

DONAWAY
ENVIRONMENTAL

VISUAL IMPACT ASSESSMENT: SITE SENSITIVITY VERIFICATION REPORT

The Proposed Kopanya PV Project and Associated Infrastructure
near Steelpoort, Limpopo Province

PROJECT DETAILS

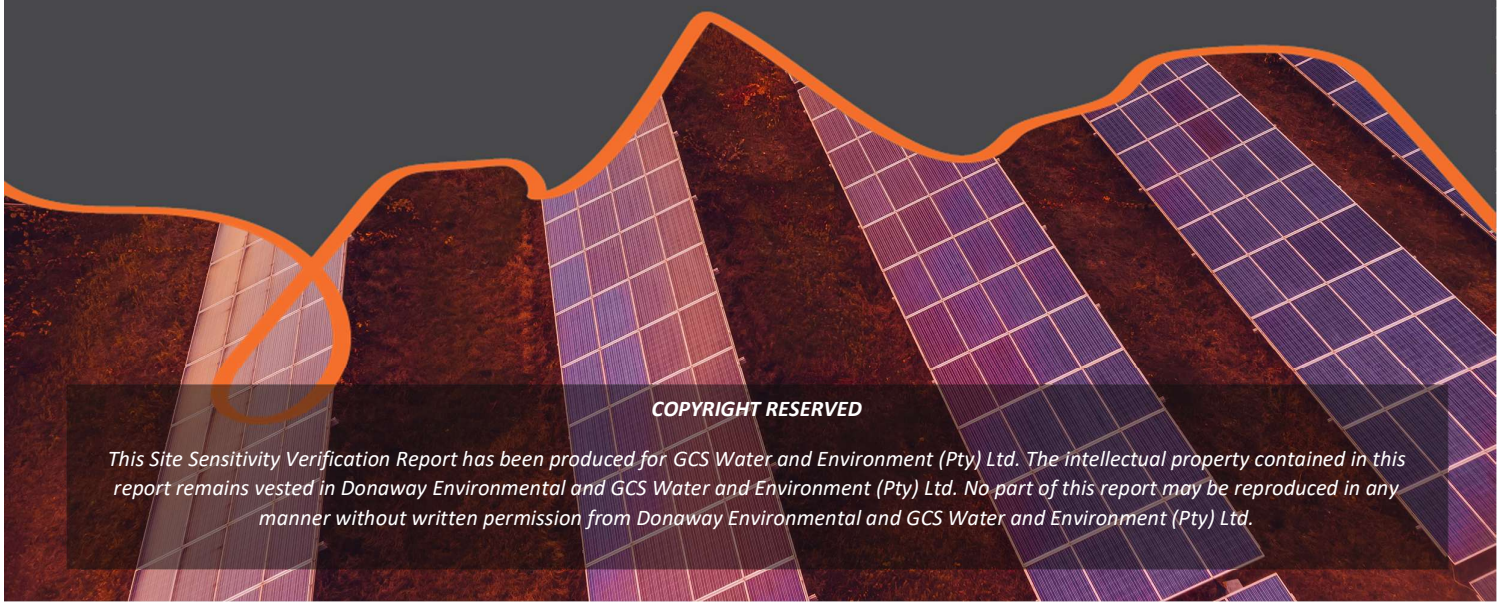
Project title: **Visual Impact Assessment: Site Sensitivity Verification Report –** The Proposed Kopanya PV Project and Associated Infrastructure near Steelpoort, Limpopo Province

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LIST OF ACRONYMS

AMSL	Above Mean Sea Level
BESS	Battery Energy Storage System
DFFE	Department Forestry, Fisheries and the Environment
EA	Environmental Authorisation
EGI	Electrical Grid Infrastructure
EIA	Environmental Impact Assessment
HA	Hectares
KM	Kilometre
LM	Local Municipality
MTS	Main Transmission Substation
MW	Megawatt
MWp	Megawatt-peak
NEMA	National Environmental Management Act (No. 107 of 1998)
PV	Photovoltaic
SEF	Solar Energy Facility
SSV	Site Sensitivity Verification
VIA	Visual Impact Assessment
W	Watt
ZTV	Zone of Theoretical Visibility

1. INTRODUCTION

1.1. Project Background

The proposed Kopanya Solar PV Project comprises the development of a utility-scale photovoltaic (PV) facility with an installed capacity of approximately 25 Megawatt-peak (MWp). The project is proposed on land owned and operated by Northam Platinum Limited. The proposed development is located approximately 29 km south of Steelpoort in the Limpopo Province (Figure 1.1: Locality Map).

