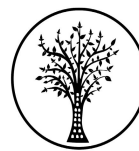




CTS HERITAGE

APPENDIX 1: Heritage Screening Assessment (March 2019)



CTS HERITAGE

HERITAGE SCREENER

CTS Reference Number:	CTS19_058
SAHRA Ref:	
Client:	Savannah
Date:	September 2019
Title:	PROPOSED DEVELOPMENT OF 3 X 350MW AND 6 x100MW PV FACILITIES WITHOUT BATTERY STORAGE AND AN EIA FOR 1 X 350MW CSP FACILITY (TOWER), NEAR UPINGTON, NORTHERN CAPE PROVINCE (Savannah Ref No.: SE2391)

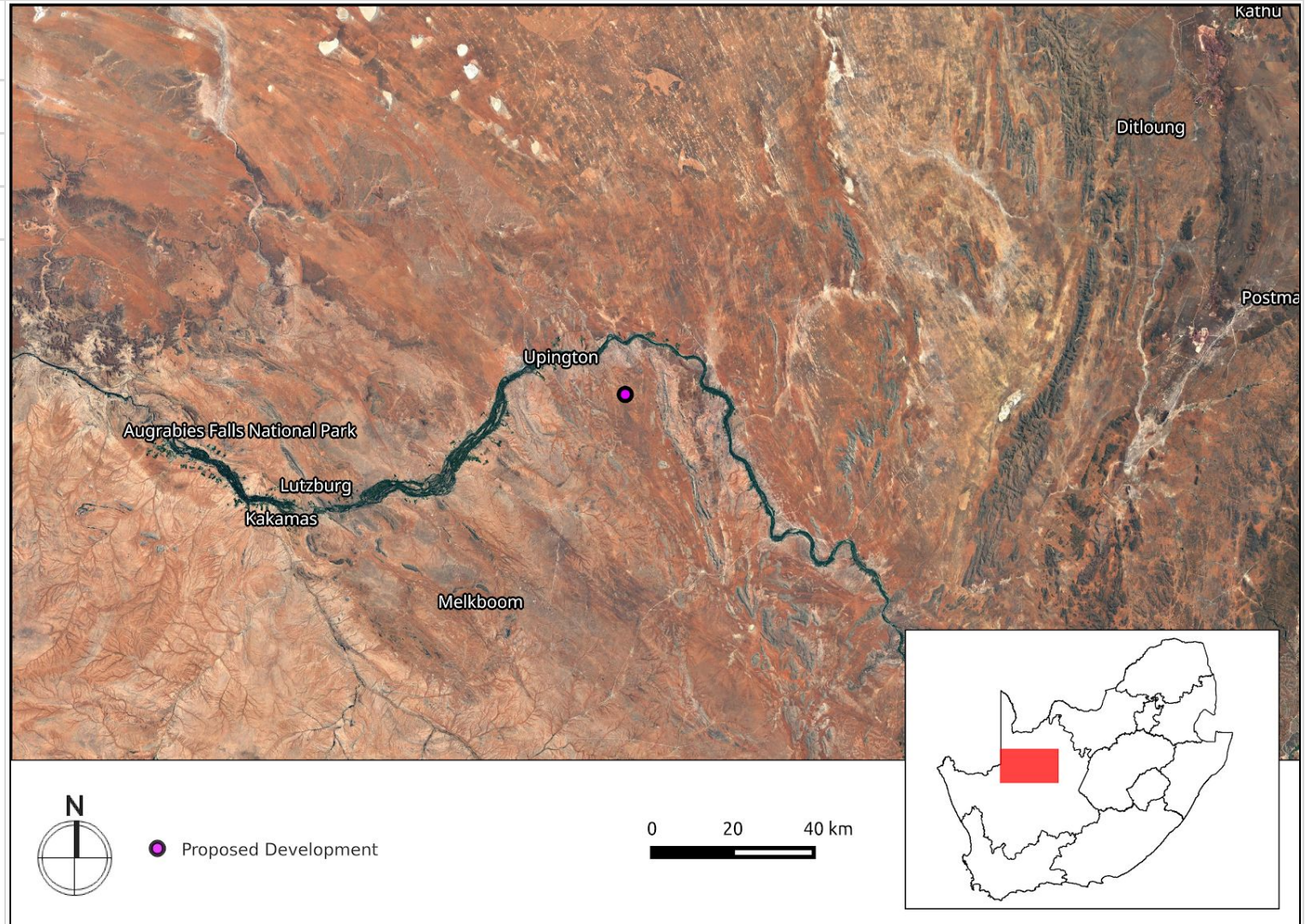
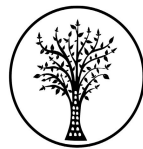


