












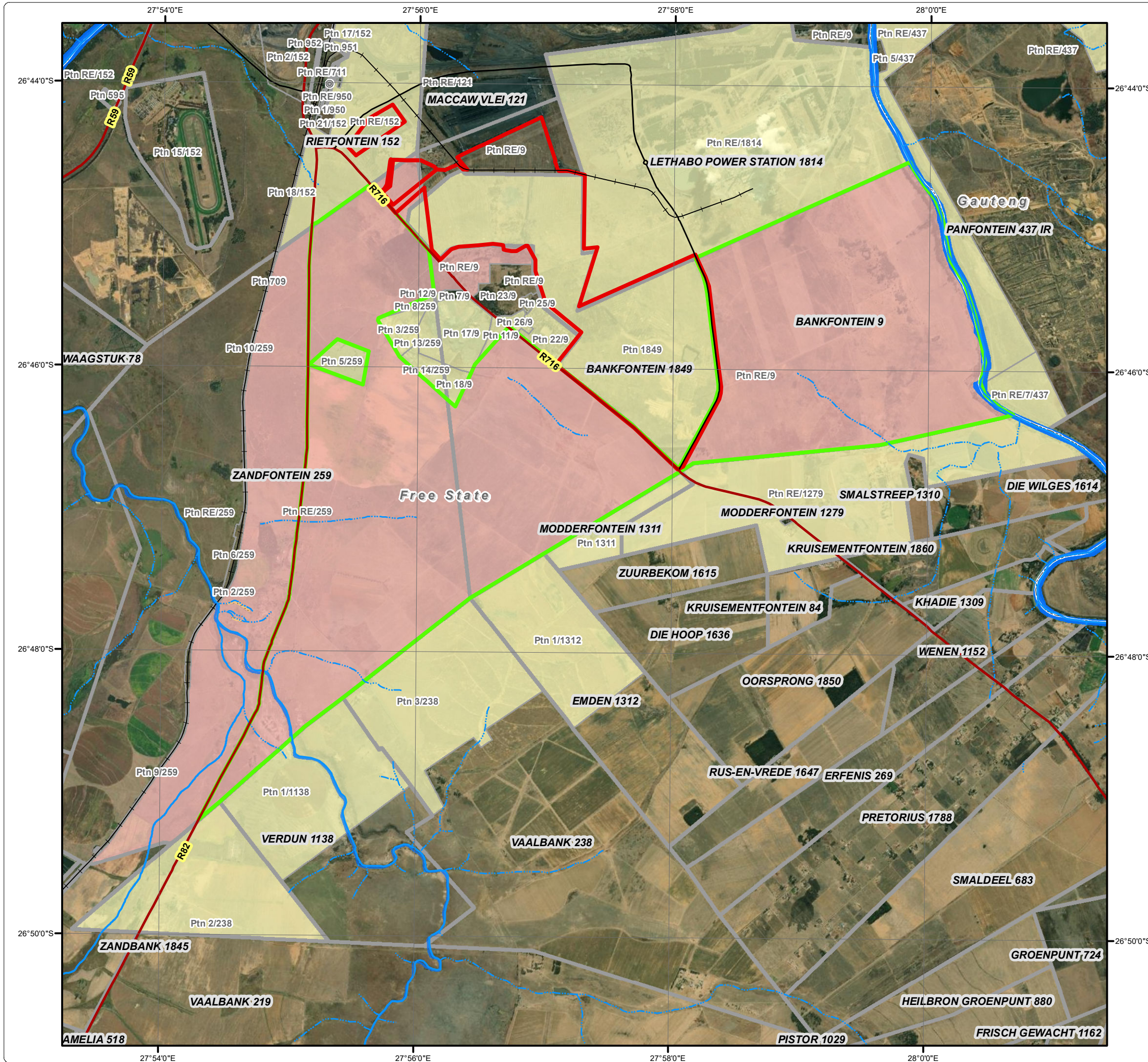



# Copper Sunset Sand Mining Right Extension Application Land Tenure

## Legend

-  Existing Mining Right Application Area
-  Proposed Mining Right Extension Area
-  Other Town
-  RSA roads
- Road Network**
  -  Main Road
  -  Secondary Road
- Rivers and Streams**
  -  Non-Perennial River / Stream
  -  Perennial River/Stream
-  Provincial Boundary (2016)
-  Farm Boundary
-  Farm Portion
- Land Tenure**
  -  Directly Affected
  -  Indirectly Affected

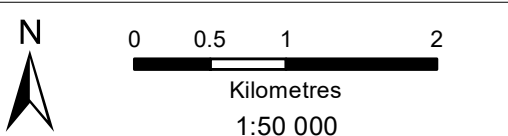




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Projection: Transverse Mercator      Ref #: COP6679\_EA\_01\_AJM\_v1  
 Datum: WGS 1984                              Revision Number: 1  
 Central Meridian: 27°E                              Date: 01/07/2021



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







Kilometres


1:50 000

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# Copper Sunset Sand Mining Right Extension Application Regional Setting

## Legend

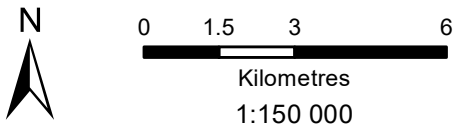
-  Existing Mining Right Application Area
  -  Proposed Mining Right Extension Area
  -  Major Town
  -  Other Town
  -  Settlement
- Road Network**
-  National Route
  -  Main Road
- Rivers and Streams**
-  Non-Perennial River / Stream
  -  Perennial River/Stream
  -  Railway Line
- Inland Water**
-  Dam / Lake
  -  Marsh / Swamp
  -  Non-Perennial Pan
  -  Perennial Pan
  -  Provincial Boundary (2016)
  -  District Municipal Boundary (2016)
  -  Local Municipal Boundary (2016)