The total anticipated development footprint is approximately 49 hectares, incorporating PV arrays, internal access roads, inverter stations, a collector substation, laydown areas (±1 ha), and associated on-site infrastructure including an O&M building and auxiliary facilities. The PV plant will utilise single-axis tracking technology with bifacial modules, typically in the range of ±650–800 Watt (W) per panel, mounted on steel pile-driven support structures. Panel height is expected to be up to 5 m above ground level at maximum tilt. The facility is anticipated to comprise up to 45,000 panels, subject to final detailed design optimisation.

Electrical infrastructure will include inverter and transformer stations, a 132 kV on-site PV substation, and an overhead line connection to the Booysendal North Substation (Eskom). DC cabling will be buried via mechanical trenching, and transformers will likely be housed within prefabricated e-house structures.

Construction is expected to occur over a period of approximately 15 months, with a peak construction workforce of around 300 personnel. The operational lifespan of the facility is anticipated to be 25 years, with an estimated operational workforce of approximately 20 personnel.

Water requirements are estimated at approximately 1,790 m^3 during construction and 518 m^3 per annum during operations, sourced from mine water and/or boreholes (subject to confirmation). Stormwater, waste management, fire risk mitigation and sanitation systems will be implemented in accordance with detailed engineering and environmental management specifications to be finalised during subsequent design phases.

Certain technical elements (e.g. final module specifications, inverter configuration, detailed layout drawings and traffic volumes) remain subject to confirmation during detailed design; however, the overall project parameters are considered sufficiently defined for environmental assessment purposes at this stage.

