CTS HERITAGE

SITE SENSITIVITY VERIFICATION
(IN TERMS OF PART A OF THE ASSESSMENT PROTOCOLS PUBLISHED IN GN 320 ON 20 MARCH 2020)

1 Introduction

CTS Heritage was appointed by Savannah Environmental to undertake a Site Verification and Sensitivity analysis that forms part of the application for Environmental Authorisation (EA) for the Proposed development Tabor Solar Cluster PV Facility 1 in Limpopo Province.

As per the DFFE Screening Tool results, various on-site specialist verifications are required to be undertaken to determine the site sensitivity and the associated Environmental Authorisation process to be followed for the proposed BESS Facility.

2 Site sensitivity verification

The site sensitivity verification was undertaken as follows:

- A Desktop Study was conducted of relevant reports previously written (please see the reference list for the age and nature of the reports used)
- An archaeologist conducted an assessment of archaeological resources likely to be disturbed by the proposed development. The archaeologists conducted their site visit from 24 to 27 July 2024

A Heritage Impact Assessment (HIA) process has been undertaken and is reported on in a separate HIA report that will be submitted to the South African Heritage Resources Agency (SAHRA) as is required in terms of Section 38(8) of the National Heritage Resources Act (NHRA).

3 Outcome

In terms of site sensitivity with specific consideration of heritage resources, clarity on the broader context and its cultural value is important to understand overall heritage sensitivity and in order to contextualise site specific findings. Please find both contextual information as well as site specific information below.

Cultural Landscape

This application is for the proposed development of a PV facility cluster located near Bandelierkop, south of Louis Trichardt, in the Limpopo Province. According to Raper et al (2018) in the Dictionary of Southern African Place Names, Bandolierskop is a "*Village some 35 km south-west of Louis Trichardt, on the route from*

Pietersburg to Beit Bridge. Afrikaans for 'bandolier hill"; said to have been named after an incident in which a burgher, Jan du Preez, was sent back to fetch the bandolier he had left behind when the commando struck camp."

There are several historical werfs located within the study area, such as Klipput and Draailoop. The majority of the farm werfs date to the late 19th and early 20th century with several alterations and newer buildings present. Historical graveyards related to the families at Draailoop and Klipput were recorded with separate graves and ruined dwellings at Bethel and Klipput for farmworkers and their relatives. It was surprising to see relatively low artefact counts but later checks through the historical satellite imagery showed the large number of previously ploughed fields in the PV areas which are now fallow for the game farming and hunting businesses. This explains the highly disturbed and unnaturally level ground present across much of the PV areas.

There is also Ga-Phasha cemetery located just north of Ga-Pasha. All burials are considered to have high levels of local social and spiritual significance and as such, are graded IIIA. Due to this high level of significance, it is recommended that a no-development buffer of 100m is implemented around these sites. Often, informal burials can be located on the outskirts of formal cemetery areas. As such, this buffer is recommended to ensure the retention of the sense of place for this burial site, and to ensure that no hidden and unmarked burials are unintentionally impacted by the proposed development.

The area proposed for the PV facility development is located in an open area located some distance from any smaller townships/residential areas. There are no significant koppies or other topographical features present within this development area.

Archaeology

The most significant findings were made on the granite outcrops at Bethel/Makoppa and near the grid connection route through Klipput. Later Stone Age fine line paintings have not been recorded in great numbers in the immediate area and the site found in the small granite outcrop is similar to sites further north in the Soutpansberg. The other granite outcrop at Klipput is much larger and a number of modern chalets and historical stone kraals have been built right up against the outcrop. A small shelter containing hundreds of Iron Age pottery sherds was found and isolated stone tool flakes and more sherds can be found all over the outcrop. Another Iron Age find was made at Langgedacht in the grid connection route which consisted of isolated pottery sherds and quartz flakes.

PV Facility

Sites 009, 011, 012, 025 and 037 fall within the proposed PV areas. These sites include a number of burial grounds (both recent and historic). It is recommended that these burials and their recommended buffers are

excluded from the development footprint. Additionally, it is recommended that access to these burials is guaranteed for the duration of the life of the PV facility.

The archaeological observations include rock shelters with associated buried archaeological deposit and rock art (Site 011, graded IIIA) as well as scatters of Iron Age pottery shards (Sites 012, Graded IIIC). These significant archaeological observations are indicative of the potential for additional associated buried archaeology located in close proximity to these sites. Due to their scientific value, these sites may not be negatively impacted by the proposed development and appropriate no development buffers for these sites are recommended in the table below.

