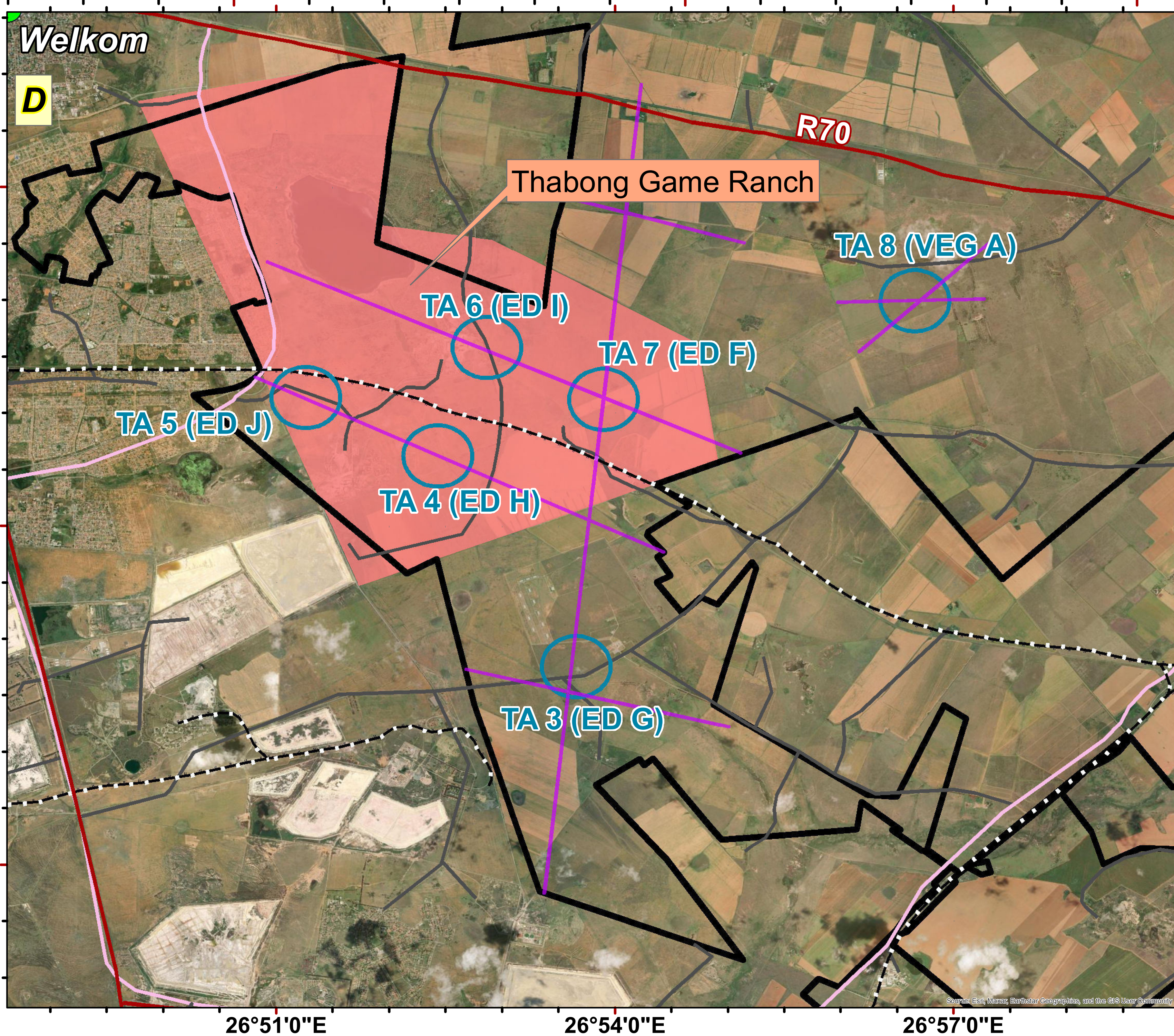
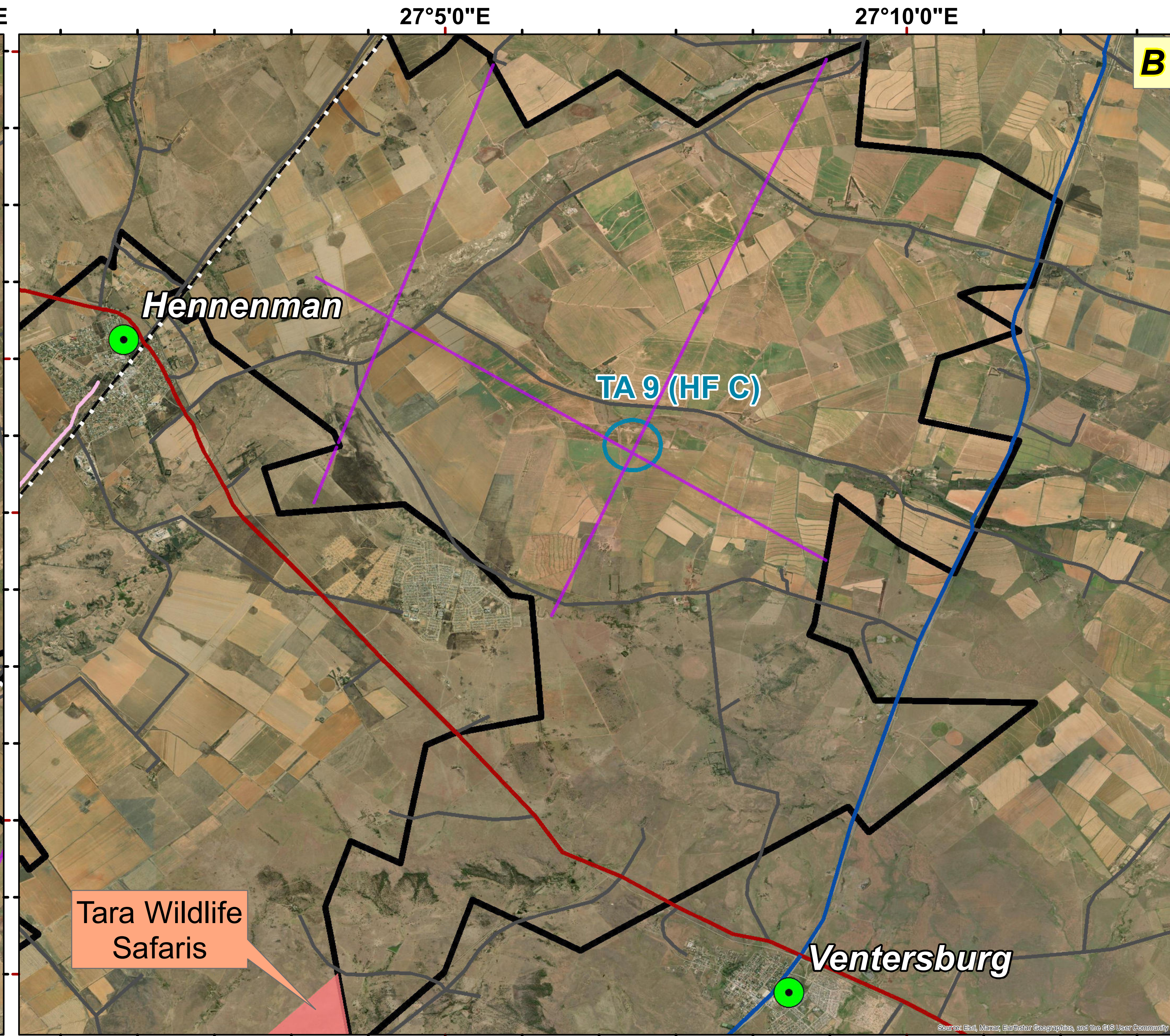
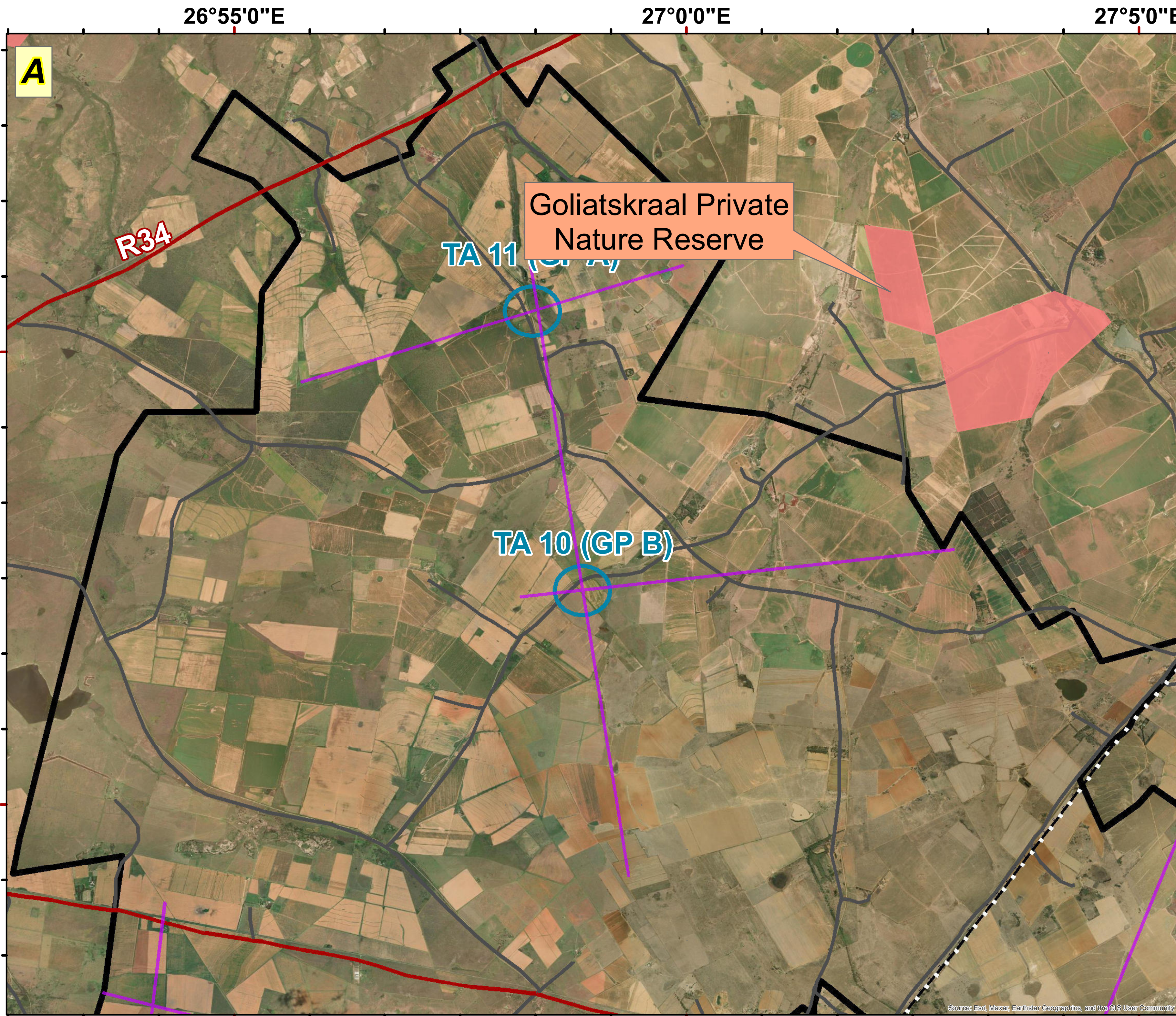
- Revised ER 386
- ER386 Target Areas
- ER386 Seismic Transects
- National
- Arterial Road
- Main Road
- Secondary Road
- Railway
- Towns
- Protected Areas

North West
Gauteng
Free State
Johannesburg
Kimberley
Bloemfontein
Teyateyanan District Municipality
Ficksburg District Municipality
Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, and the GIS User Community

Data Sources:
CSG; ESRI; MDB; CDNGI; SANBI; Project Team
Coord System: GCS WGS 1984
Datum: WGS 1985
Units: Degrees
Ref: 1681 Protected Areas Map

Date: 2025/04/17
EIMS Ref: 1681
Compiled: VM
Reviewed: SM
Approved: LW





Sectional Protected Areas Map

1681 Motuoane ER386 EIA

Legend

- Exploration Right 386
- ER386 Target Areas
- ER386 Seismic Transects
- National
- Arterial Road
- Main Road
- Secondary Road
- Railway
- Towns
- Protected Areas

N

0 5 10 Km

Scale: 1:50,000

Data Sources:
CSG; ESRI; MDB; CDNGI; SANBI; Project Team

Coord System: GCS WGS 1984

Datum: WGS 1985

Units: Degrees

Ref: 1681 Sectional Protected Areas Map

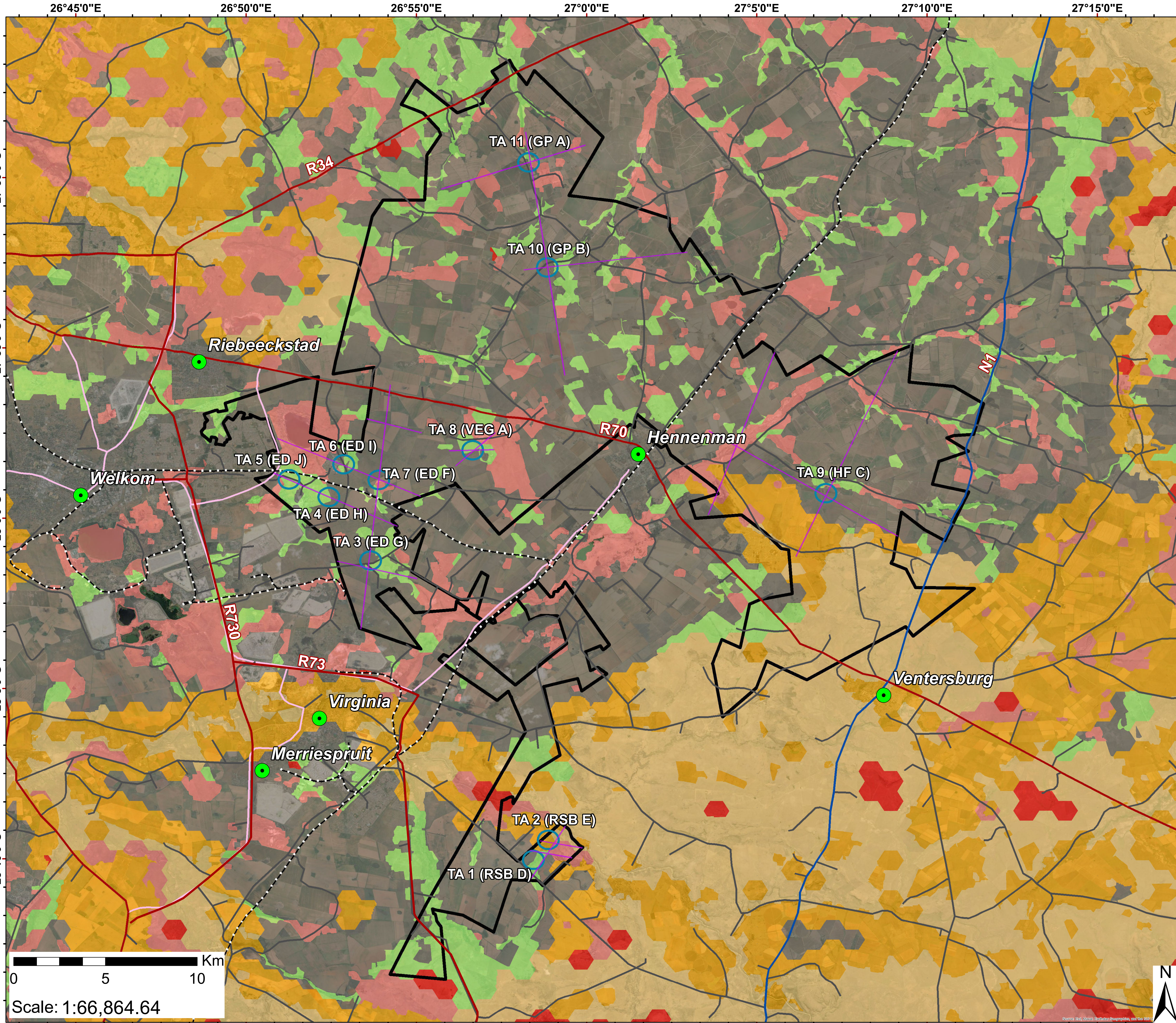
Date: 2025/04/17

EIMS Ref: 1681

Compiled: VM

Reviewed: SM

Approved: LW



Conservation Plan Map

1681 Motuoane ER386 EIA

Legend

- Revised Exploration Right 386
- ER386 Target Areas
- ER386 Seismic Transects
- National
- Arterial Road
- Main Road
- Secondary Road
- Railway
- Towns

