CTS HERITAGE

HERITAGE SCREENER

CTS Reference Number:	**CTS21_260**
SAHRA Ref Number	
Client:	**Inclover**
Date:	**November 2021**
Title:	**Proposed development of a cement factory, Middelburg, Eastern Cape**

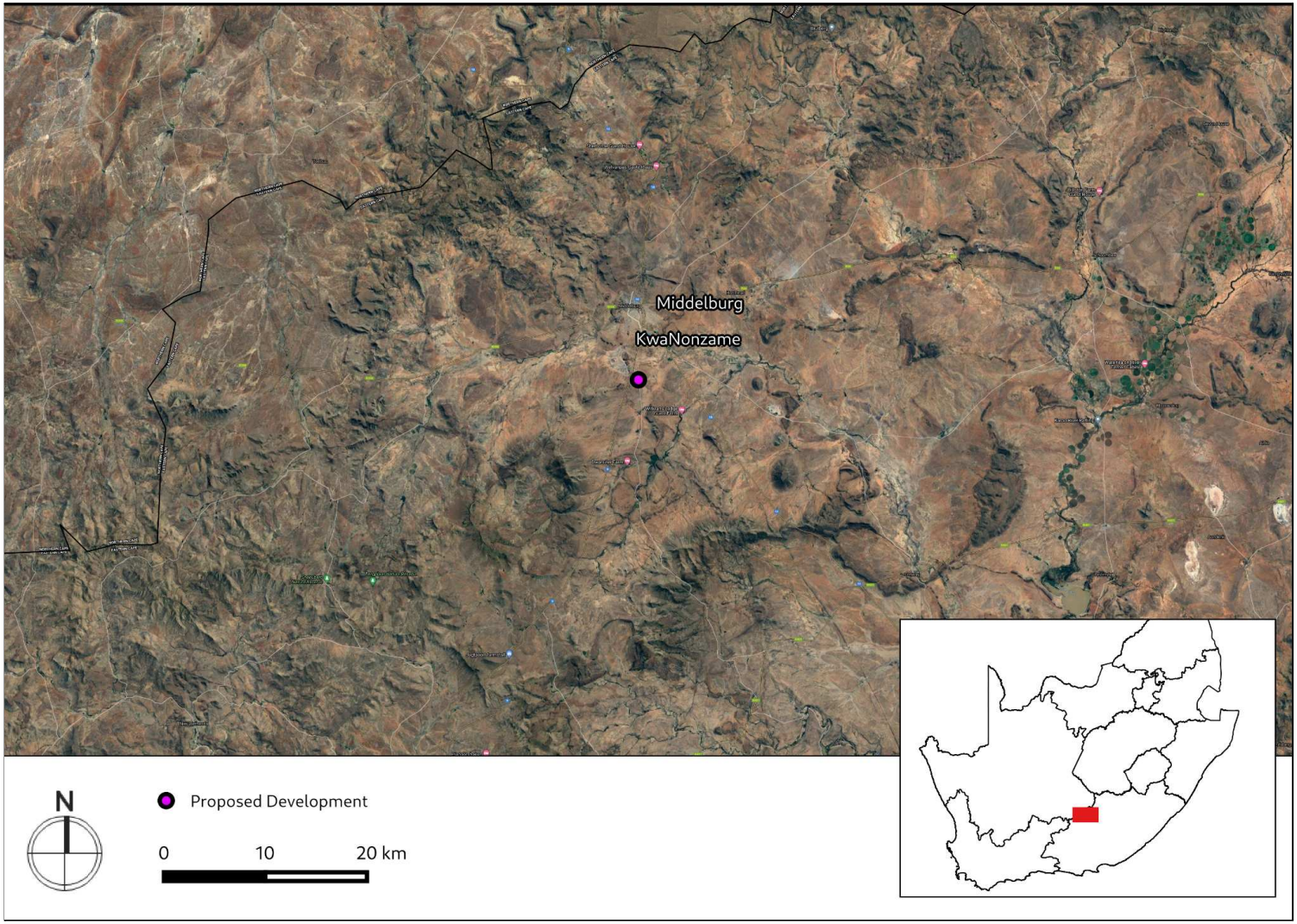

Figure 1a. Satellite map indicating the location of the proposed development in the Western Cape Province

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1. Proposed Development Summary

Concrete Units is proposing to develop a batch plant and pre-cast facility for the construction of wind turbine tower components. Note that assembly will take place off the site on the respective wind farms.

2. Application References

Name of relevant heritage authority(s)	ECPHRA
Name of decision making authority(s)	Eastern Cape Department: Economic Development, Environmental Affairs and Tourism

3. Property Information

Latitude / Longitude	31°33'39.14"S 25° 0'54.64"E
Erf number / Farm number	Remainder of the Farm Bultfontyn 128, Middelburg, EC
Local Municipality	Inxuba Yethemba
District Municipality	Chris Hani
Province	Eastern Cape
Current Use	Agricultural
Current Zoning	Agriculture

4. Nature of the Proposed Development

Total Surface Area	16.68ha
Depth of excavation (m)	3 metres
Height of development (m)	Pre-cast warehouse =15m max and Cement silos of 20m max

5. Category of Development

x	**Triggers: Section 38(8) of the National Heritage Resources Act**
	Triggers: Section 38(1) of the National Heritage Resources Act
	1. Construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier over 300m in length.
	2. Construction of a bridge or similar structure exceeding 50m in length.
	3. Any development or activity that will change the character of a site-
x	a) exceeding 5 000m^2 in extent
	b) involving three or more existing erven or subdivisions thereof
	c) involving three or more erven or divisions thereof which have been consolidated within the past five years
	4. Rezoning of a site exceeding 10 000m^2
	5. Other (state):

6. Additional Infrastructure Required for this Development

Batch plant silos, aggregate stores, pre-cast warehouses, admin offices, laydown areas, fuel store and generators