Grid Alignment

Sites 037, 038, 041, 044, 045 and 046 fall within the proposed grid alignment. These sites include a number of burial grounds (both recent and historic). Impact to these sites can be avoided through careful placement of pylon footings to avoid impact within the recommended buffer areas.

These archaeological resources are associated with granite koppies in the area. A number of granite koppies are known from the southern portion of the grid alignment and these koppies should be considered to be archaeologically sensitive. It is recommended that no development take place within or on the koppies.

Two roadside monuments were also identified within the grid corridor (Sites 045 and 046). It is recommended that these observations not be impacted by the proposed grid alignment.

Observations noted during the archaeology and heritage field assessment

POINT ID	Description	Density	Type	Period	Co-ordinates		Grading	Mitigation
9	Grave, recently formalised with palisade fencing and headstone, 1871-1959. Mathedimosa Motatanye	n/a	Graves/ Burial Grounds	Historic	-23,385478	29,68764	IIIA	100m Buffer
11	Upper grindstone, granite, on granite outcrop, quartz flakes. Rock art on overhanging surface 2x1m. At least 3 faded human figures, holding hunting bags	10 to 30	Artefacts, Rock Art	LSA	-23,38966	29,68092	IIIA	50m Buffer
12	Thin walled LSA pottery and quartz core on top of outcrop. Ochre burnish	0 to 5	Artefacts	LSA	-23,389924	29,68069	IIIC	20m Buffer
25	Haasbroek family graves. 9 graves 1950s to 1990s.	n/a	Graves/ Burial Grounds	Modern	-23,34813	29,669737	IIIA	100m Buffer

36	Quartz core, flakes, IA pottery	5 to 10	Artefacts	LSA, Iron Age	-23,347638	29,820919	IIIC	20m Buffer
37	Mathoko graves, 2. 2012 and 2013 surrounded by fence and near ruins. IA pottery MSA quartzite flakes	10 to 30	Artefacts, Graves	MSA, Iron Age, Modern	-23,361102	29,708584	IIIA	100m Buffer
38	2 farmers graves, 1929, Venter family, fenced	n/a	Graves/ Burial Grounds	Historic	-23,365774	29,716675	IIIA	100m Buffer
41	Klipput stone walled kraals, large stones in rectangular walls, historical	n/a	Ruin	Historic	-23,36267	29,71548	IIIB	100m Buffer
44	Little shelter with deposit and lots of IA pottery sherds	30+	Artefacts	Iron Age	-23,361959	29,715563	IIIA	50m Buffer
45	Tropic of Capricorn monument	n/a	Monument	Modern	-23,437303	29,745109	IIIC	20m Buffer
46	Roadside monument marking Simon Matime, 2018	n/a	Memorial	Modern	-23,44253	29,74376	IIIC	20m Buffer

Palaeontology

According to the SAHRIS Palaeosensitivity Map the development sites are underlain by sediments of very LOW fossil sensitivity (Figure 4). The proposed development is underlain with **Matok Granite** (Coarse-grained, porphyritic, pink and grey biotite granite, in places hornblende granite), and **Goudplaats-Hout River Gneiss** (Leucocratic, strongly migmatised biotite gneiss and greyish, weakly migmatised biotite gneiss; minor leucogneiss and dark grey biotite gneiss). Both these formations have **Insignificant or Zero** Palaeontological sensitivity.

The third formation that is present in the study area is the **Bandelierkop Formation** (Predominantly volcanic igneous rocks, plus some igneous intrusions, minor sediments such as banded iron formation, chert, quartzite, conglomerate, and schists) which has **Low** Palaeontological Sensitivity. According to the Palaeotechnic report for Limpopo (Groenewald & Groenewald, 2014) this formation is known for "*Archaean microfossils and microbial trace fossils (bacterial borings) which have been recorded from cherts and volcanic glasses in similar-aged greenstone belts elsewhere in RSA (e.g. Fig Tree Group & Onverwacht Group of Barberton Greenstone Belt, Mpumalanga & Swaziland). "Fly speck carbon" in sedimentary Uitkyk Fm of the Pietersburg Greenstone Belt, Limpopo, may be fossilised microbes,or alternatively of inorganic origin (e.g. an inorganic precipitate induced by radioactive irradiation)."*

It is unlikely that the proposed development will have a significant impact on palaeontological resources and no further assessments are required.

