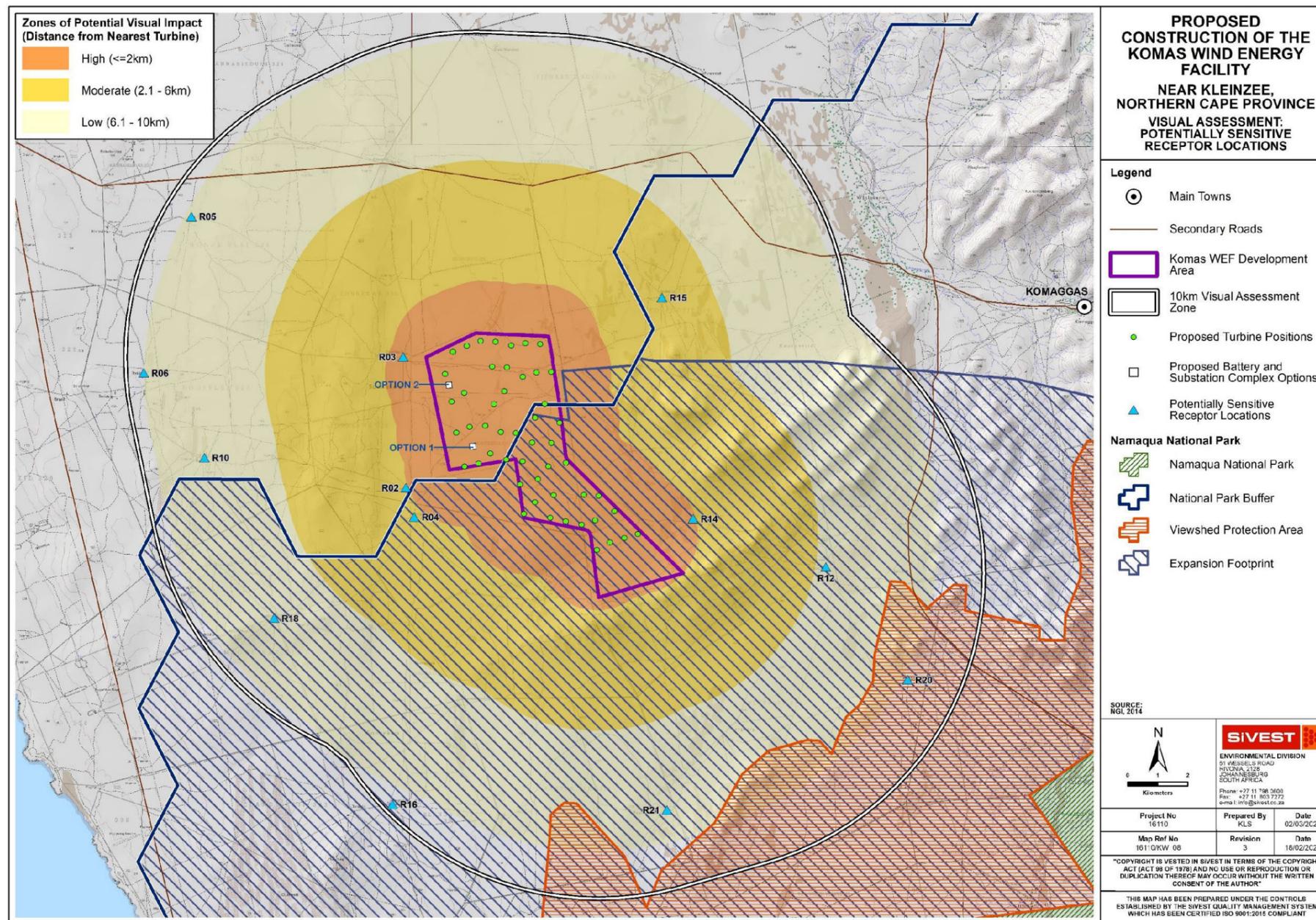
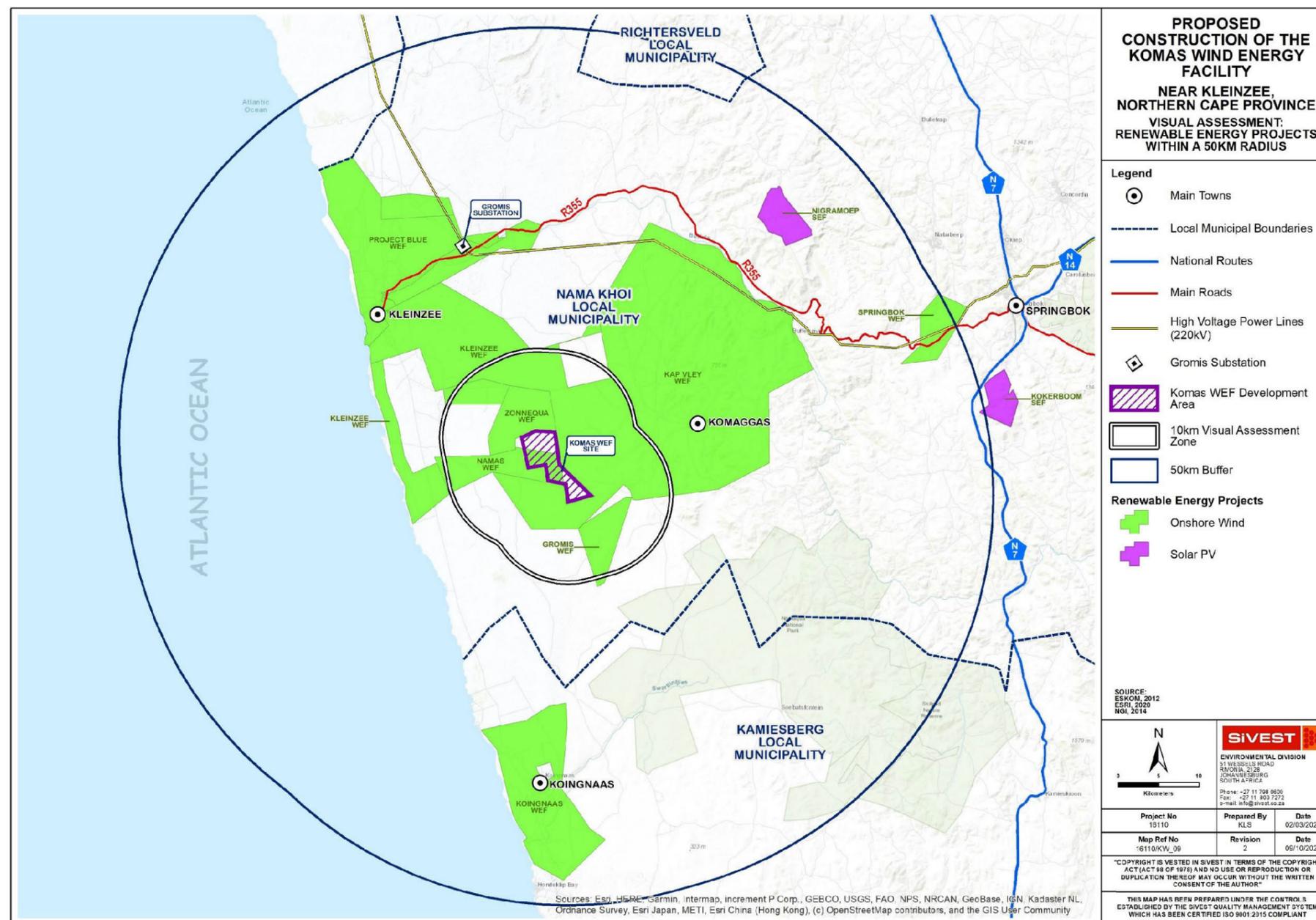