7. Mapping (please see Appendix 3 and 4 for a full description of our methodology and map legends)

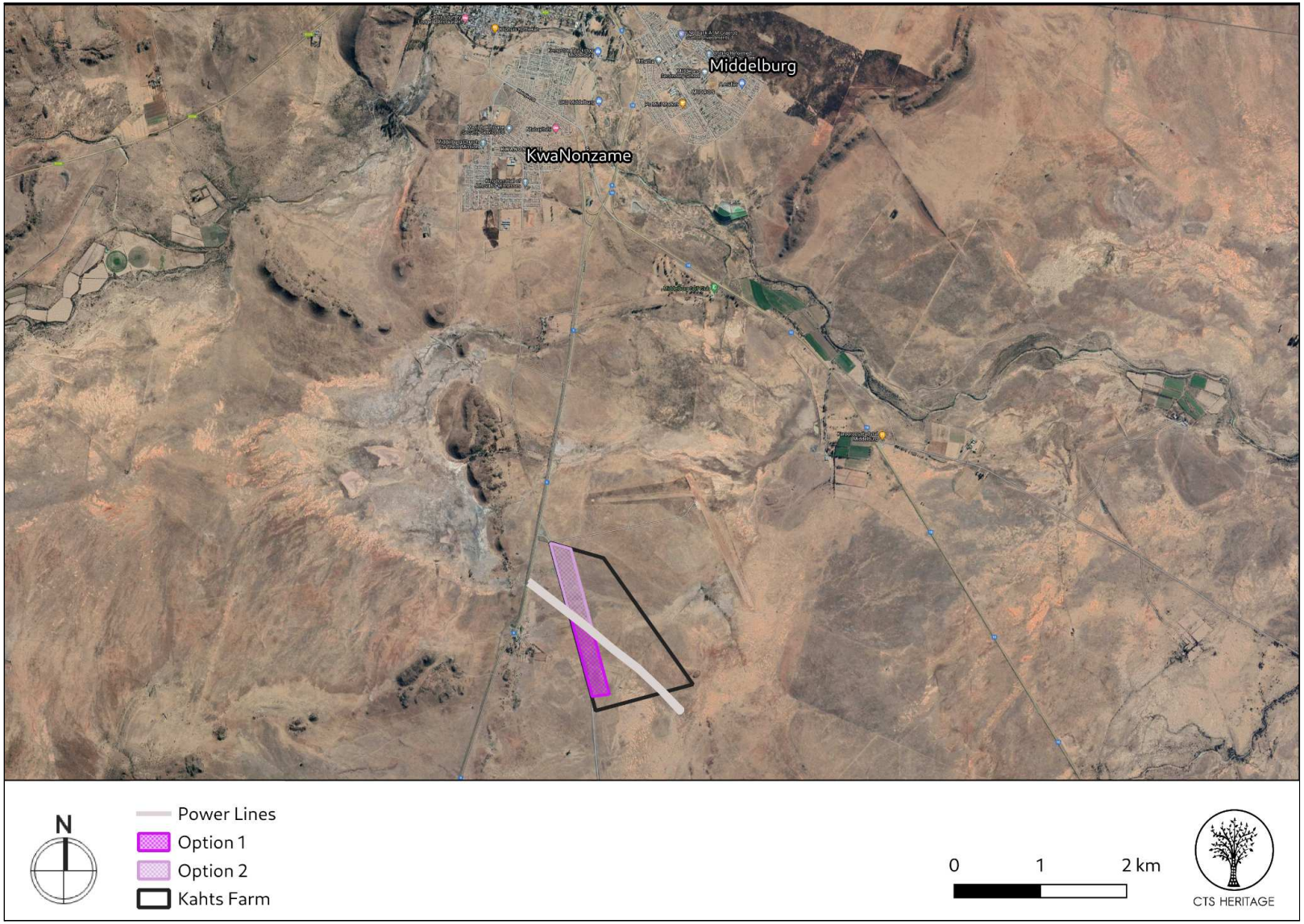

Figure 1b Overview Map. Satellite image (2019) indicating the proposed development area at closer range.

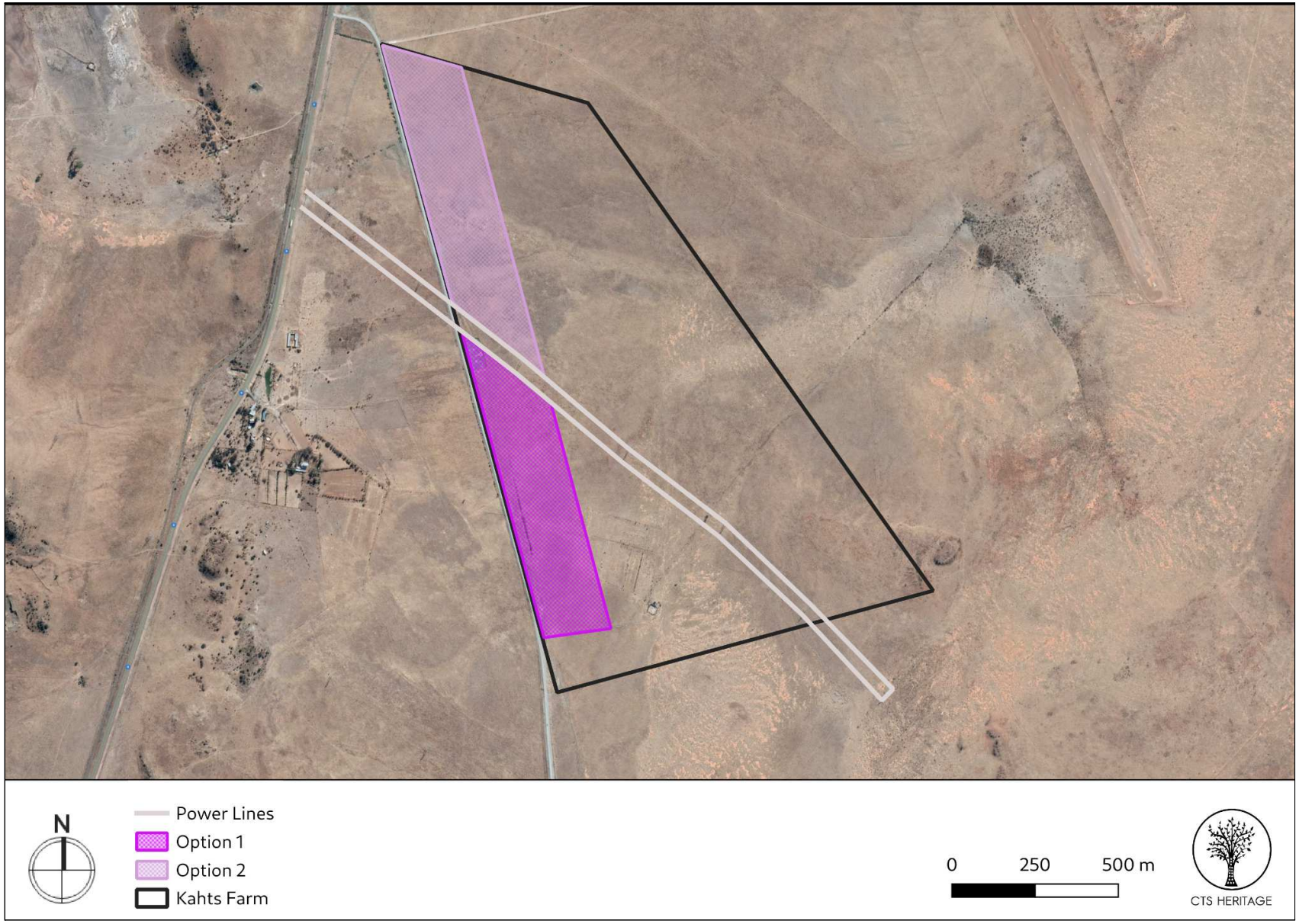

Figure 1c. Overview Map. Satellite image (2019) indicating the proposed development area at closer range.