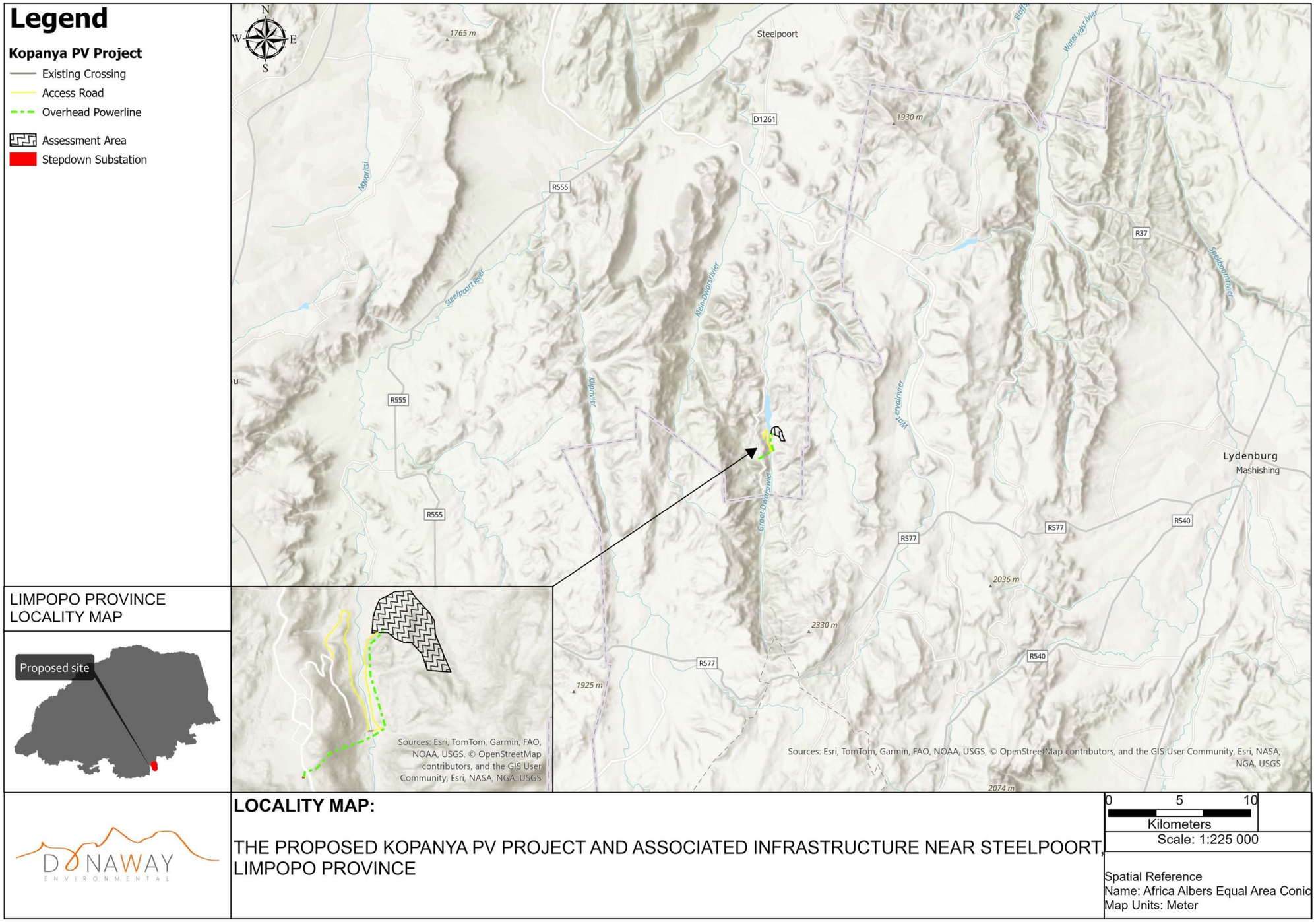


Figure 1.1: Locality Map: Kopanya PV Project

1.2. Site Sensitivity Report Requirements

This Site Sensitivity Verification Report is compiled in compliance with Government Notice No. 320, dated 20 March 2020, which includes the requirement for an Initial Site Sensitivity Verification Report to be produced for a development footprint. The outcome of the Initial Site Verification must be recorded in the form of a report that-

a) Confirms or disputes the current use of the land and environmental sensitivity as identified by the national web-based environmental screening tool;

b) Contains a motivation and evidence of either the verified or different use of the land and environmental sensitivity;

c) Is submitted together with the relevant reports prepared in accordance with the requirements of the Environmental Impact Assessment Regulation, 2014 as amended.

1.3. Department of Environment, Forestry and Fisheries (DFFE) Screening Report

The DFFE Screening Report has been produced specifically to consider various impacts identified with a Solar Photovoltaic Energy Facility. This Visual Impact Site Sensitivity Verification Report has been produced specifically to consider the associated visual sensitivities identified with a Solar Photovoltaic Energy Facility reflected in the DFFE Screening Tool:

- Landscape (Solar) Theme Sensitivity

Six (6) sensitivity features were identified in the DFFE Screening Tool, with an overall sensitivity result of "Very High". **Table 1.1** and **Figure 1.2** below reflect the sensitivities in the DFFE Screening Tool Report.

Table 1.1: Landscape Sensitivity Features

Sensitivity	Feature(s)
High	Slope between 1:4 and 1:10
High	Within 500 m of a river
Low	Slope less than 1:10
Medium	Within 1000 m of a wetland
Very High	Slope more than 1:4
Very High	Within 250 m of a river