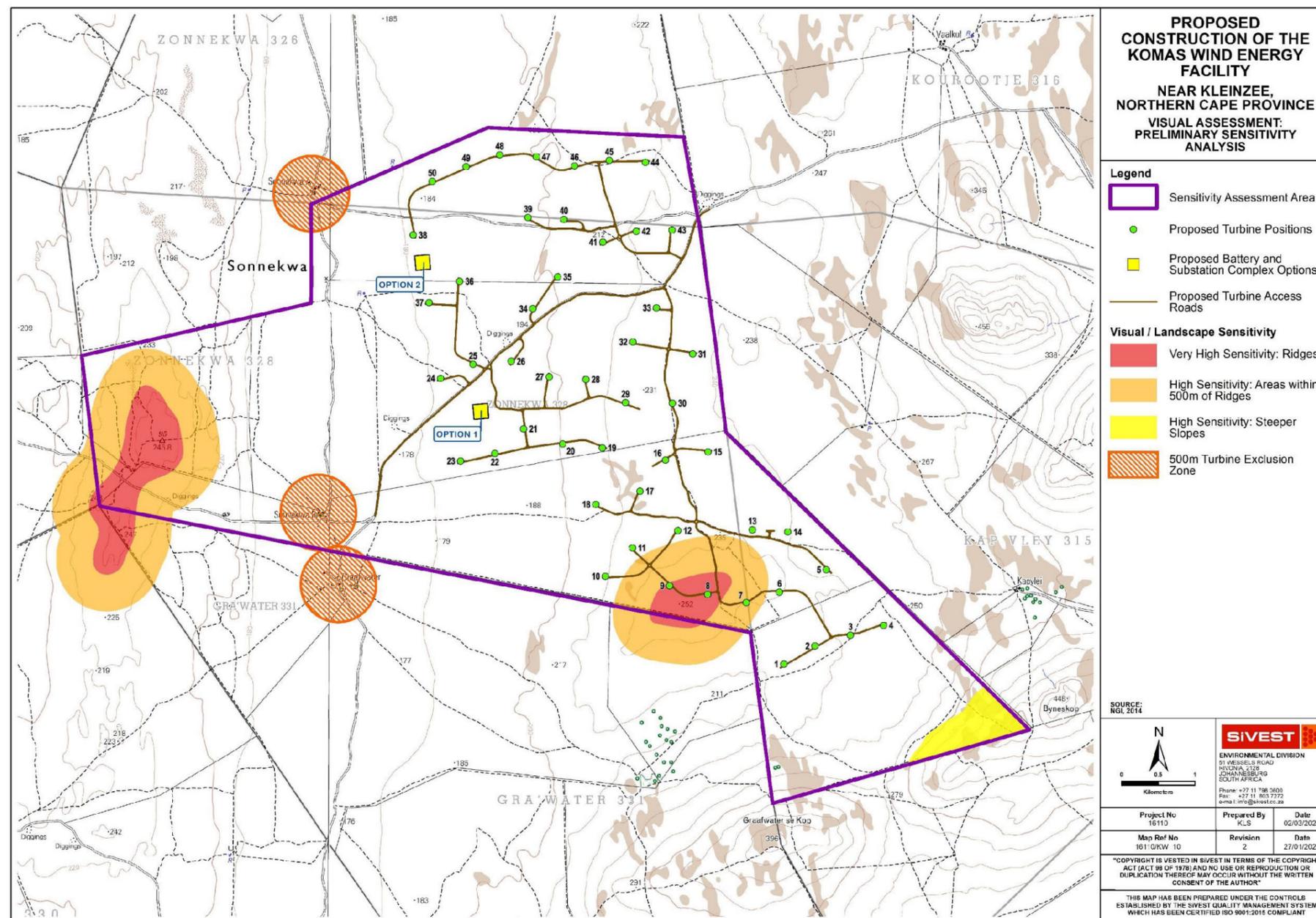
MAP 8: Potentially Sensitive Receptor Locations