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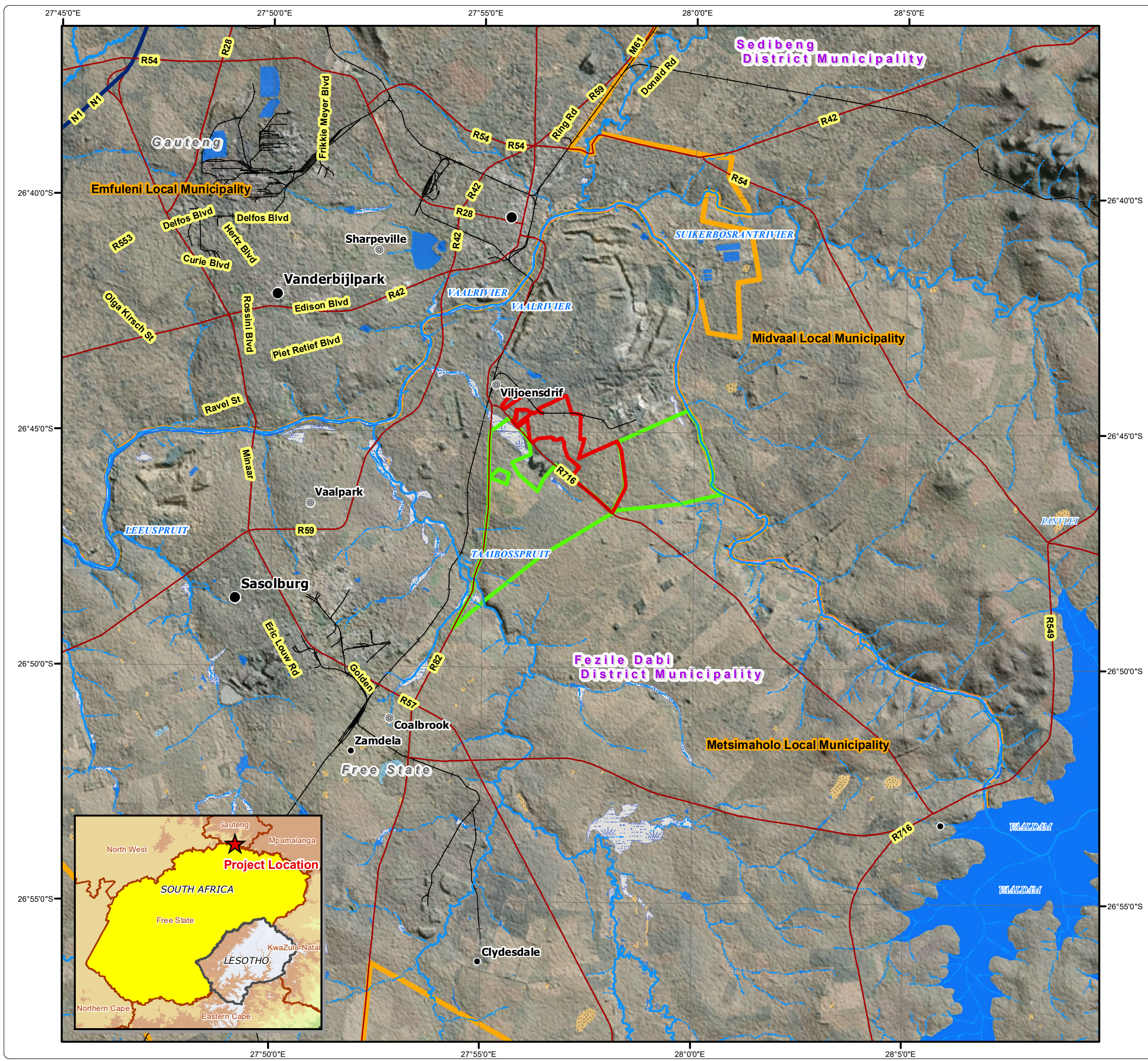
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Projection: Transverse Mercator      Ref #: COP6679\_EA\_02\_AJM\_v1  
 Datum: WGS 1984                              Revision Number: 1  
 Central Meridian: 27°E                        Date: 01/07/2021



0 1.5 3 6  
Kilometres  
1:150 000

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# Copper Sunset Sand Mining Right Extension Application Local Setting

## Legend

- Existing Mining Right Application Area
  - Proposed Mining Right Extension Area
  - Other Town
  - Settlement
- Road Network**
- Main Road
- Rivers and Streams**
- Non-Perennial River / Stream
  - Perennial River/Stream
  - Railway Line
- Inland Water**
- Dam / Lake
  - Marsh / Swamp
  - Non-Perennial Pan
  - Perennial Pan
  - Provincial Boundary (2016)
  - District Municipal Boundary (2016)
  - Local Municipal Boundary (2016)



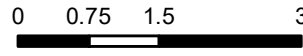


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 Datum: WGS 1984    Revision Number: 1  
 Central Meridian: 27°E    Date: 01/07/2021