Figure 1a. Satellite map indicating the location of the proposed development in the Northern Cape Province

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1. Proposed Development Summary

Emvelo Capital Projects has appointed Savannah Environmental (Pty) Ltd to undertake Basic Assessment processes for 3 X 350MW and 6 X100MV PV Facilities Without Battery Storage and EIA for 1 X 350MW CSP Facility (Tower), Near Upington, Northern Cape Province. It is understood that each facility would include the following infrastructure:

1. Power line of up to 15 km
2. Pipeline of up to 20 km
3. Access road of up to 15 km in length.

The location of the project site within a REDZ and Power Corridor makes it possible to undertake Basic Assessment (BAR) processes for the projects in support of the application for authorisation. Separate applications for Authorisation are to be made for each solar energy facility.

2. Application References

Name of relevant heritage authority(s)	SAHRA
Name of decision making authority(s)	DEA

3. Property Information

Latitude / Longitude	28°31'02.66"S, 21°30'23.34"E
Erf number / Farm number	Farm 2/41, Farm 72/41
Local Municipality	Dawid Kruiper
District Municipality	Z F Mgcawu
Province	Northern Cape
Current Use	Agriculture
Current Zoning	Agriculture

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4. Nature of the Proposed Development

Total Surface Area of development	TBA
Depth of excavation (m)	TBA
Height of development (m)	TBA

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):

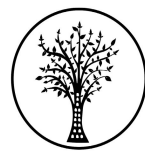
6. Additional Infrastructure Required for this Development