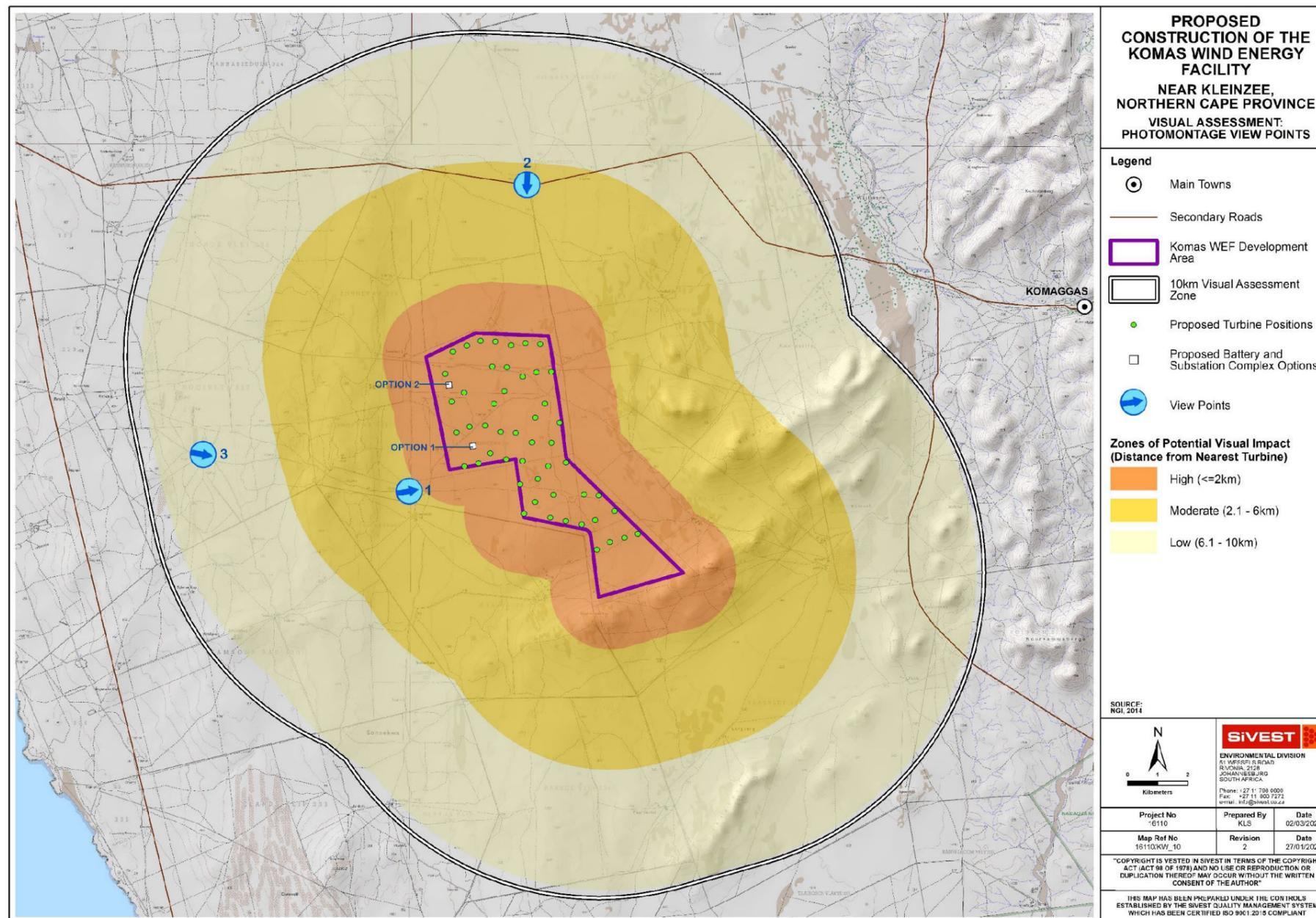
MAP 9: Renewable Energy Projects within a 50km Radius