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Kilometres  
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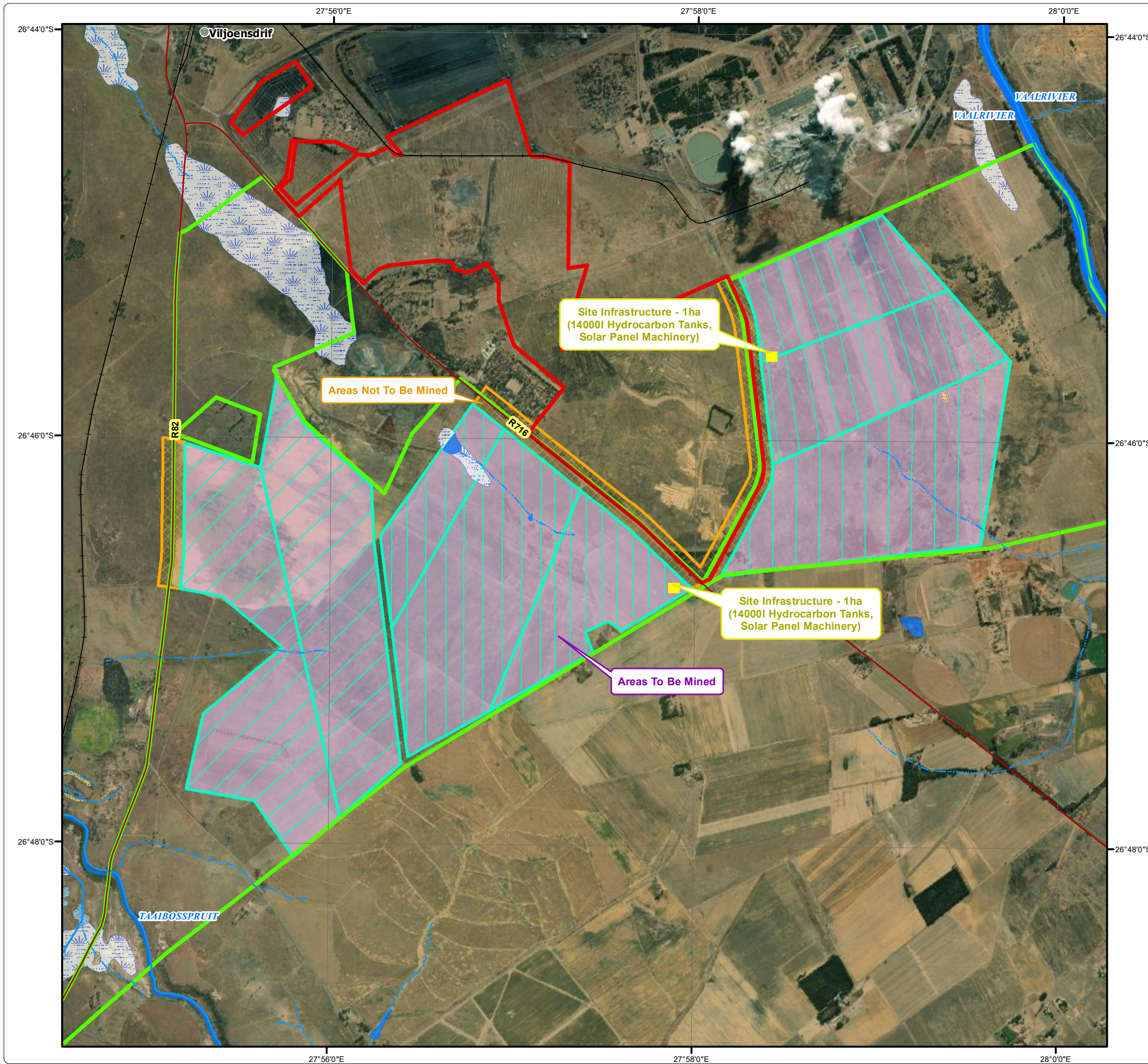
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# Copper Sunset Sand Mining Right Extension Application

## Infrastructure Layout

### Legend

- Existing Mining Right Application Area
  - Proposed Mining Right Extension Area
  - Other Town
- Rivers and Streams**
- Non-Perennial River / Stream
  - Perennial River/Stream
- Proposed Infrastructure**
- Permanent Haul Road
  - Temporary Haul Road
  - Areas not to be Mined
  - Areas to be Mined
  - Site Infrastructure & Offices

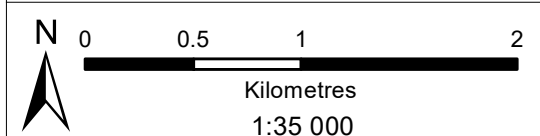




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Projection: Transverse Mercator	Ref #: COP6679_EA_04_AJM_v1
Datum: WGS 1984	Revision Number: 1
Central Meridian: 27°E	Date: 01/07/2021












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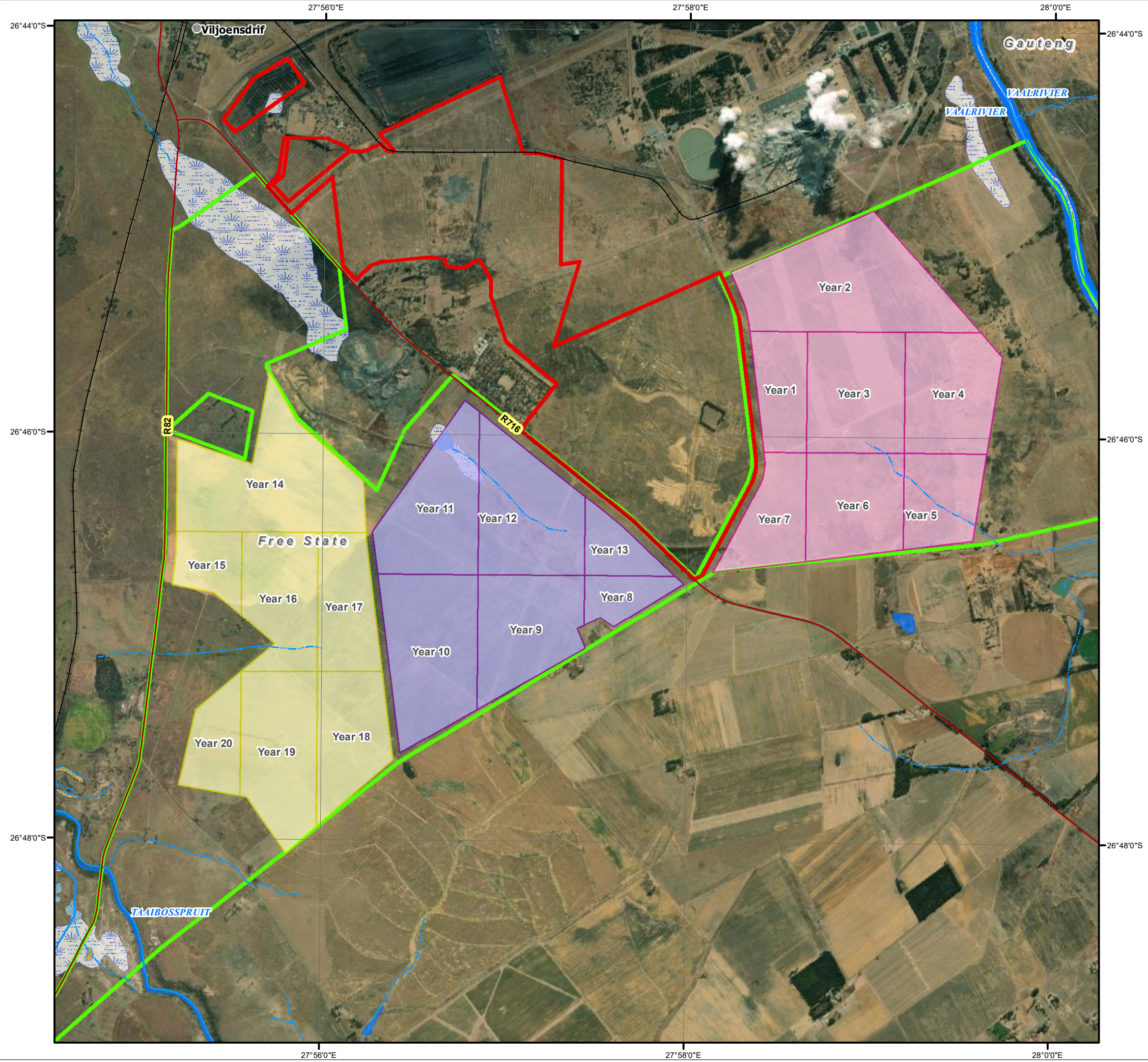
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# Copper Sunset Sand Mining Right Extension Application