Roads and powerlines as per the description

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

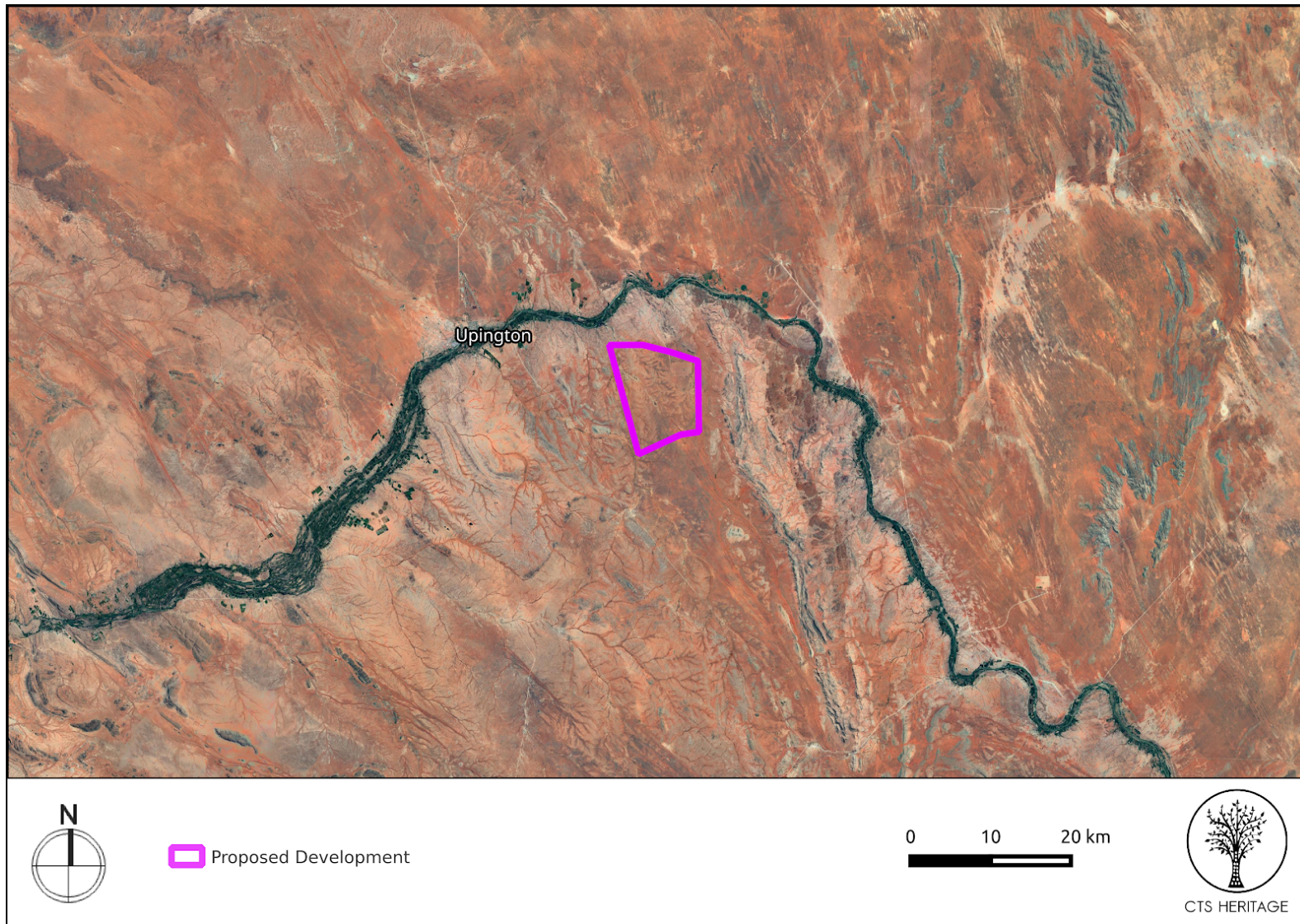


Figure 1b Overview Map. Satellite image (2019) indicating the proposed development area at closer range.

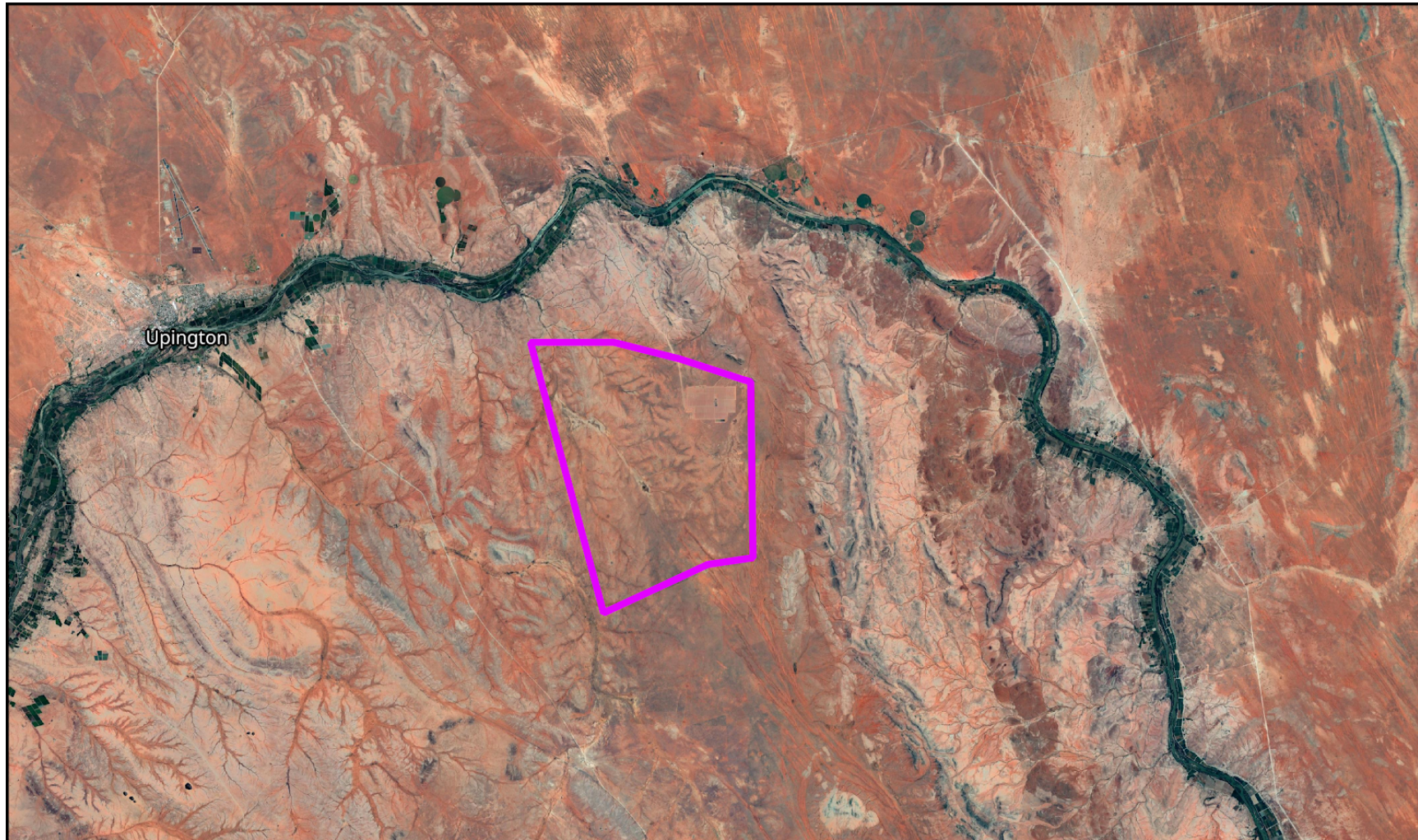
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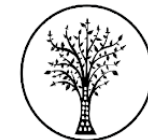