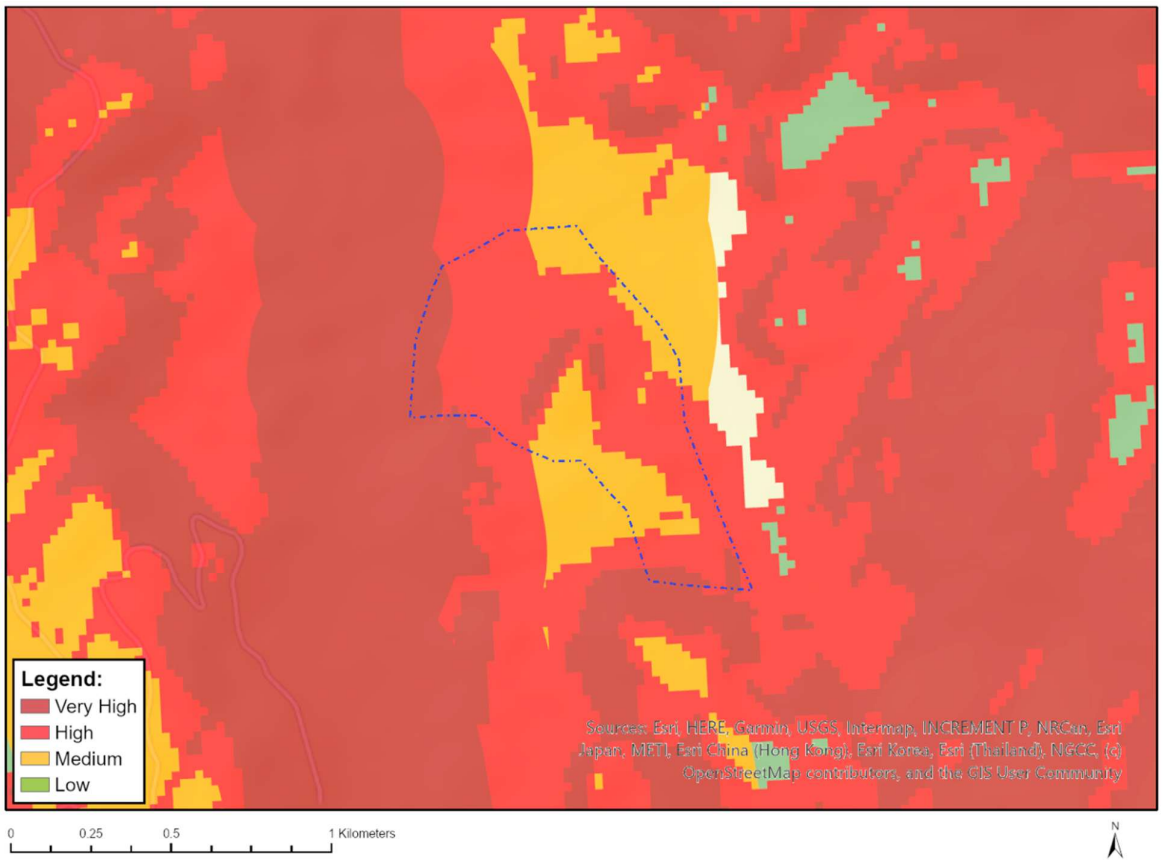


Figure 1.2: DFFE Screening Tool: Landscape Sensitivity Map

2. SITE SENSITIVITY VERIFICATION

This section will evaluate and verify the sensitivity ratings provided by the DFFE Screening Tool Report and provide feedback from the specialist.

Table 2.1: Verification of DFFE Screening Report Sensitivity Ratings for the Landscape Theme

Theme	DFFE Screening Tool Report Sensitivity	Specialist Sensitivity	Rating Confirmed/disputed and Reasons	Compliance Statement or Full Assessment
Landscape	Slope between 1:4 and 1:10 - High	Increase in visibility and exposure.	Disputed: Medium - Existing vegetation and topography screening is excellent. Visibility will be very limited.	Full Assessment
	Within 500 m of a river - High	Impact on scenic landscape features and sense of place.	Disputed: Medium - Although the Groot-dwarsrivier and the Der Bronchen dam do add to scenic quality, they are not known for attracting visitors. The Der Brochen Dam is located on mine property, which limits visitors if not for mining-related visits.	Full Assessment
	Slope less than 1:10 - Low	Increase in visibility and exposure.	Confirmed	Compliance statement
	Within 1000 m of a wetland – Medium	Impact on scenic landscape features and sense of place.	Confirmed	Full Assessment
	Slope more than 1:4 – Very High	Increase in visibility and exposure.	Disputed: Medium - Existing vegetation and topography screening is excellent. Visibility will be very limited.	Full Assessment
	Within 250 m of a river - Very High	Impact on scenic landscape features and sense of place.	Disputed: Medium - Although the Groot-dwarsrivier and the Der Bronchen dam do add to scenic quality, they are not known for attracting visitors. The Der Brochen Dam is located on mine property, which limits visitors if not for mining-related visits.	Full Assessment

Please see maps below for evidence.