## Life of Mine

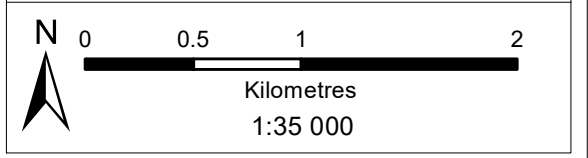
### Legend

-  Existing Mining Right Application Area
-  Proposed Mining Right Extension Area
-  Other Town
- Rivers and Streams**
  -  Non-Perennial River / Stream
  -  Perennial River/Stream
  -  Provincial Boundary (2016)
- Life of Mine**
  -  Year 1 - 7
  -  Year 8 - 13
  -  Year 14 - 20



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Projection: Transverse Mercator Ref #: COP6679\_EA\_05\_AJM\_v1  
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Central Meridian: 27°E Date: 01/07/2021






# Copper Sunset Sand Mining Right Extension Application

## Land Type

### Legend

-  Existing Mining Right Application Area
  -  Proposed Mining Right Extension Area
  -  Mining Areas
  -  Other Town
- Rivers and Streams**
-  Non-Perennial River / Stream
  -  Perennial River/Stream
- Inland Water**
-  Dam / Lake
  -  Non-Perennial Pan
  -  Perennial Pan
  -  Provincial Boundary (2016)

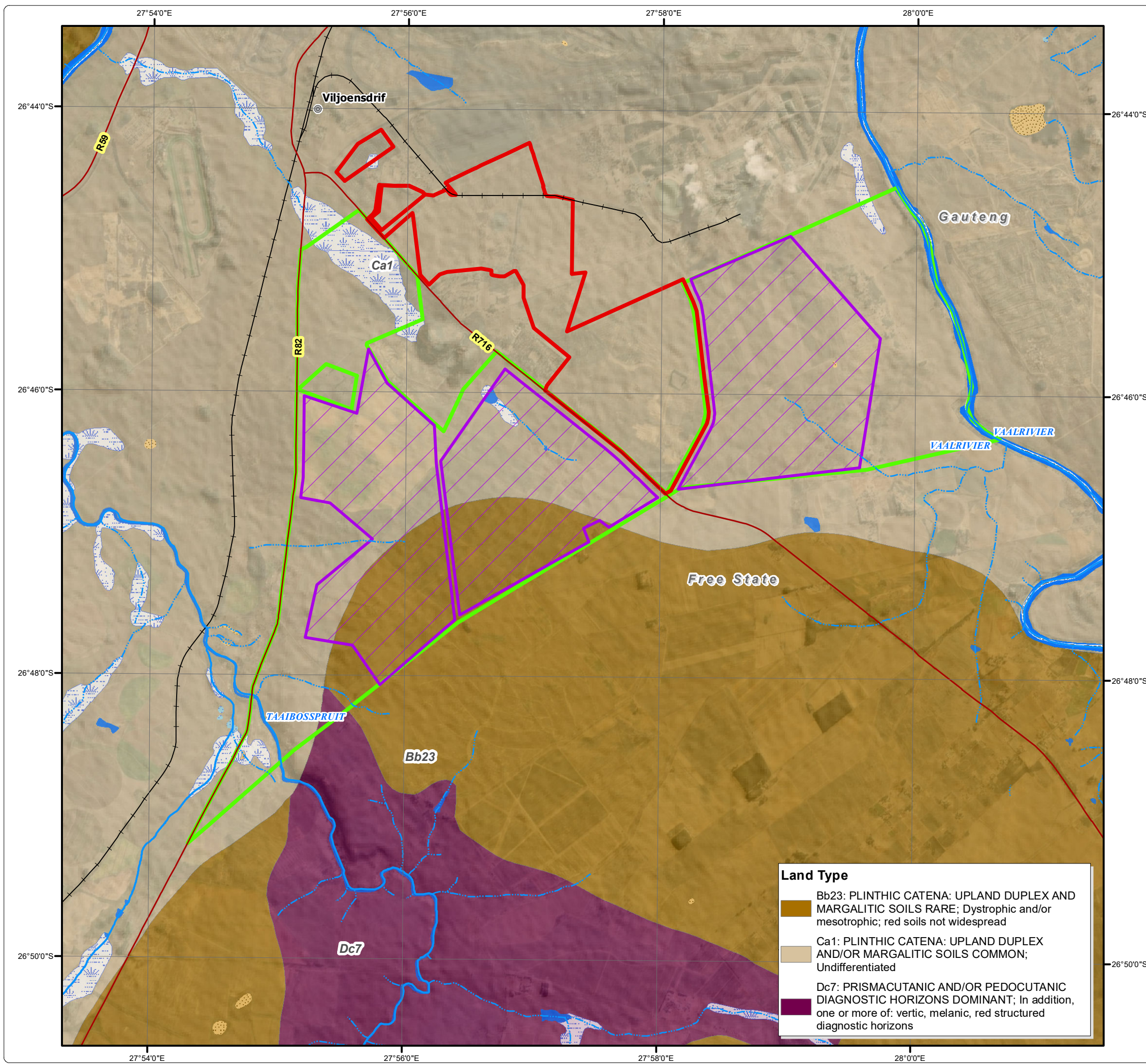
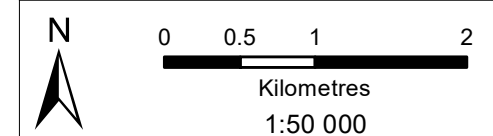
- Land Type**
-  Bb23: PLINTHIC CATENA: UPLAND DUPLEX AND MARGALITIC SOILS RARE; Dystrophic and/or mesotrophic; red soils not widespread
  -  Ca1: PLINTHIC CATENA: UPLAND DUPLEX AND/OR MARGALITIC SOILS COMMON; Undifferentiated
  -  Dc7: PRISMACUTANIC AND/OR PEDOCUTANIC DIAGNOSTIC HORIZONS DOMINANT; In addition, one or more of: vertic, melanic, red structured diagnostic horizons