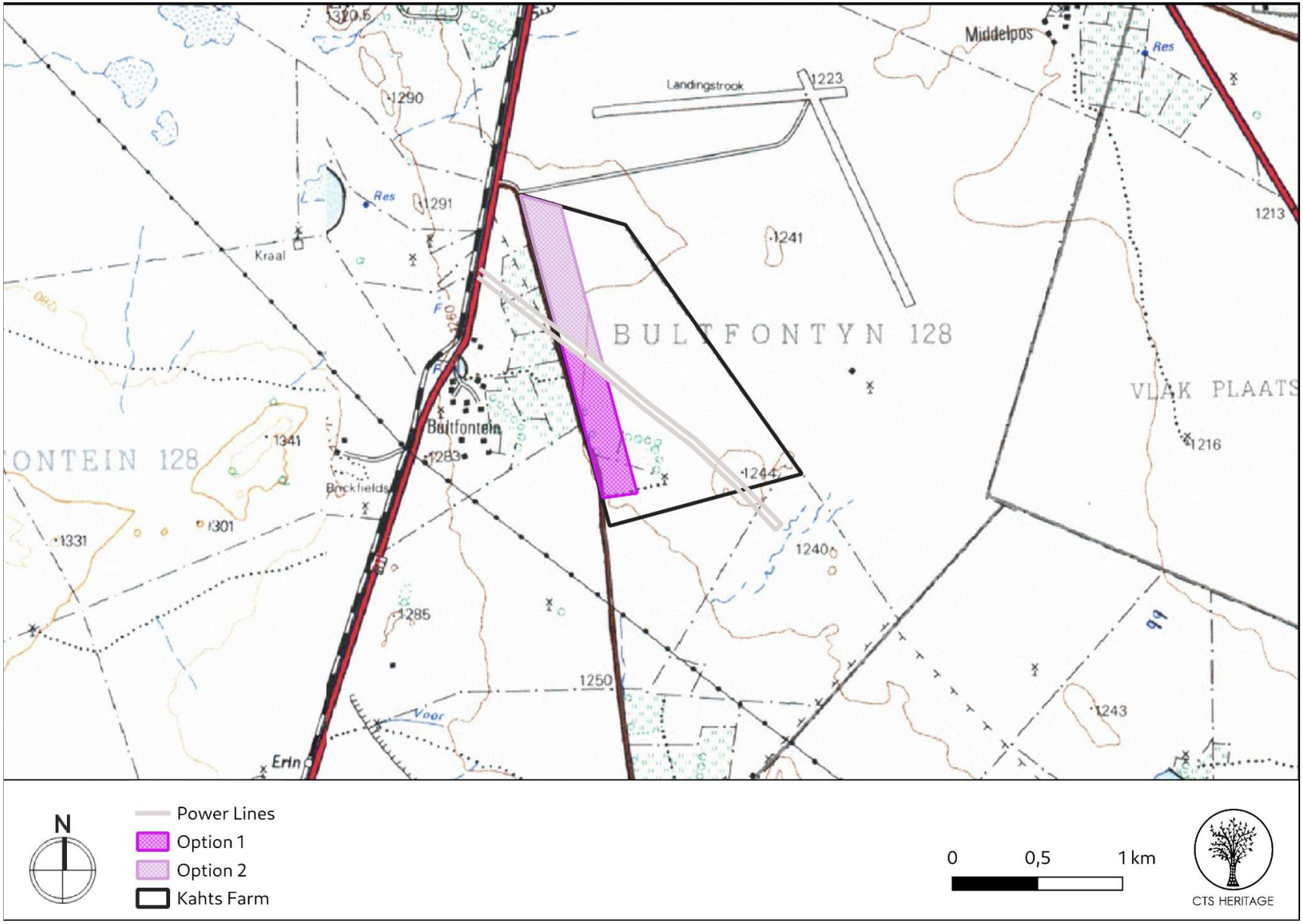

Figure 1d. Overview Map. 1:50 000 Topo Map of the proposed development area

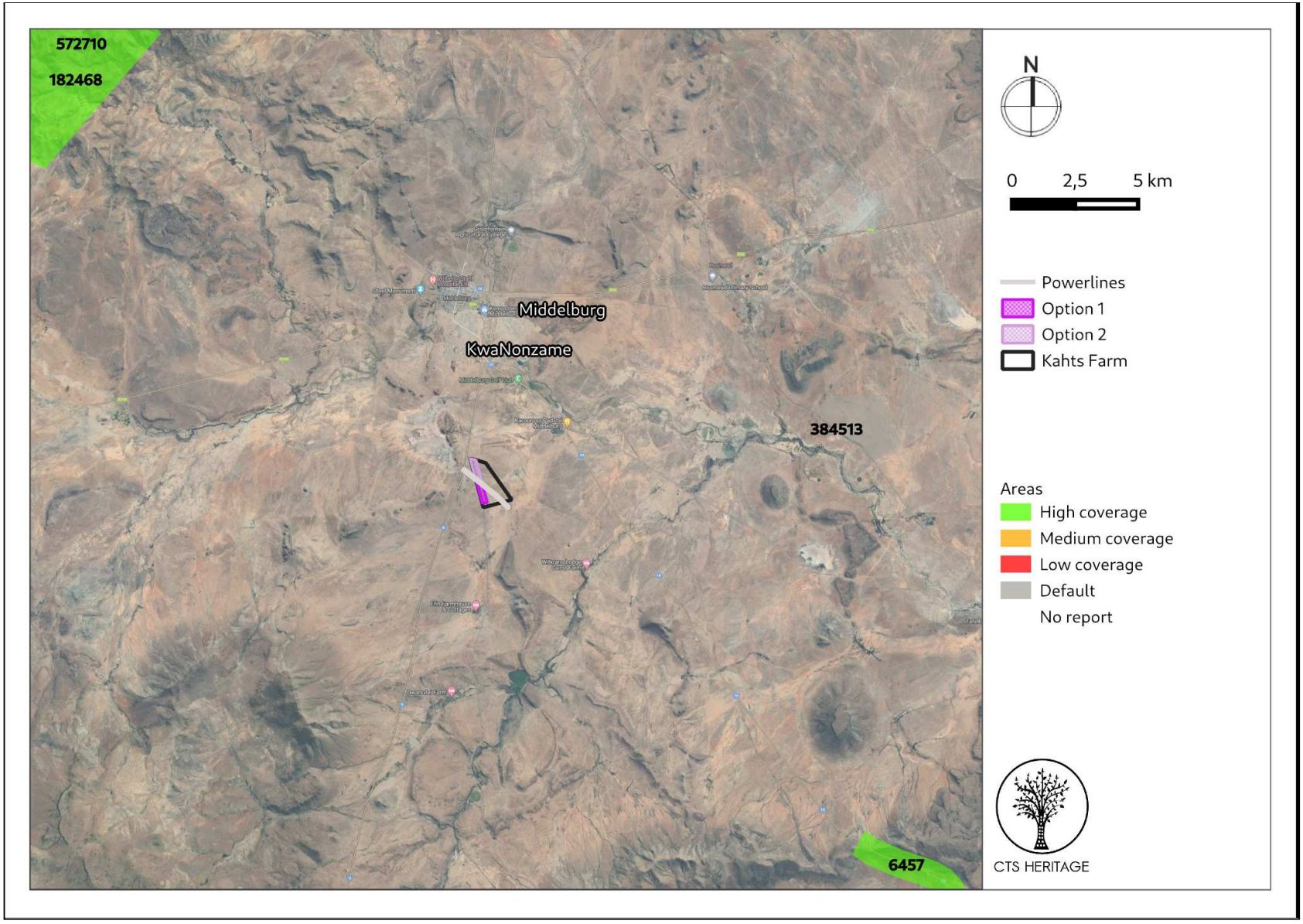

Figure 2. Previous HIAs Map. Previous Heritage Impact Assessments surrounding the proposed development area within 10km, with SAHRIS NIDS indicated. Please see Appendix 2 for a full reference list.