Conservation Plan Area

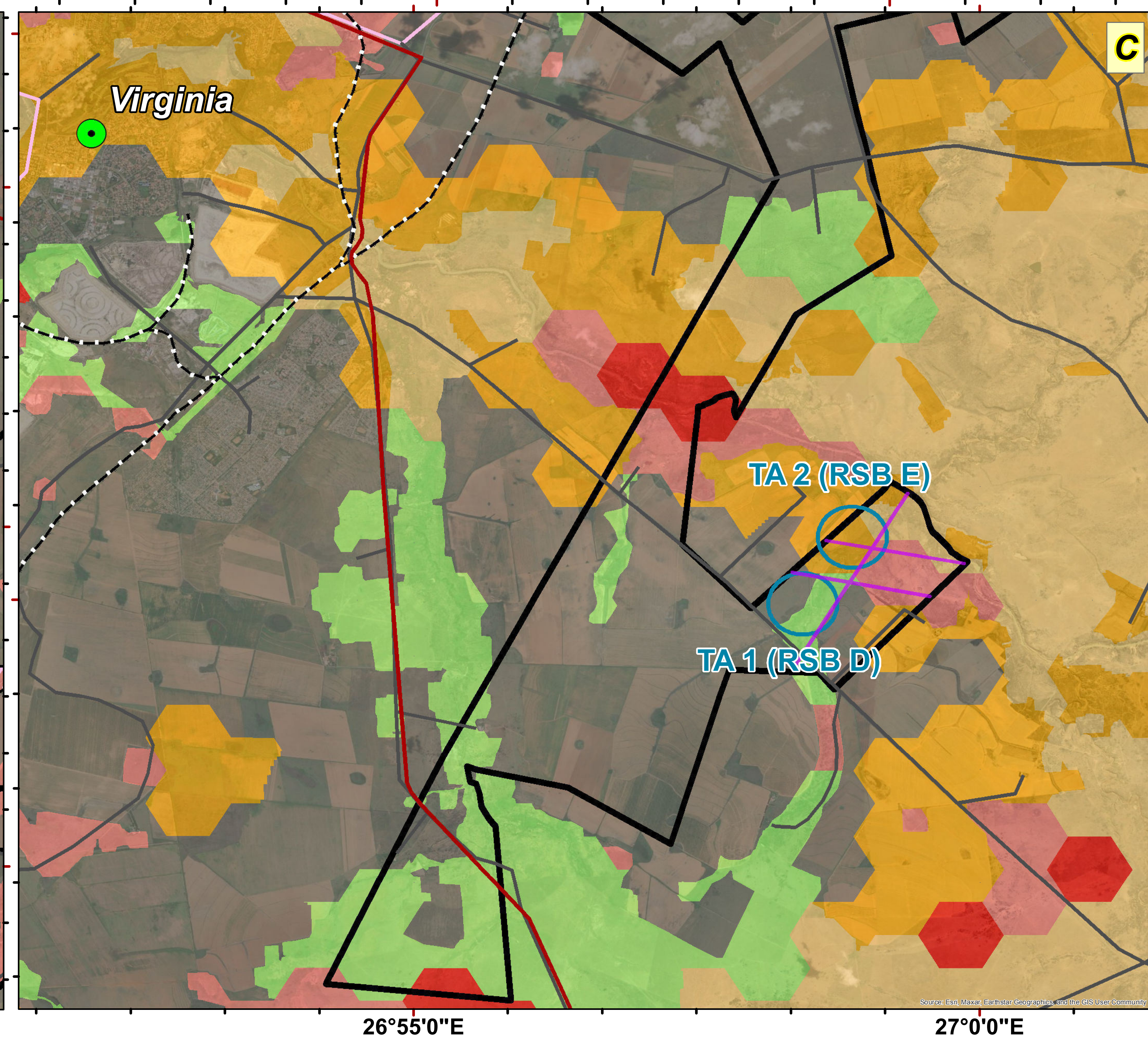
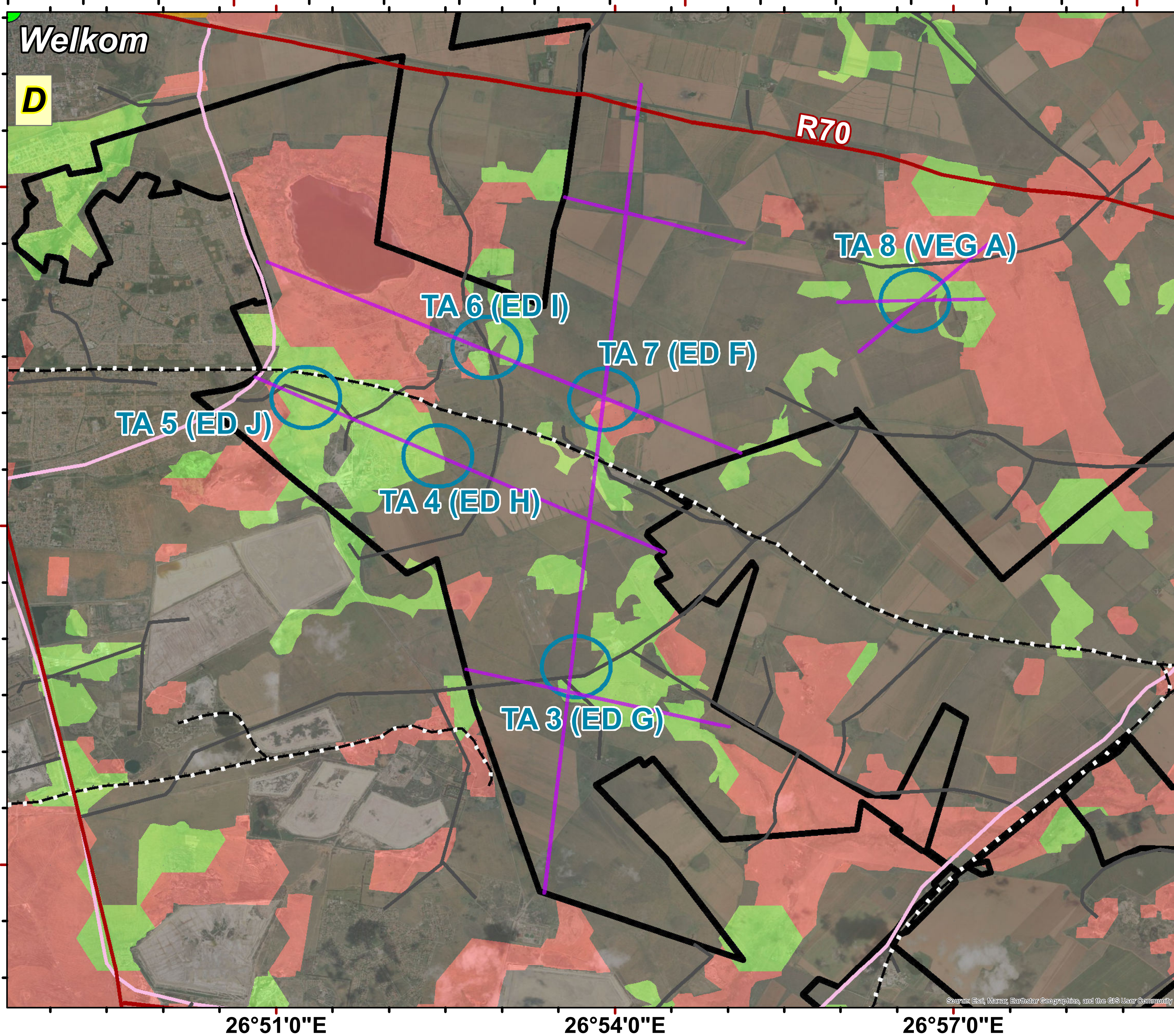
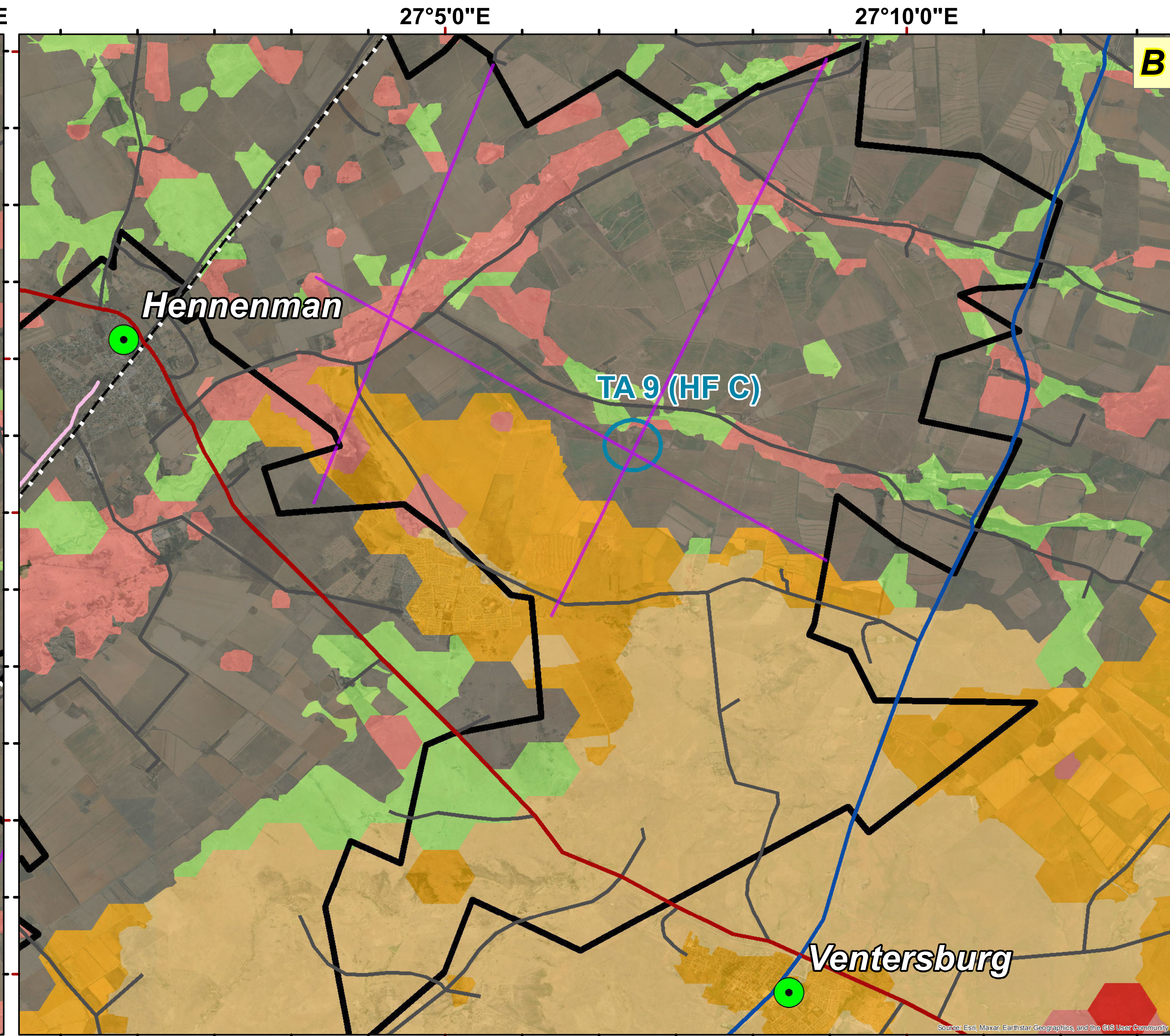
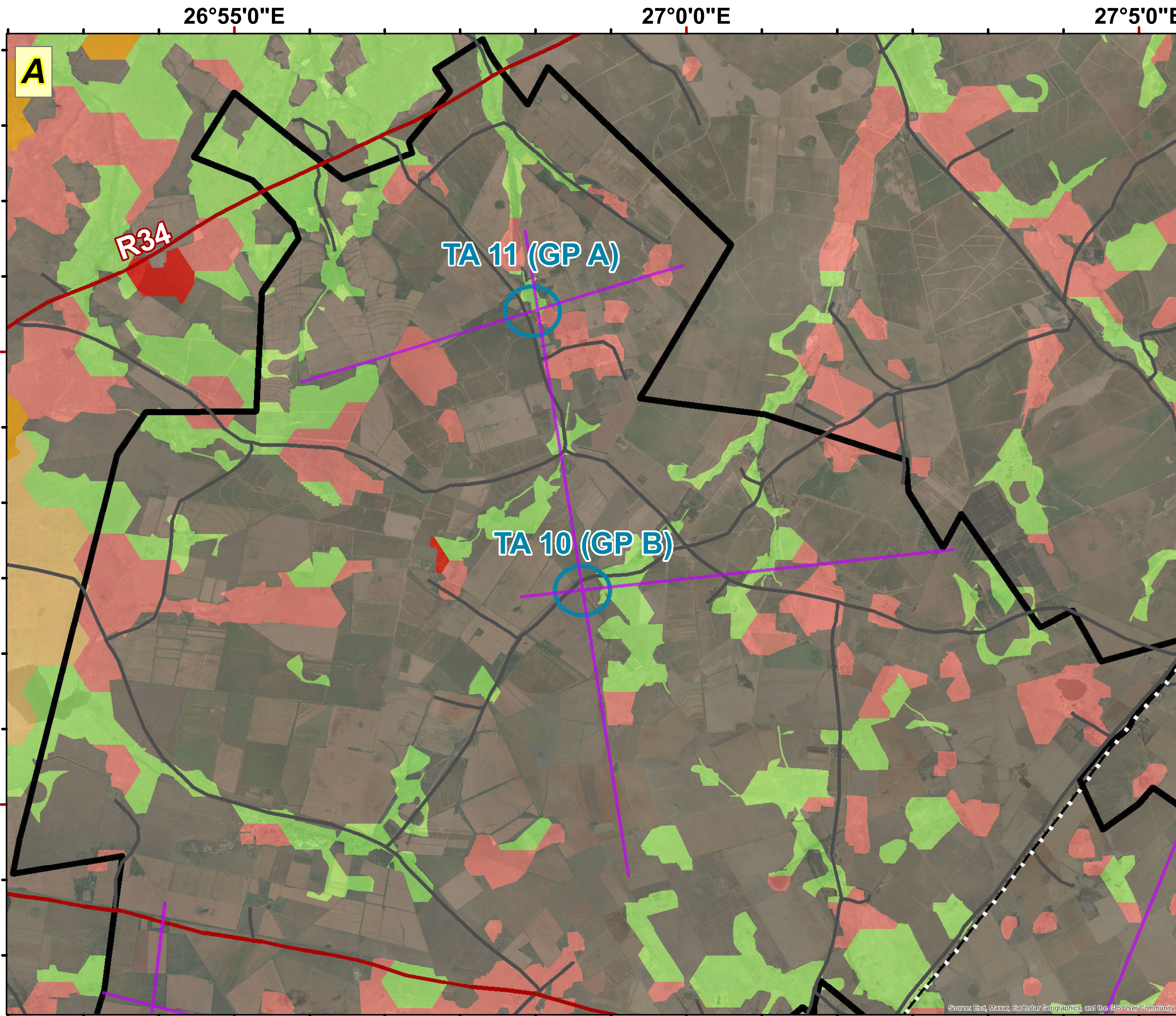
- Critical Biodiversity Area 1
- Critical Biodiversity Area 2
- Degraded
- Ecological Support Area 1
- Ecological Support Area 2
- Other



Data Sources:
CSG; ESRI; MDB; CDNGI; SANBI; Project Team
Coord System: GCS WGS 1984
Datum: WGS 1985
Units: Degrees
Ref: 1681 CPlan Map

Date: 2025/04/17
EIMS Ref: 1681
Compiled: VM
Reviewed: SM
Approved: LW





Sectional C-Plan Map

1681 Motuoane ER386 EIA

Legend

- Revised Exploration Right 386
- ER386 Target Areas
- ER386 Seismic Transects
- National
- Arterial Road
- Main Road
- Secondary Road
- Railway
- Towns

Conservation Plan Area

- Critical Biodiversity Area 1
- Critical Biodiversity Area 2
- Degraded
- Ecological Support Area 1
- Ecological Support Area 2
- Other

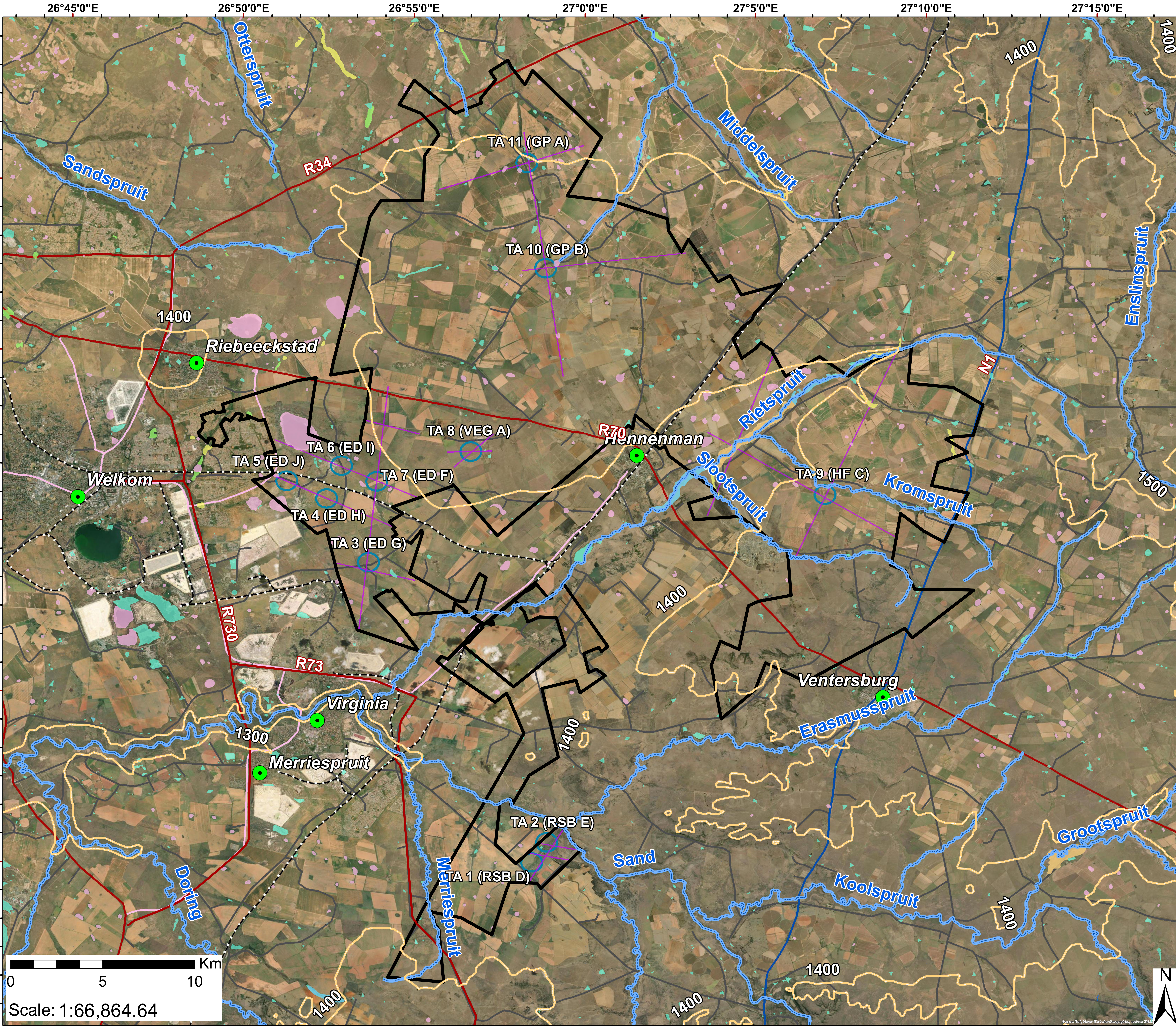
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0 5 10 Km

Scale: 1:50,000

Data Sources:
CSG; ESRI; MDB; CDNGI; SANBI; Project Team
Coord System: GCS WGS 1984
Datum: WGS 1985
Units: Degrees
Ref: 1681 Sectional C-Plan Map

Date: 2025/04/17
EIMS Ref: 1681
Compiled: VM
Reviewed: SM
Approved: LW



Hydrology Map

1681 Motuoane ER386 EIA

Legend

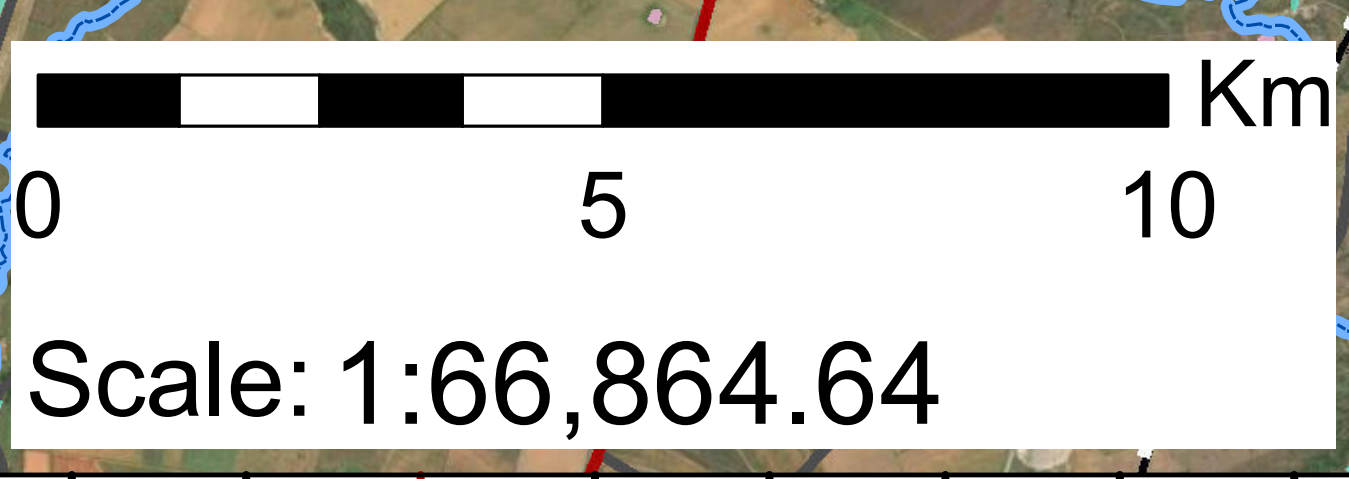
- Revised ER 386
- ER386 Target Areas
- ER386 Seismic Transects
- National
- Arterial Road
- Main Road
- Secondary Road
- Railway
- Towns
- Contour (mamsl)
- NBA2018 Rivers
- NBA2018 Artificial Wetlands

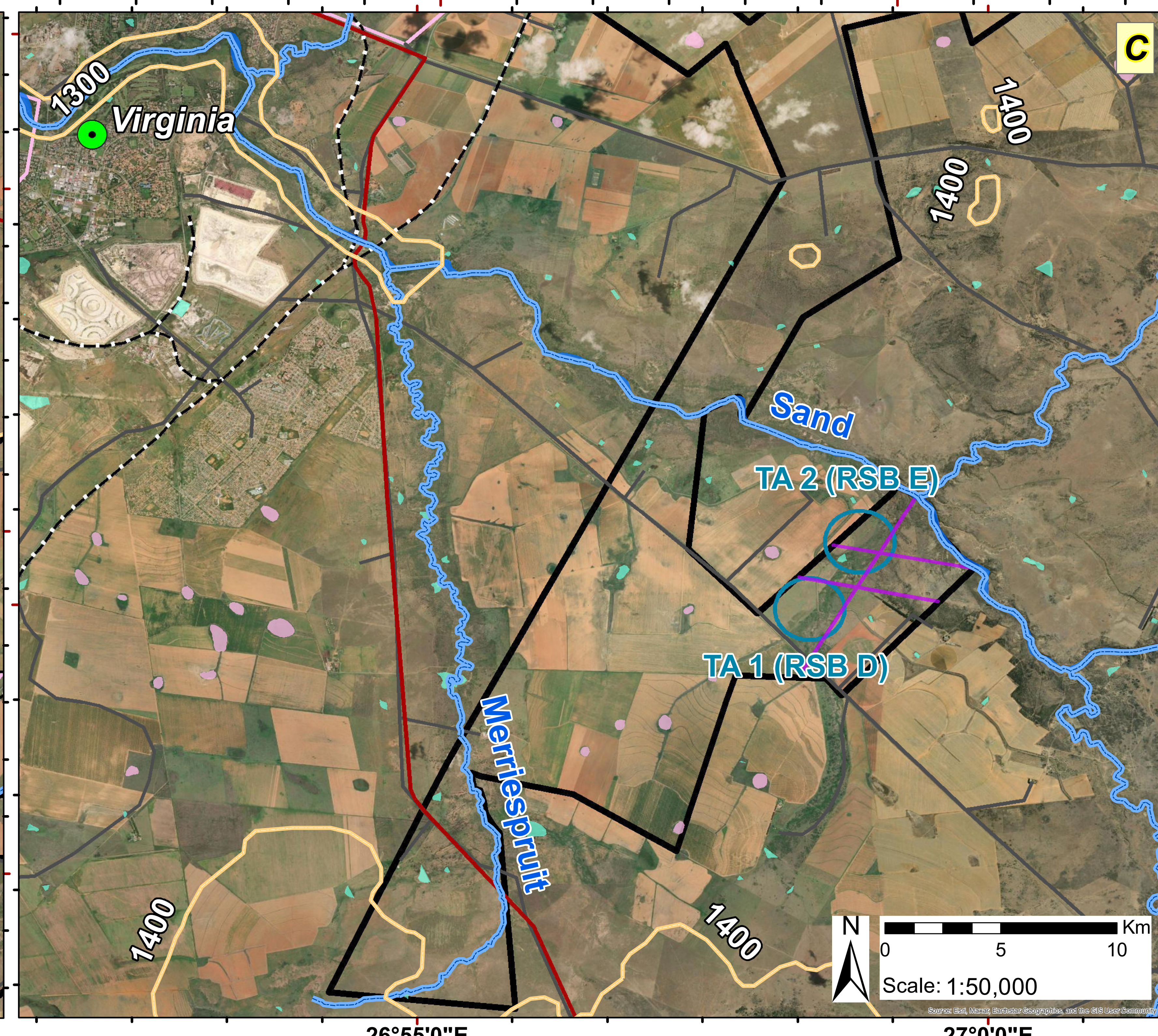
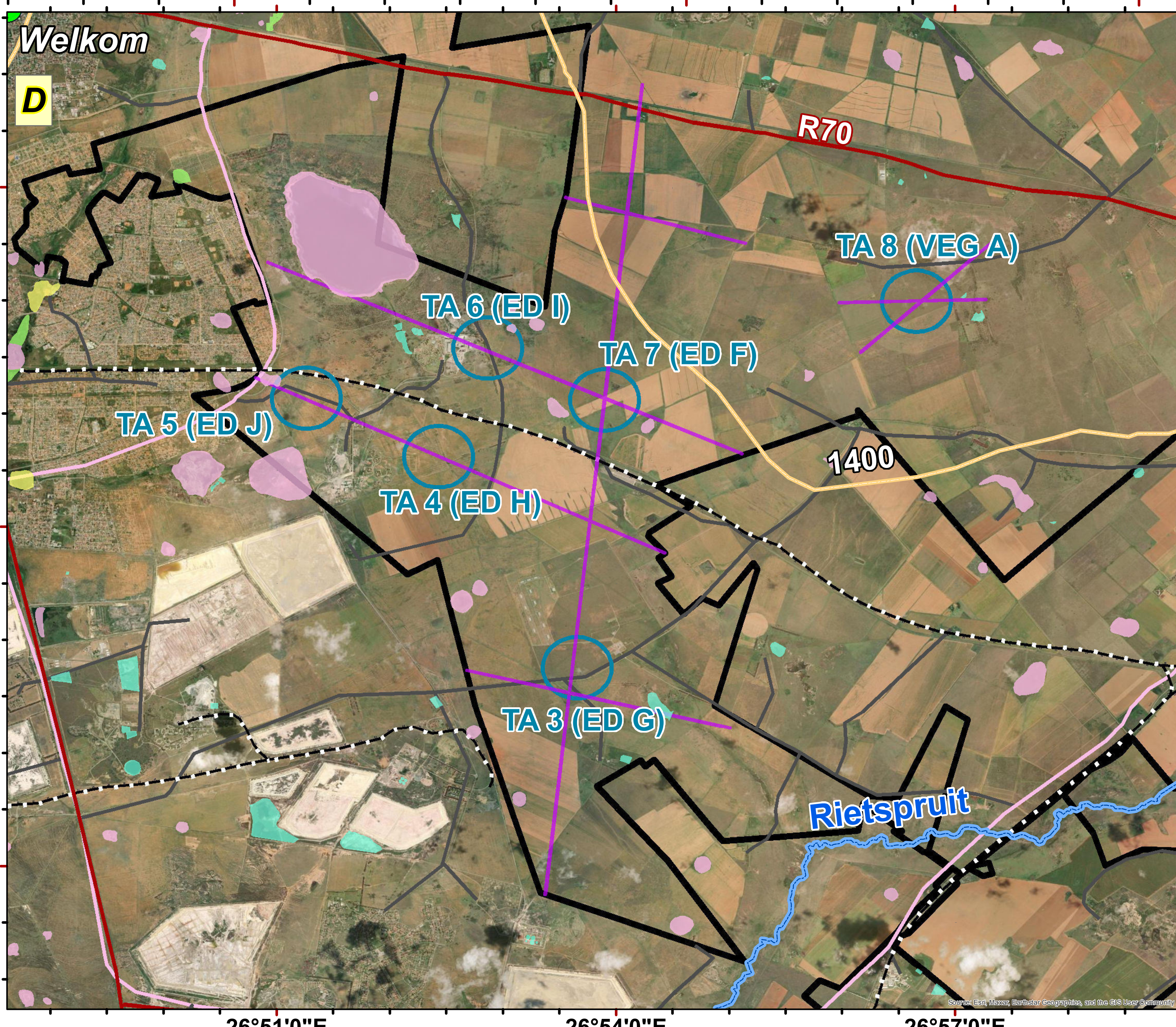
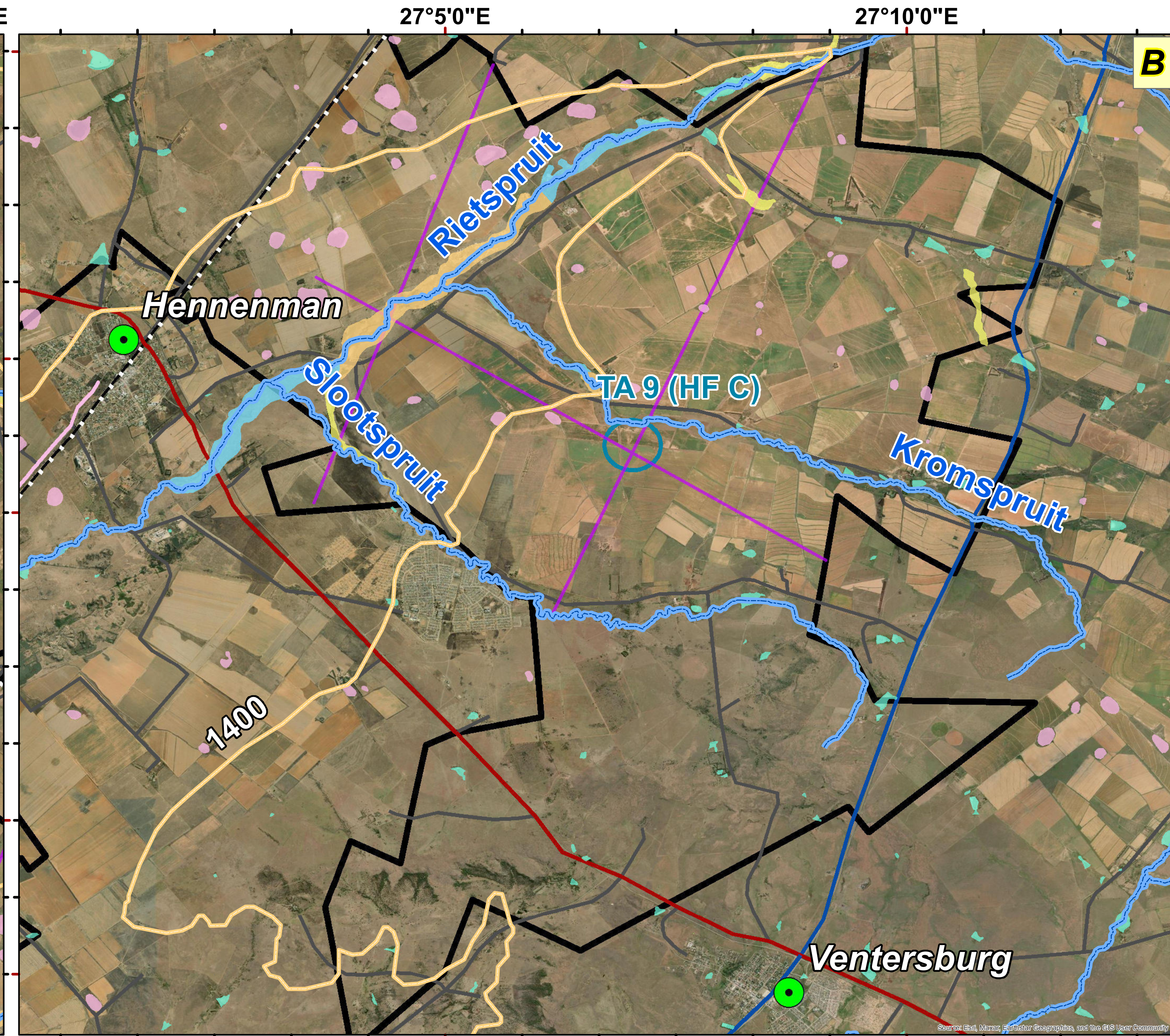
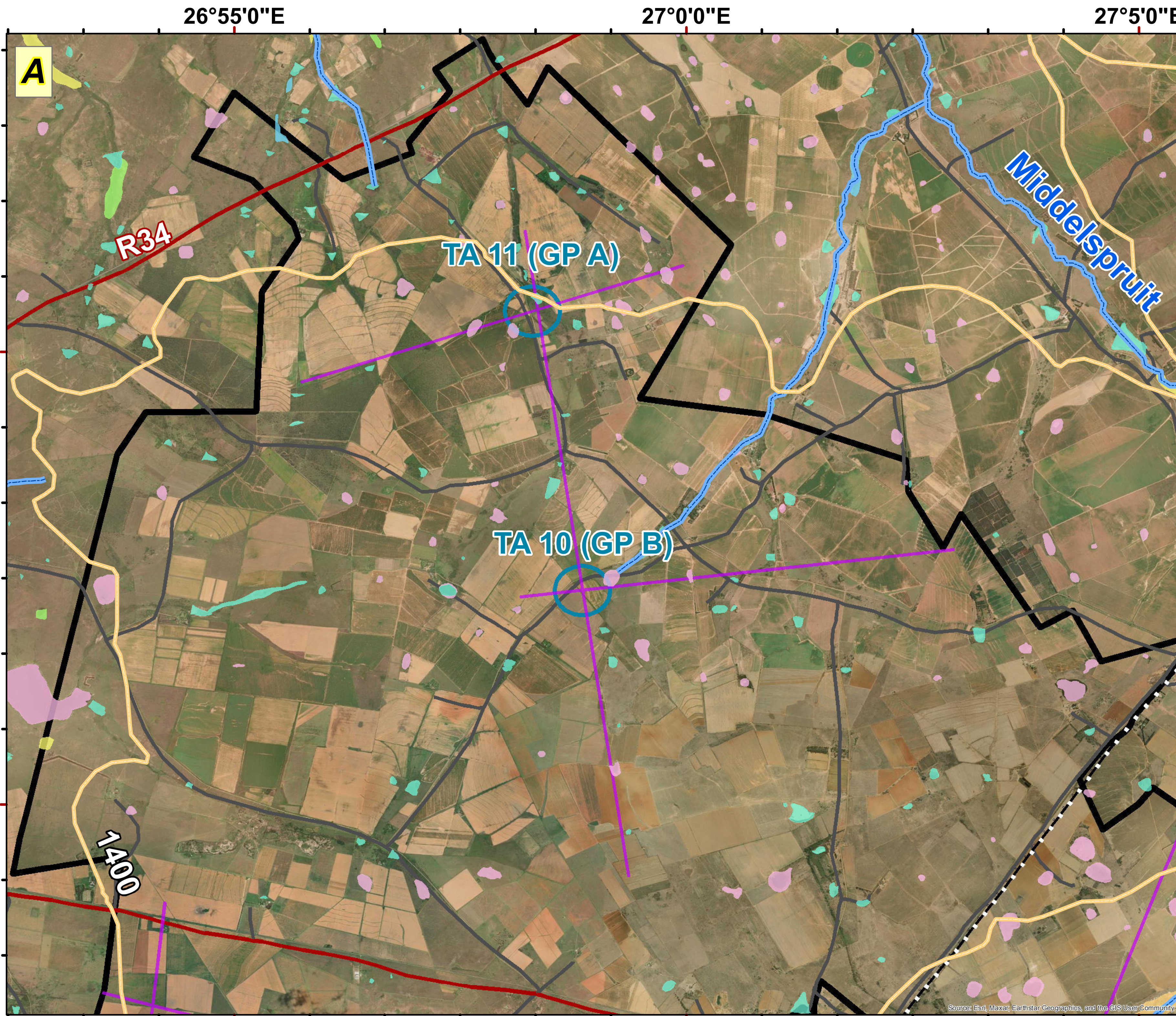
NBA 2018 Wetland Type