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
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Datum: WGS 1984                              Revision Number: 1  
Central Meridian: 27°E                        Date: 01/07/2021












# Copper Sunset Sand Mining Right Extension Application

## Land Use

### Legend

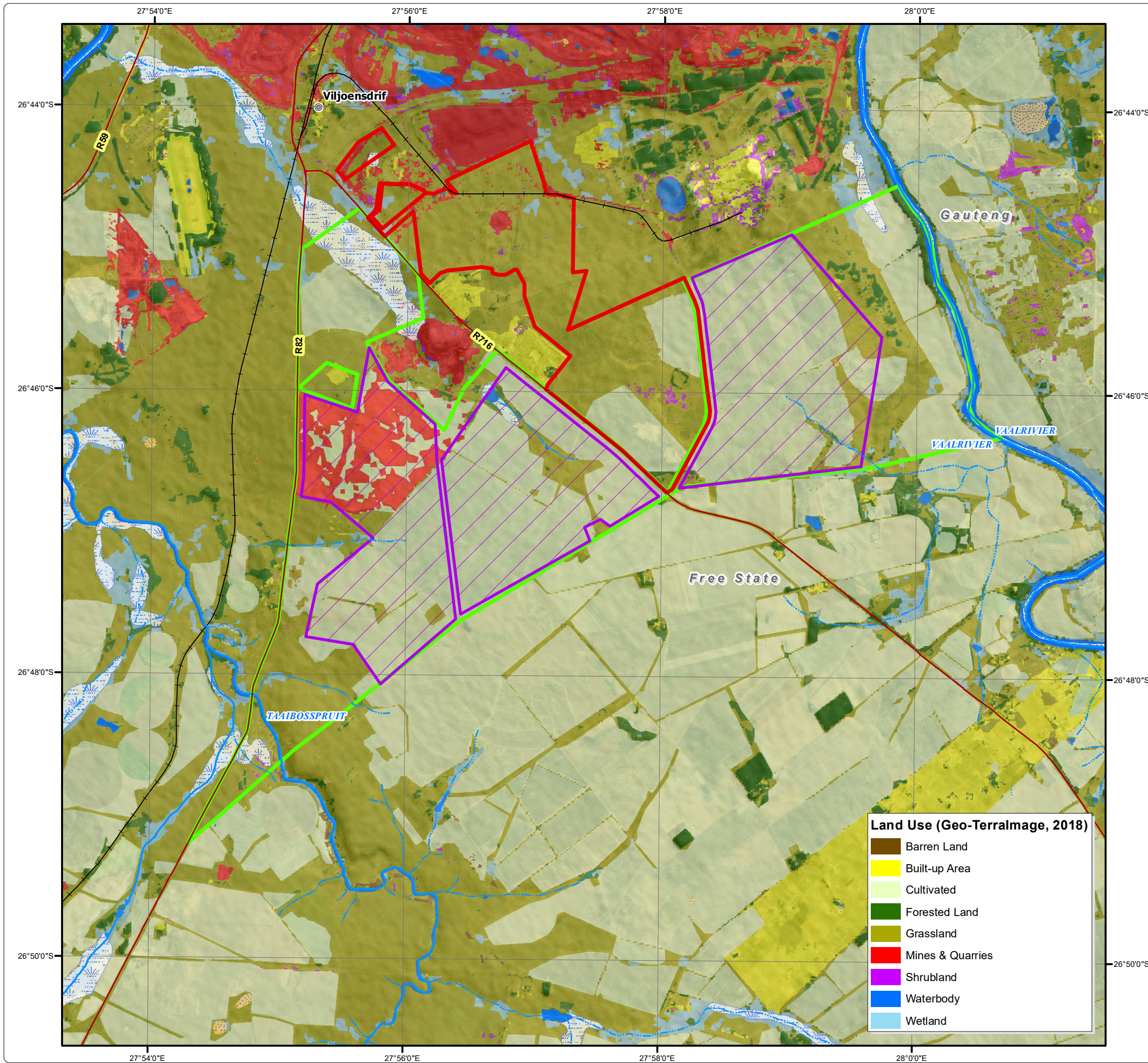
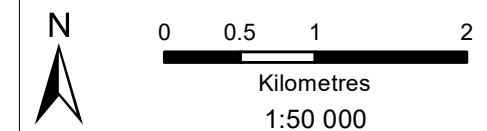
-  Existing Mining Right Application Area
  -  Proposed Mining Right Extension Area
  -  Mining Areas
  -  Other Town
- Rivers and Streams**
-  Non-Perennial River / Stream
  -  Perennial River/Stream
- Inland Water**
-  Dam / Lake
  -  Non-Perennial Pan
  -  Perennial Pan
  -  Provincial Boundary (2016)

- Land Use (Geo-Terralmage, 2018)**
-  Barren Land
  -  Built-up Area
  -  Cultivated
  -  Forested Land
  -  Grassland
  -  Mines & Quarries
  -  Shrubland
  -  Waterbody
  -  Wetland



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 Central Meridian: 27°E                        Date: 01/07/2021