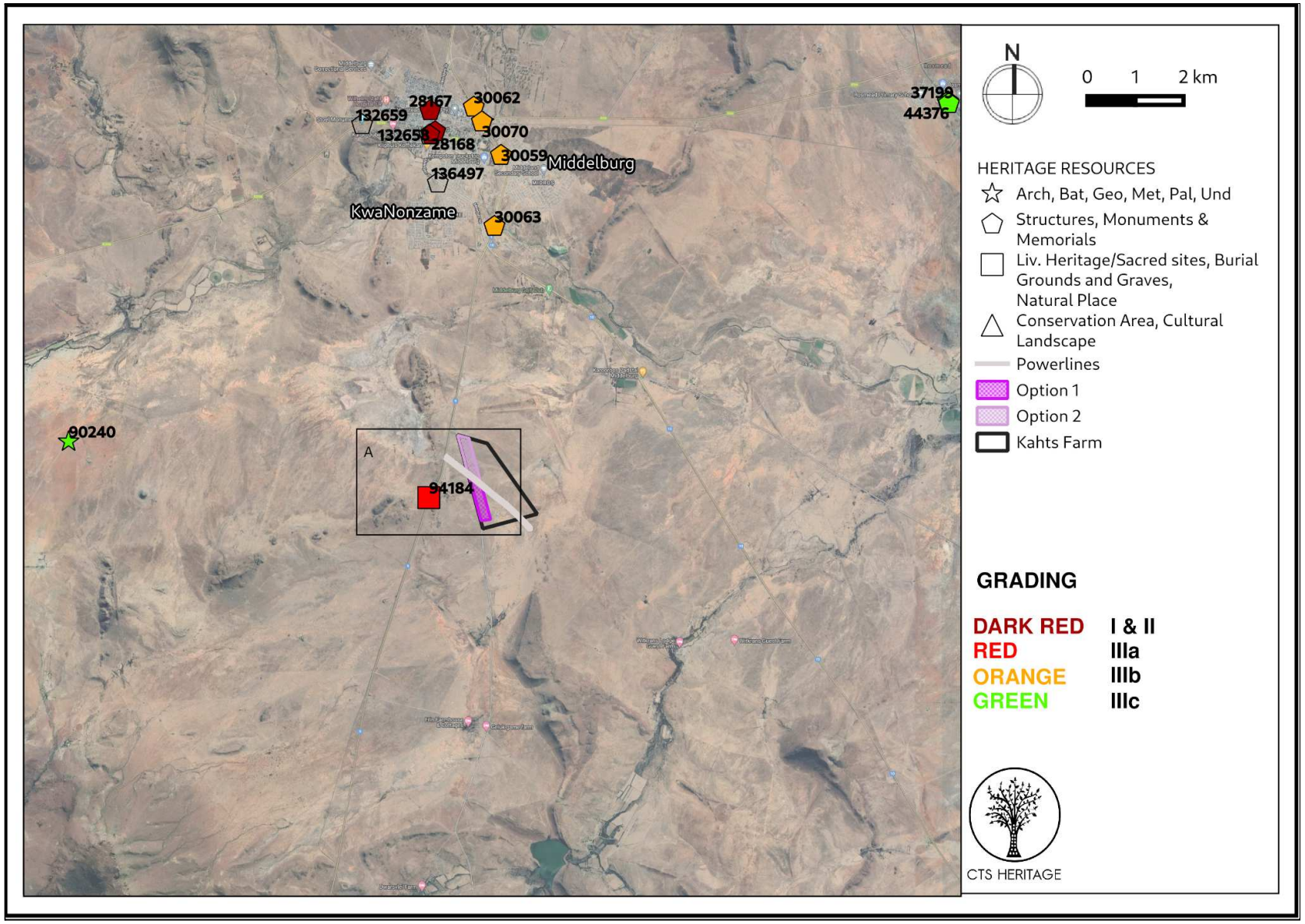

Figure 3. Heritage Resources Map. Heritage Resources previously identified in and near the study area, with SAHRIS Site IDs indicated. Please See Appendix 4 for a full description of heritage resource types.