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 Proposed Development

0 5 10 km




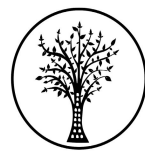
CTS HERITAGE

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

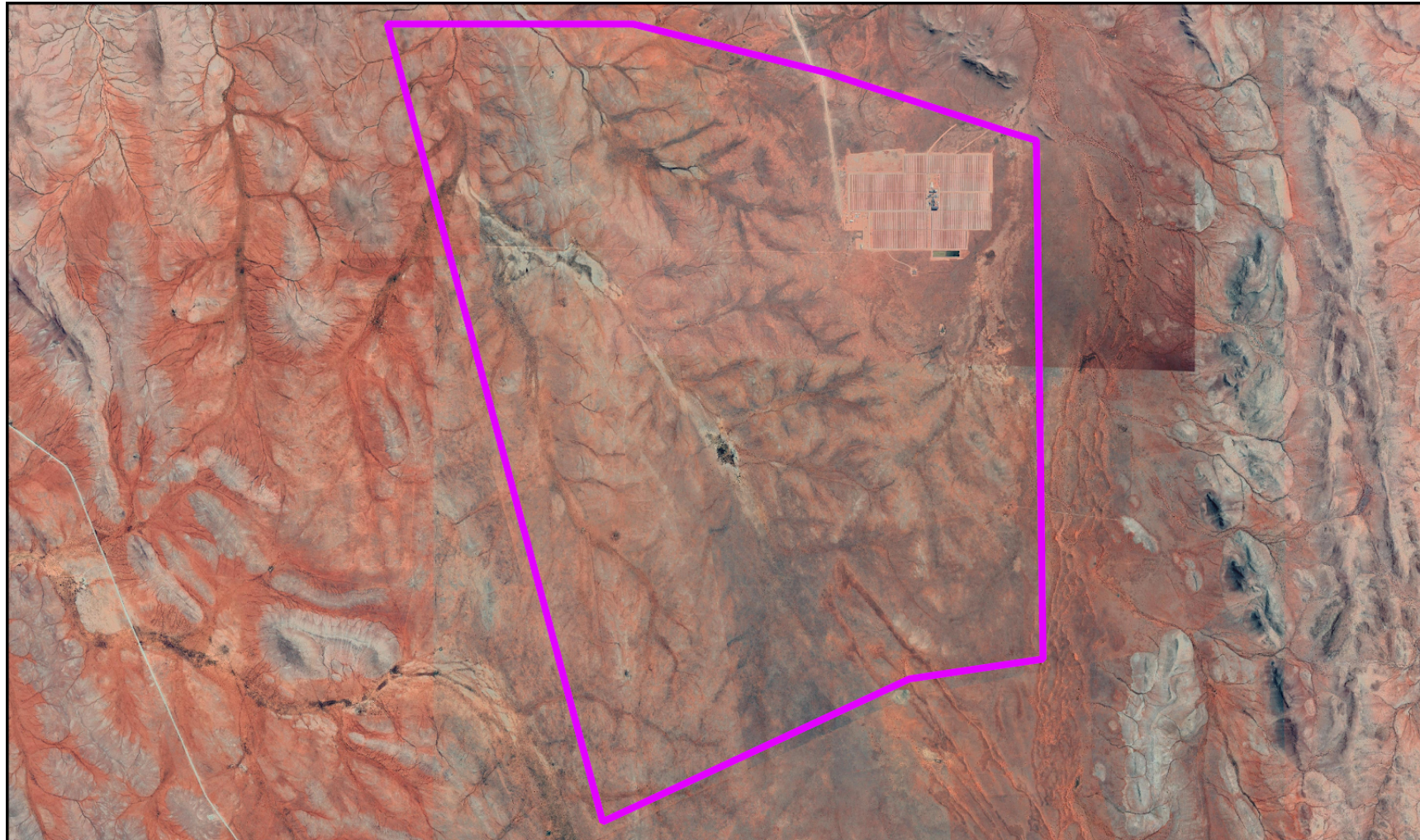
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 Proposed Development