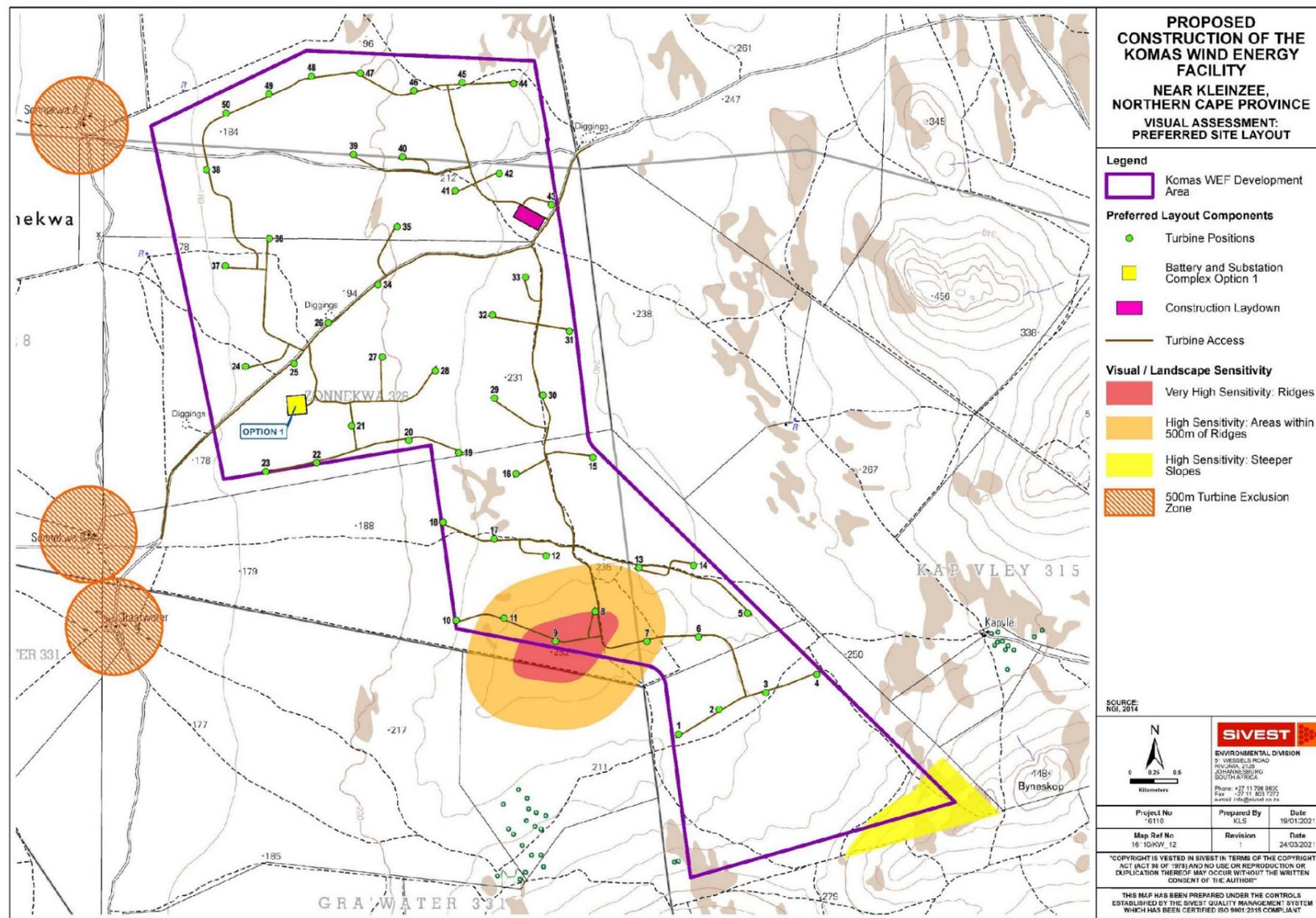
MAP 10: Preliminary Sensitivity Analysis