The development area is mapped relative to significant heritage resources including cultural landscape elements, archaeology and palaeontology in Figure 1, 2 and 3 below.

4 National Environmental Screening Tool

PV facilities

According to the DFFE Screening Tool analysis for the PV Facility, the development area has MEDIUM levels of sensitivity for impacts to palaeontological heritage and LOW levels of sensitivity for impacts to archaeological and cultural heritage resources. The results of this assessment in terms of site sensitivity are summarised below:

- The cultural value of the broader area has medium significance in terms of its living heritage (MEDIUM)
- Significant archaeological resources were identified in the broader development area (MEDIUM)
- The geology underlying the development area has zero sensitivity for impacts to significant fossils (LOW)

As per the findings of this assessment, and its supporting documentation, the outcome of the sensitivity verification disputes the results of the DFFE Screening Tool for Palaeontology - this should be LOW - and for archaeology and cultural heritage - this should be MEDIUM. This evidence is provided in the body of this report.

Grid Alignment

According to the DFFE Screening Tool analysis for the Grid Alignment, the development area has MEDIUM levels of sensitivity for impacts to palaeontological heritage and HIGH levels of sensitivity for impacts to archaeological and cultural heritage resources. The results of this assessment in terms of site sensitivity are summarised below:

- The cultural value of the broader area has medium significance in terms of its living heritage (MEDIUM)
- Significant archaeological resources were identified in the broader development area (MEDIUM)
- The geology underlying the development area has zero sensitivity for impacts to significant fossils (LOW)

As per the findings of this assessment, and its supporting documentation, the outcome of the sensitivity verification disputes the results of the DFFE Screening Tool for Palaeontology - this should be LOW - and for archaeology and cultural heritage - this should be MEDIUM. This evidence is provided in the body of this report.

5 Conclusion

It is confirmed that the site sensitivities identified in the specialist study have been verified as per section 4 above.