- Channelled Valley Bottom
- Depression
- Floodplain
- River
- Seep
- Unchannelled Valley Bottom

South Africa map showing the location of the study area (highlighted in red) within the Free State province, near the border with Gauteng and North West. The map highlights the Fezile Dabi District Municipality and the study area within it. Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, and the GIS User Community.

Data Sources:
CSG; ESRI; MDB; CDNGI; SANBI; Project Team
Coord System: GCS WGS 1984
Datum: WGS 1985
Units: Degrees
Ref: 1681 Hydrology Map





Sectional Hydrology Map

1681 Motuoane ER386 EIA

Legend

- Revised ER 386
- ER386 Target Areas
- ER386 Seismic Transects
- National
- Arterial Road
- Main Road
- Secondary Road
- Railway
- Towns
- Contour (mamsl)
- NBA2018 Rivers
- NBA2018 Artificial Wetlands

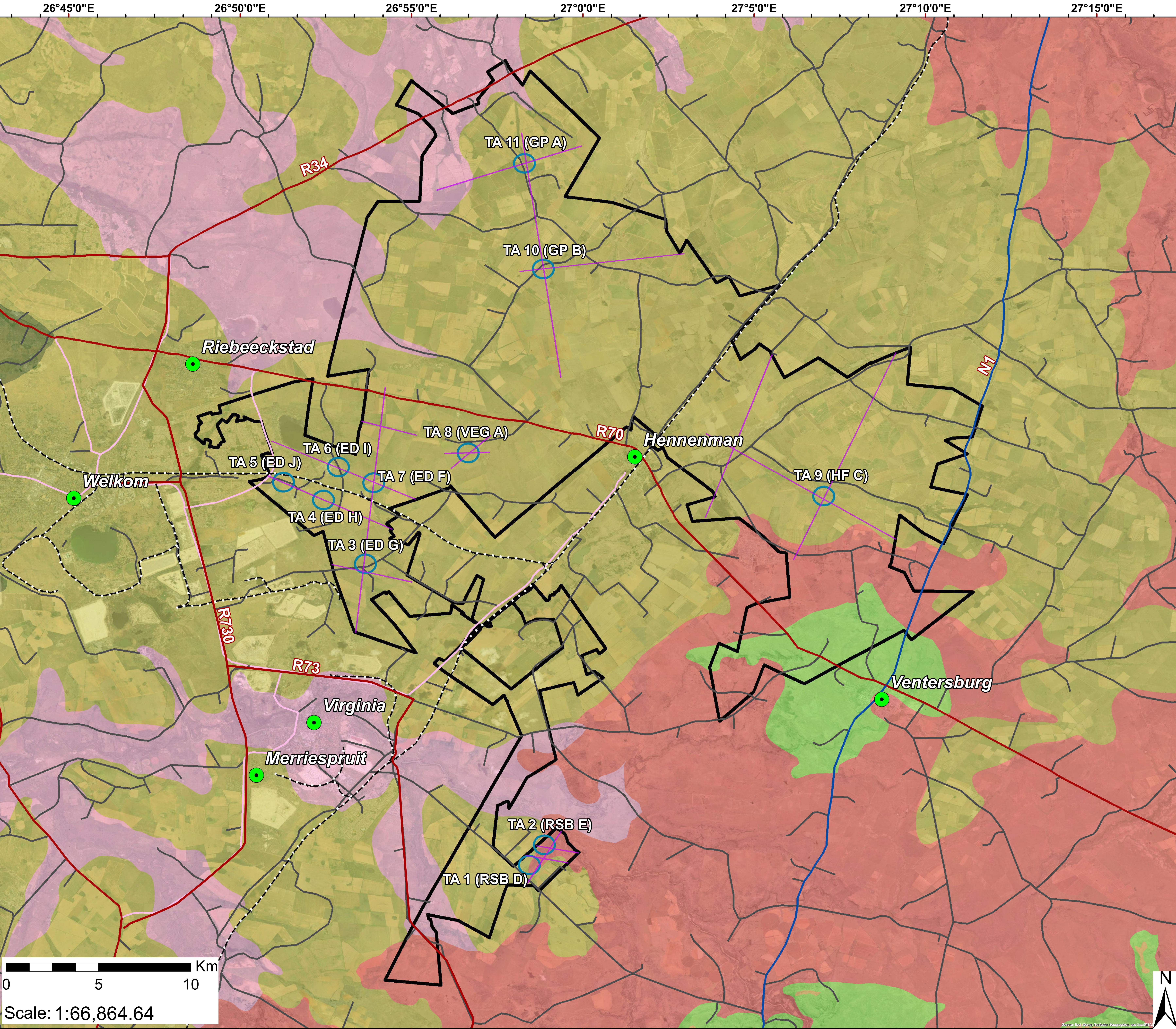
NBA 2018 Wetland Type

- Channelled Valley Bottom
- Depression
- Floodplain
- River
- Seep
- Unchannelled Valley Bottom

Data Sources:
CSG; ESRI; MDB; CDNGI; SANBI; Project Team
Coord System: GCS WGS 1984
Datum: WGS 1985
Units: Degrees
Ref: 1681 Sectional Hydrology Map

Date: 2025/04/17
EIMS Ref: 1681
Compiled: VM
Reviewed: SM
Approved: LW

EIMS



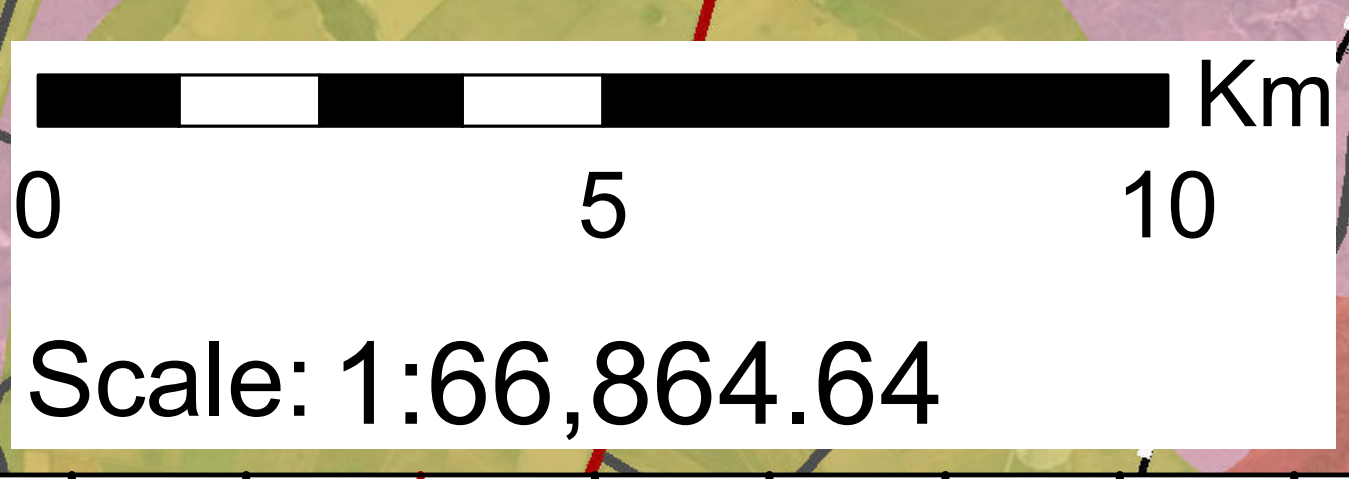
Vegetation Map

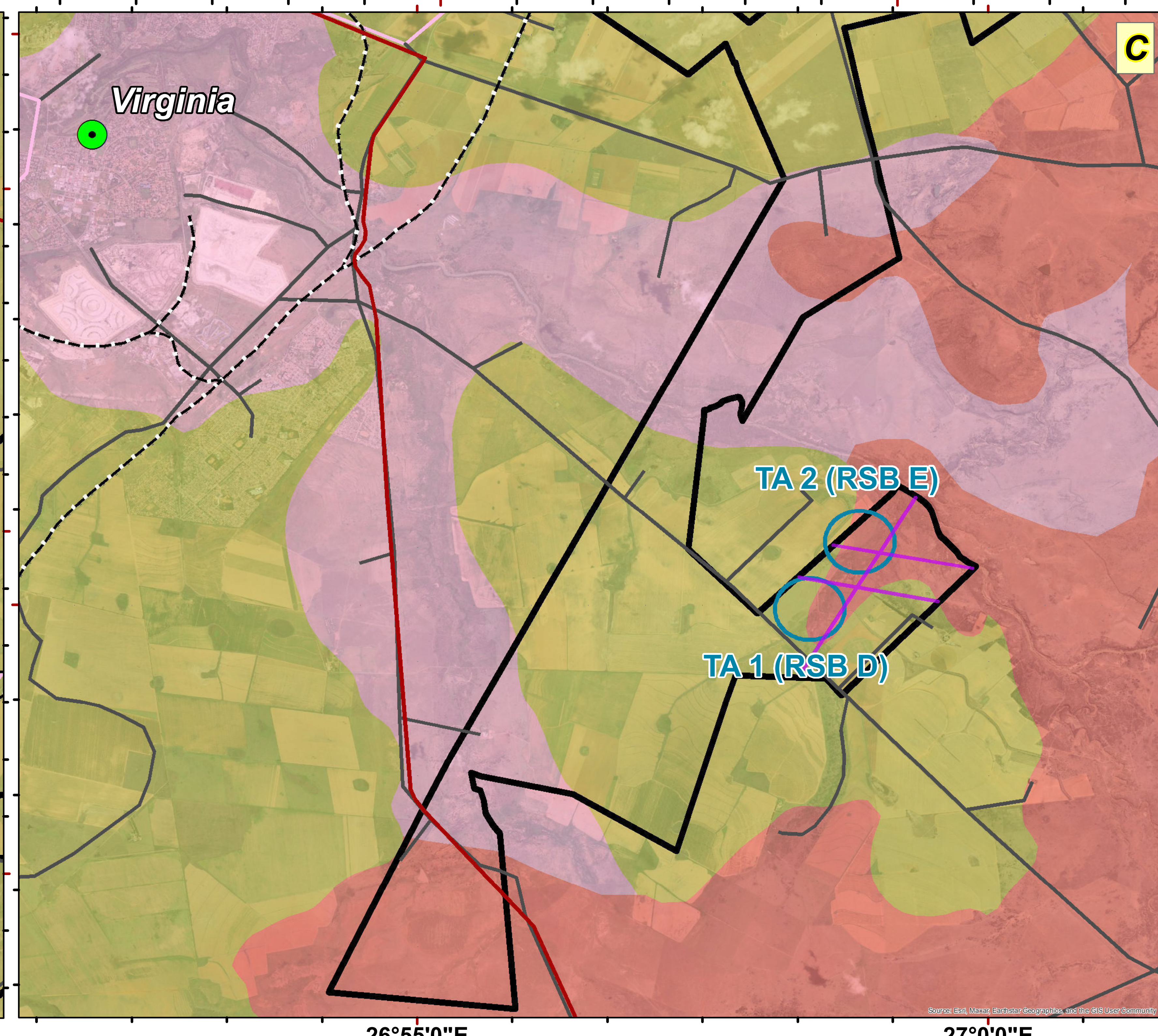
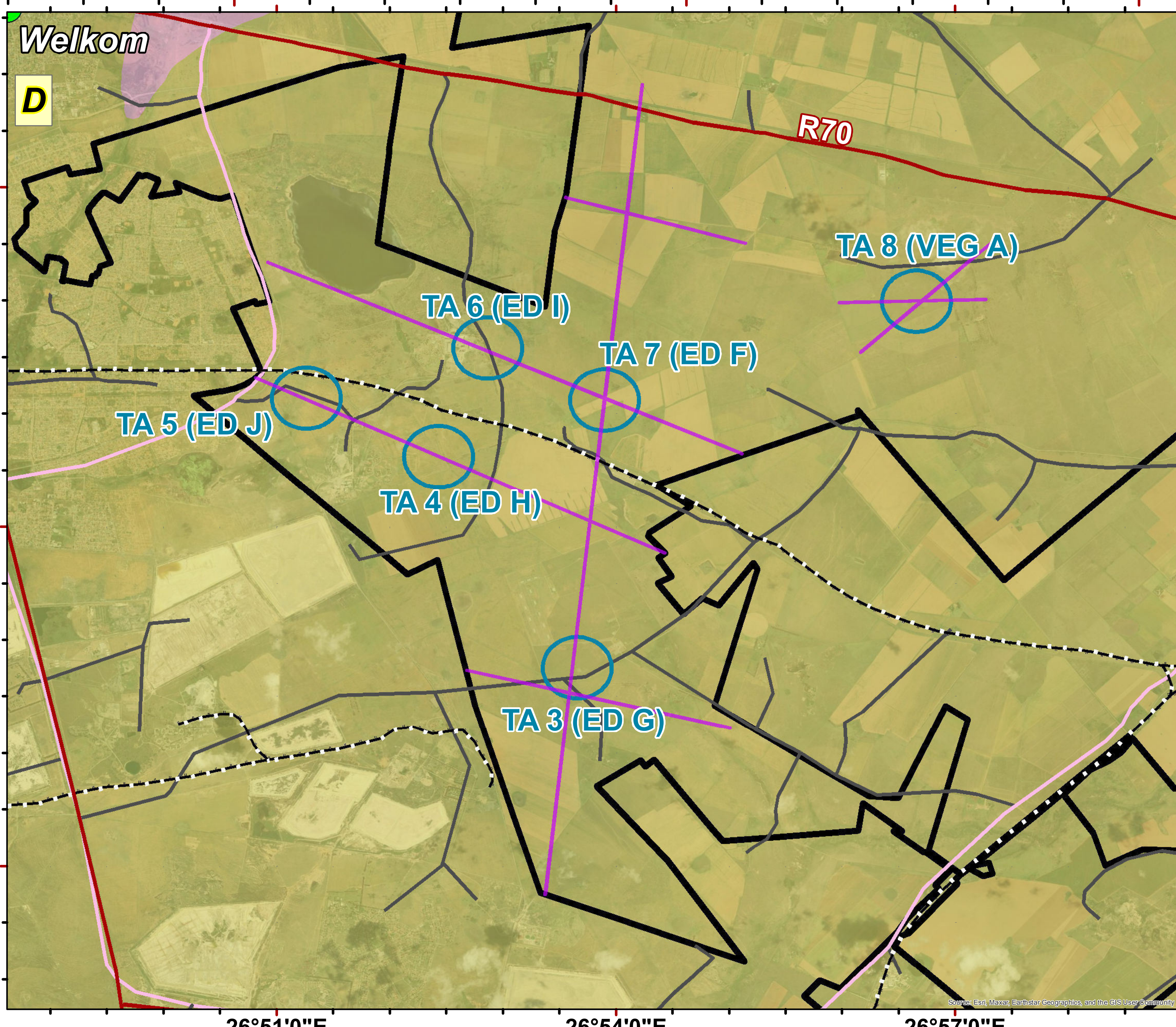
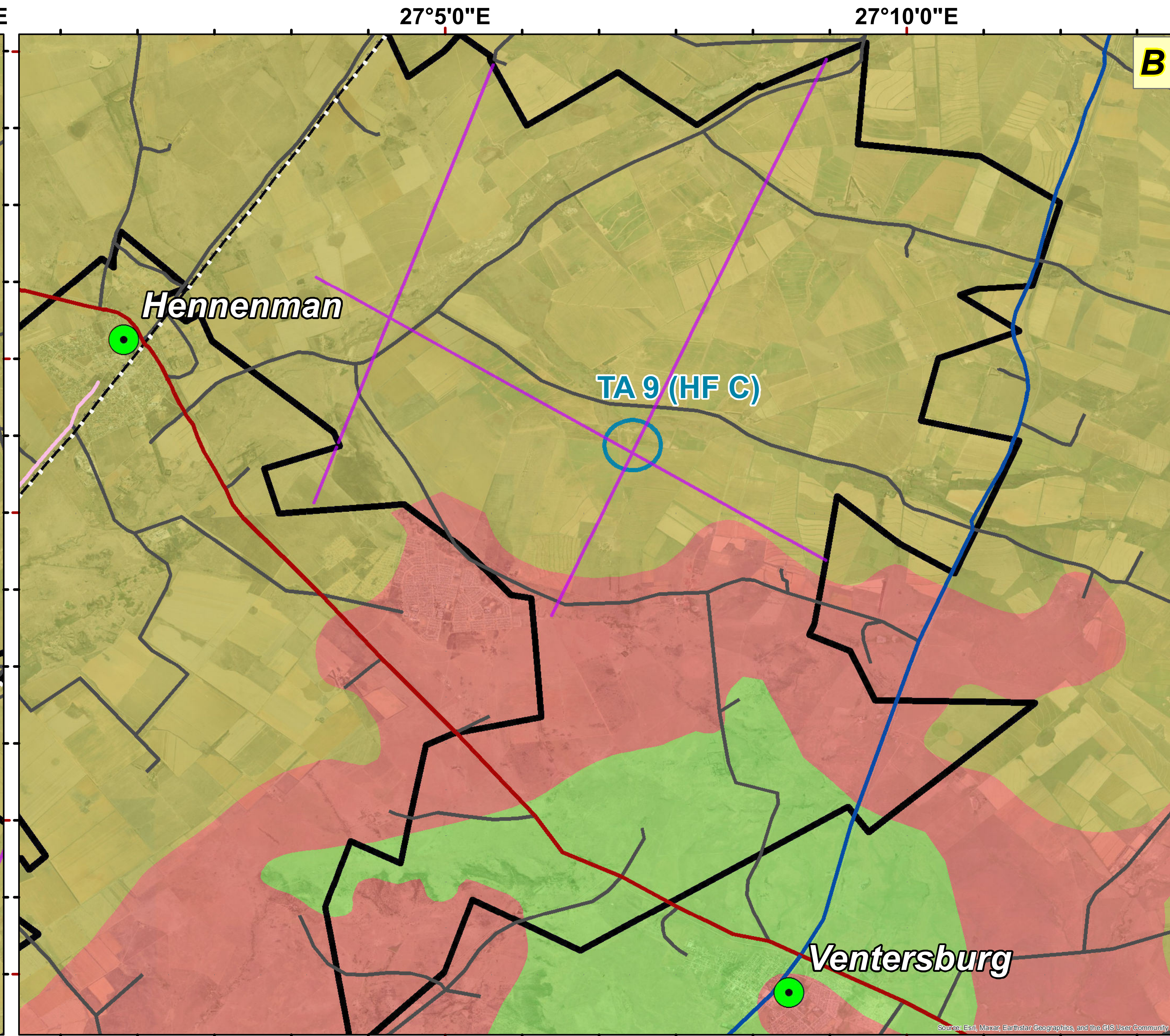
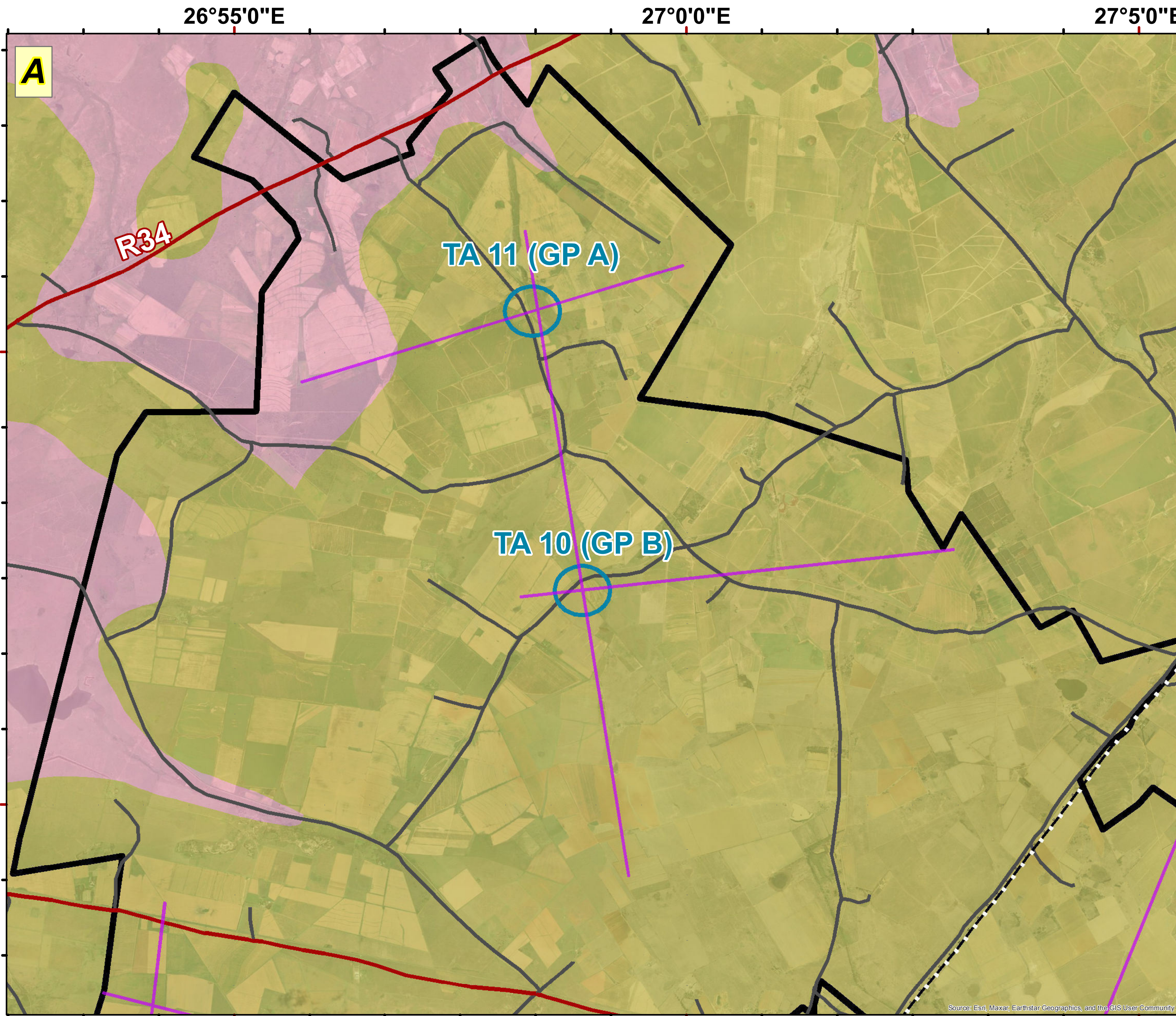
1681 Motuoane ER386 EIA