MAP 11: Photomontage View Points



MAP 12: Preferred Site Layout



## **APPENDIX E: SITE SENSITIVITY VERIFICATION (UNDERTAKEN IN TERMS OF PART A OF THE ASSESSMENT PROTOCOLS PUBLISHED IN GOVERNMENT NOTICE NO. 320 IN GOVERNMENT GAZETTE NO. 43110 ON 20 MARCH 2020)**

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Prior to commencing with the specialist assessment in accordance with Appendix 6 of the National Environmental Management Act, 1998 (Act 107 of 1998), as amended (NEMA) Environmental Impact Assessment (EIA) Regulations of 2014, as amended, a site sensitivity verification was undertaken in order to confirm or dispute the current land use and environmental sensitivity of the proposed project area as identified by the National Web-Based Environmental Screening Tool (Screening Tool).

The details of the site sensitivity verification are noted below:

<b>Date of Site Visit</b>	10 <sup>th</sup> February 2020 – 13 <sup>th</sup> February 2020
<b>Specialist Name</b>	Assessment undertaken by Kerry Schwartz Field investigation undertaken by Mark Summers
<b>Professional Registration Number</b>	South African Geomatics Council – GTc GISc 1187
<b>Specialist Affiliation / Company</b>	SiVEST (PTY) LTD

### **1 SITE SENSITIVITY VERIFICATION**

A site sensitivity verification for the Visual Impact Assessment (VIA) for the proposed Komass WEF has been conducted, based on a desktop-level assessment supported by field-based observation. This verification involved an assessment of factors as outlined below.

- **Physical landscape characteristics**

Physical landscape characteristics such as topography, vegetation and land use are important factors influencing the visual character and visual sensitivity of the study area. Baseline information about the physical characteristics of the study area was initially sourced from spatial databases provided by NGI, the South African National Biodiversity Institute (SANBI) and the South African National Land Cover Dataset (Geoterrimage – 2014). The characteristics identified via desktop means were later verified during the site visit.

- **Identification of sensitive receptors**

The identification of visual receptors involved a combination of desktop assessment as well as field-based. Initially Google Earth imagery was used to identify potential receptors within the study area and where possible, these receptor locations were verified and assessed during the field investigation.

- **Fieldwork and photographic review**

A four (4) day site visit was undertaken between the 10th and the 13th of February 2020 (mid-summer). The aim of the site visit was to:

- verify the landscape characteristics identified via desktop means;
- conduct a photographic survey of the proposed study area;

- verify the sensitivity of visual receptor locations identified via desktop means;
- eliminate receptor locations that are unlikely to be influenced by the proposed development;
- identify any additional visually sensitive receptor locations within the study area; and
- assist with the impact rating assessment from visually sensitive receptor locations.

## **2 OUTCOME OF SITE SENSITIVITY VERIFICATION**

Visual sensitivity of the broader area surrounding the proposed Komas WEF development site was found to be low largely due to the fact that the area is not typically valued or utilised for its tourism significance and there is limited human habitation resulting in relatively few sensitive or potentially sensitive receptors in the area.