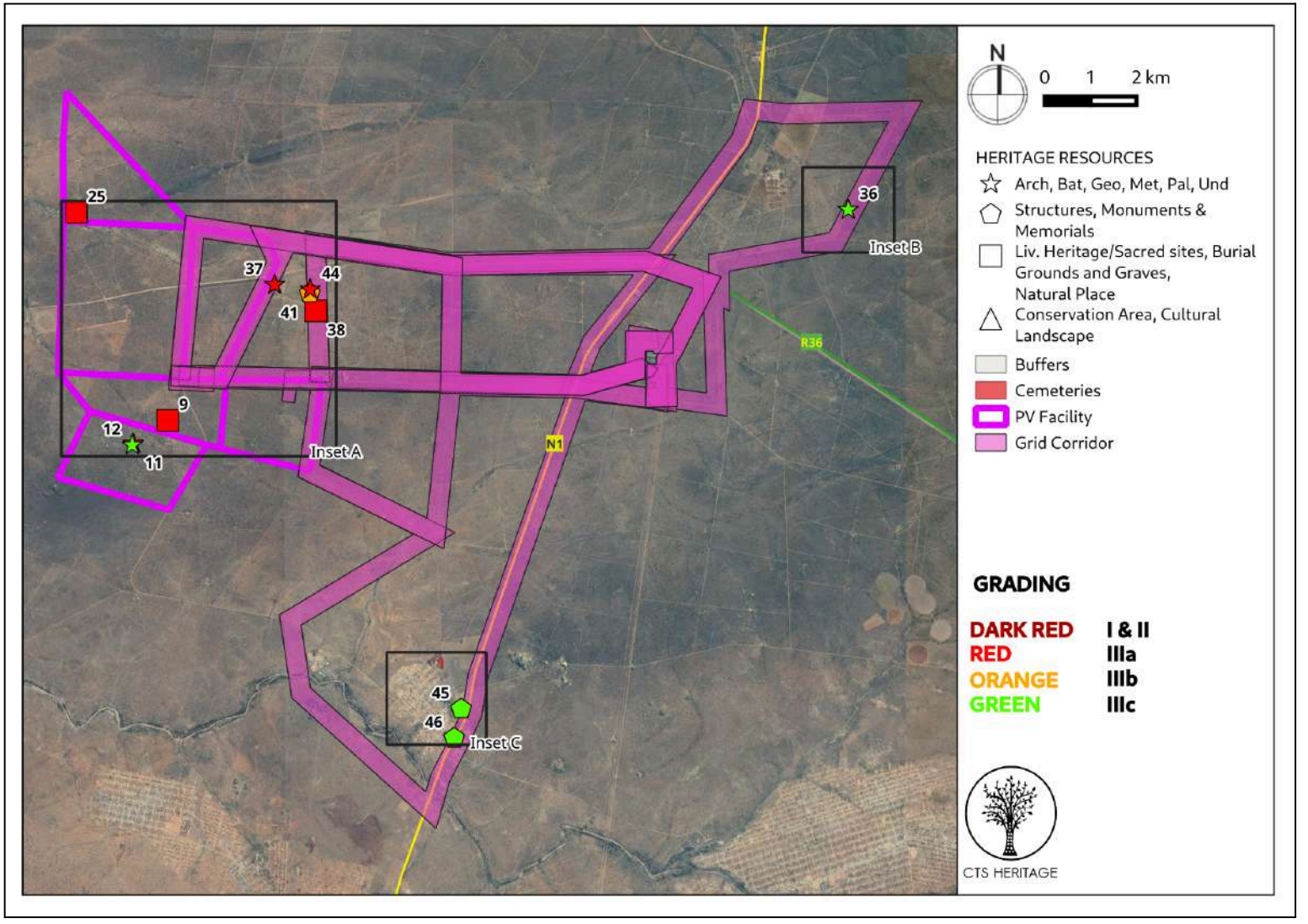

Figure 1.1: Map of all sites and observations noted within the development area as well as proposed mitigation measures