# Copper Sunset Sand Mining Right Extension Application Floodlines

## Legend

- Existing Mining Right Application Area
- Proposed Mining Right Extension Area
- Mining Areas
- Major Town
- ⊙ Other Town
- Road Network**
- Main Road
- Rivers and Streams**
- Non-Perennial River / Stream
- Perennial River/Stream
- Railway Line
- Inland Water**
- Dam / Lake
- Marsh / Swamp
- Non-Perennial Pan
- Perennial Pan
- Provincial Boundary (2016)
- Floodlines**
- 1:50 Year Floodline
- 1:100 Year Floodline



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Projection: Transverse Mercator      Ref #: COP6679\_EA\_08\_AJM\_v1  
 Datum: WGS 1984                              Revision Number: 1  
 Central Meridian: 27°E                        Date: 01/07/2021








# Copper Sunset Sand Mining Right Extension Application Regional Vegetation

## Legend

-  Existing Mining Right Application Area
  -  Proposed Mining Right Extension Area
  -  Mining Areas
  -  Other Town
- Rivers and Streams**
-  Non-Perennial River / Stream
  -  Perennial River/Stream
- Inland Water**
-  Dam / Lake
  -  Non-Perennial Pan
  -  Perennial Pan
  -  Provincial Boundary (2016)

**Regional Vegetation**  
(Mucina & Rutherford, 2012)


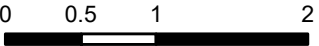
-  Andesite Mountain Bushveld
-  Central Free State Grassland
-  Soweto Highveld Grassland



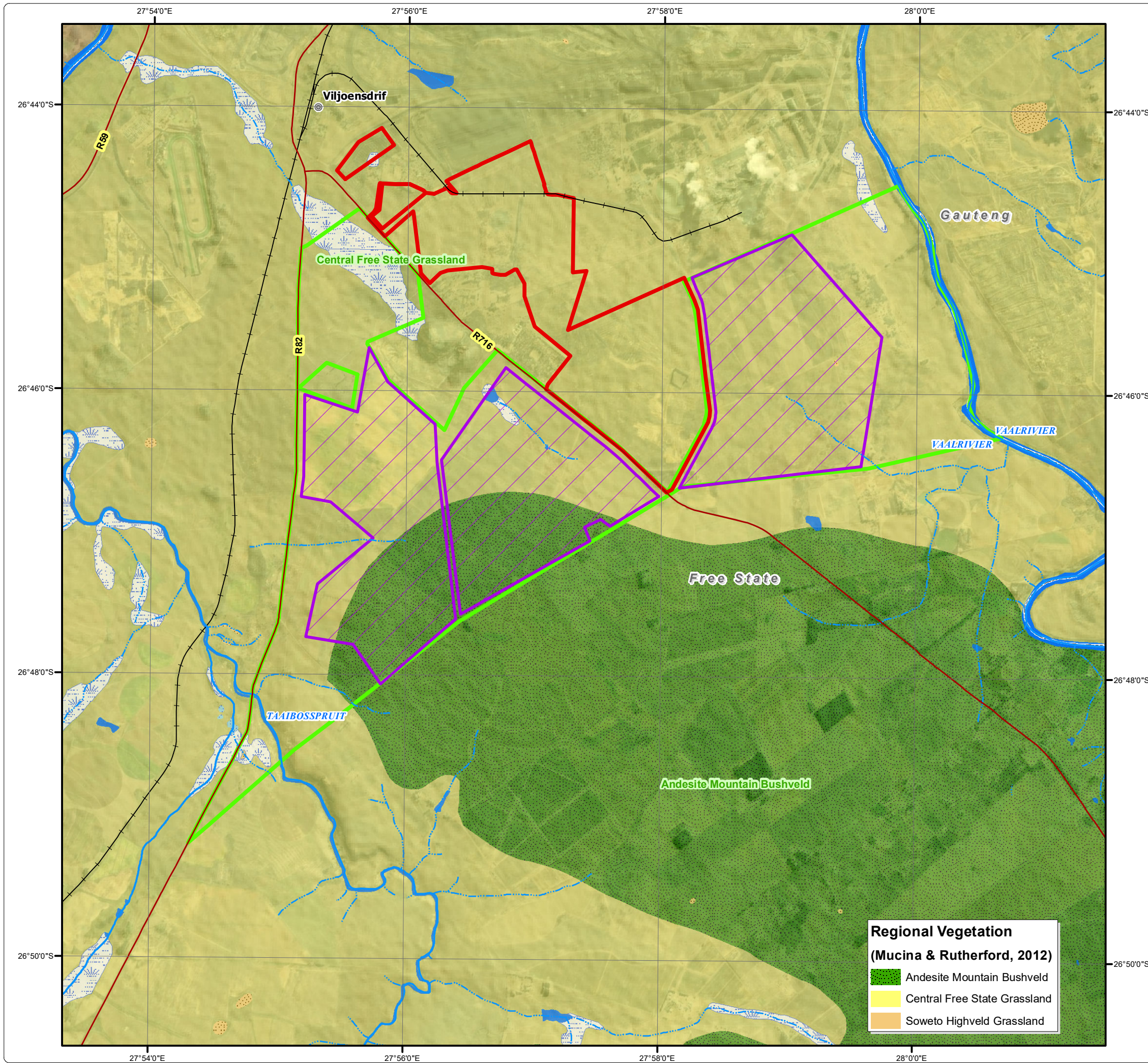
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 Central Meridian: 27°E                        Date: 01/07/2021