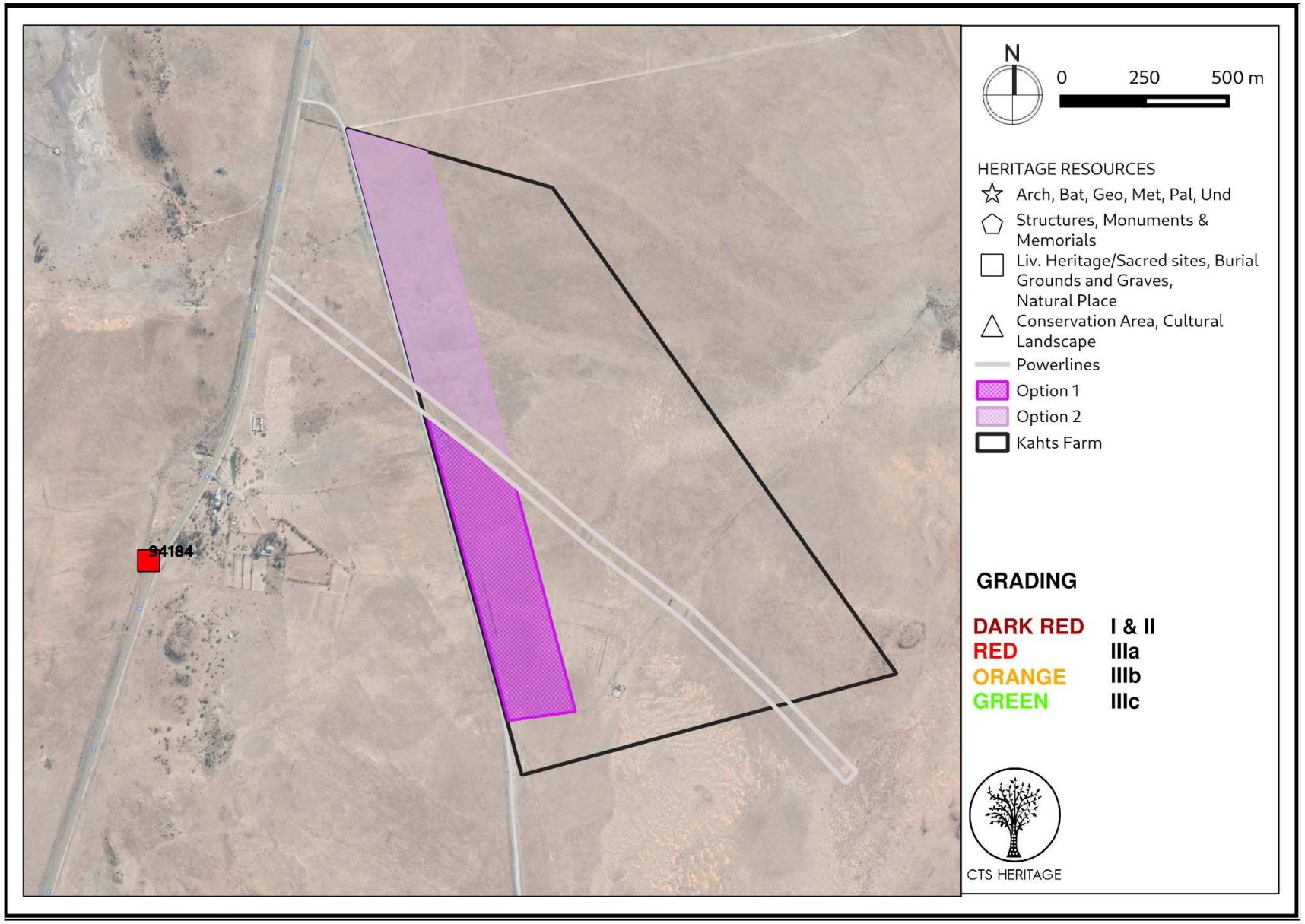

Figure 3a. Heritage Resources Map. Inset A

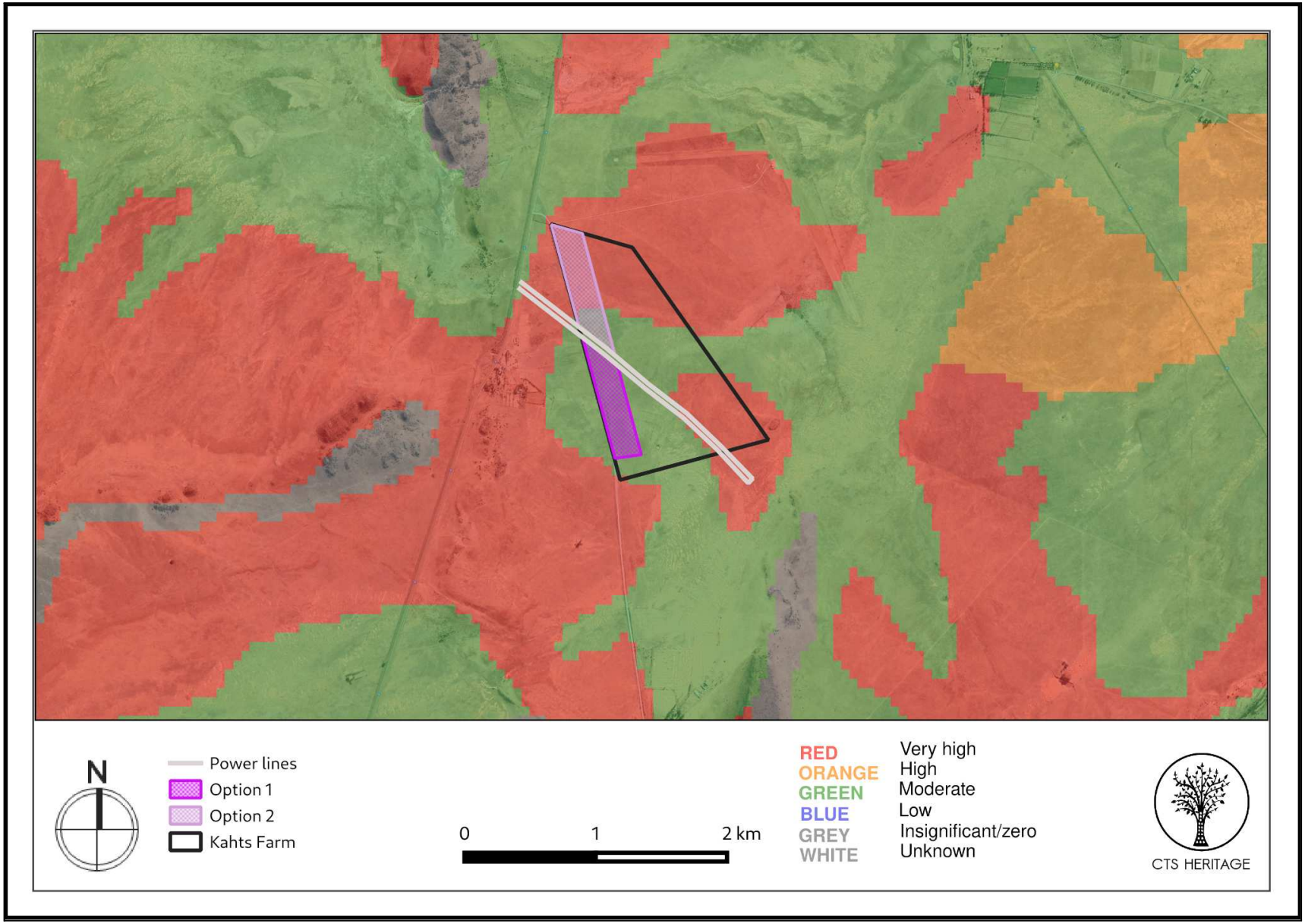

Figure 4. Palaeosensitivity Map. Indicating varied fossil sensitivity underlying the study area. Please See Appendix 3 for a full guide to the legend.