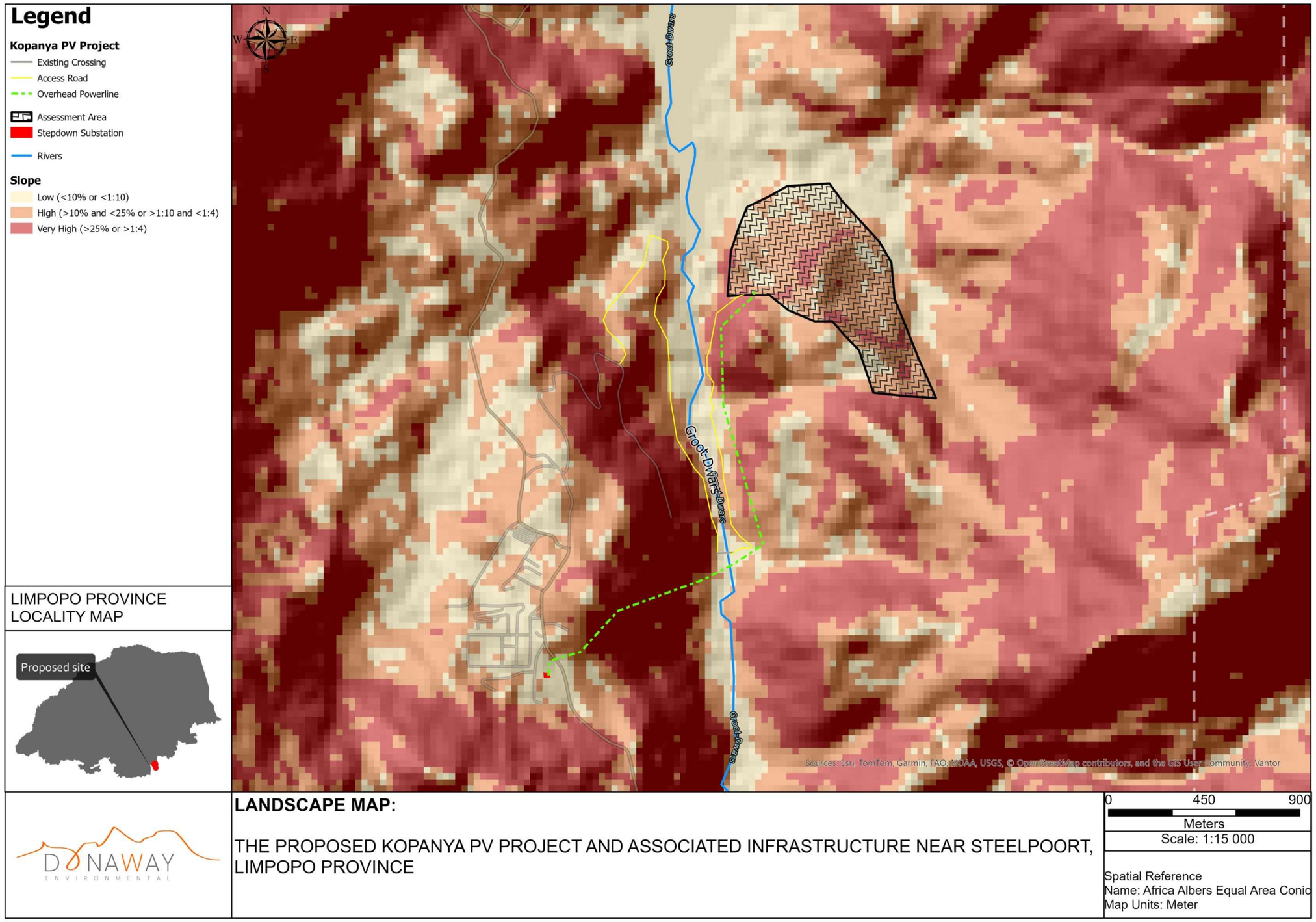


Figure 2.1: Sensitivity Map: Slope

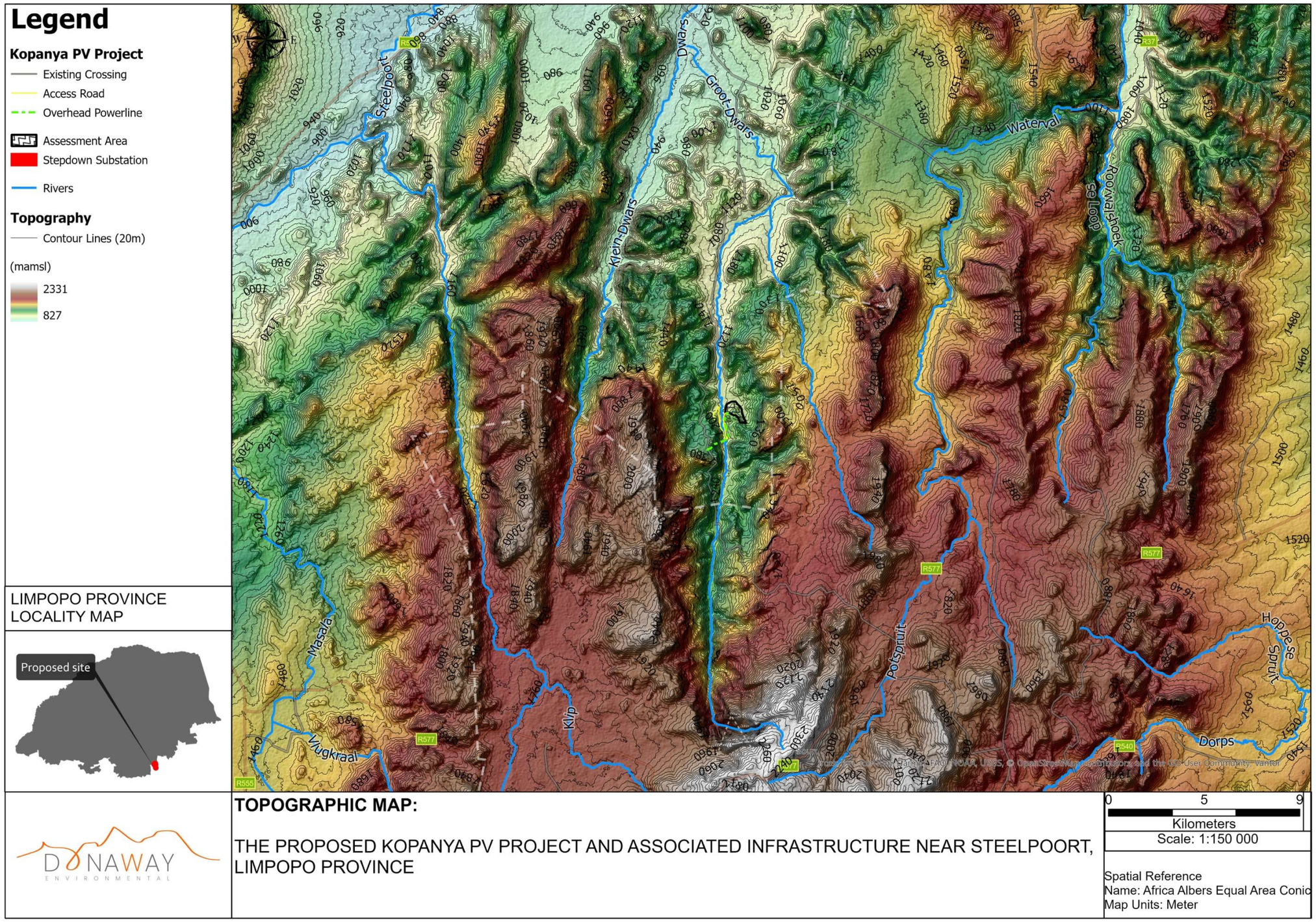


Figure 2.2: Topography Map

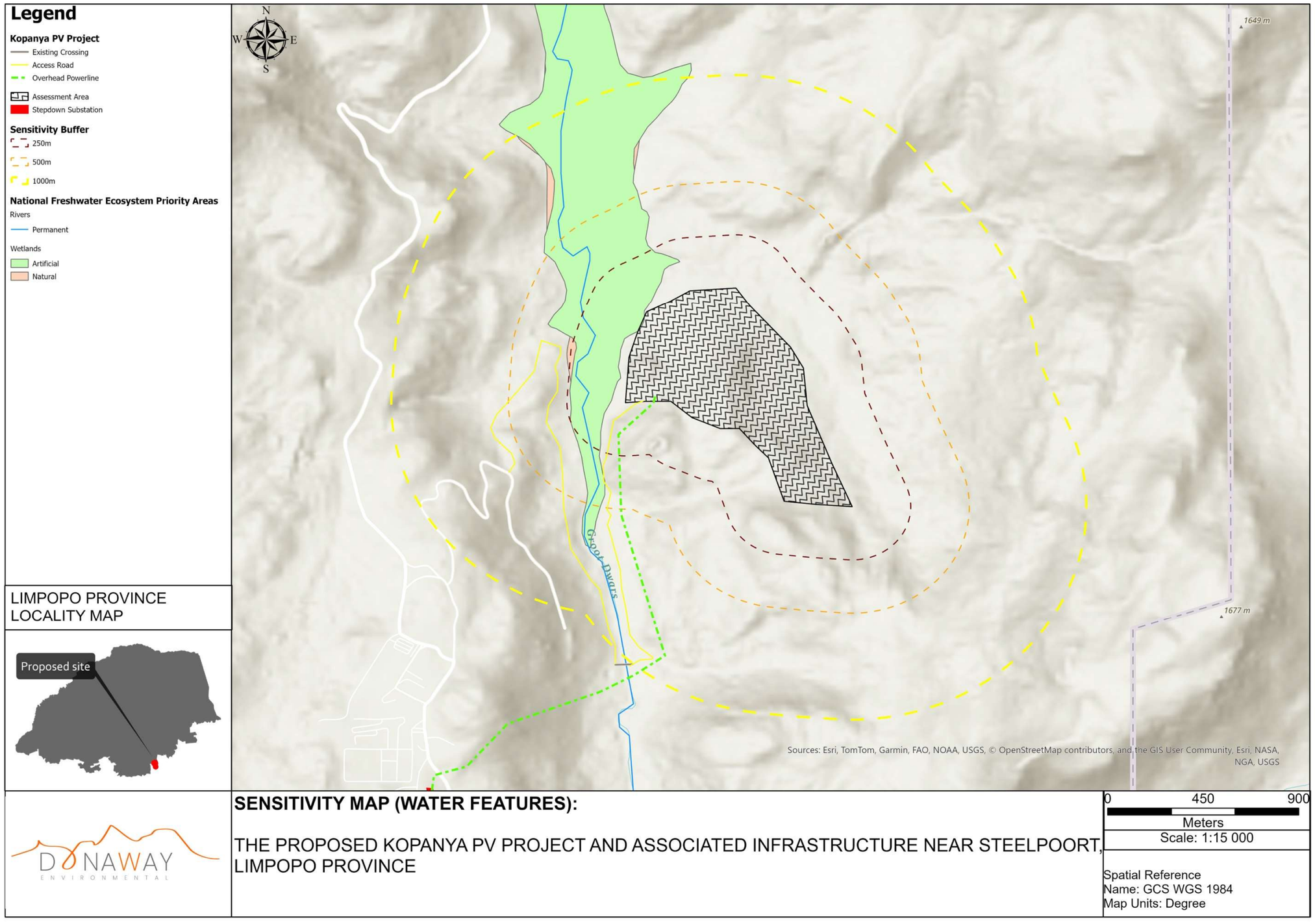


Figure 2.3: Sensitivity Map: Water Features

3. ADDITIONAL SENSITIVITIES – THE NEED FOR A VISUAL IMPACT ASSESSMENT

This section aims to explore further sensitivities of the area and evaluate the need for a Visual Impact Assessment.