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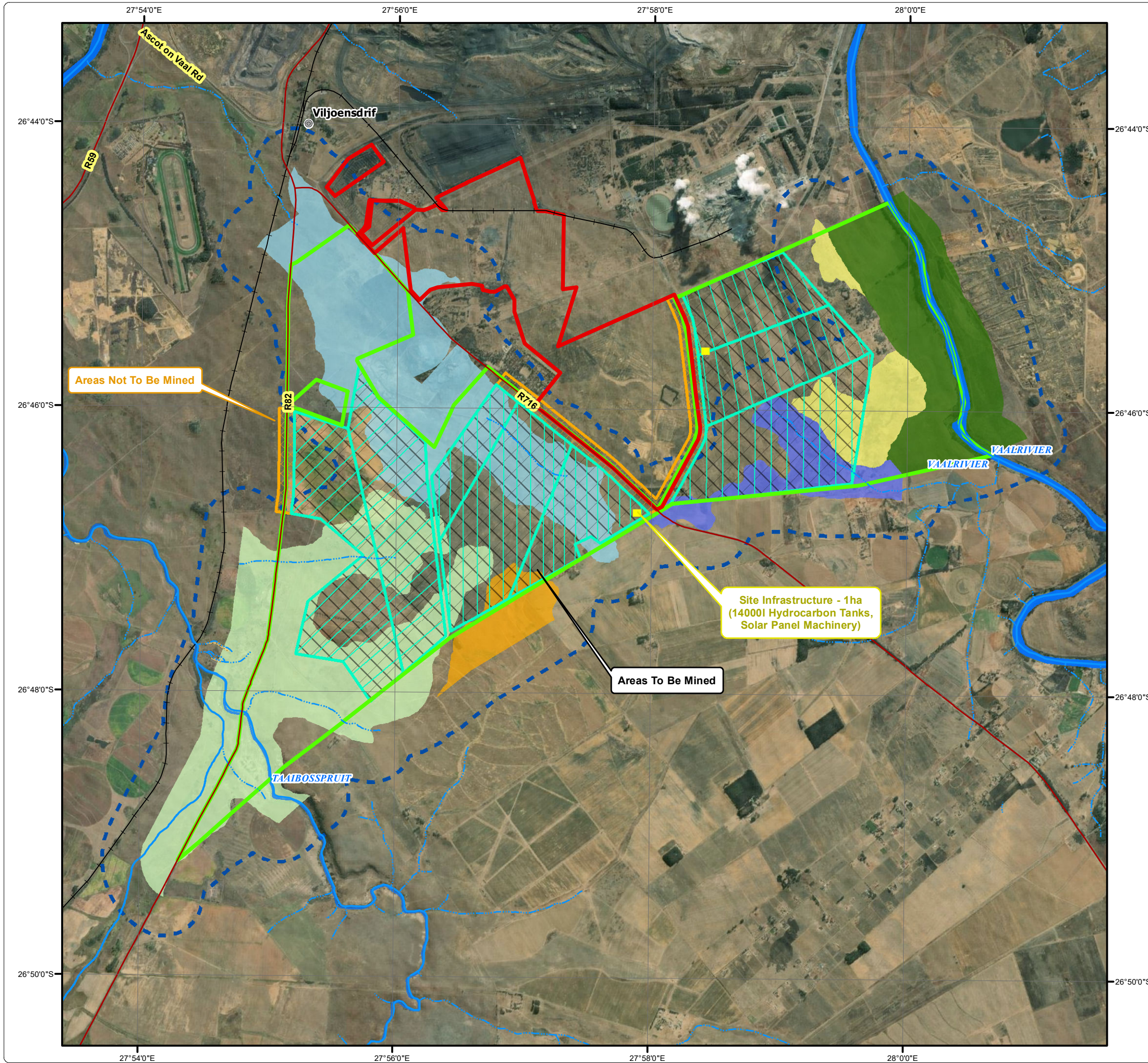



# Copper Sunset Sand Mining Right Extension Application

## Wetland Delineation

### Legend

-  Existing Mining Right Application Area
-  Proposed Mining Right Extension Area
-  Other Town
- Rivers and Streams**
  -  Non-Perennial River / Stream
  -  Perennial River/Stream
- Proposed Infrastructure**
  -  Permanent Haul Road
  -  Temporary Haul Road
  -  Areas not to be Mined
  -  Areas to be Mined
  -  Site Infrastructure & Offices
- Wetland Delineation**
  -  Channelled Valley Bottom & Seep
  -  Channelled Valley Bottom
  -  Floodplain
  -  Floodplain & associated Valley Bottom
  -  Seep
  -  Valley Head Seep & Channelled Valley Bottom
  -  500m Wetland Buffer

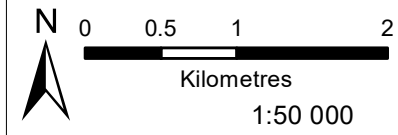




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 Datum: WGS 1984                              Revision Number: 1  
 Central Meridian: 27°E                              Date: 01/07/2021