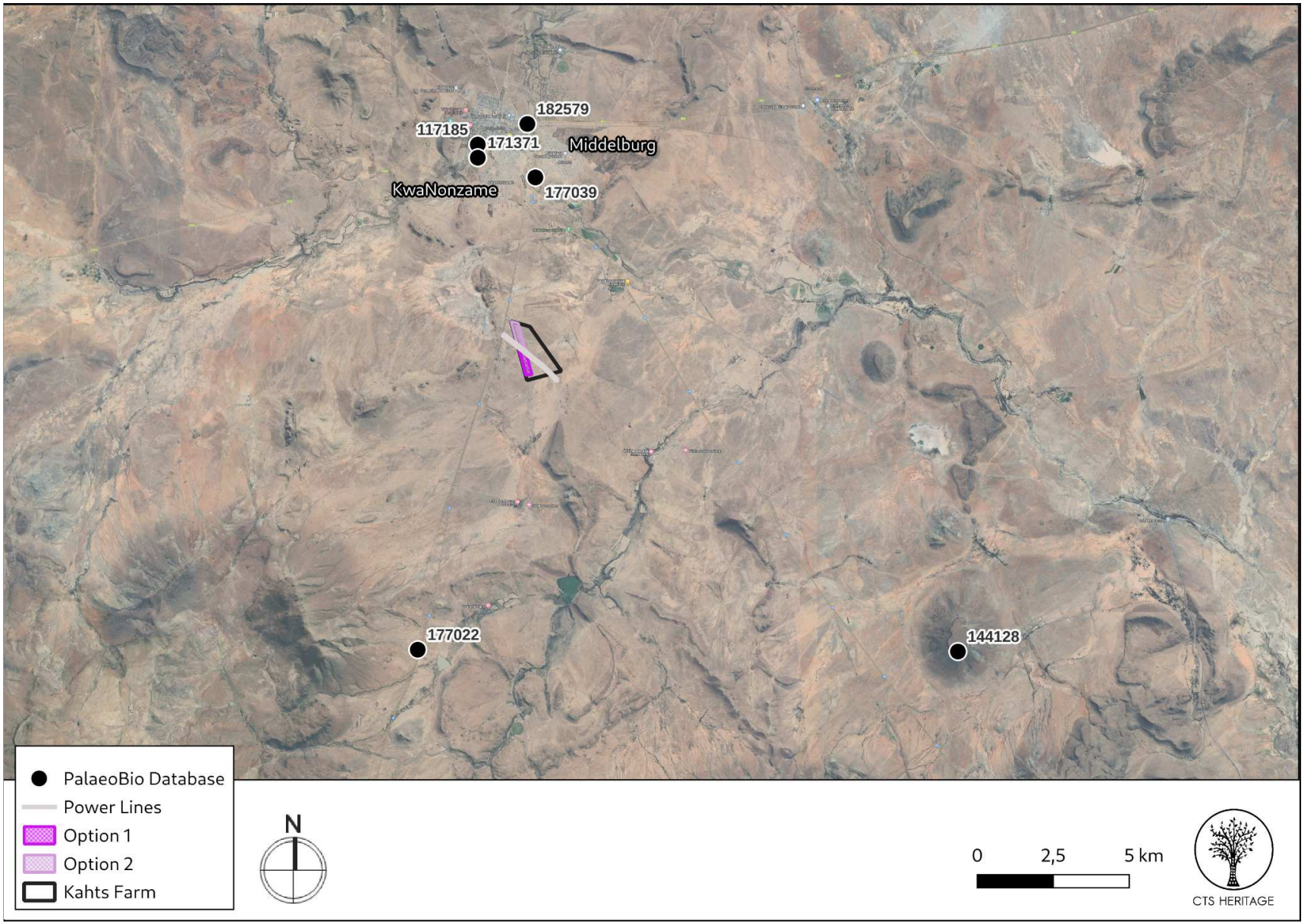

Figure 5. Map of known Palaeontological Sites. Extracted from the PalaeoBiology Database (PBDB - https://paleobiodb.org/#/) More detail in Appendix 1

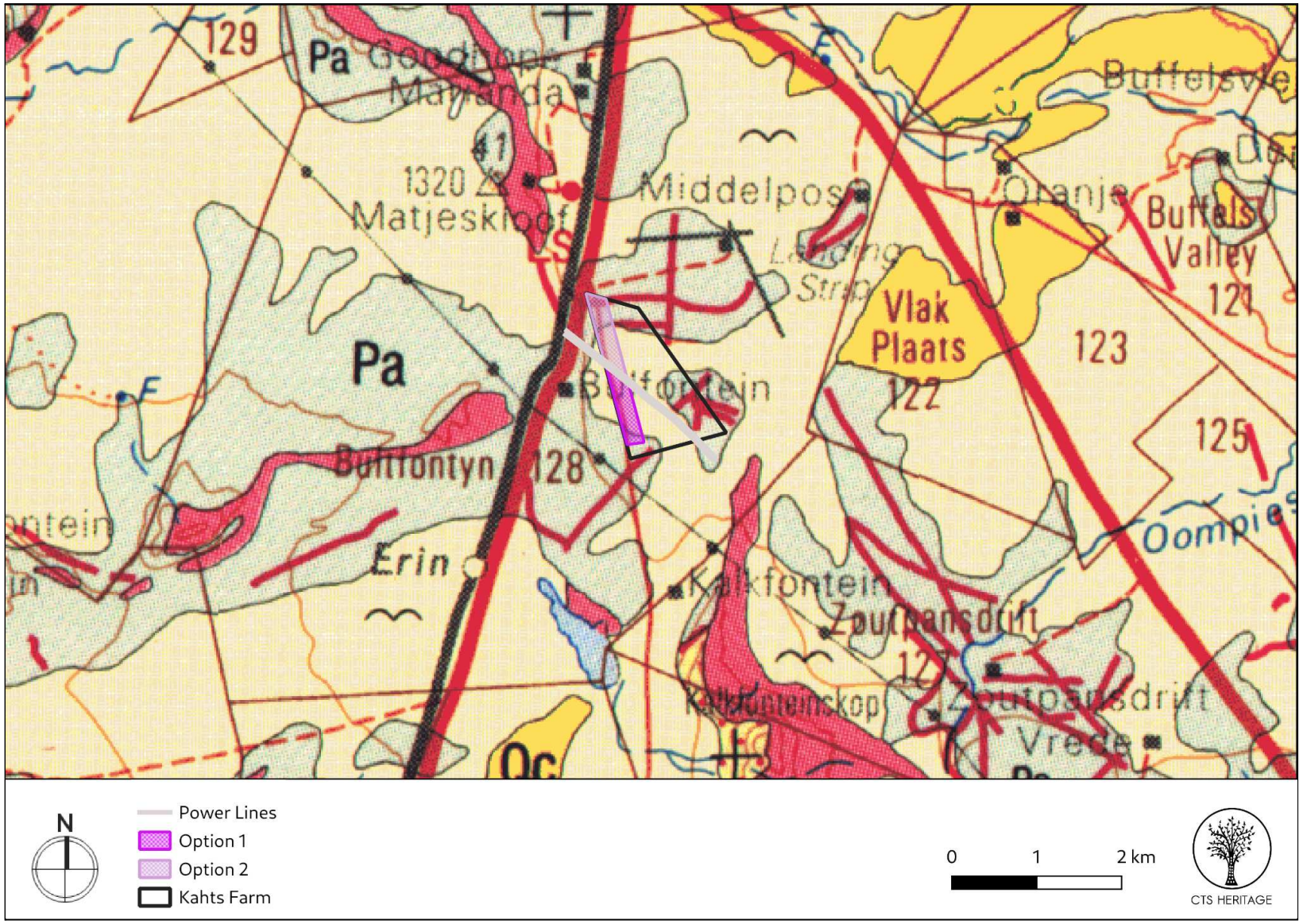

Figure 6. Geology Map. Indicating the underlying geology across the study area through overlaying the geology maps from the CGS series 3124 Middelburg - Pa: Adelaide Formation of the Beaufort Group of the Karoo Subgroup and Quaternary Sands