3.1. Sense Of Place

The proposed Kopanya PV Project is located within a distinctly mountainous landscape 29 km south of Steelpoort in the Limpopo Province. The topography is characterised by prominent ridgelines, steep slopes and deeply incised valleys, creating a strong sense of enclosure and spatial definition. The mountainous terrain, as illustrated on the topographic and slope maps, contributes to a landscape that feels rugged, elevated and visually dynamic rather than open and expansive.

The site itself falls within the Sekhukhune Mountain Bushveld vegetation type, which dominates the immediate surroundings. This vegetation, together with the broken topography, creates a textured and visually varied Bushveld character. The Bushveld landscape is interspersed with rocky outcrops, drainage lines and dense shrub and tree cover, reinforcing a sense of natural ruggedness and ecological distinctiveness.

Moving eastward and southward from the site, the landscape transitions into Sekhukhune Montane Grassland and further towards Steenkampsberg Montane Grassland. These grassland areas introduce a more open visual character, with broader slopes and a more “Highveld-like” feel. This transition between Bushveld and montane grassland gives the broader region a hybrid identity, neither purely Bushveld nor purely Highveld, but rather a meeting of the two landscape systems. The result is a varied and layered sense of place, where enclosed valleys contrast with more open upland grassland areas.

Mining activities form a prominent component of the regional identity. Extensive mining operations are located within the valleys to the north and south of the site, with the most concentrated and visually dominant mining infrastructure occurring toward Steelpoort to the north. While the mountainous terrain provides some visual screening, mining infrastructure, haul roads and associated activities contribute to a working industrial character within the valley floors. As such, the region reflects a dual identity: scenic mountainous Bushveld and grassland landscapes alongside a strong industrial-mining presence that underpins the local economy.

Settlement patterns are generally dispersed, consisting primarily of farmsteads, worker accommodation and mining-related communities located within valleys and along access routes. The sense of place is therefore more rural-industrial than urban, with economic activity closely tied to mineral extraction.

Overall, the sense of place can be described as a rugged, mountainous Bushveld-grassland transition landscape shaped both by its natural scenic qualities and by its longstanding mining economy. The area conveys a balance between natural mountainous character and industrial functionality, with mining forming an established and defining component of the regional landscape identity.

3.2. Land Use

The current land use of the project properties is primarily mining. The broader region is predominantly characterised by mining and agricultural activities, although much of the mountainous terrain is not well suited to sustainable agricultural use.

3.3. Sensitive Visual Receptors

Sensitive Visual Receptors are specific areas or people that might be sensitive towards visual change of an area. In this case, part of the landscape will be converted from agricultural use to industrial/special use, negatively impacting the scenic quality.

Sensitive receptors within a 10 km project area of influence might include:

- Farmsteads
- Worker accommodation on farms
- Small informal settlements/villages
- Roads

Refer to **Figure 3.1** below for an indication of sensitive receptors together with a Zone of Theoretical Visibility.