The identification of areas of visual sensitivity on the development site involved a visibility analysis which showed that turbines placed on the site would be visible from all identified potentially sensitive receptors and as such, no areas on the site were significantly more sensitive than the remainder of the site. It was however noted that the visual prominence of a tall structure such as a wind turbine would be exacerbated if located on a ridge top or high lying plateau. As such, the ridges in the western and southern sector of the development site were identified as being sensitive and should be precluded from the WEF development footprint.

Steeper slopes in the south-eastern corner of the site were also identified as being visually sensitive. In addition, any farmsteads or receptors located on the development site or within 500 m of the boundary of the development site were identified as being sensitive and it was recommended that a 500 m turbine exclusion zone be established around these farmsteads or receptors. The exclusion of turbines from these zones would reduce the direct impact of the turbines on the occupants of the farmsteads, especially those impacts related to shadow flicker.

The demarcated areas of sensitivity are shown in the Figure 1 below.

The Basic Assessment for the proposed Komas Wind Energy Facility and associated infrastructure near Kleinsee in the Northern Cape Province.

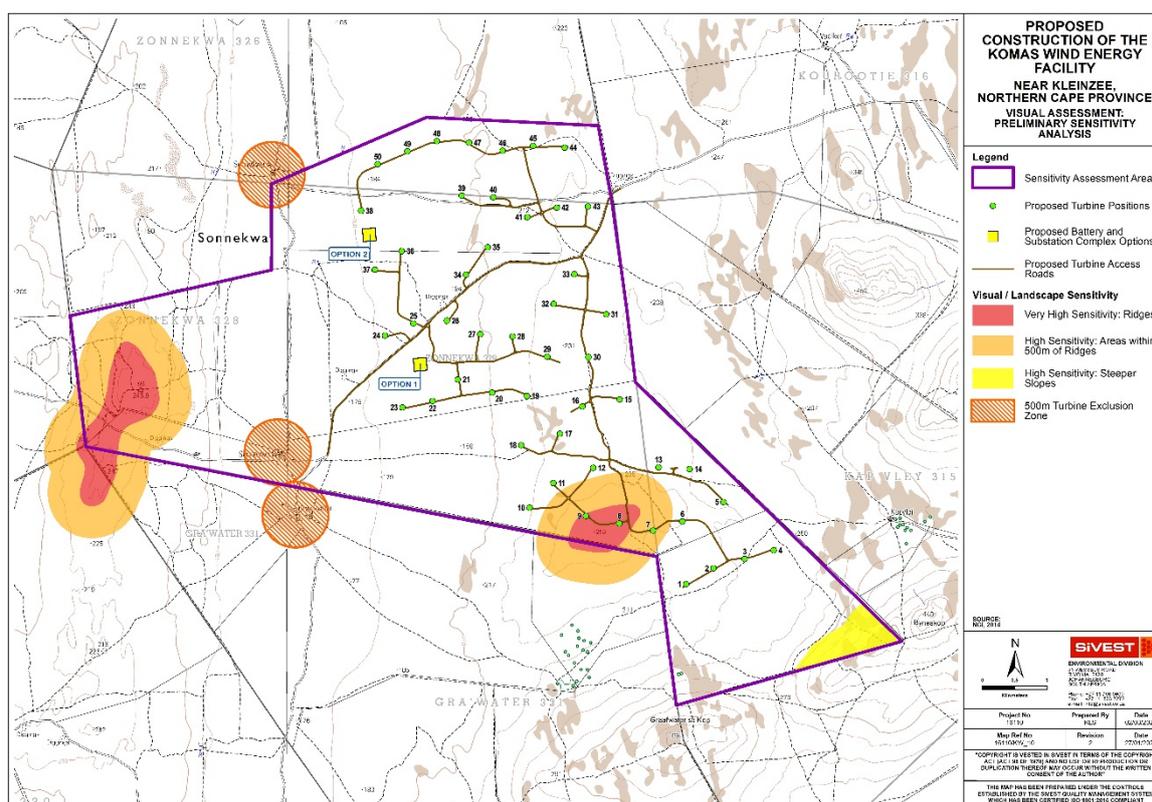


Figure 1: Sensitivity Analysis

### 3 NATIONAL ENVIRONMENTAL SCREENING TOOL

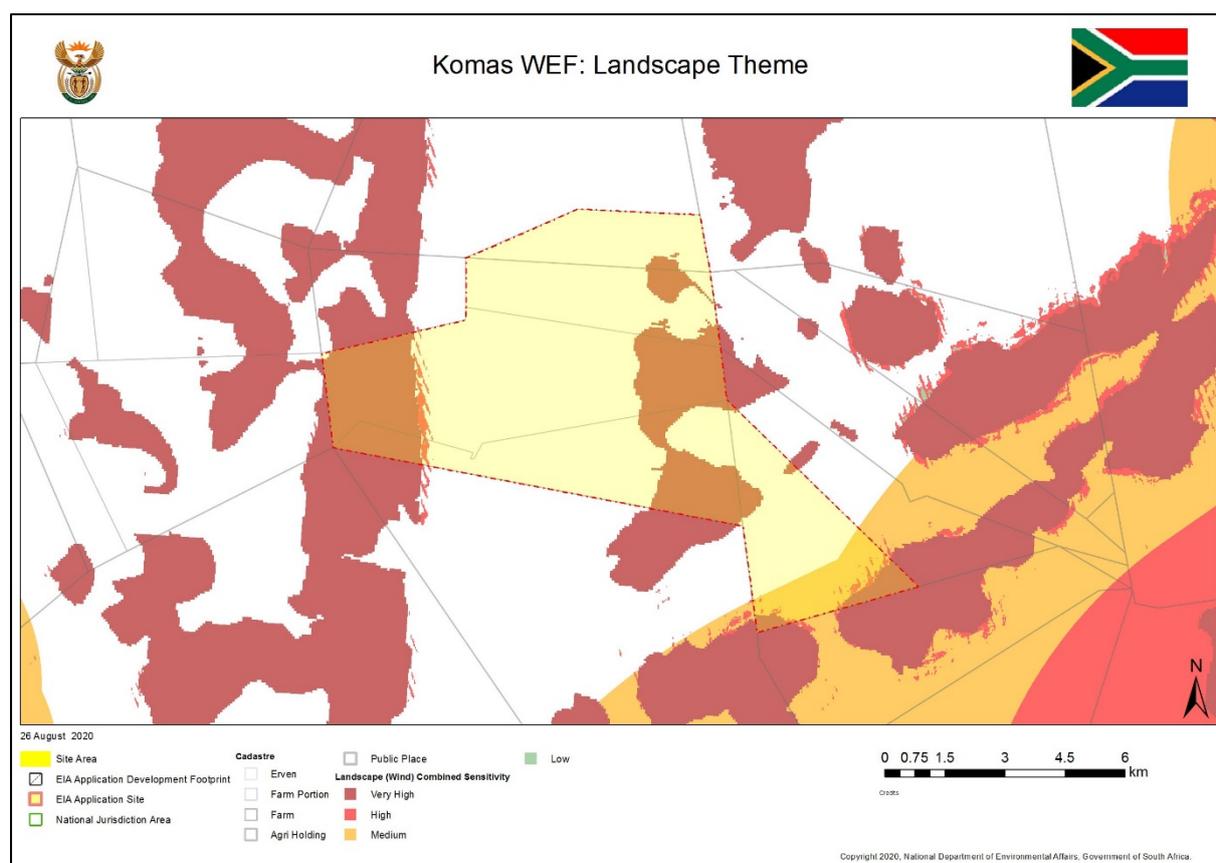
In assessing the visual sensitivity of the proposed Komas WEF development site, consideration was given to the Landscape and Flicker Themes of the National Environmental Screening Tool. Under both of these themes, the tool identifies areas of high sensitivity in respect of WEF development on the Komas WEF development site.

The Screening Tool is however a very high level, desktop study and as such the results of the study must be viewed against the findings of the field investigation as well as factors affecting visual impact, such as:

- the presence of visual receptors;
- the distance of those receptors from the proposed development; and
- the likely visibility of the development from the receptor locations.

#### 3.1 Landscape Theme

The identification of areas of “Very High” landscape sensitivity in this instance is largely based on natural features such as mountain tops, high ridges and steep slopes (Figure 2).