- Legend**
- Revised ER 386
 - ER386 Target Areas
 - ER386 Seismic Transects
 - National
 - Arterial Road
 - Main Road
 - Secondary Road
 - Railway
 - Towns
- Vegetation Type**
- Bloemfontein Karroid Shrubland
 - Central Free State Grassland
 - Highveld Alluvial Vegetation
 - Vaal-Vet Sandy Grassland
 - Western Free State Clay Grassland
 - Winburg Grassy Shrubland



Data Sources:
CSG; ESRI; MDB; CDNGI; SANBI; Project Team
Coord System: GCS WGS 1984
Datum: WGS 1985
Units: Degrees
Ref: 1681 Vegetation Map





Sectional Vegetation Map

1681 Motuoane ER386 EIA

Legend

- Revised ER 386
- ER386 Target Areas
- ER386 Seismic Transects
- National
- Arterial Road
- Main Road
- Secondary Road
- Railway
- Towns

Vegetation Type

- Central Free State Grassland
- Highveld Alluvial Vegetation
- Vaal-Vet Sandy Grassland
- Winburg Grassy Shrubland

N

0 5 10 Km

Scale: 1:50,000

Data Sources:
CSG; ESRI; MDB; CDNGI; SANBI; Project Team

Coord System: GCS WGS 1984

Datum: WGS 1985

Units: Degrees

Ref: 1681 Sectional Vegetation Map

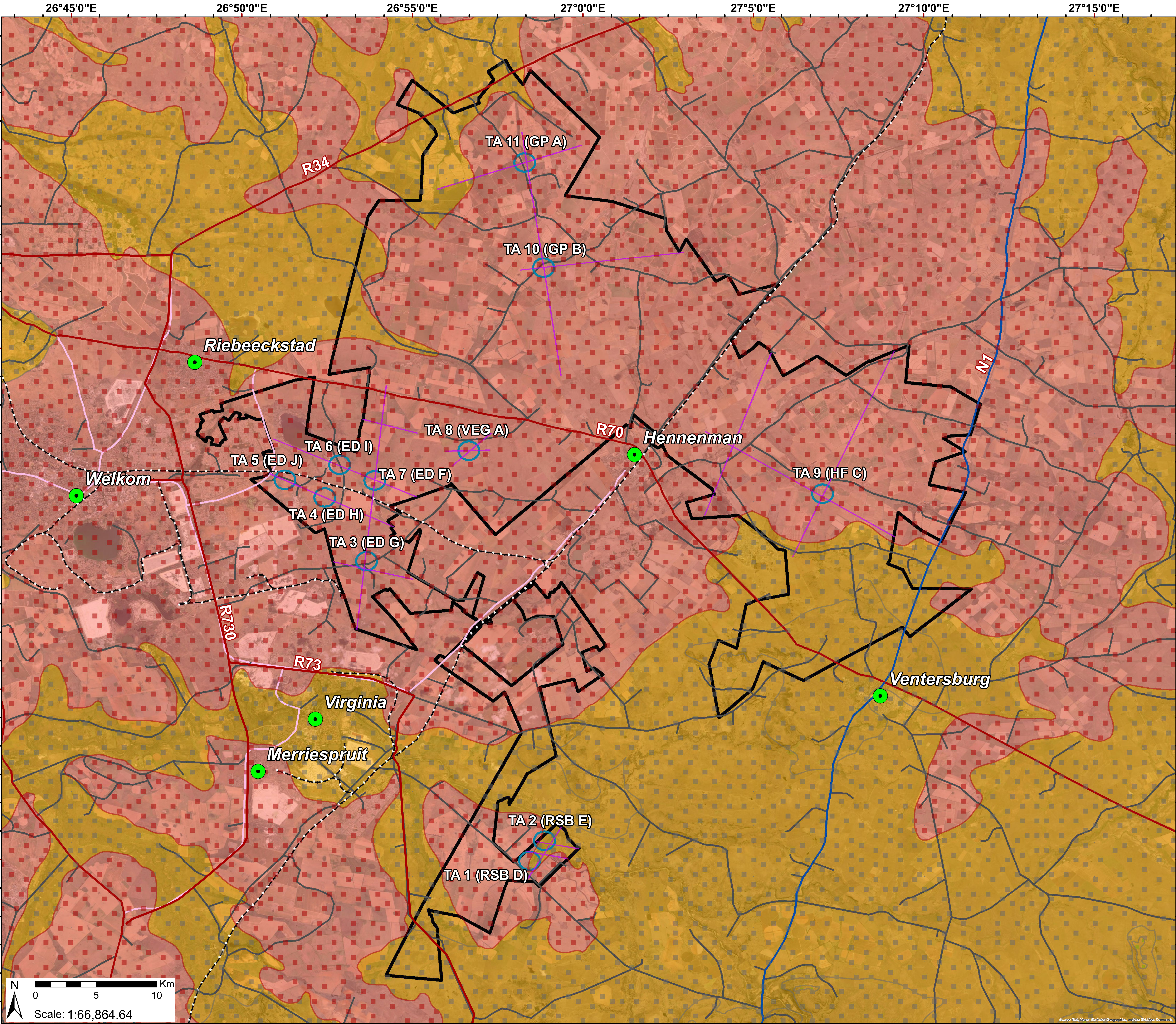
Date: 2025/04/17

EIMS Ref: 1681

Compiled: VM

Reviewed: SM

Approved: LW



Ecosystem Status Map

1681 Motuoane ER386 EIA

Legend

- Revised ER 386
- ER386 Target Areas
- ER386 Seismic Transects
- National
- Arterial Road
- Main Road
- Secondary Road
- Railway
- Towns

Ecosystem Threat Status

- Endangered
- Least Concern

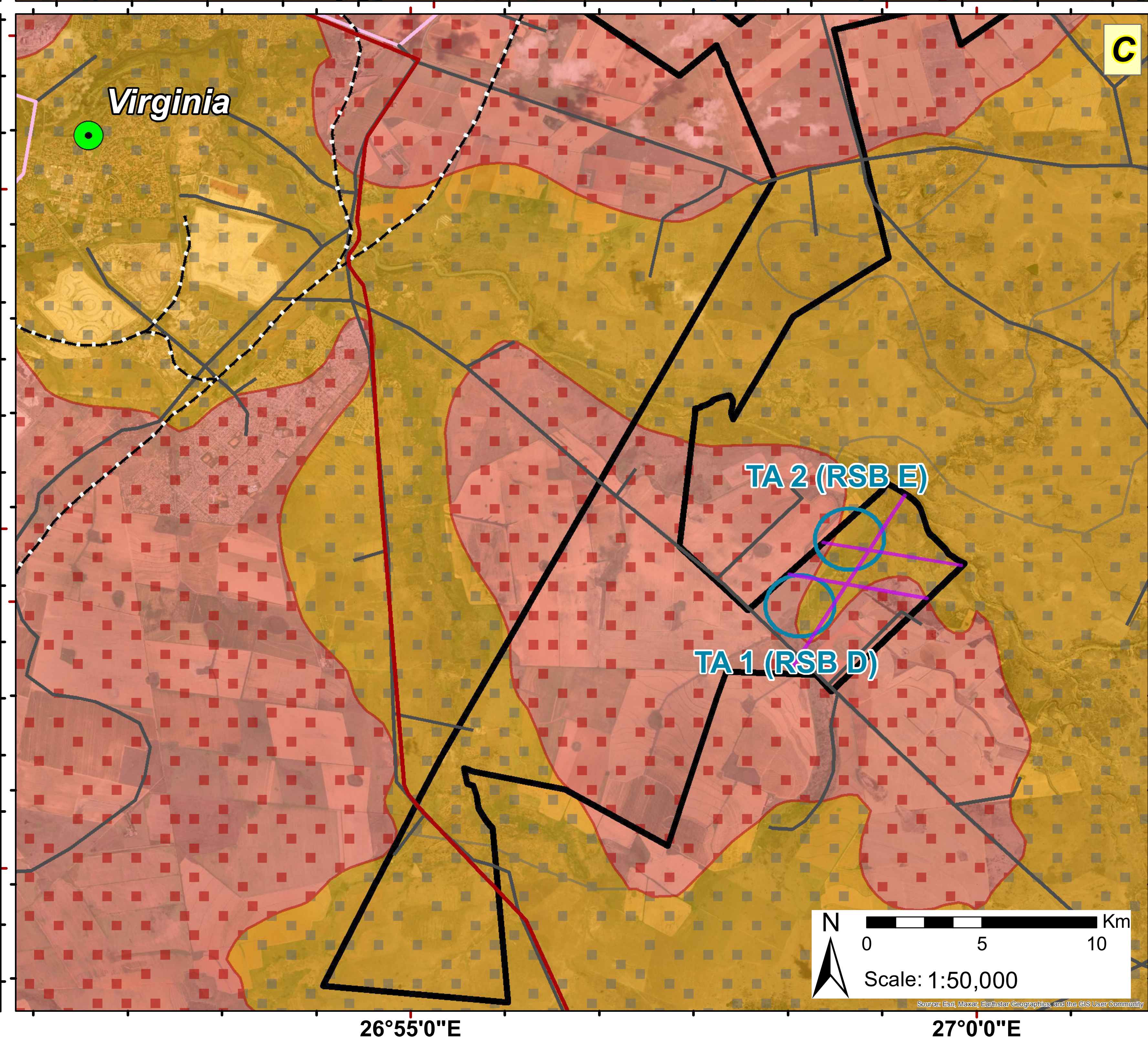
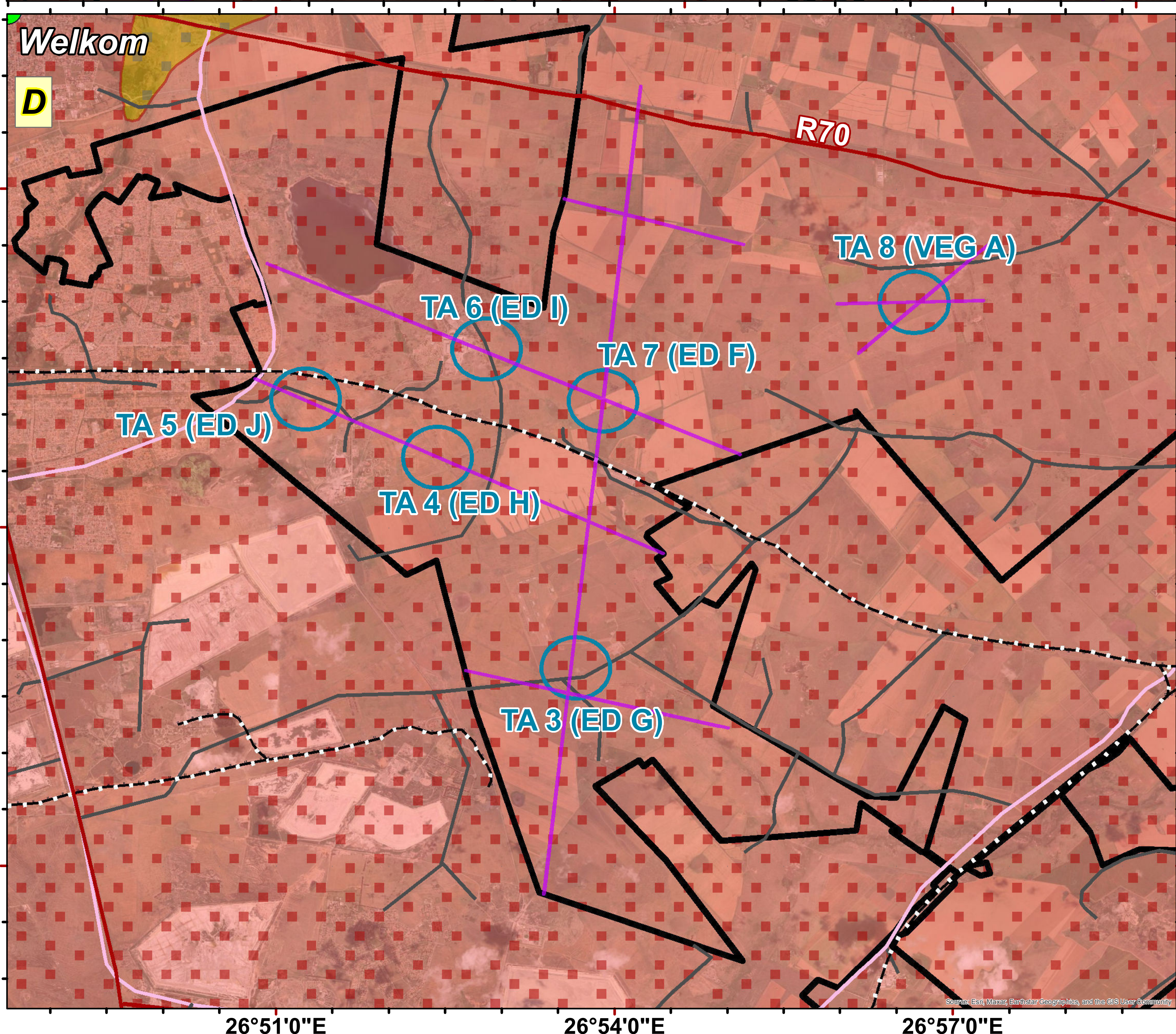
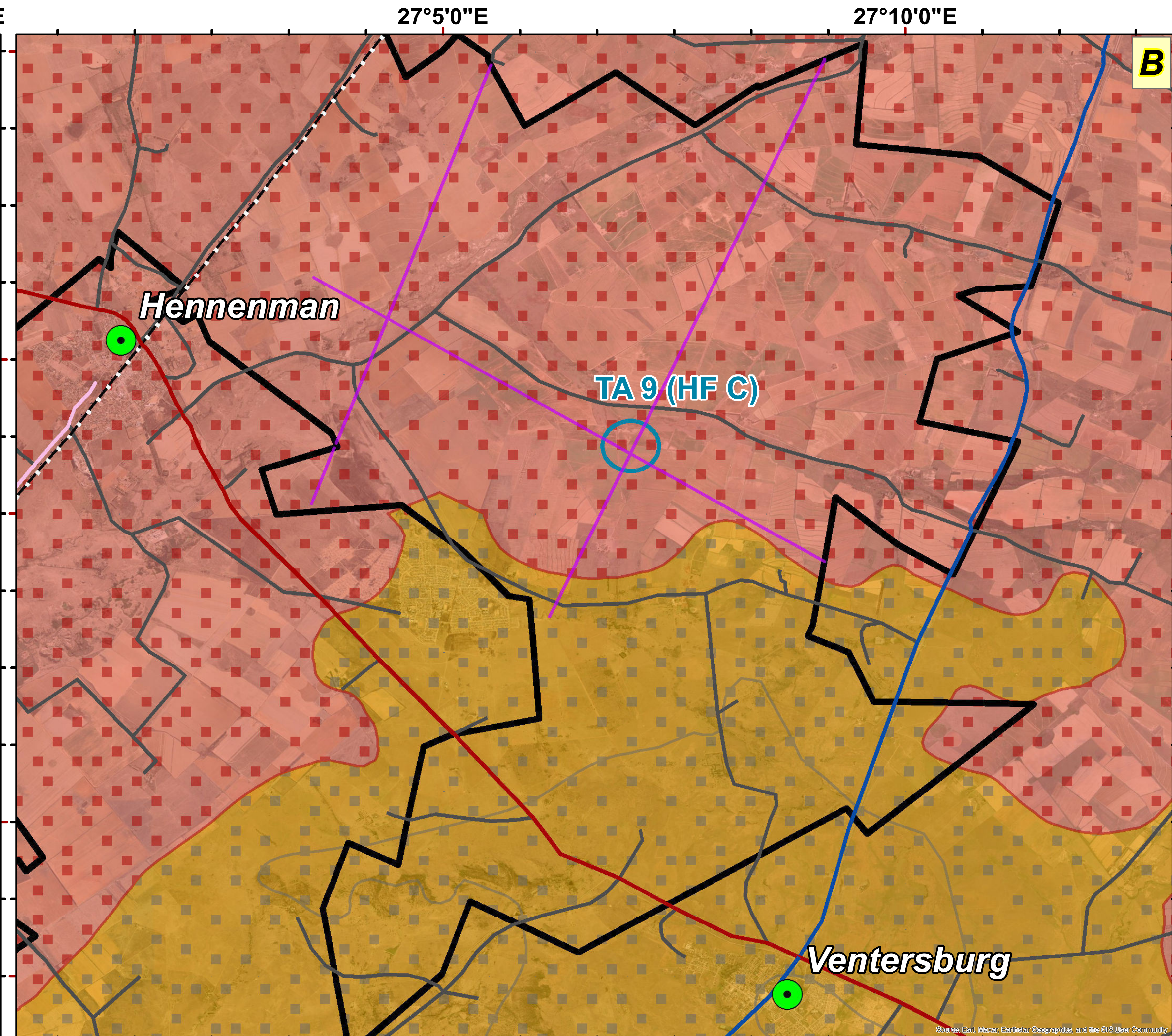
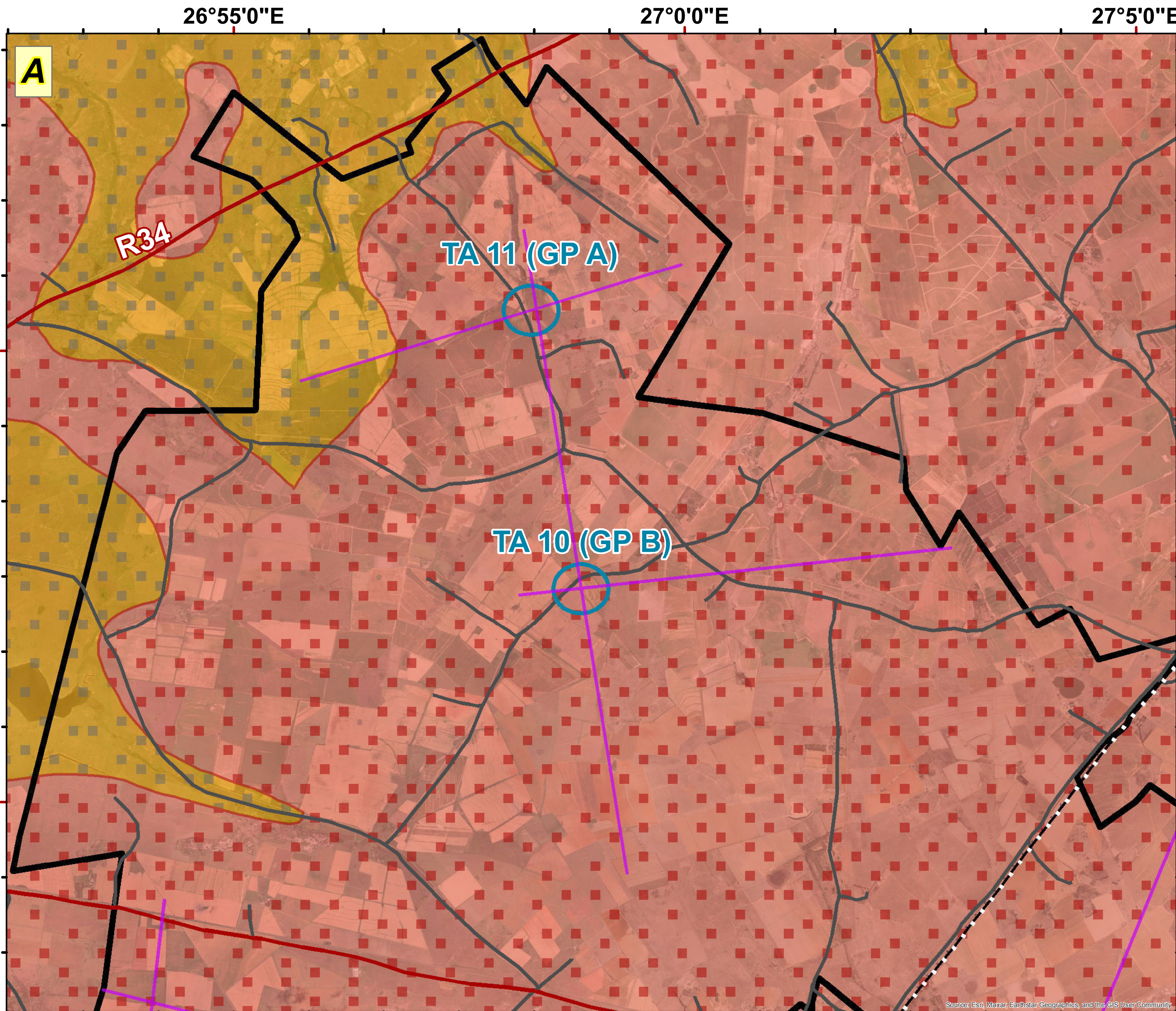
Protection Level