0 1 2 km




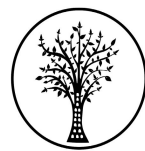
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Figure 1d. Overview Map. Satellite image (2019) indicating the proposed development area at closer range

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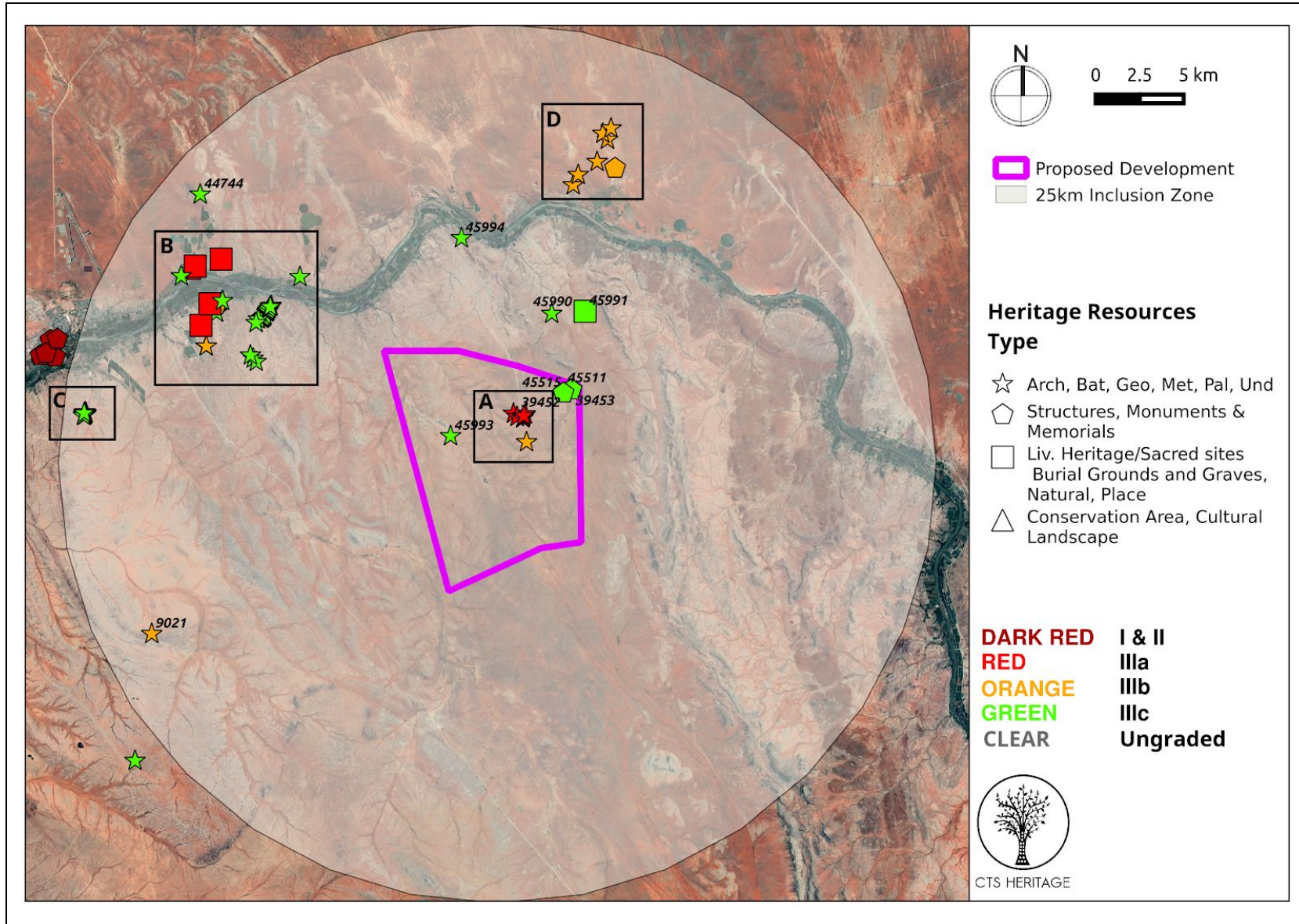


Figure 3a. Heritage Resources Map. Heritage Resources previously identified in and near the study area, with SAHRIS Site IDs indicated. Please See Appendix 4 for full description of heritage resource types.