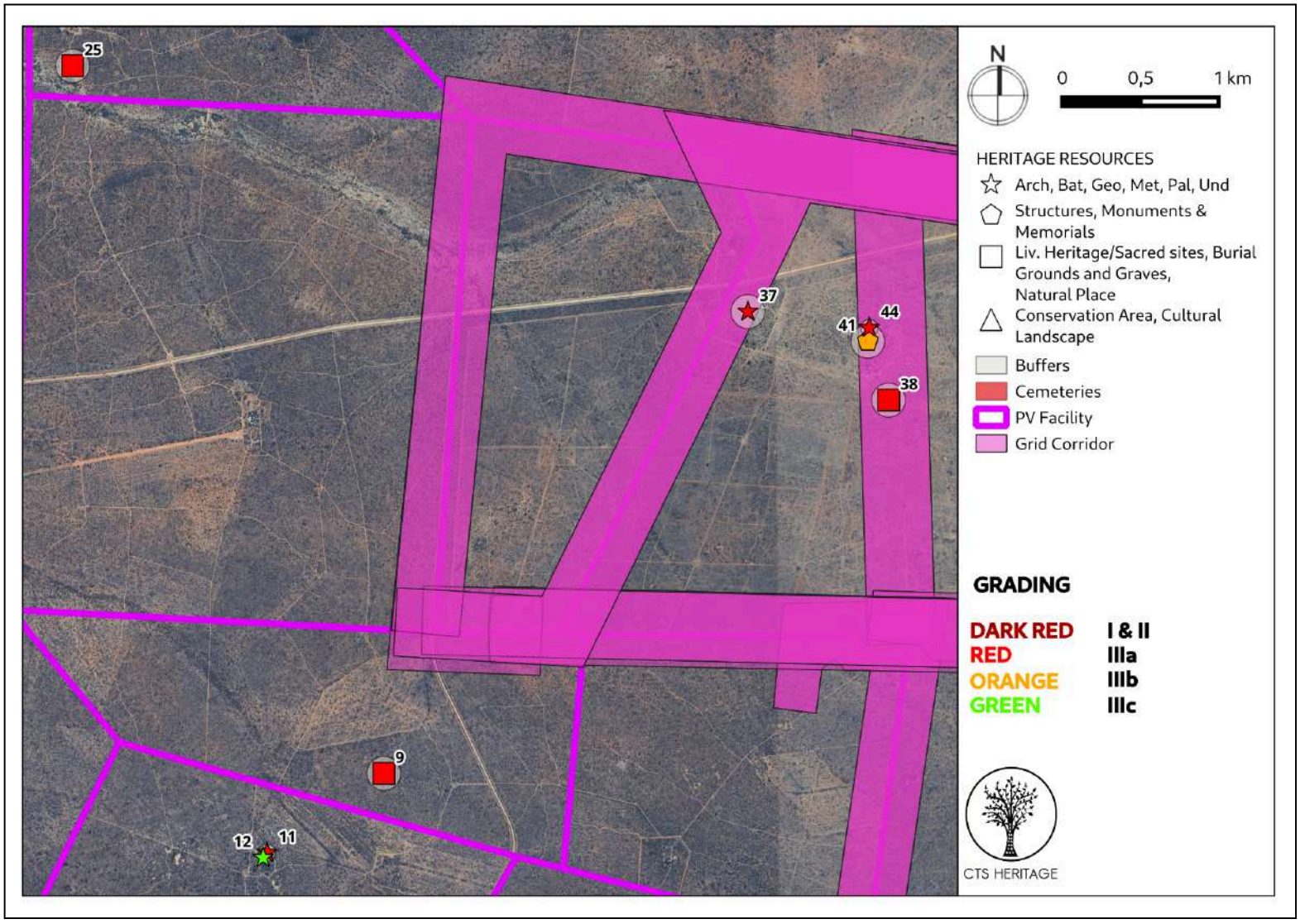

Figure 1.2: Inset Map A of all sites and observations noted within the development area as well as proposed mitigation measures