- Not Protected
- Poorly Protected

Johannesburg
 Gauteng
 North West
 Free State
 Kimberley
 Bloemfontein
 Ventersburg
 Hennenman
 Virginia
 Merriespruit
 Welkom
 Riebeeckstad
 R34
 R70
 R73
 R730
 N1
 TA 1 (RSB D)
 TA 2 (RSB E)
 TA 3 (ED G)
 TA 4 (ED H)
 TA 5 (ED J)
 TA 6 (ED I)
 TA 7 (ED F)
 TA 8 (VEG A)
 TA 9 (HF C)
 TA 10 (GP B)
 TA 11 (GP A)

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © QGIS.org contributors and the GIS User Community, Esri, USGS

Data Sources:
 CSG; ESRI; MDB; CDNGI; SANBI; Project Team
 Coord System: GCS WGS 1984
 Datum: WGS 1985
 Units: Degrees
 Ref: 1681 Ecosystem Status Map



Sectional Ecosystem Status Map

1681 Motuoane ER386 EIA

Legend

- Revised ER 386
- ER386 Target Areas
- ER386 Seismic Transects
- National
- Arterial Road
- Main Road
- Secondary Road
- Railway
- Towns

Ecosystem Threat Status

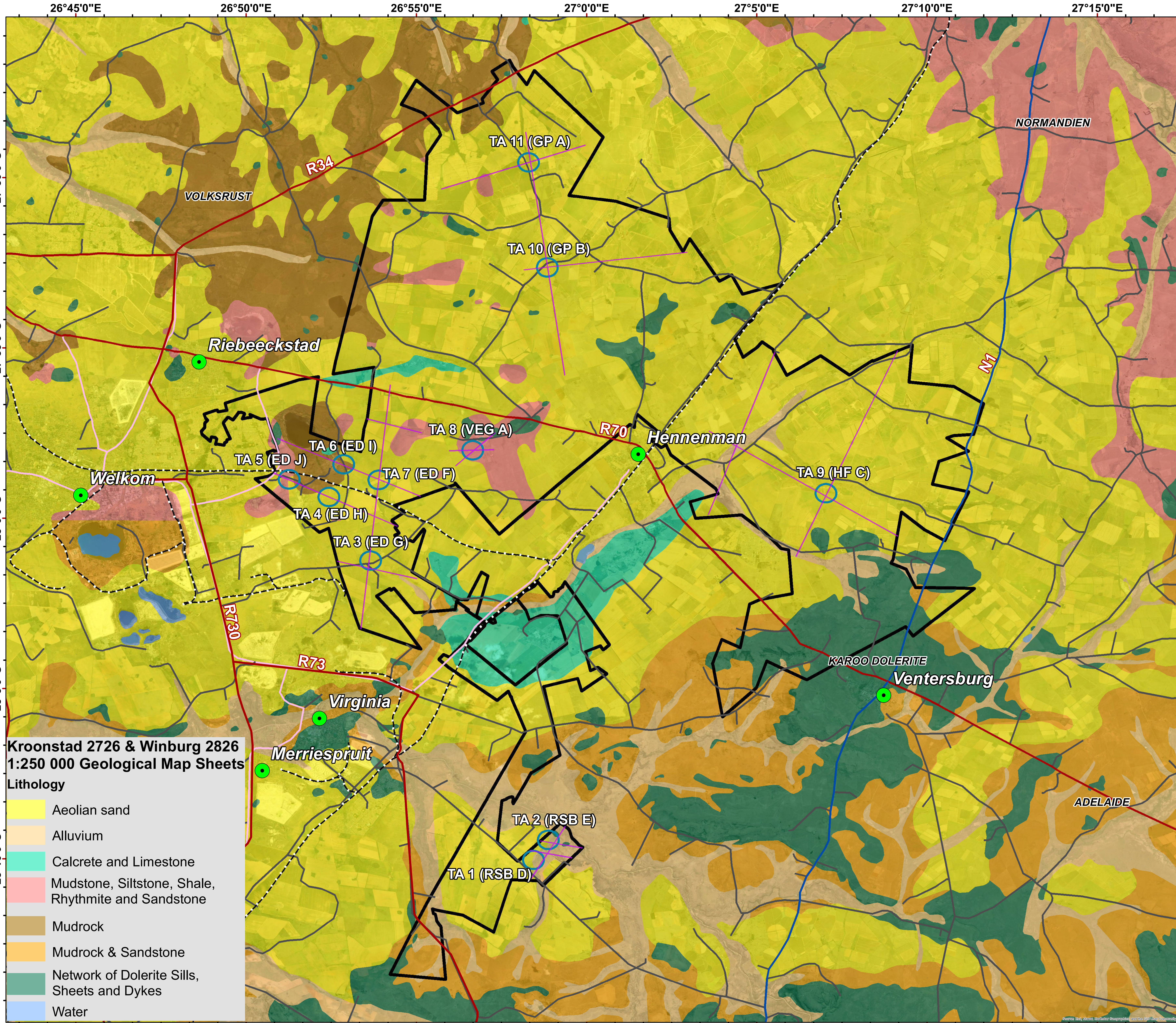
- Endangered
- Least Concern

Protection Level

- Not Protected
- Poorly Protected

Data Sources:
CSG; ESRI; MDB; CDNGI; SANBI; Project Team
Coord System: GCS WGS 1984
Datum: WGS 1985
Units: Degrees
Ref: 1681 Sectional Ecosystem Status Map

Date: 2025/04/17
EIMS Ref: 1681
Compiled: VM
Reviewed: SM
Approved: LW



Kroonstad 2726 & Winburg 2826
1:250 000 Geological Map Sheets

- Lithology**
- Aeolian sand
 - Alluvium
 - Calcrete and Limestone
 - Mudstone, Siltstone, Shale, Rhythmite and Sandstone
 - Mudrock
 - Mudrock & Sandstone
 - Network of Dolerite Sills, Sheets and Dykes
 - Water

Geology Map

1681 Motuoane ER386 EIA

Legend

- Revised Exploration Right 386
- ER386 Target Areas
- ER386 Seismic Transects
- National
- Arterial Road
- Main Road
- Secondary Road
- Railway
- Towns

N

0 5 10 Km

Scale: 1:66,864.64

North West

Gauteng

Free State

Johannesburg

Kimberley

Bloemfontein

Source: Esri, TomTom, Garmin, FAO, NOAA, USGS, and the GIS User Community

Data Sources: CSG; ESRI; MDB; CDNGI; CGS; Project Team

Coord System: GCS WGS 1984

Datum: WGS 1985

Units: Degrees

Ref: 1681 Geology Map

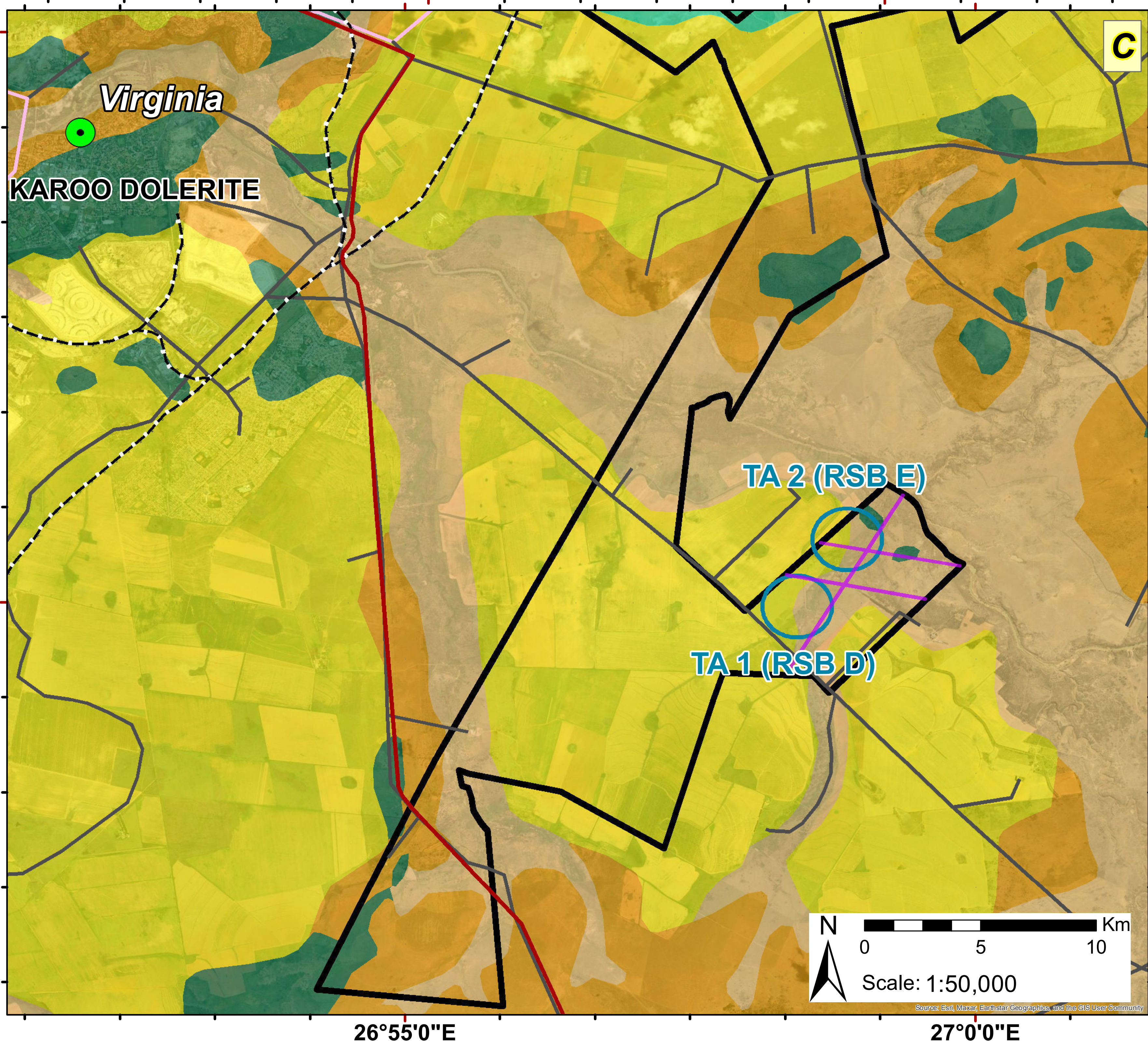
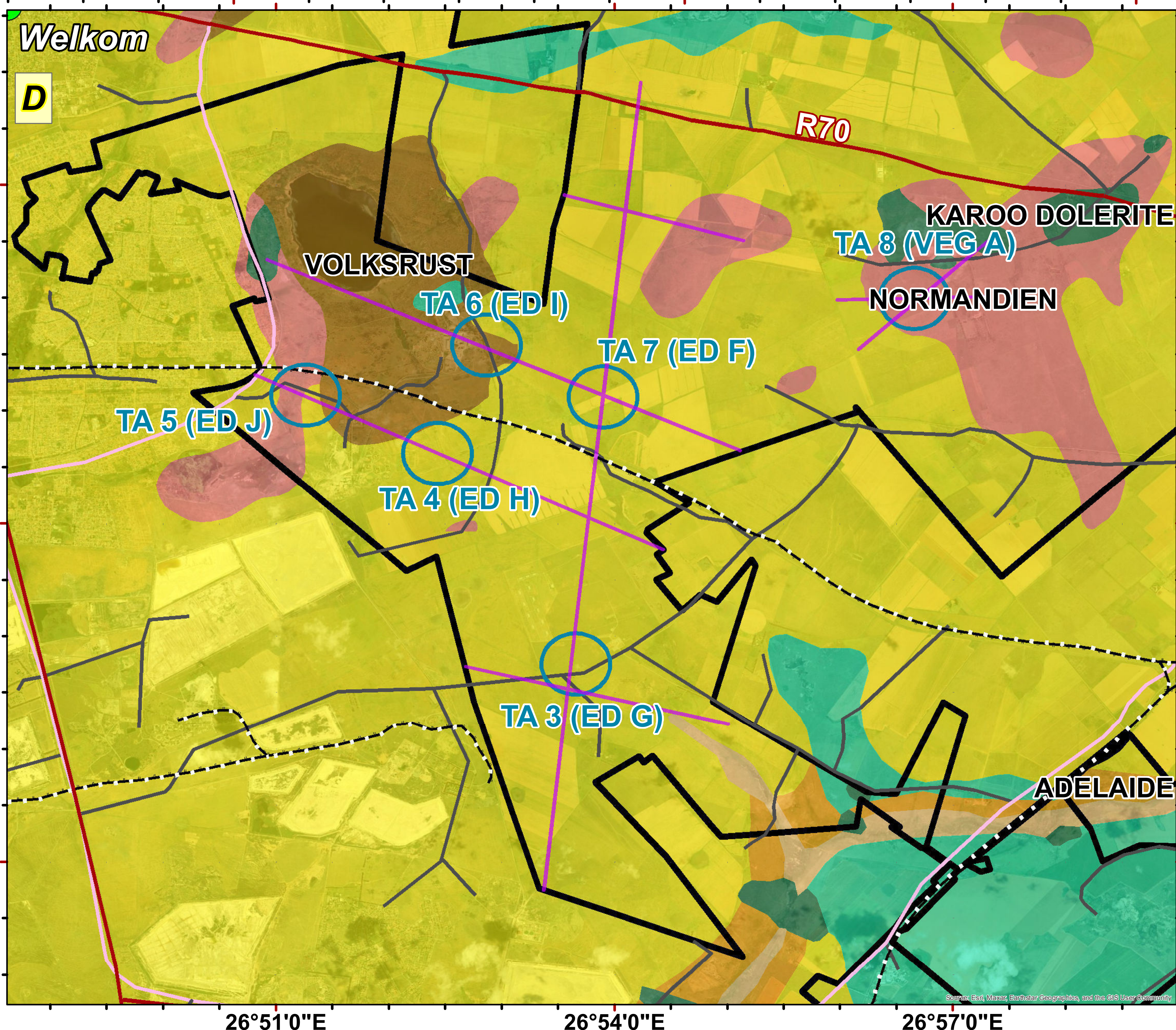
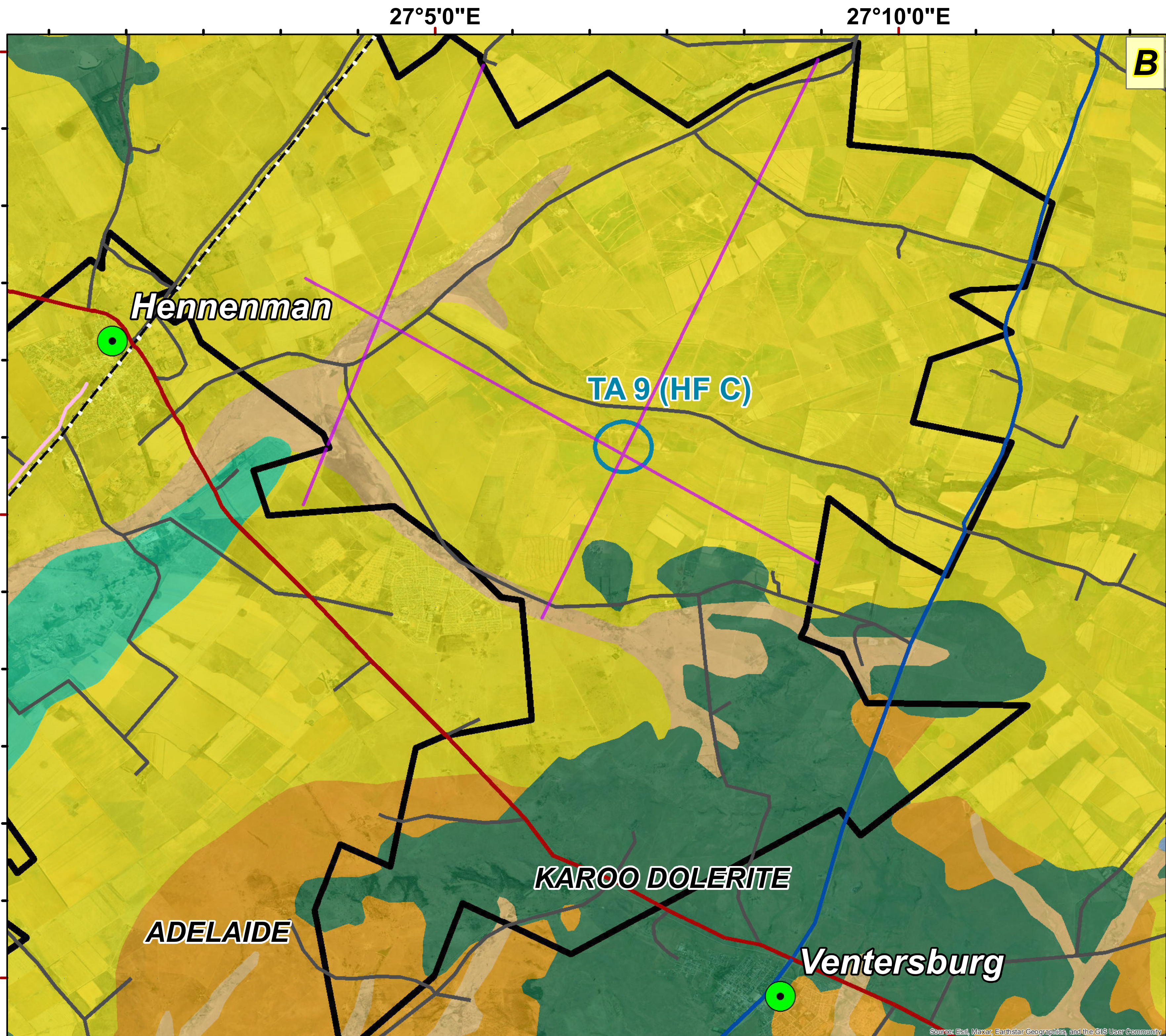
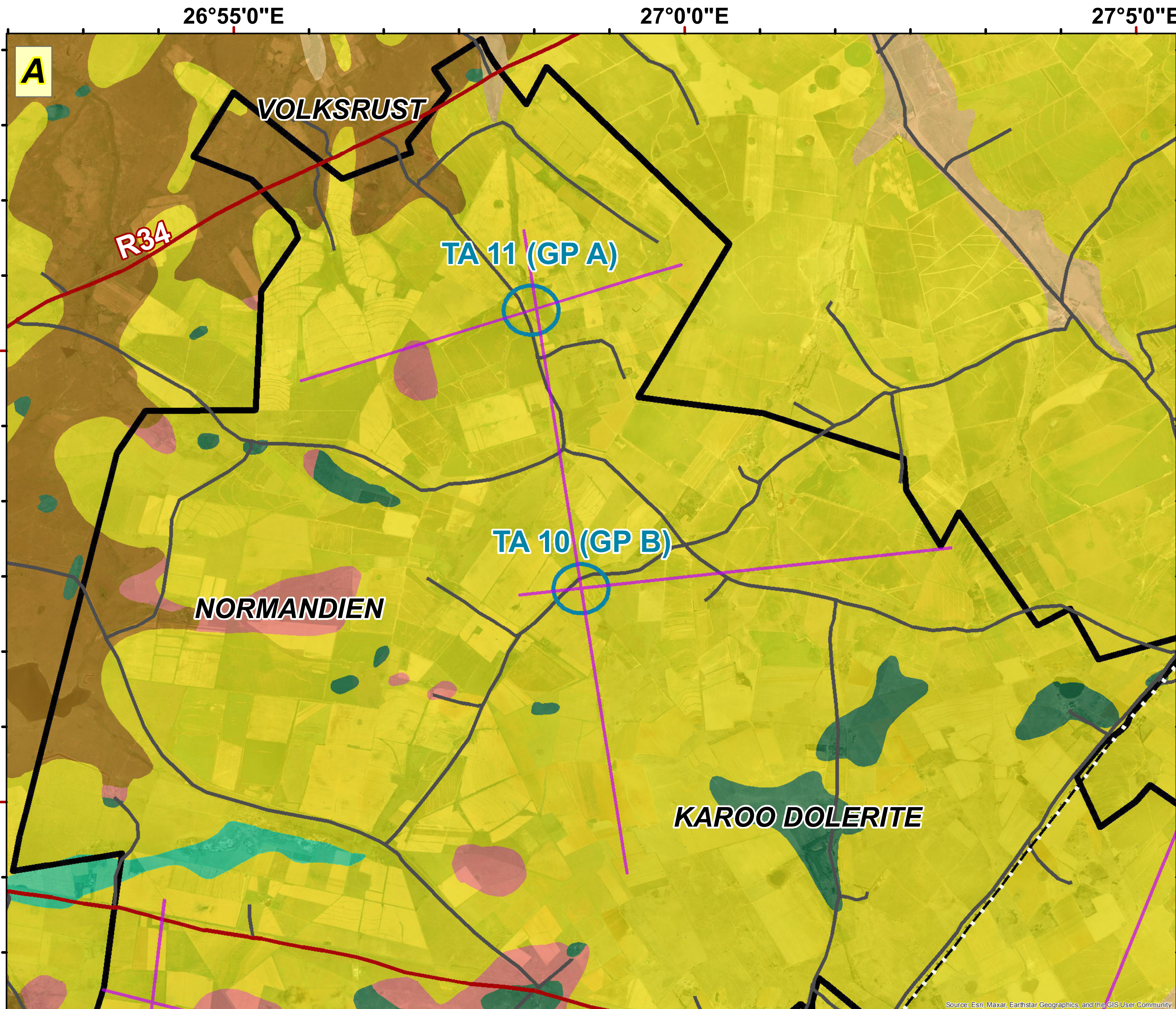
Date: 2025/04/17