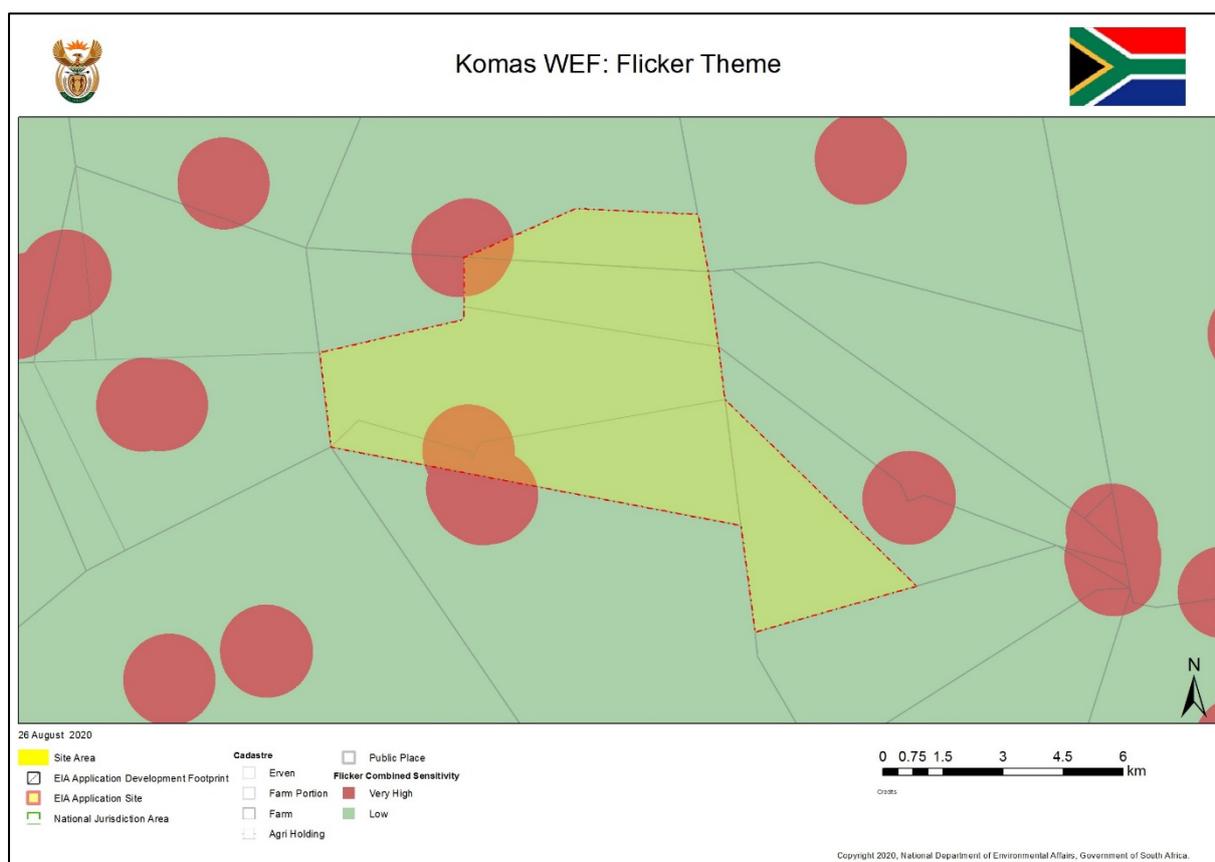
**Figure 2: Landscape Theme extract from the National Environmental Screening Tool**

The verification exercise (and the subsequent sensitivity map provided in Figure 1) has provided a more refined demarcation of the ridges on the site based on topographical data available and on field observation.

Areas on the Komas WEF development site which are between 5 km and 10 km from the boundary of the Namaqua National Park have been rated as “High” sensitivity. This classification affects the southern sector of the Komas WEF development site. The verification exercise however did not suggest high levels of landscape sensitivity in these areas due to the fact that no accommodation facilities or scenic routes associated with the park were identified within 10 kms of the boundary of the Komas WEF development site.

### 3.2 Flicker Theme

The flicker theme demarcates areas (1 km buffers) of sensitivity around identified receptors in the area and as such there are two distinct areas of high sensitivity affecting the development site (Figure 3).



**Figure 3: Flicker Theme extract from the National Environmental Screening Tool**

The receptors identified by the Screening Tool correspond with findings of the field investigation conducted for the proposed Komas WEF. Although the sensitivity analysis has not included a 1km buffer around these receptors, a 500m WEF development exclusion zone has been demarcated around the identified receptors as this is considered sufficient to reduce any adverse effects of shadow flicker.

#### 4 CONCLUSION

A site sensitivity verification for the Visual Impact Assessment (VIA) for the proposed Komas WEF has been conducted, based on a desktop-level assessment supported by field-based observation. As outlined above, the sensitivities identified have been further assessed in relation to the sensitivities identified in terms of the Landscape and Flicker Themes of the National Environmental Screening Tool and the areas identified as visually sensitive (**Figure 1**) during the course of the specialist Visual Impact Assessment and associated field work have been verified.