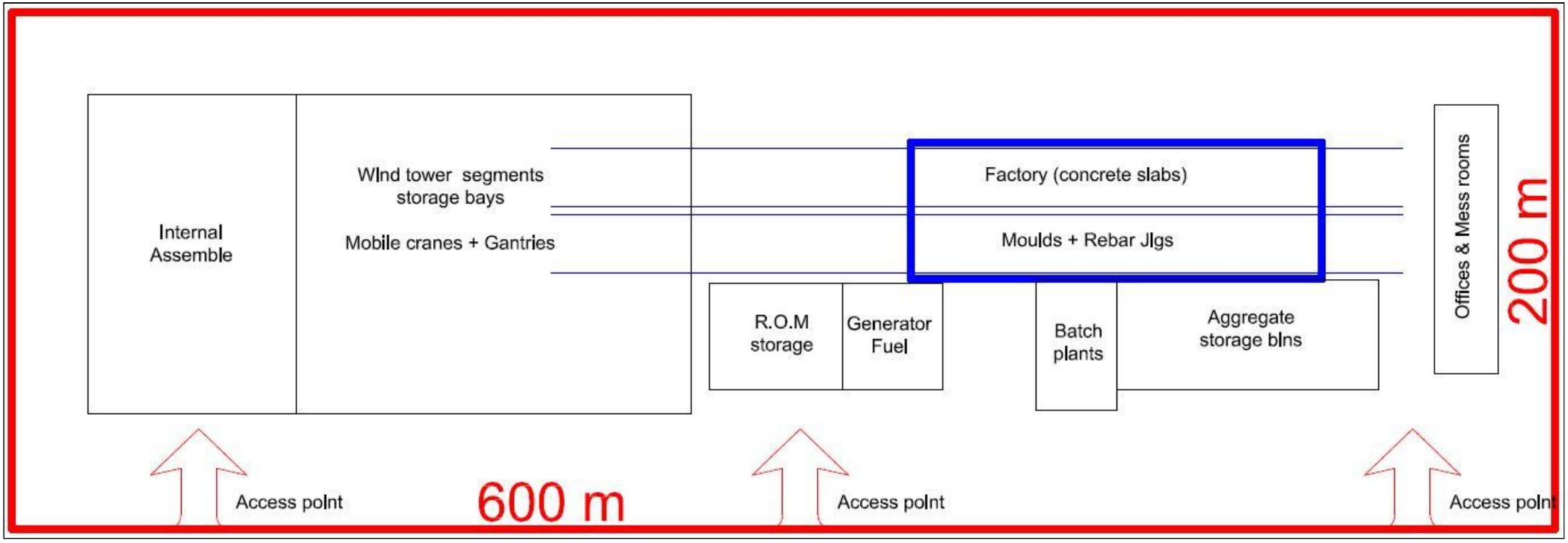

Figure 7. Proposed development layout

8. Heritage statement and character of the area

The area proposed for development is located approximately 6km south of Middelburg in the Eastern Cape. In 1837 the Cape Colony government proclaimed the district of Colesberg, and established the Town of Middelburg in 1852, so named since it is midway between Graaff-Reinet and Colesberg. (It is also approximately halfway between Port Elizabeth and Bloemfontein, as well as between Johannesburg and Cape Town.) The town and surrounding areas are rich in history from the Anglo Boer War. In addition, prior to colonial settlement, the Middelburg area would have been home to Stone Age peoples as evidenced by Early, Middle and Later Stone Age (ESA, MSA and LSA) artefacts found in the area and later, Khoe herders and San hunter-gatherers. Rock art has been identified in the broader Middelburg area, and the Sneeuberg range to the south of Middelburg, was a haven for the San where they hunted and gathered plants, bulbs and fruit for food.

Booth (2012) completed an HIA for a nearby project (SAHRIS ID 384513, Figure 2). Booth (2012) notes that “The Albany Museum database includes records of occurrences of Acheulian handaxes between Middelburg and the Camdeboo National Park near Graaff Reinet, Sampson (1985) located a large number of sites and there is also a collection in the Albany Museum from the Cradock area.” Booth (2012) also notes that “The Albany Museum database holds records of the occurrence of Middle Stone Age stone artefacts around the Cradock area and the Department of Archaeology has curated Middle Stone Age stone artefacts in its collection from the Cradock area including Highlands Rock Shelter excavated by H.J. Deacon during the 1970’s. Relevant archaeological impact assessments conducted by the Archaeology Contracts Office of the National Bloemfontein Museum in 2006 (Van Ryneveld & Koortzen 2006) and the Albany Museum in 2008 have recorded surface scatters of Middle Stone Age stone artefacts in the Cradock vicinity (Binneman & Booth 2008). Middle Stone Age stone artefacts (long blades and points) are found throughout the region, but because these are found in the open areas it is difficult to know where they fit into the cultural time sequence. At Highlands Rock Shelter MSA stone artefacts, possibly a Howieson's Poort Industry, was dated older than 30 000 years (Deacon 1976). Sampson on the other hand reported many open-air MSA sites which he assigned to the Orangian Industry (dating between 128 000 - 75 000 years old), Florisbad and Zeekoegat Industries dating between 64 000 and 32 000 years old.” In her assessment, Booth (2012) identified predominantly MSA artefacts within the area surveyed in her assessment, most of which are not in situ. It is likely that similar archaeological heritage is present within the area proposed for the development of the cement factory.

According to the SAHRIS Palaeosensitivity Map (Figure 5), the area proposed for development is underlain by sediments of moderate (Option 1) and very high (Option 2) palaeontological sensitivity. According to the extract from the Council of Geoscience Map for Middelburg, the development area is underlain by the Adelaide Formation (very high). According to a report by Gess (2012, SAHRIS ID 384514), “The uppermost Balfour Formation (Adelaide Subgroup, Beaufort Group, Karoo Supergroup) mudstones within the area comprise the Palingkloof Member. The Permotriassic boundary is situated within the Palingkloof Member, apparently at the top of the first purple mudstone. The Permotriassic boundary reflects a massive extinction event that decimated life. In the Karoo Basin it is reflected in the biotic changes separating the underlying Dicynodon from the overlying Lystrosaurus assemblage Zones. The after effects of this extinction event led to a change in sedimentary patterns, possibly due to the extinction of the dominant Glossopteris flora. A change from meandering river systems to more high energy braided river systems is reflected in a change in lithology from the mudstone dominated upper Balfour Formation to the sandstone dominated lithology of the Katberg Formation (lower Tarkastad Subgroup, Beaufort Group, Karoo Supergroup).” As such, Option 2 is not preferred in terms of potential impacts to palaeontological heritage. Option 1 is underlain by Quaternary sands which is far less sensitive for impacts to palaeontological heritage.

RECOMMENDATION

Due to the potential for impact to significant heritage resources, it is recommended that an HIA is completed that assesses impacts to archaeological heritage and palaeontological heritage.

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APPENDIX 1

List of heritage resources located in close proximity to the proposed development

Site ID	Site no	Full Site Name	Site Type	Grading
28167	9/2/061/0004	Karel Theron Primary School, Victoria Street, Middelburg	Building	Grade II
28168	9/2/061/0005	Reformed Church, Meintjies Street, Middelburg	Building	Grade II
28171	9/2/061/0008	Haystead and Ford, 7 Market Street, Middelburg	Building	Grade II
25314	HSF 01	Hillston Farm	Palaeontological	Grade IIIb
30059	UMLANDO-DRB	Droe Rivier Bridge	Bridge	Grade IIIb
25616	Middelburg Farms		Palaeontological	Grade IIIb
30062	UMLANDO-GSC	Grootfontein Stream Culvert	Bridge	Grade IIIb
30063	UMLANDO-KBRB	Klein Brak Rivier Bridge	Bridge	Grade IIIb
30070	UMLANDO-RRB	Rosmead Road Bridge	Bridge	Grade IIIb
37014	HOT039	Hotazel 039	Building	Grade IIIa
37199	TRANS-ECNC010	Transnet - Eastern Cape, Northern Cape 010	Building	Grade IIIc
44376	NGQ06	Ngqura 16 Manganese Rail - 06	Transport infrastructure	Grade IIIc
94184	**BultCem**	**Bultfontein Cemetery**	**Burial Grounds & Graves**	**Grade IIIa**
90240	VFV001	Vriesfontein Voerkraal 001	Artefacts	Grade IIIc
132658	9/2/061/0012	Burgher Memorial, cnr Loop and Meintjies Streets, Middelburg	Monuments & Memorials	

132659	9/2/061/0016	Stoelmonument, Middelburg	Monuments & Memorials	
136497	DC13/NAMM/0012	Middelburg 3 Memorial, Meintjies Street, Middelburg	Monuments & Memorials	

Sites from PalaeoBiology Database in figure 5

Collection No.	Collection	Formation
117185	Ruygte Valley 321, Middelburg	Katberg
144128	Tafelberg, near Middelburg	
171371	Vangfontein, annexe of Nooitgedacht 25 farm	Katberg
177022	Dwarsvlaei, Aliwal North	Burgersdorp
177039	Springfield, Middelburg	
182579	Skerpioenkraal, Middelburg	