EIMS Ref: 1681

Compiled: VM

Reviewed: SM

Approved: LW



Sectional Geology Map

1681 Motuoane ER386 EIA

Legend

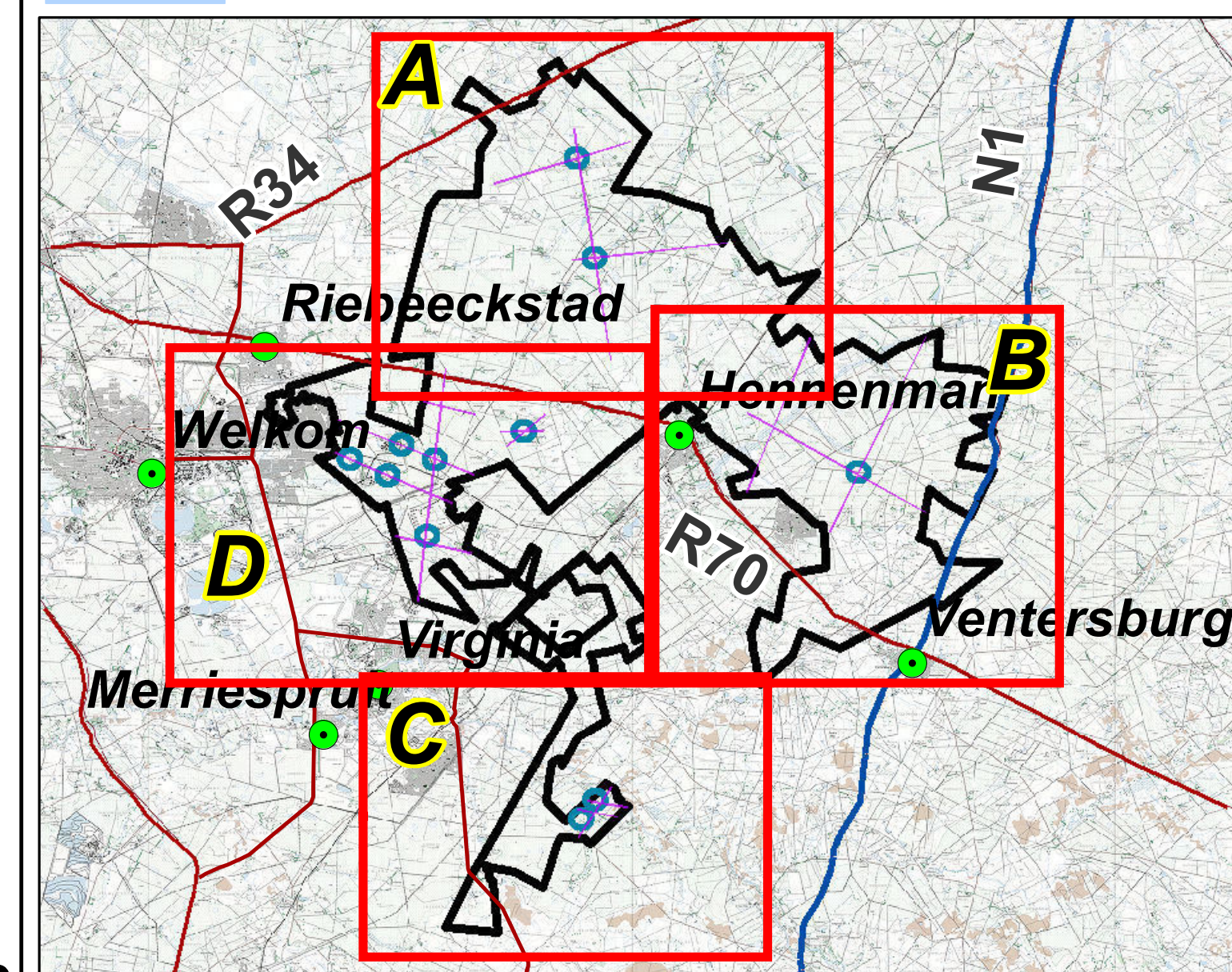
- Revised ER 386
- ER386 Target Areas
- ER386 Seismic Transects
- National
- Arterial Road
- Main Road
- Secondary Road
- Railway

Towns

Kroonstad 2726 & Winburg 2826
1:250 000 Geological Map Sheets

Lithology

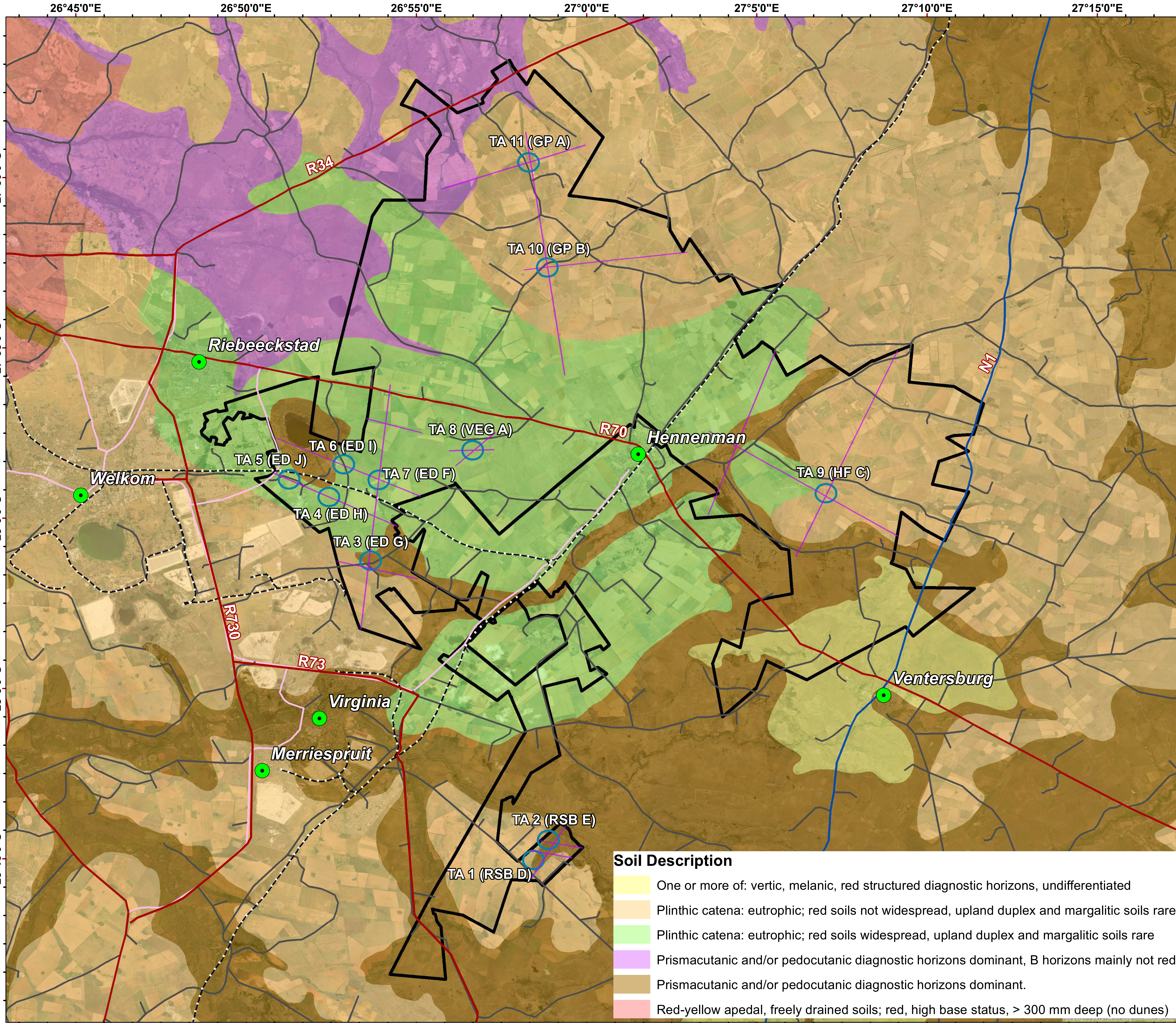
- Aeolian sand
- Alluvium
- Calcrete and Limestone
- Mudstone, Siltstone, Shale, Rhythmite and Sandstone
- Mudrock
- Mudrock & Sandstone
- Network of Dolerite Sills, Sheets and Dykes
- Water



Data Sources:
CSG; ESRI; MDB; CDNGI; CGS; Project Team
Coord System: GCS WGS 1984
Datum: WGS 1985
Units: Degrees
Ref: 1681 Sectional Geology Map

Date: 2025/04/17
EIMS Ref: 1681
Compiled: VM
Reviewed: SM
Approved: LW

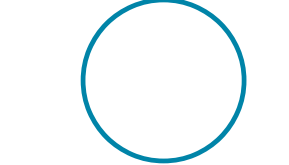




Soils Map

1681 Motuoane ER386 EIA

Legend

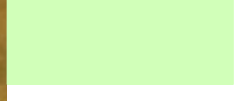
-  Revised ER 386
-  ER386 Target Areas
-  ER386 Seismic Transects
-  National
-  Arterial Road
-  Main Road
-  Secondary Road
-  Railway
-  Towns



0 5 10 Km
Scale: 1:66,864.64



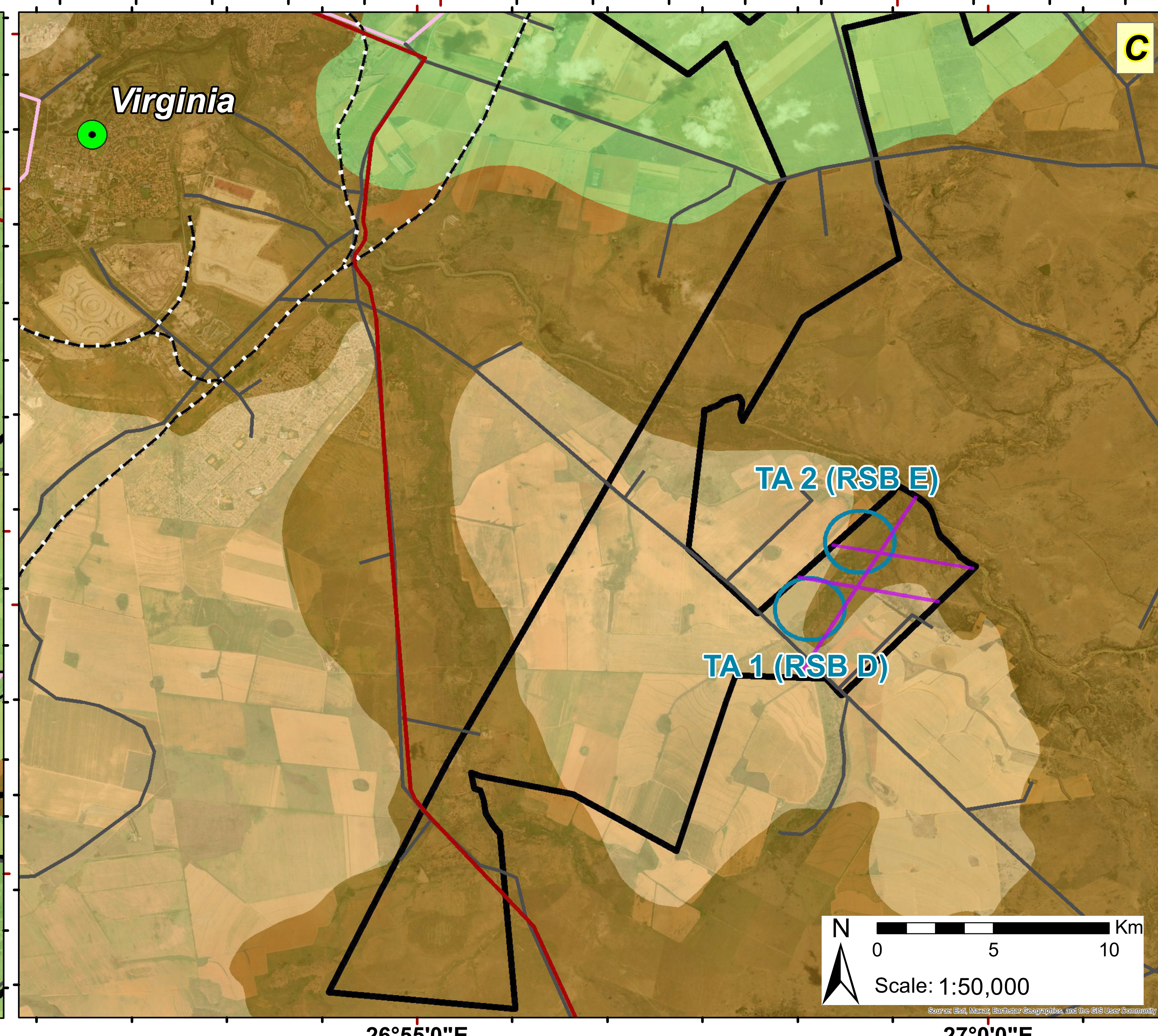
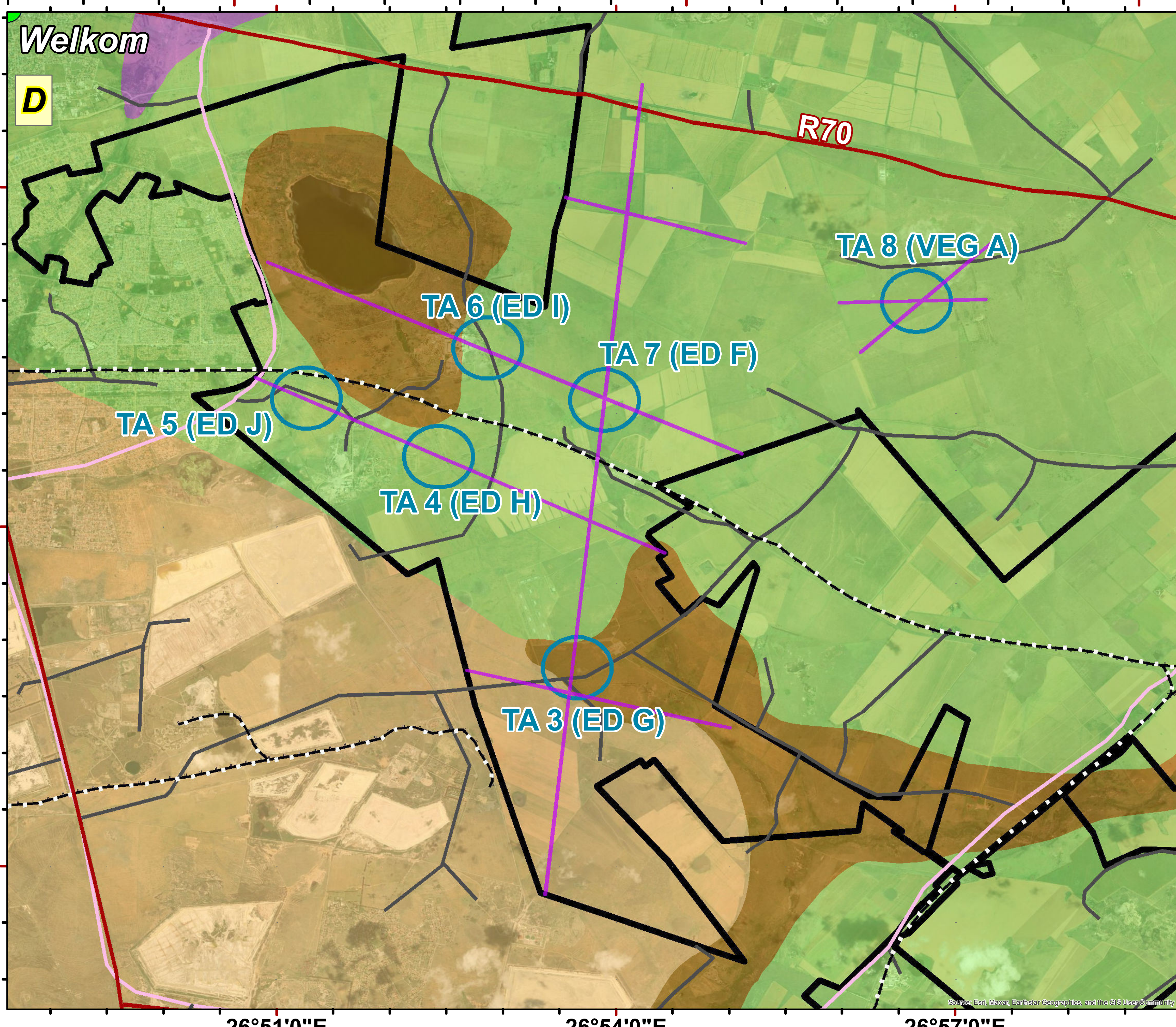
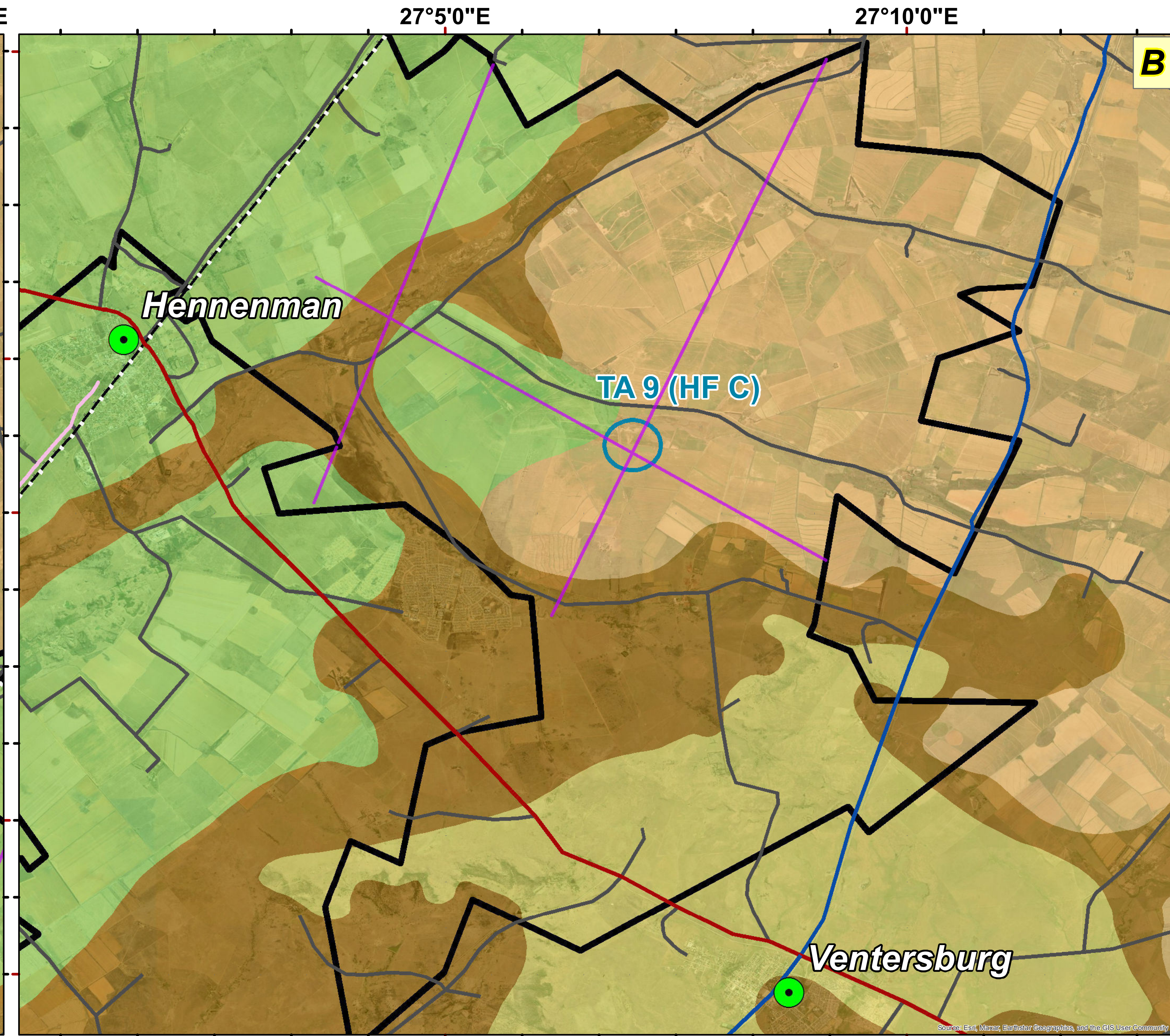
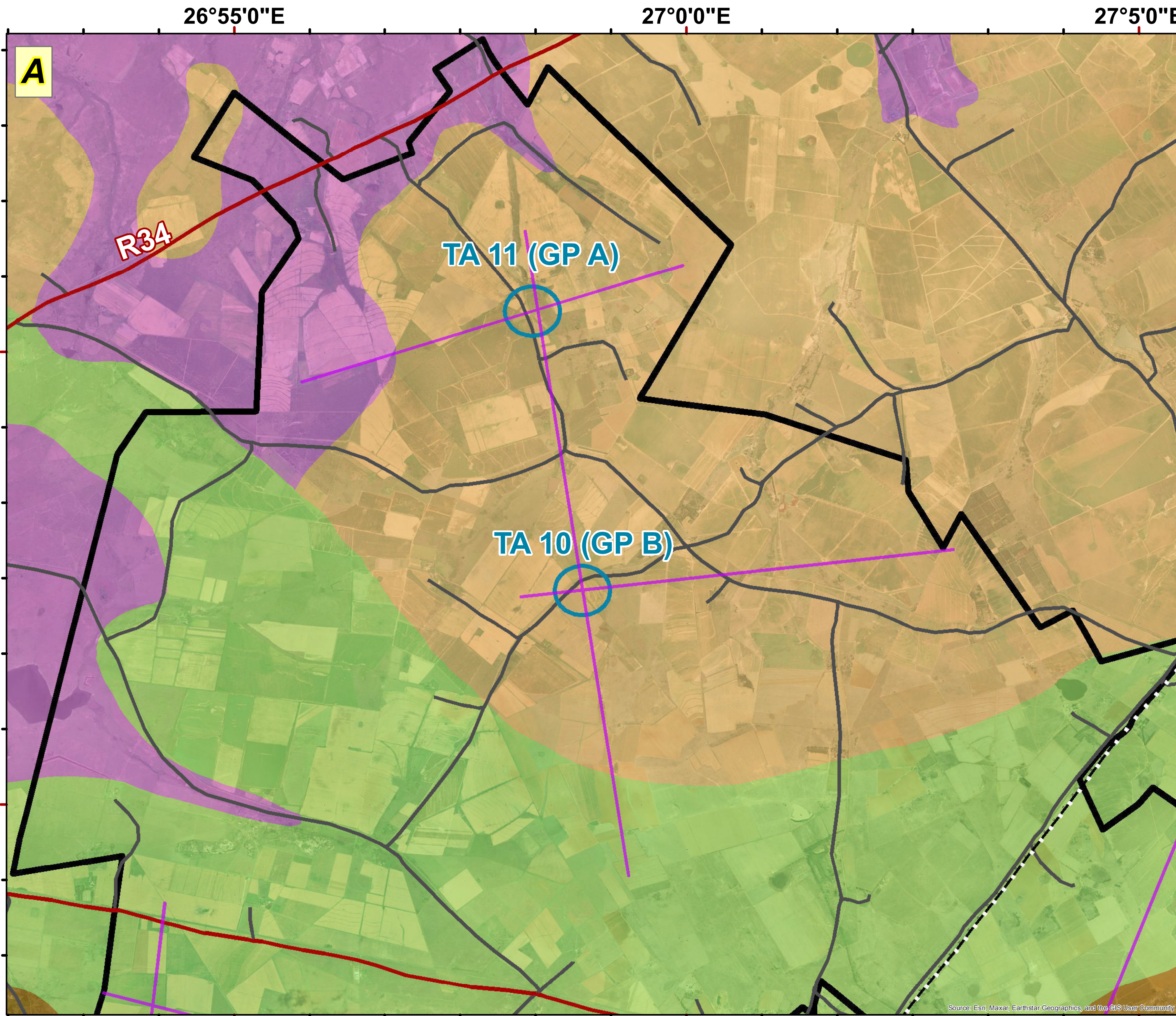
Soil Description