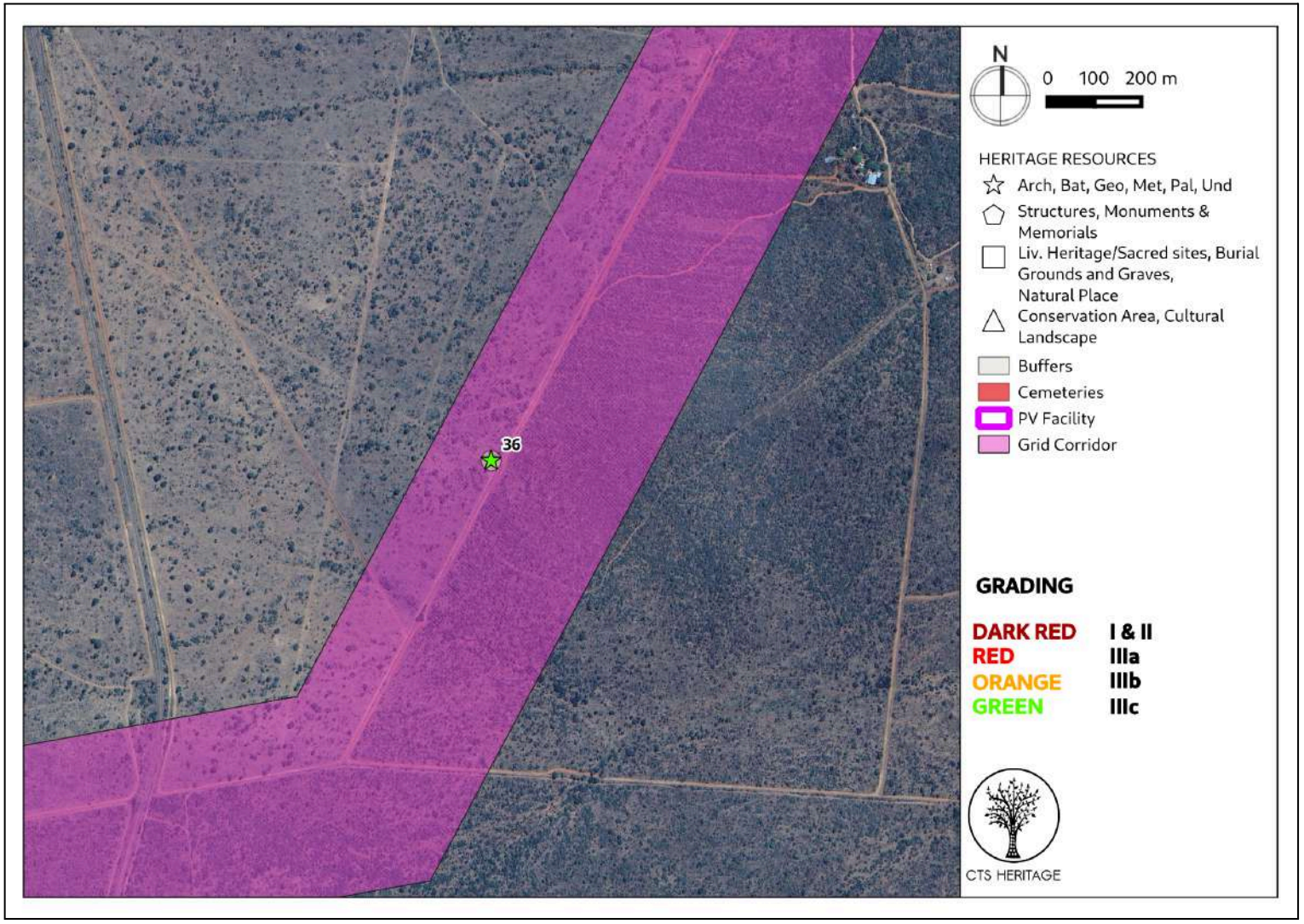

Figure 1.3: Inset Map B of all sites and observations noted within the development area as well as proposed mitigation measures

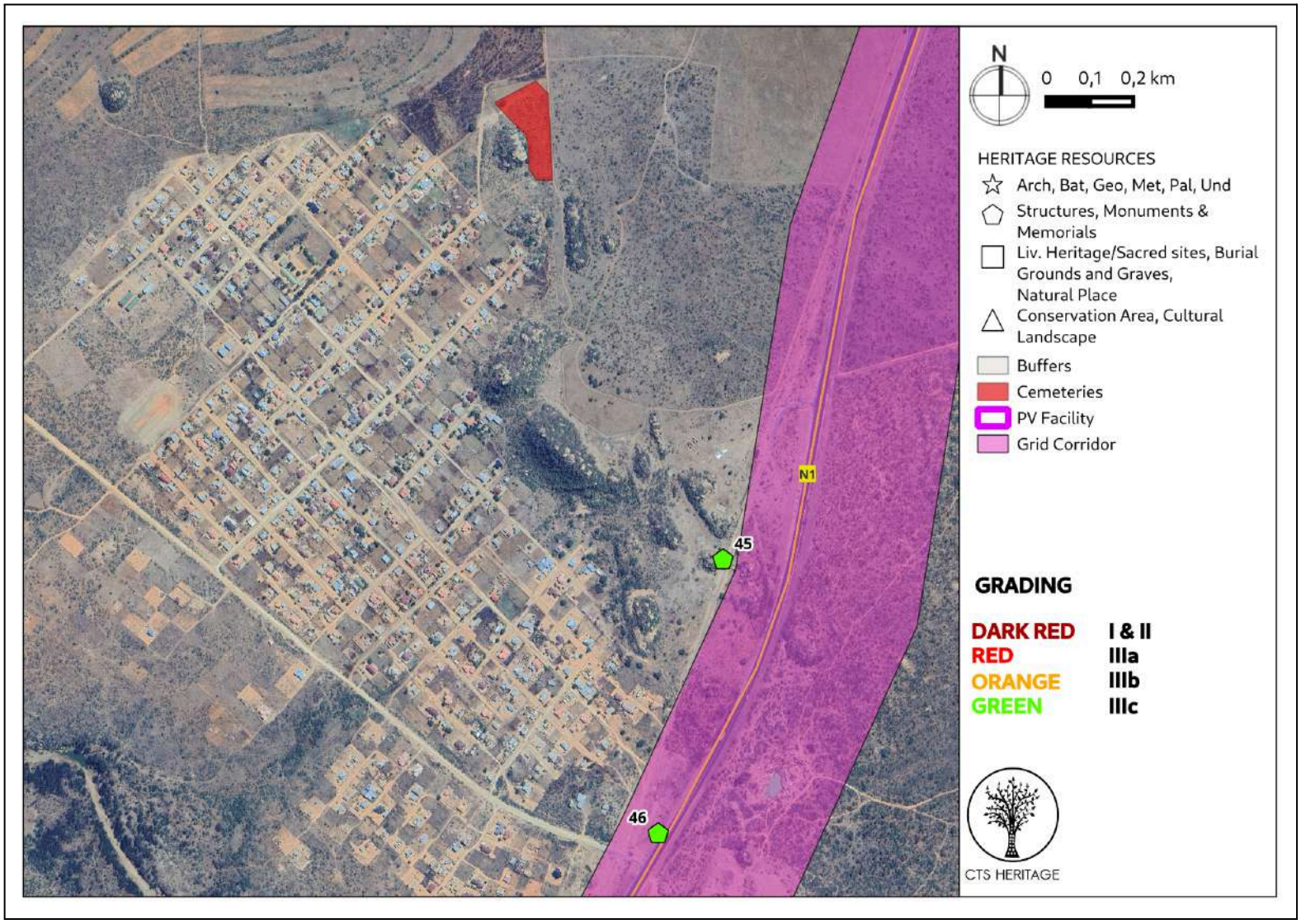

Figure 1.4: Inset Map C of all sites and observations noted within the development area as well as proposed mitigation measures