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APPENDIX 2

Reference List

Heritage Impact Assessments				
Nid	**Report Type**	**Author/s**	**Date**	**Title**
182468	AIA Desktop	Gavin Anderson	27/10/2014	HERITAGE SURVEY OF THE UMSOBOMVU WIND ENERGY FACILITY, EASTERN AND NORTHERN CAPE
384513	AIA Phase 1	Celeste Booth	03/11/2012	A PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT (AIA) FOR THE PROPOSED 75 MW COLLETT PHOTOVOLTAIC POWER STATION AND ASSOCIATED INFRASTRUCTURE AT COLLETT SUBSTATION, ON FARMS 335/0 AND FARM 180/0, NEAR MIDDLEBURG, EASTERN CAPE PROVINCE
384514	PIA Phase 1	Robert Gess	01/12/2012	Palaeontological impact assessment for Proposed construction of a photovoltaic solar power station near Collett Substation, Middleburg, Eastern Cape
6457	AIA Phase 1	Loudine Philip, C Koortzen, Zoe Henderson	08/07/2008	Assessment of Area of Proposed Construction, Operation and Maintenance of the Cypress Grove to Tafelberg Road (Chris Hani Magisterial District, Inxuba Yethemba Municipality, Eastern Cape) in Terms of Archaeological and Other Heritage Sites

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APPENDIX 3 - Keys/Guides

Key/Guide to Acronyms

AIA	Archaeological Impact Assessment
DARD	Department of Agriculture and Rural Development (KwaZulu-Natal)
DEA	Department of Environmental Affairs (National)
DEADP	Department of Environmental Affairs and Development Planning (Western Cape)
DEDEAT	Department of Economic Development, Environmental Affairs and Tourism (Eastern Cape)
DEDECT	Department of Economic Development, Environment, Conservation and Tourism (North West)
DEDT	Department of Economic Development and Tourism (Mpumalanga)
DEDTEA	Department of economic Development, Tourism and Environmental Affairs (Free State)
DENC	Department of Environment and Nature Conservation (Northern Cape)
DMR	Department of Mineral Resources (National)
GDARD	Gauteng Department of Agriculture and Rural Development (Gauteng)
HIA	Heritage Impact Assessment
LEDET	Department of Economic Development, Environment and Tourism (Limpopo)
MPRDA	Mineral and Petroleum Resources Development Act, no 28 of 2002
NEMA	National Environmental Management Act, no 107 of 1998
NHRA	National Heritage Resources Act, no 25 of 1999
PIA	Palaeontological Impact Assessment
SAHRA	South African Heritage Resources Agency
SAHRIS	South African Heritage Resources Information System
VIA	Visual Impact Assessment

Full guide to Palaeosensitivity Map legend

	RED:	VERY HIGH - field assessment and protocol for finds is required
	ORANGE/YELLOW:	HIGH - desktop study is required and based on the outcome of the desktop study, a field assessment is likely
	GREEN:	MODERATE - desktop study is required
	BLUE/PURPLE:	LOW - no palaeontological studies are required however a protocol for chance finds is required
	GREY:	INSIGNIFICANT/ZERO - no palaeontological studies are required
	WHITE/CLEAR:	UNKNOWN - these areas will require a minimum of a desktop study.

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APPENDIX 4 - Methodology

The Heritage Screener summarises the heritage impact assessments and studies previously undertaken within the area of the proposed development and its surroundings. Heritage resources identified in these reports are assessed by our team during the screening process.

The heritage resources will be described both in terms of **type**:

- Group 1: Archaeological, Underwater, Palaeontological and Geological sites, Meteorites, and Battlefields
- Group 2: Structures, Monuments and Memorials
- Group 3: Burial Grounds and Graves, Living Heritage, Sacred and Natural sites
- Group 4: Cultural Landscapes, Conservation Areas and Scenic routes

and **significance** (Grade I, II, IIIa, b or c, ungraded), as determined by the author of the original heritage impact assessment report or by formal grading and/or protection by the heritage authorities.

Sites identified and mapped during research projects will also be considered.

DETERMINATION OF THE EXTENT OF THE INCLUSION ZONE TO BE TAKEN INTO CONSIDERATION

The extent of the inclusion zone to be considered for the Heritage Screener will be determined by CTS based on:

- the size of the development,
- the number and outcome of previous surveys existing in the area
- the potential cumulative impact of the application.

The inclusion zone will be considered as the region within a maximum distance of 50 km from the boundary of the proposed development.

DETERMINATION OF THE PALAEONTOLOGICAL SENSITIVITY

The possible impact of the proposed development on palaeontological resources is gauged by:

- reviewing the fossil sensitivity maps available on the South African Heritage Resources Information System (SAHRIS)
- considering the nature of the proposed development
- when available, taking information provided by the applicant related to the geological background of the area into account

DETERMINATION OF THE COVERAGE RATING ASCRIBED TO A REPORT POLYGON

Each report assessed for the compilation of the Heritage Screener is colour-coded according to the level of coverage accomplished. The extent of the surveyed coverage is labeled in three categories, namely low, medium and high. In most instances the extent of the map corresponds to the extent of the development for which the specific report was undertaken.

Low coverage will be used for:

- desktop studies where no field assessment of the area was undertaken;
- reports where the sites are listed and described but no GPS coordinates were provided.
- older reports with GPS coordinates with low accuracy ratings;
- reports where the entire property was mapped, but only a small/limited area was surveyed.
- uploads on the National Inventory which are not properly mapped.

Medium coverage will be used for

- reports for which a field survey was undertaken but the area was not extensively covered. This may apply to instances where some impediments did not allow for full coverage such as thick vegetation, etc.
- reports for which the entire property was mapped, but only a specific area was surveyed thoroughly. This is differentiated from low ratings listed above when these surveys cover up to around 50% of the property.

High coverage will be used for

- reports where the area highlighted in the map was extensively surveyed as shown by the GPS track coordinates. This category will also apply to permit reports.

RECOMMENDATION GUIDE

The Heritage Screener includes a set of recommendations to the applicant based on whether an impact on heritage resources is anticipated. One of three possible recommendations is formulated:

(1) The heritage resources in the area proposed for development are sufficiently recorded - The surveys undertaken in the area adequately captured the heritage resources. There are no known sites which require mitigation or management plans. No further heritage work is recommended for the proposed development.

This recommendation is made when:

- enough work has been undertaken in the area
- it is the professional opinion of CTS that the area has already been assessed adequately from a heritage perspective for the type of development proposed

(2) The heritage resources and the area proposed for development are only partially recorded - The surveys undertaken in the area have not adequately captured the heritage resources and/or there are sites which require mitigation or management plans. Further specific heritage work is recommended for the proposed development.

This recommendation is made in instances in which there are already some studies undertaken in the area and/or in the adjacent area for the proposed development. Further studies in a limited HIA may include:

- improvement on some components of the heritage assessments already undertaken, for instance with a renewed field survey and/or with a specific specialist for the type of heritage resources expected in the area
- compilation of a report for a component of a heritage impact assessment not already undertaken in the area

- undertaking mitigation measures requested in previous assessments/records of decision.

(3) The heritage resources within the area proposed for the development have not been adequately surveyed yet - Few or no surveys have been undertaken in the area proposed for development. A full Heritage Impact Assessment with a detailed field component is recommended for the proposed development.

Note:
The responsibility for generating a response detailing the requirements for the development lies with the heritage authority. However, since the methodology utilised for the compilation of the Heritage Screeners is thorough and consistent, contradictory outcomes to the recommendations made by CTS should rarely occur. Should a discrepancy arise, CTS will immediately take up the matter with the heritage authority to clarify the dispute.