-  One or more of: vertic, melanic, red structured diagnostic horizons, undifferentiated
-  Plinthic catena: eutrophic; red soils not widespread, upland duplex and marginalitic soils rare
-  Plinthic catena: eutrophic; red soils widespread, upland duplex and marginalitic soils rare
-  Prismacutanic and/or pedocutanic diagnostic horizons dominant, B horizons mainly not red
-  Prismacutanic and/or pedocutanic diagnostic horizons dominant.
-  Red-yellow apedal, freely drained soils; red, high base status, > 300 mm deep (no dunes)

Data Sources:
CSG; ESRI; MDB; CDNGI; CGS; Project Team
Coord System: GCS WGS 1984
Datum: WGS 1985
Units: Degrees
Ref: 1681 Soils Map

Date: 2025/04/17
EIMS Ref: 1681
Compiled: VM
Reviewed: SM
Approved: LW





Sectional Soils Map

1681 Motuoane ER386 EIA

Legend

- Revised ER 386
- ER386 Target Areas
- ER386 Seismic Transects
- National
- Arterial Road
- Main Road
- Secondary Road
- Railway
- Towns

Soil Description

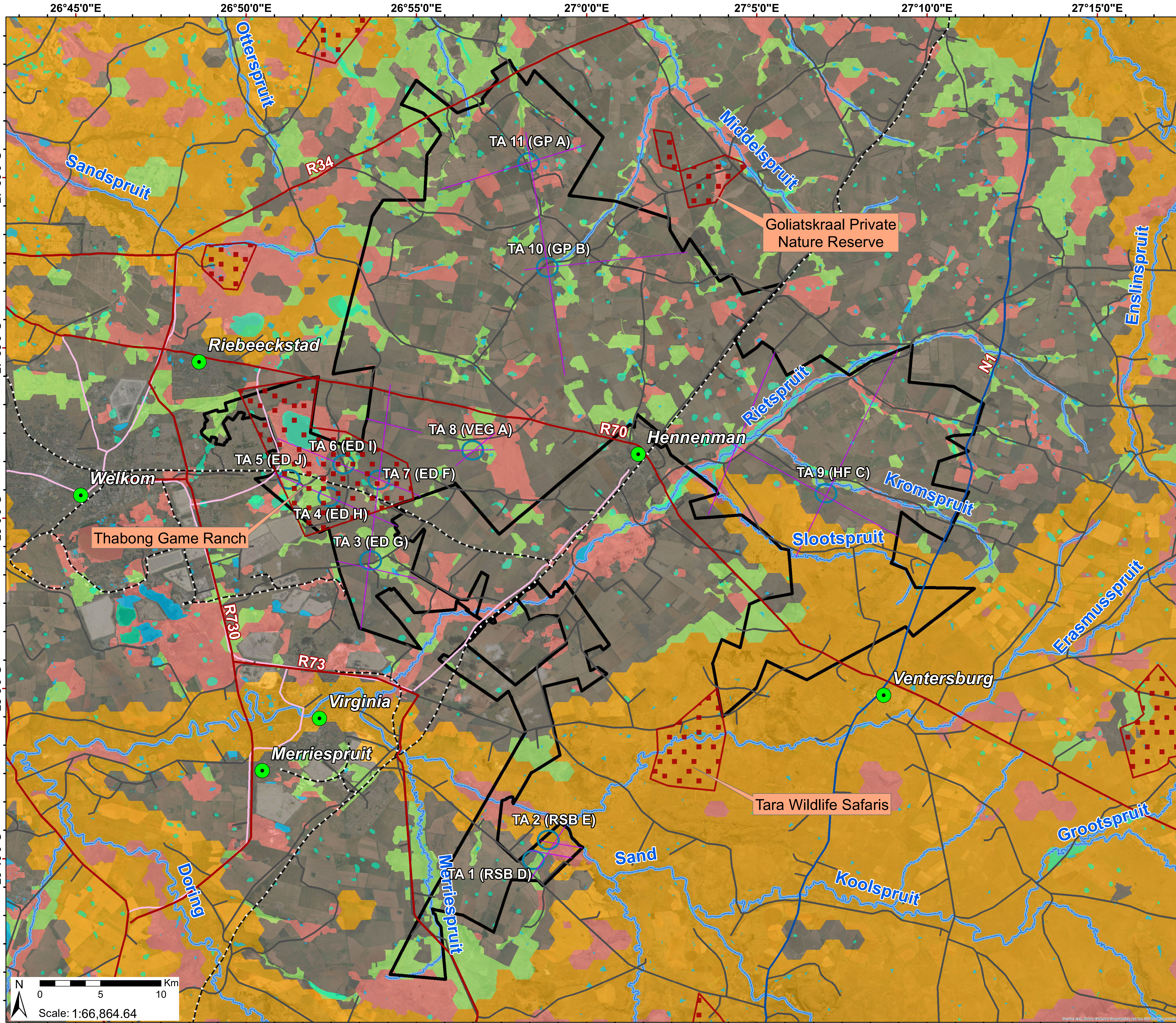
- One or more of: vertic, melanic, red structured diagnostic horizons
- Plinthic catena: eutrophic; red soils not widespread
- Plinthic catena: eutrophic; red soils widespread
- Prismacutanic and/or pedocutanic diagnostic horizons dominant
- Prismacutanic and/or pedocutanic diagnostic horizons dominant.
- Red-yellow apedal, freely drained soils; red, high base status

The inset map shows the project area within the larger context of the region. It highlights the locations of the sectional soils maps (A, B, C, D) and the towns of Welkom, Hennenman, Ventersburg, Virginia, Merriespruit, and Riebeeckstad. The map is bounded by coordinates 26°55'0"E to 27°0'0"E and 28°10'0"S to 28°5'0"S.

Data Sources:
CSG; ESRI; MDB; CDNGI; CGS; Project Team
Coord System: GCS WGS 1984
Datum: WGS 1985
Units: Degrees
Ref: 1681 Sectional Soils Map

Date: 2025/04/17
EIMS Ref: 1681
Compiled: VM
Reviewed: SM
Approved: LW

EIMS



Geographical Sensitivity (LN3) Map

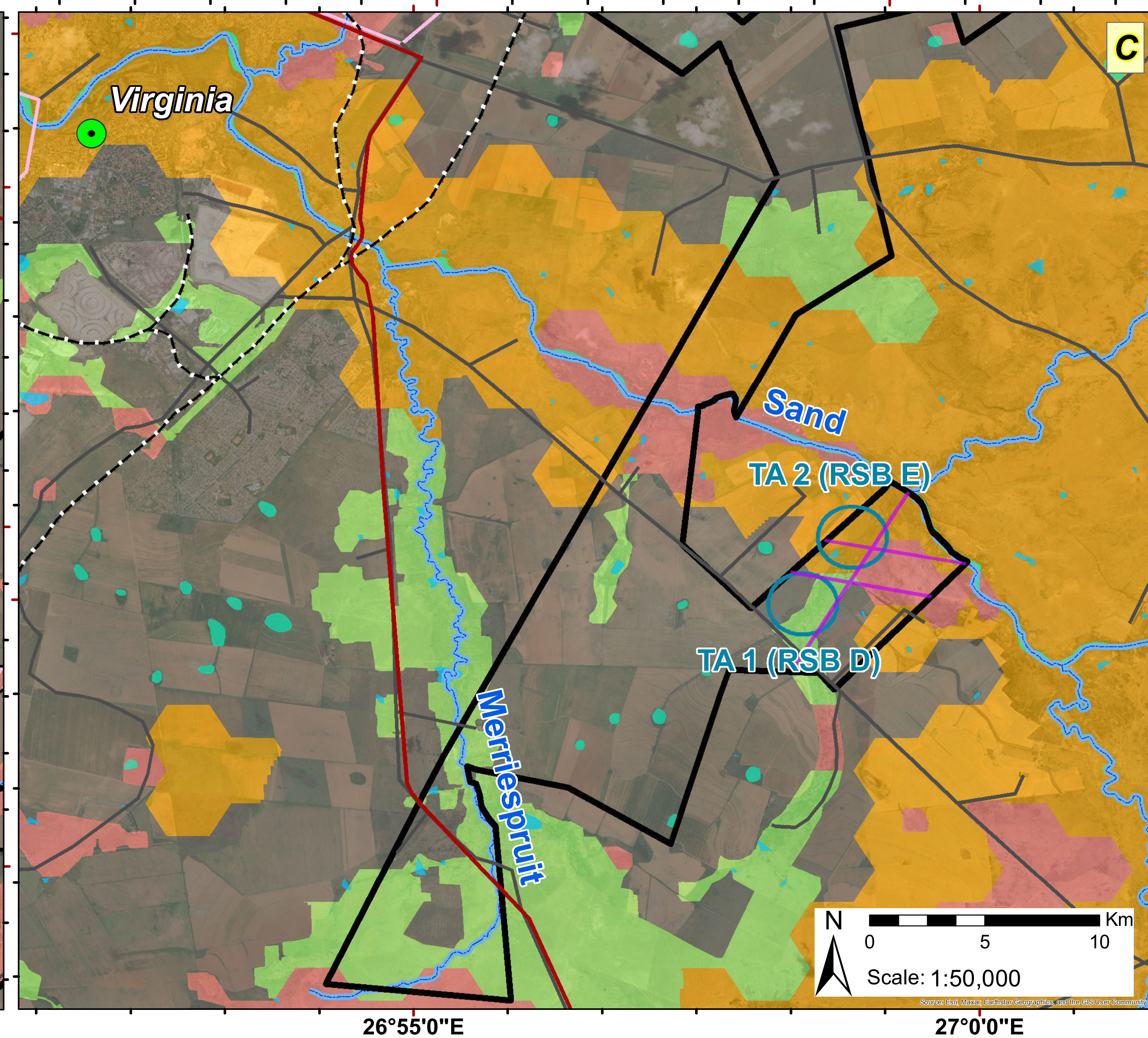
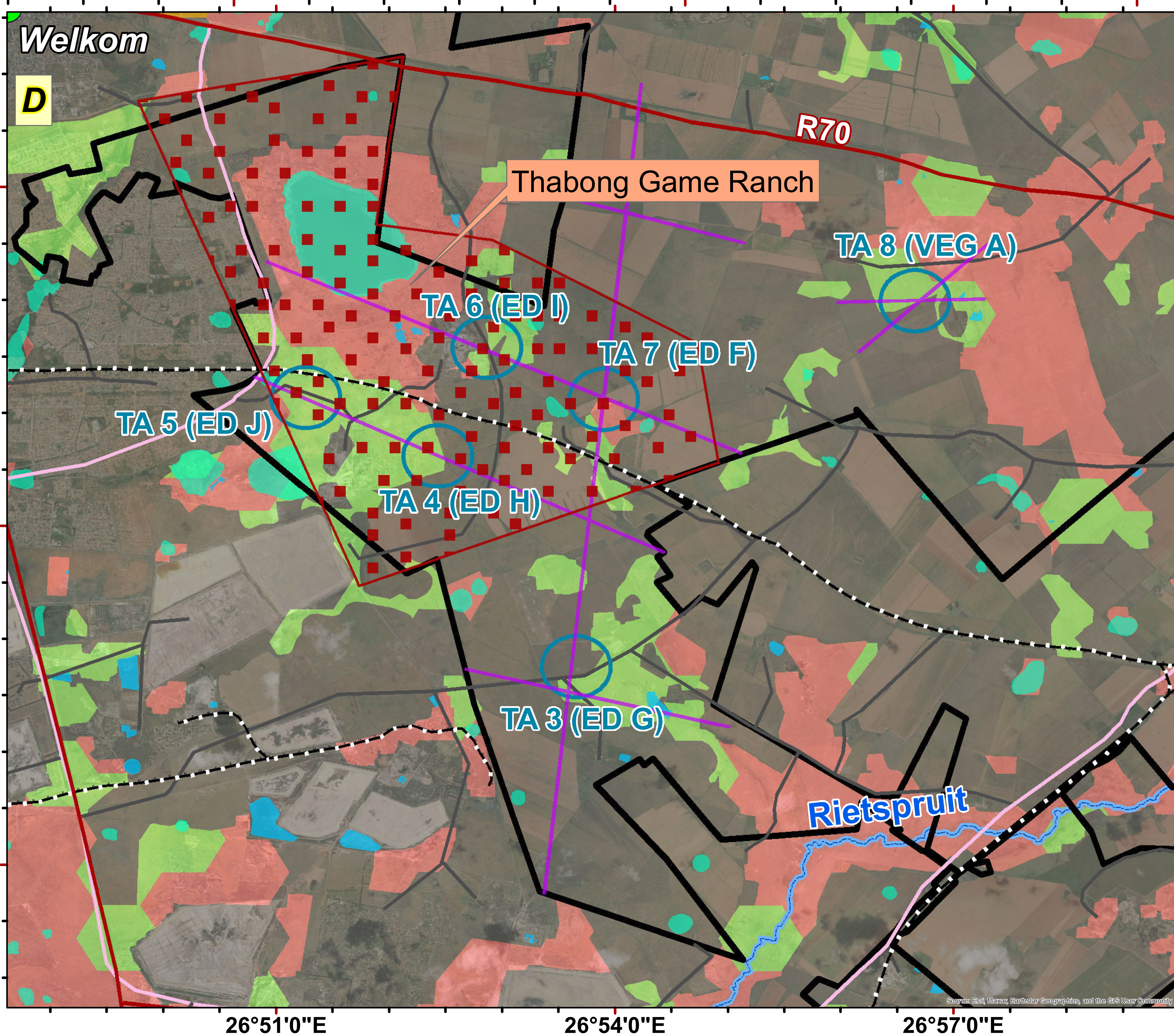
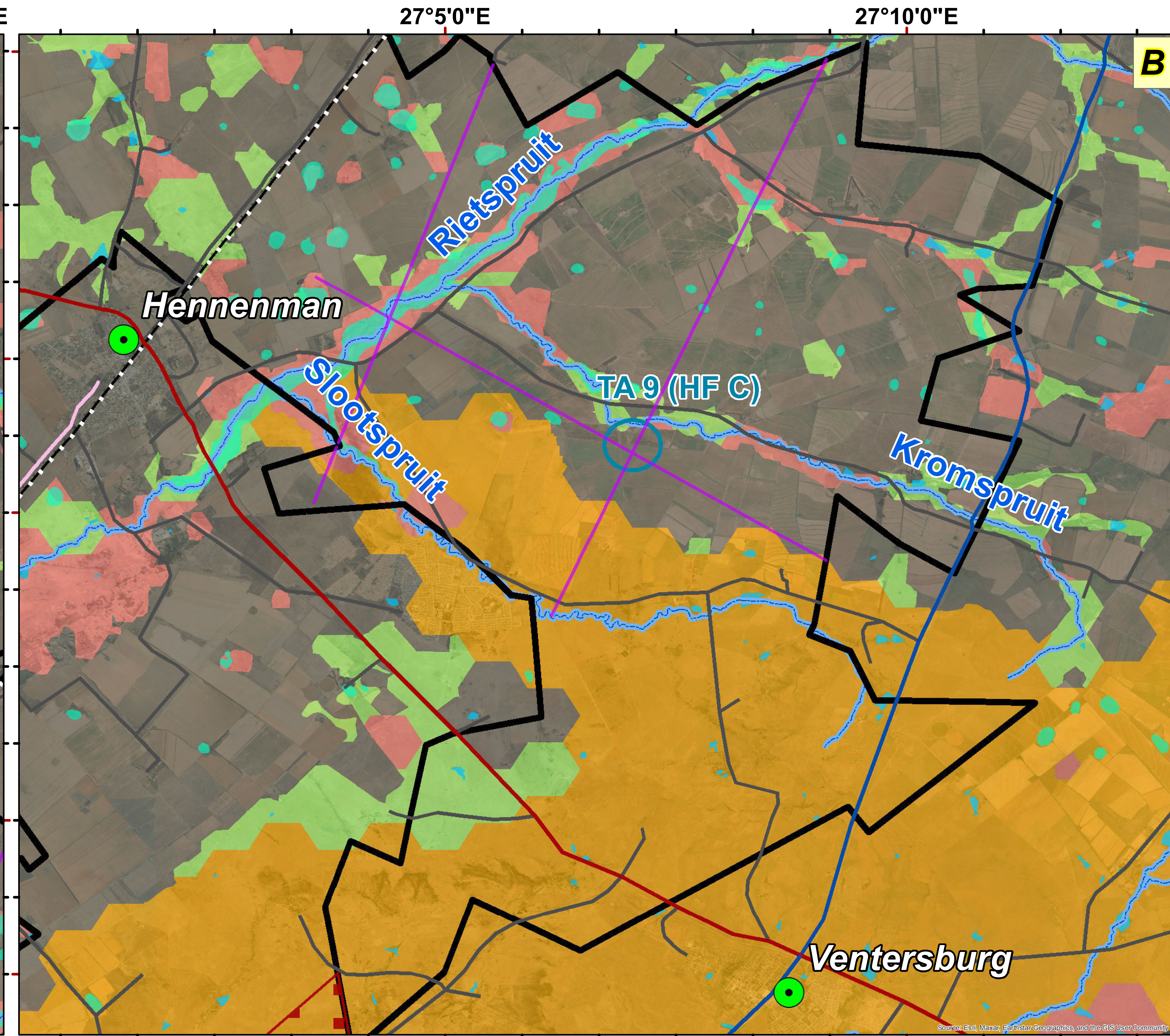
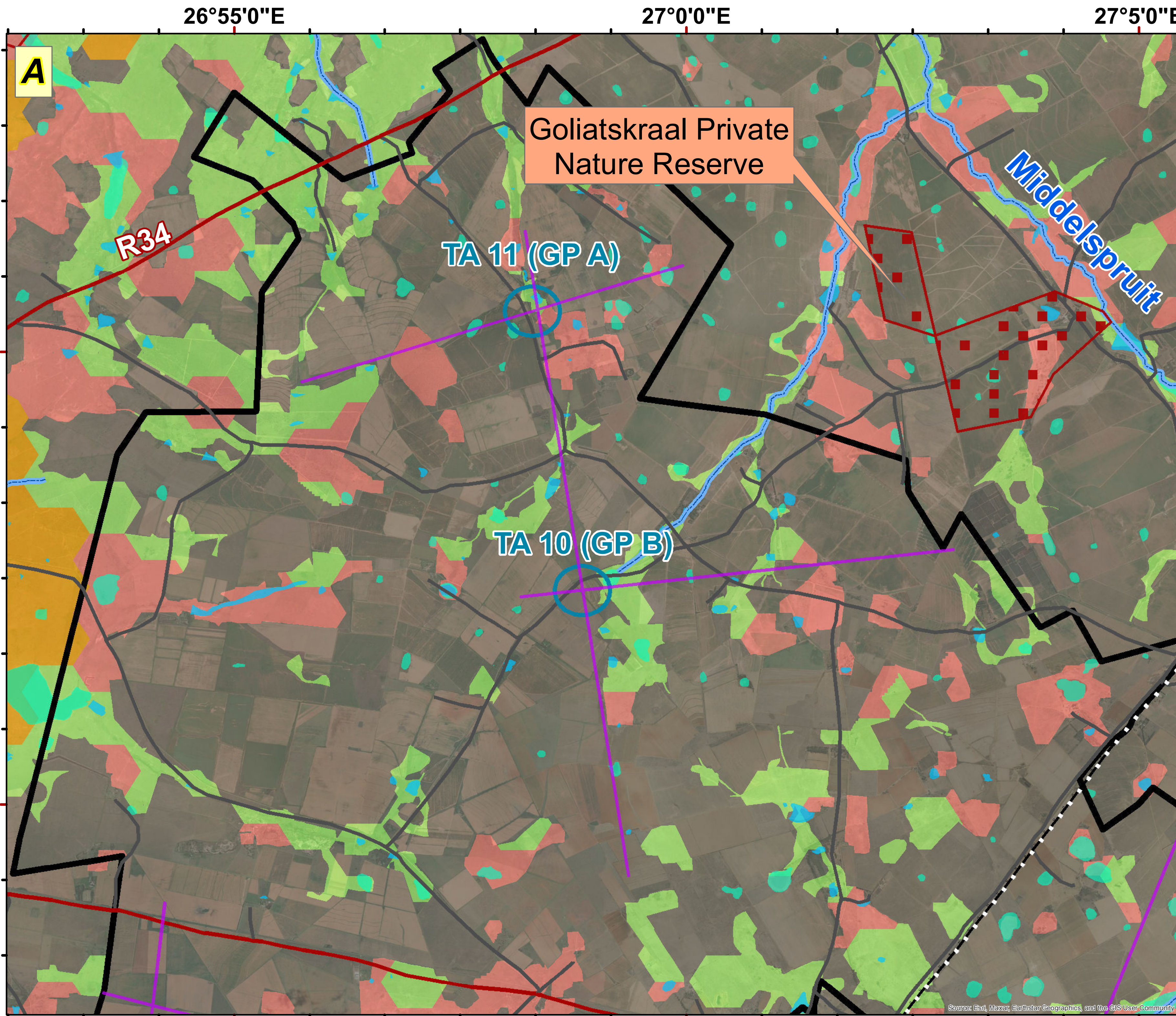
1681 Motuoane ER386 EIA

- ## Legend
- Revised Exploration Right 386
 - ER386 Target Areas
 - ER386 Seismic Transects
 - National
 - Arterial Road
 - Main Road
 - Secondary Road
 - Railway
 - Towns

- ## Conservation
- Protected Areas Database
 - Critical Biodiversity Area
 - Degraded
 - Ecological Support Area
 - Other
- ## Hydrology
- NBA2018 Rivers
 - NBA2018 Artificial Wetlands
 - NBA2018 National Wetland Map