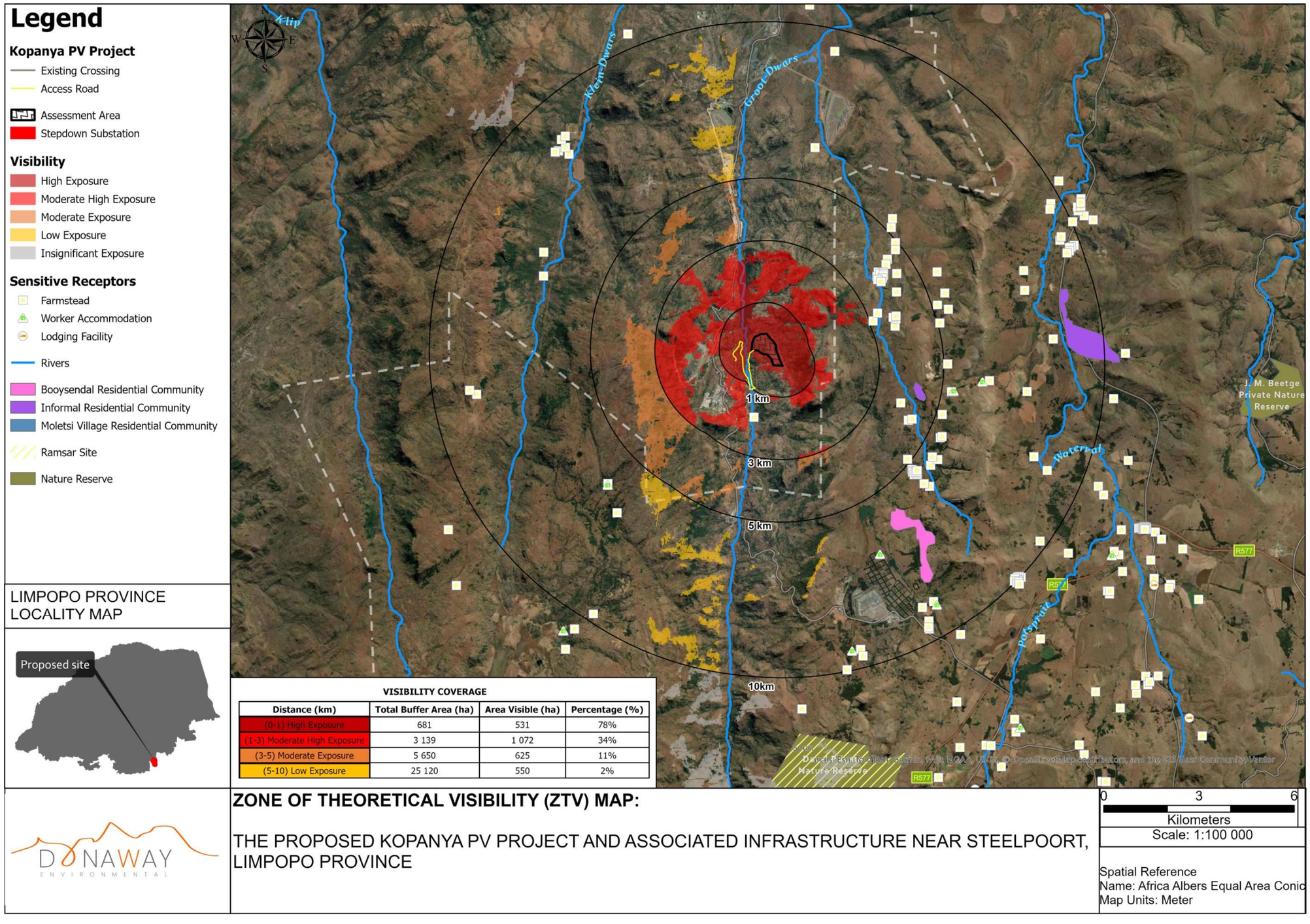


Figure 3.1: ZTV & Receptors Map

4. CONCLUSION

This Visual Site Sensitivity Verification Report was compiled in accordance with Government Notice No. 320 of 20 March 2020 and fulfils the requirement to verify and either confirm or dispute the environmental sensitivities identified by the National Web-Based Environmental Screening Tool.

The DFFE Screening Tool identified an overall "Very High" Landscape Theme Sensitivity, primarily driven by slope categories and proximity to rivers. Upon site verification and specialist assessment, it is concluded that several of these ratings are overstated when considered in the site-specific context.

Specifically:

- Sensitivities related to steep slopes (1:4 and steeper) and moderately steep slopes (1:4–1:10) were disputed and downgraded to Medium, as the existing mountainous topography and dense Bushveld vegetation provide substantial natural screening. The rugged terrain significantly limits long-distance visibility and visual exposure.
- Sensitivities associated with proximity to the Groot-Dwarsrivier and Der Brochen Dam were also disputed and reduced to Medium, as these features, while contributing to local scenic quality, are not established tourism destinations and are largely located within or adjacent to mining property with limited public access.

The Zone of Theoretical Visibility (ZTV) analysis clearly demonstrates that visibility of the proposed development footprint is highly constrained, primarily due to the pronounced mountainous landforms, deeply incised valleys and strong topographic containment. The ZTV indicates very limited exposure beyond the immediate site, and no significant Sensitive Visual Receptors (such as farmsteads, settlements or major roads) appear to experience meaningful visual exposure.

The broader sense of place is defined by a mountainous Bushveld–grassland transition landscape with an established mining character. Mining infrastructure already forms a defining component of the regional identity, particularly within the valley systems toward Steelpoort. The introduction of a solar photovoltaic facility within a predominantly mining land use context is therefore not considered to fundamentally alter the established rural-industrial character of the area.

In light of the above, while certain sensitivities warrant a full Visual Impact Assessment (VIA) in accordance with regulatory requirements, the site-specific evidence indicates that topography and existing vegetation are the dominant mitigating factors, substantially reducing potential visual impact.

5. RECOMMENDATIONS

A minimum Based on the findings of this Site Sensitivity Verification, the following recommendations are made:

Proceed with a Full Visual Impact Assessment (VIA)

A detailed VIA should be undertaken as required, with specific focus on:

- Refinement of the ZTV analysis;
- Assessment of cumulative visual impacts in relation to other renewable energy applications;
- Assessment of the proposed overhead powerline alignment.

Powerline Assessment

- The proposed overhead powerline must be assessed in detail within the full VIA, including potential skyline crossing, visual contrast and cumulative effects.

Given the strong topographic containment and the existing industrial-mining character of the region, visual impacts are anticipated to be localised and limited in extent. The mountainous terrain functions as the primary mitigating feature, significantly reducing broader landscape exposure.

Overall, with appropriate layout refinement and vegetation retention, the proposed development is considered visually manageable within the existing landscape context.