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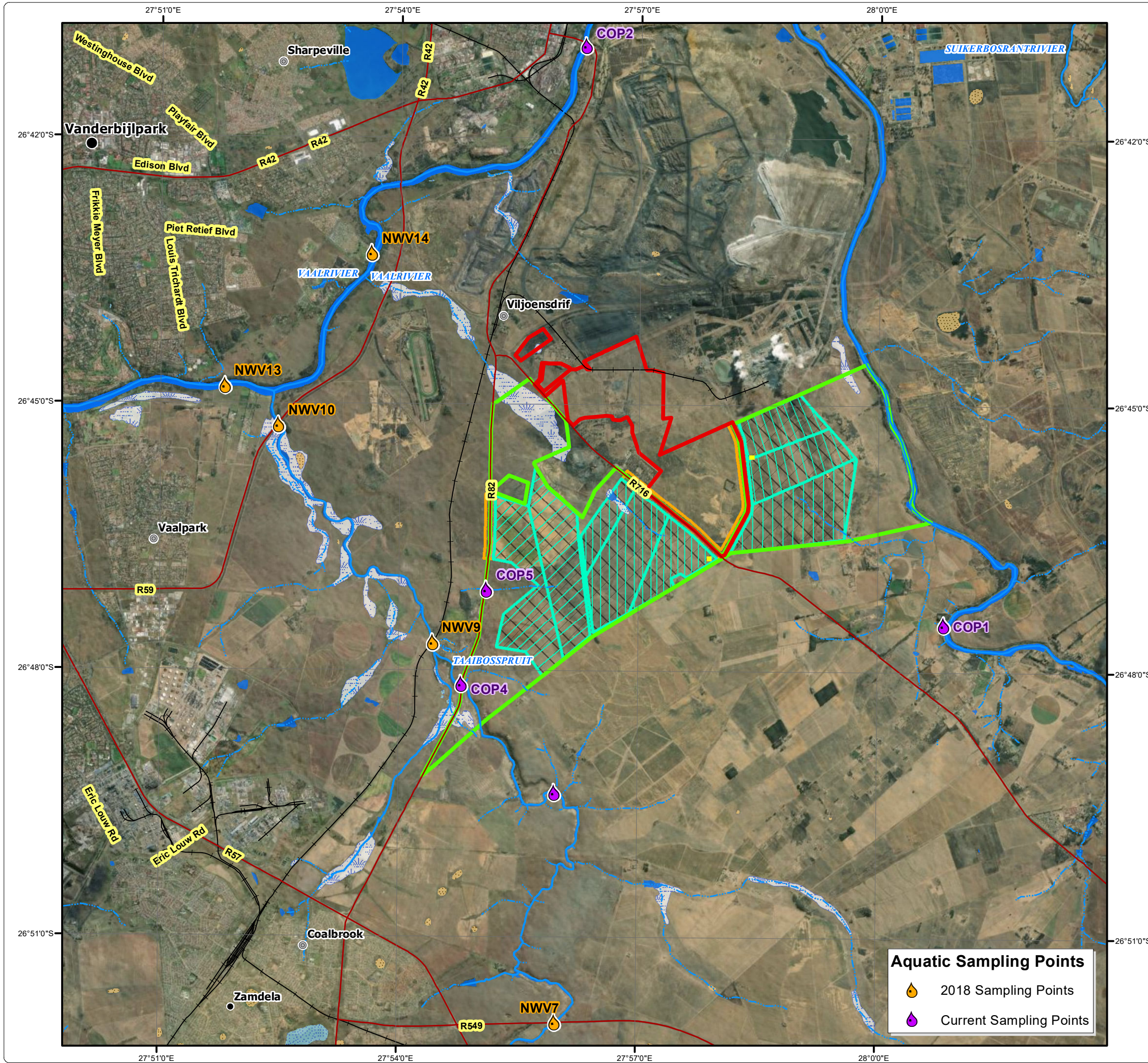
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# Copper Sunset Sand Mining Right Extension Application

## Aquatic Sampling Points

### Legend

- Existing Mining Right Application
- Proposed Mining Right Extension Area
- Major Town
- ⊙ Other Town
- Settlement
- Road Network**
- Main Road
- Rivers and Streams**
- ⋯ Non-Perennial River / Stream
- Perennial River/Stream
- +— Railway Line
- Inland Water**
- Dam / Lake
- ▨ Marsh / Swamp
- ▨ Non-Perennial Pan
- ▨ Perennial Pan
- Proposed Infrastructure**
- Permanent Haul Road
- Temporary Haul Road
- ▨ Areas not to be Mined
- ▨ Areas to be Mined
- Site Infrastructure & Offices

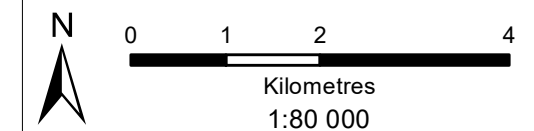


### Aquatic Sampling Points

- 2018 Sampling Points
- Current Sampling Points

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Projection: Transverse Mercator    Ref #: COP6679\_EA\_11\_AJM\_v1  
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# Copper Sunset Sand Mining Right Extension Application Composite Map

## Legend

- Existing Mining Right Application
- Proposed Mining Right Extension Area
- Other Town
- Rivers and Streams**
  - Non-Perennial River / Stream
  - Perennial River/Stream
- Inland Water**
  - Dam / Lake
  - Non-Perennial Pan
  - Perennial Pan
- Proposed Infrastructure**
  - Permanent Haul Road
  - Temporary Haul Road
  - Areas not to be Mined
  - Areas to be Mined
  - Site Infrastructure & Offices

## Composite Map Layers

- |  |   |   |
|--|---|---|
| <ul style="list-style-type: none"> <li><span style="color: magenta;">●</span> Identified Heritage Resources</li> <li><span style="color: orange;">⊕</span> Air Quality Monitoring Location</li> <li><span style="color: cyan;">●</span> Noise Receiver</li> <li><span style="color: green;">⊕</span> Noise Monitoring Location</li> <li><span style="color: purple;">●</span> Current Aquatic Sampling Points</li> <li><span style="color: cyan;">●</span> Surface Water Monitoring Points</li> <li><span style="border-bottom: 2px dashed yellow; width: 20px; display: inline-block; margin-right: 5px;"></span> 1:50 Year Floodline</li> <li><span style="border-bottom: 2px solid red; width: 20px; display: inline-block; margin-right: 5px;"></span> 1:100 Year Floodline</li> </ul> | <p><b>Habitat Delineation</b></p> <ul style="list-style-type: none"> <li><span style="color: orange;">●</span> <i>Boophone disticha</i></li> <li><span style="color: blue;">●</span> Dam</li> <li><span style="color: green;">●</span> <i>Eucomis autumnalis</i></li> <li><span style="color: yellow;">●</span> Marsh Owl</li> <li><span style="color: pink;">●</span> <i>Silene burchellii</i> var. <i>burchellii</i></li> <li><span style="background: repeating-linear-gradient(45deg, transparent, transparent 2px, black 2px, black 4px); border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> High Faunal Activity</li> </ul> | <p><b>Wetland Delineation</b></p> <ul style="list-style-type: none"> <li><span style="background-color: blue; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Channelled Valley Bottom &amp; Seep</li> <li><span style="background-color: lightblue; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Channelled Valley Bottom</li> <li><span style="background-color: green; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Floodplain</li> <li><span style="background-color: lightgreen; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Floodplain &amp; associated Valley Bottom</li> <li><span style="background-color: yellow; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Seep</li> <li><span style="background-color: orange; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Valley Head Seep &amp; Channelled Valley Bottom</li> <li><span style="border-bottom: 2px dashed blue; width: 20px; display: inline-block; margin-right: 5px;"></span> 500m Wetland Buffer</li> </ul> |
|--|---|---|



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