Data Sources:
CSG; ESRI; MDB; CDNGI; SANBI; Project Team
Coord System: GCS WGS 1984
Datum: WGS 1985
Units: Degrees
Ref: 1681 Geographical Sensitivity Map



Sectional Geographical Sensitivity Map

1681 Motuoane ER386 EIA

Legend

- Revised ER 386
- ER386 Target Areas
- ER386 Seismic Transects
- National
- Arterial Road
- Main Road
- Secondary Road
- Railway
- Towns

Conservation

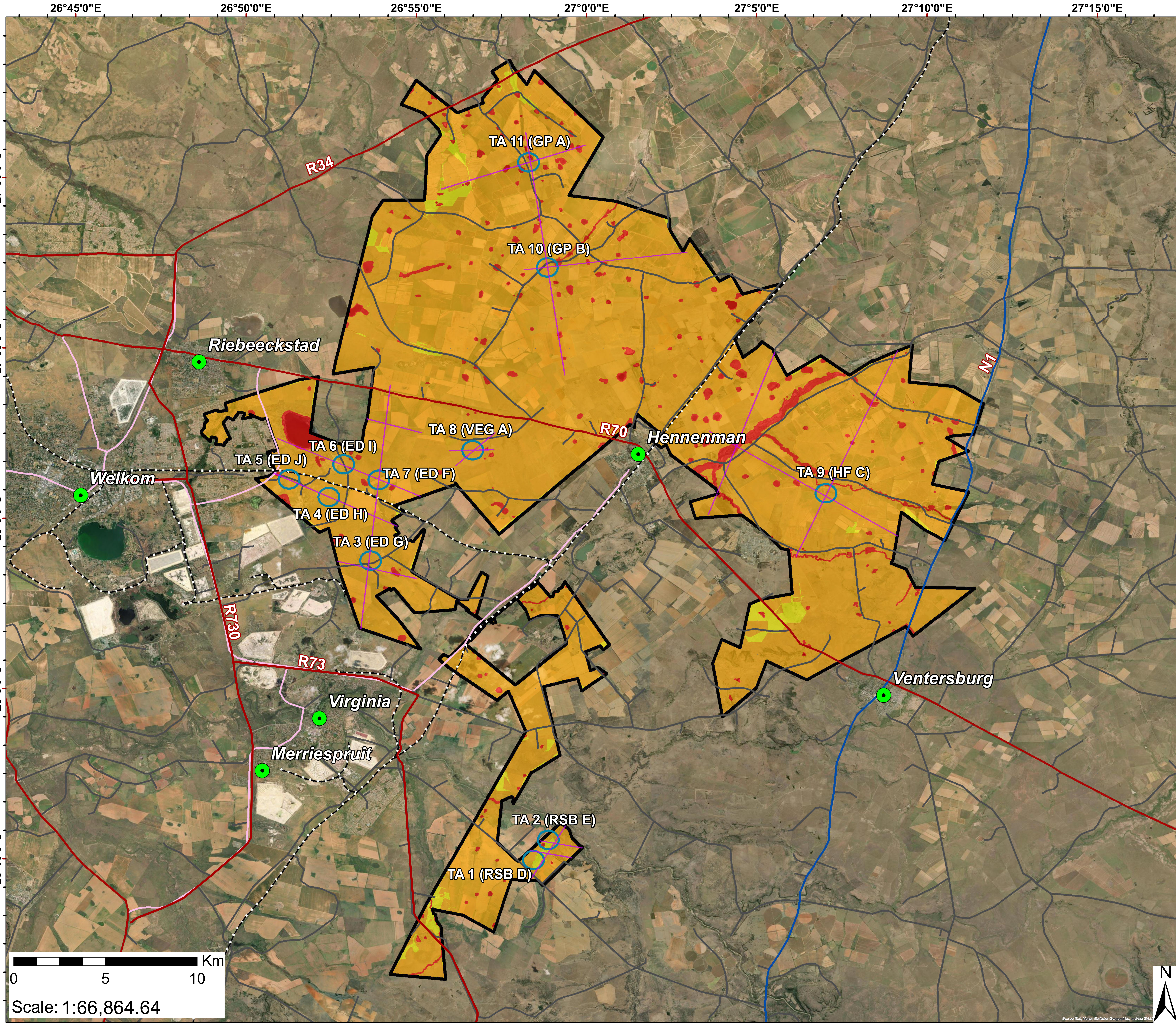
- Protected Areas Database
- Critical Biodiversity Area
- Degraded
- Ecological Support Area
- Other

Hydrology

- NBA2018 Rivers
- NBA2018 Artificial Wetlands
- NBA2018 National Wetland Map

Data Sources:
CSG; ESRI; MDB; CDNGI; SANBI; Project Team
Coord System: GCS WGS 1984
Datum: WGS 1985
Units: Degrees
Ref: 1681 Sectional Geographical Sens Map

Date: 2025/04/17
EIMS Ref: 1681
Compiled: VM
Reviewed: SM
Approved: LW



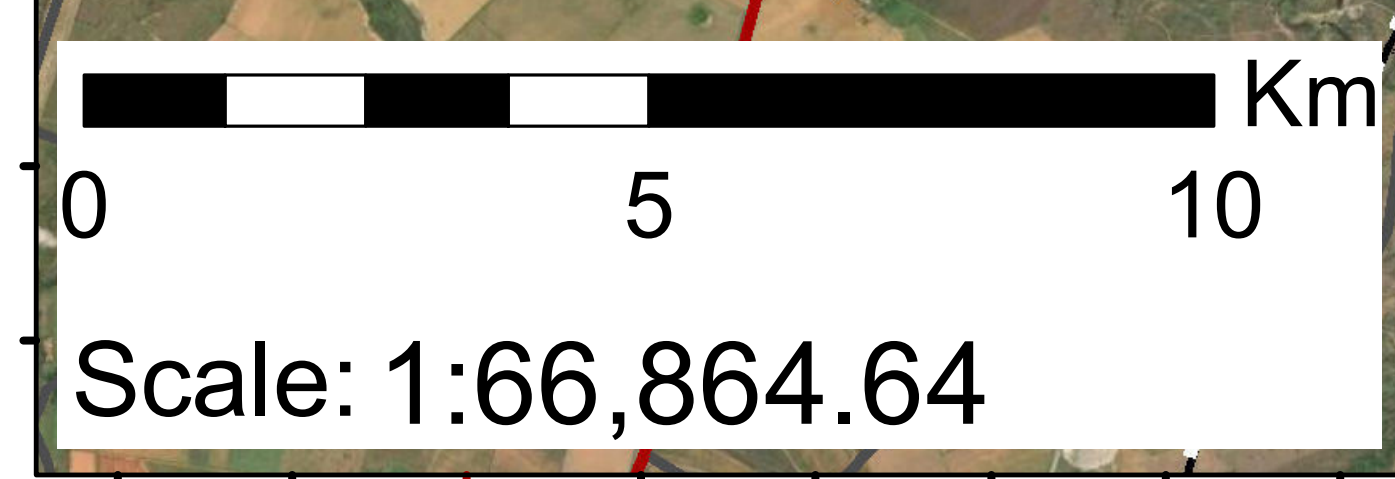
Desktop Sensitivity Map

1681 Motuoane ER386 EIA

- ## Legend
- Revised Exploration Right 386
 - ER386 Target Areas
 - ER386 Seismic Transects
 - National
 - Arterial Road
 - Main Road
 - Secondary Road
 - Railway
 - Towns
- ## Sensitivity Rating
- Medium
 - High
 - No-Go

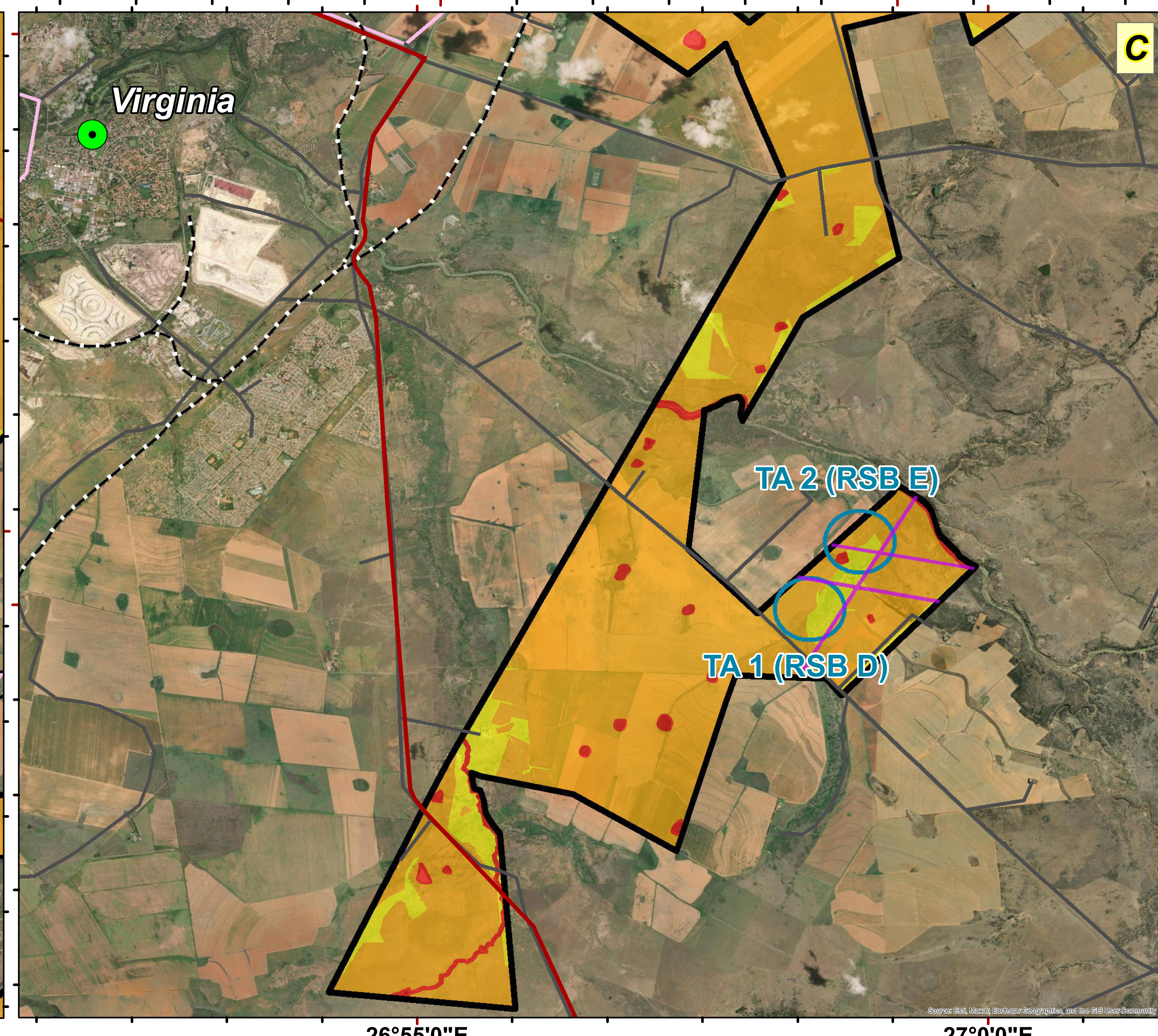
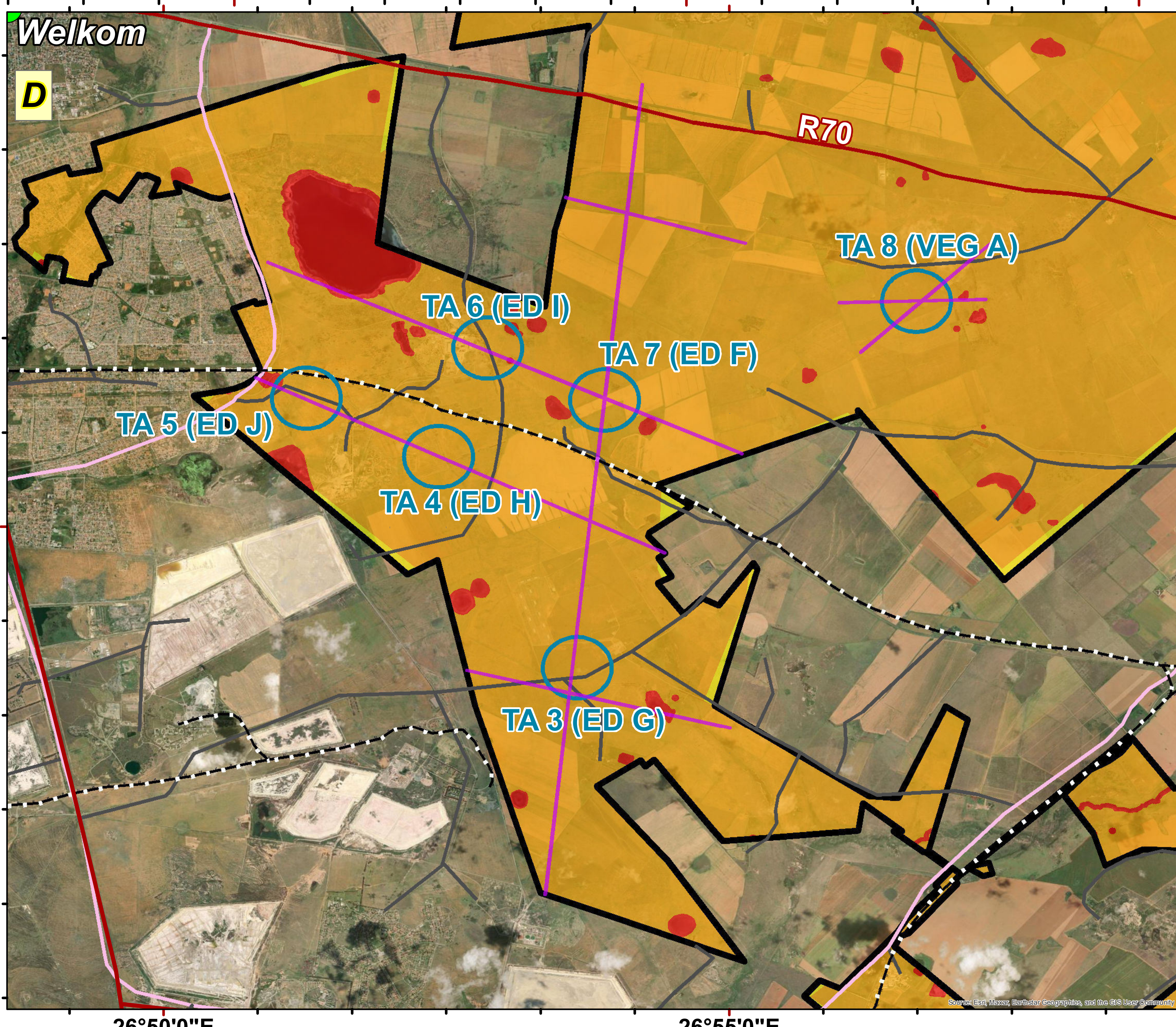
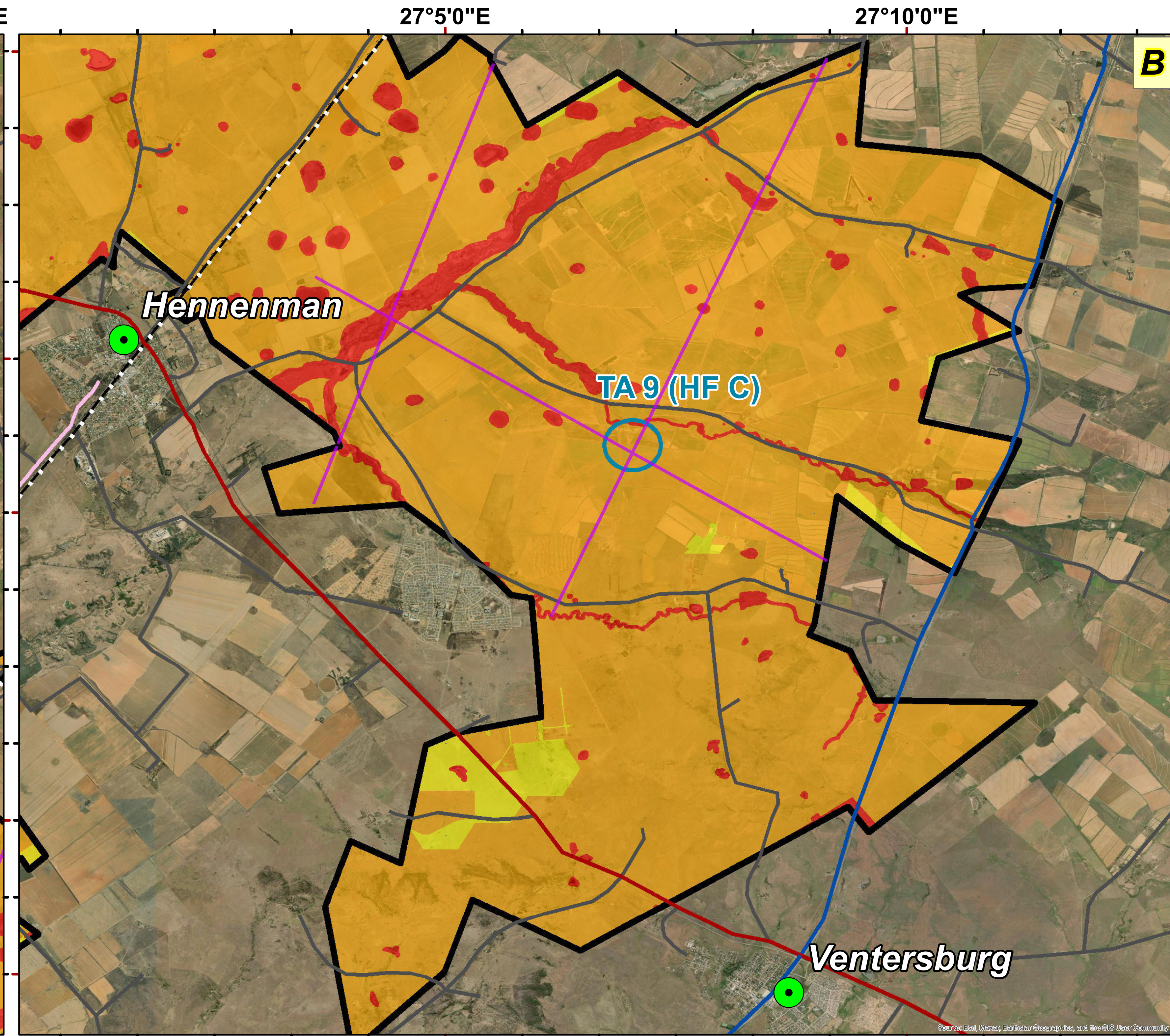
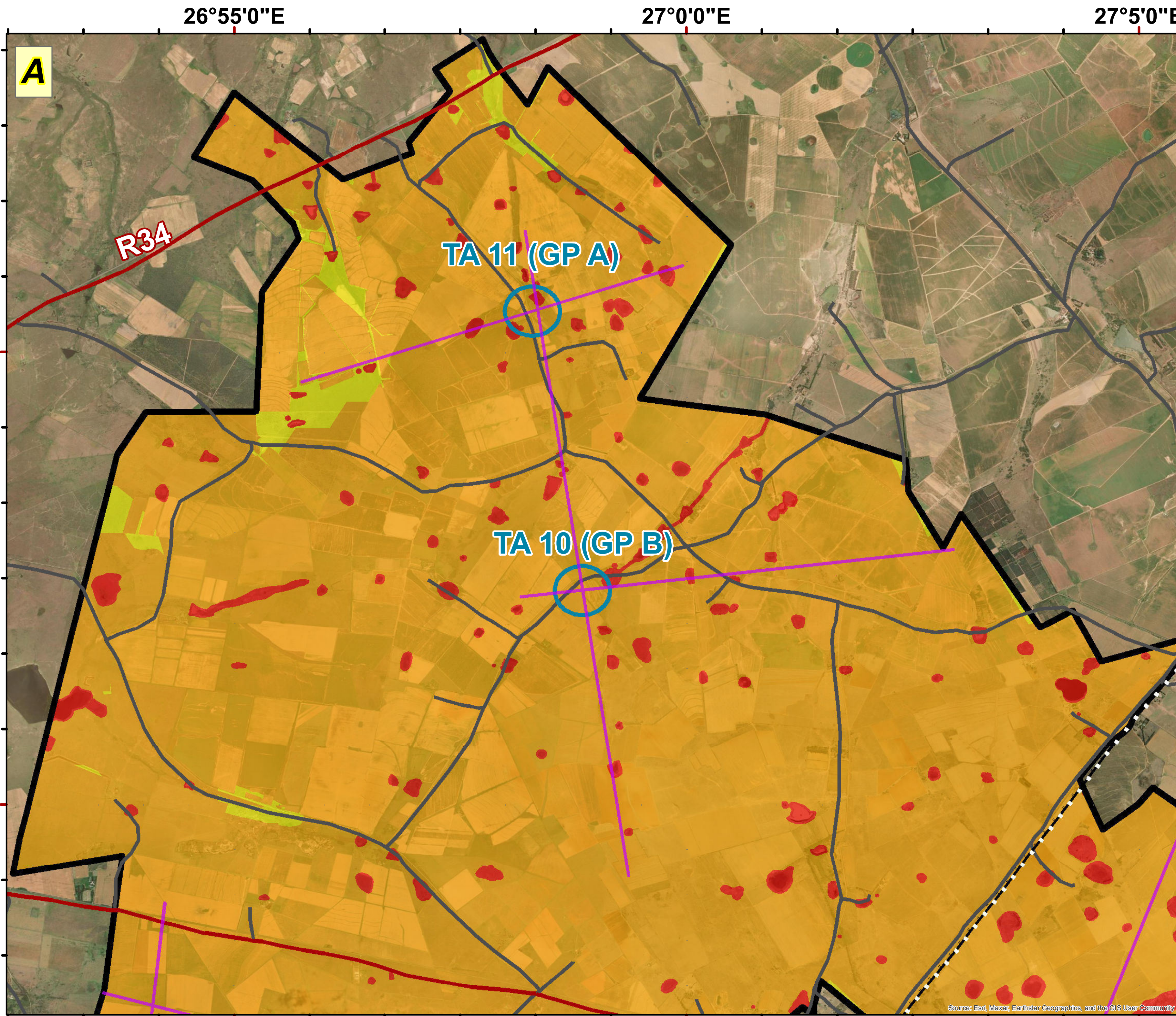


Data Sources:
CSG; ESRI; MDB; CDNGI; SANBI; Project Team
Coord System: GCS WGS 1984
Datum: WGS 1985
Units: Degrees
Ref: 1681 Desktop Sensitivity



Date: 2025/04/17
EIMS Ref: 1681
Compiled: VM
Reviewed: SM
Approved: LW





Desktop Sensitivity Map

1681 Motuoane ER386 EIA

Legend

- Revised ER 386
- ER386 Target Areas
- ER386 Seismic Transects
- National
- Arterial Road
- Main Road
- Secondary Road
- Railway
- Towns

Sensitivity Rating

- Medium
- High
- No-Go

N

0 5 10 Km

Scale: 1:50,000

Data Sources:
CSG; ESRI; MDB; CDNGI; SANBI; Project Team
Coord System: GCS WGS 1984
Datum: WGS 1985
Units: Degrees
Ref: 1681 Desktop Sensitivity

Date: 2025/04/17
EIMS Ref: 1681
Compiled: VM
Reviewed: SM
Approved: LW

EIMS