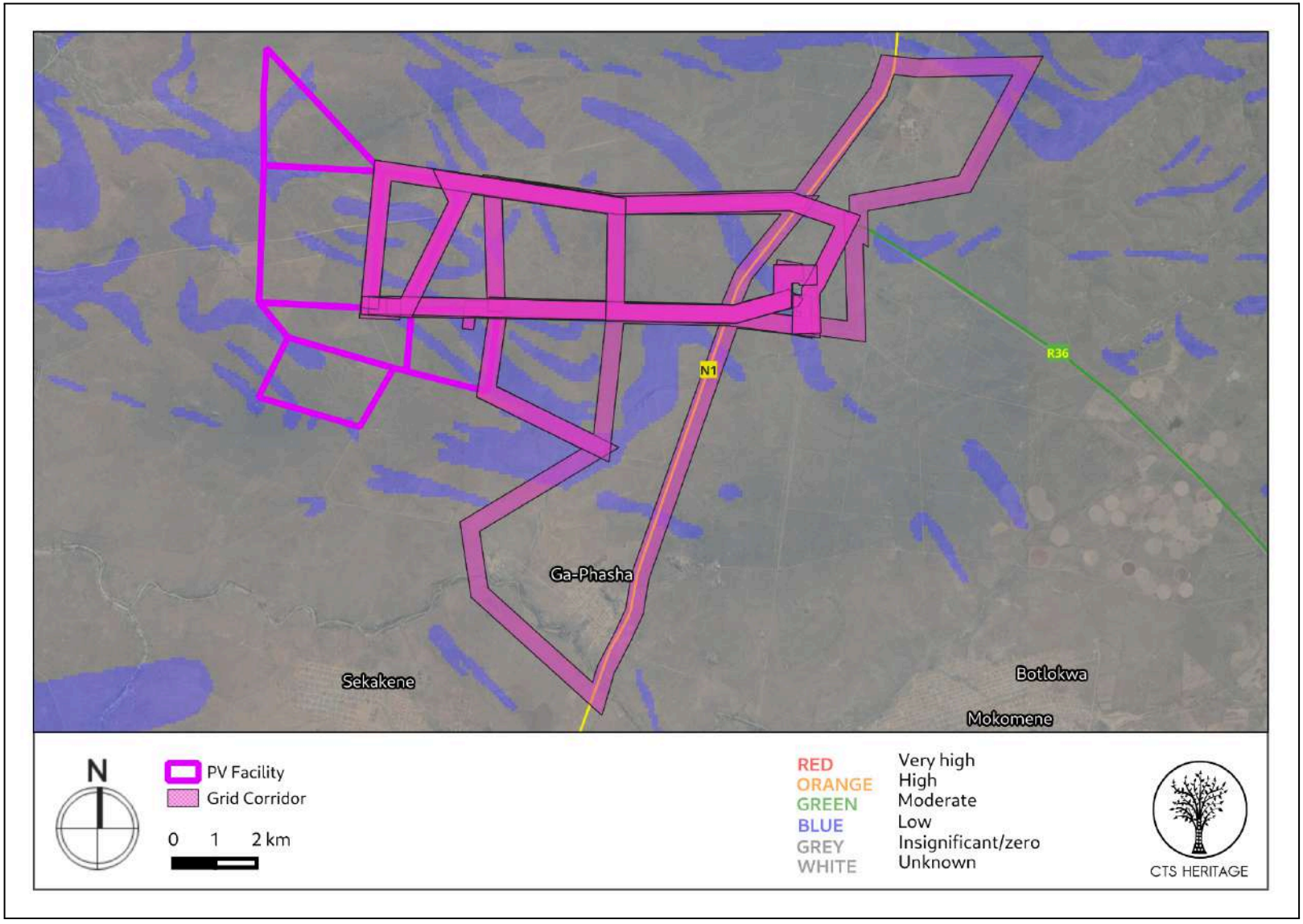

Figure 2.1: Palaeontological sensitivity of the development area from SAHRIS