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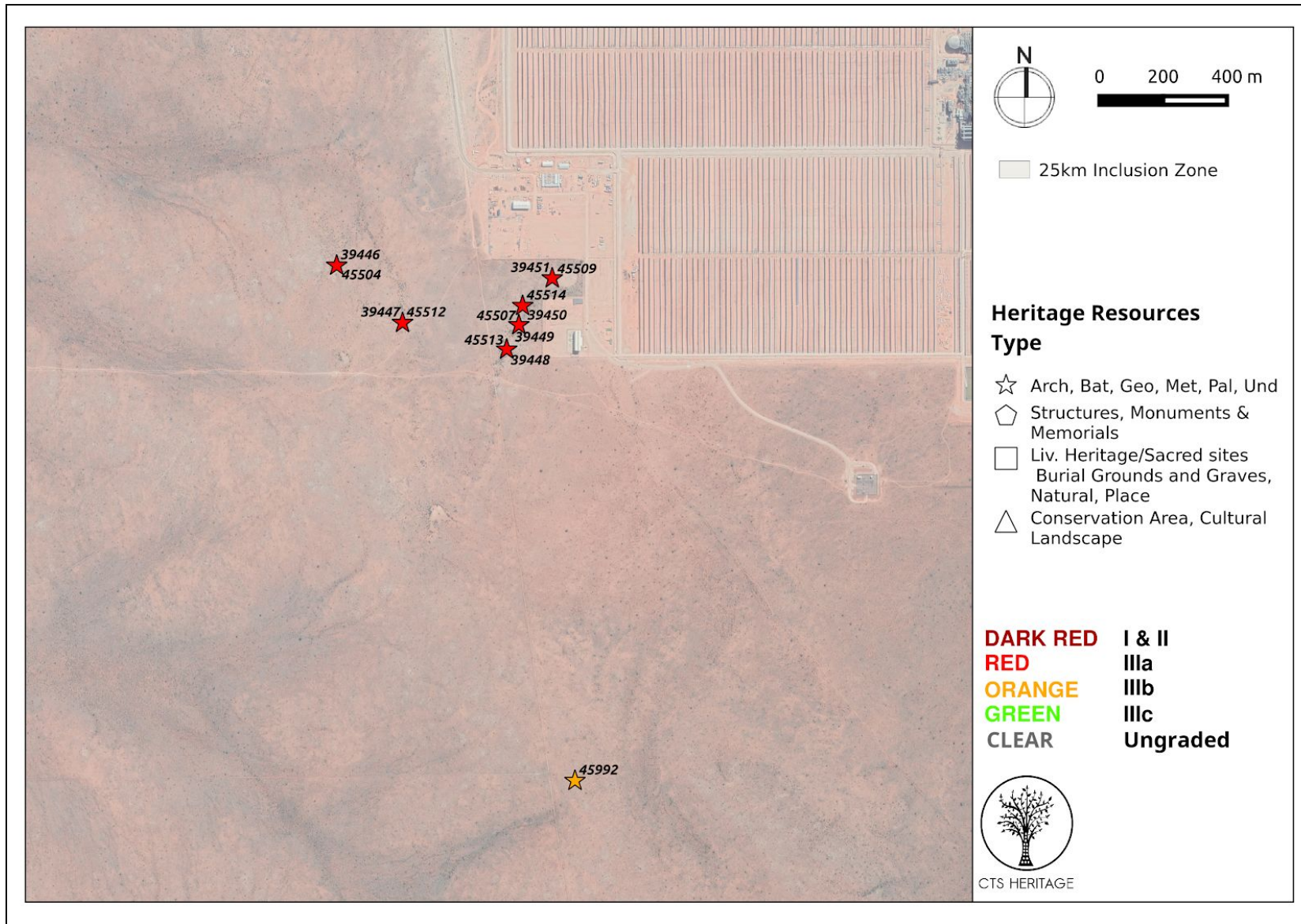


Figure 3b. Heritage Resources Map. Heritage Resources Inset A

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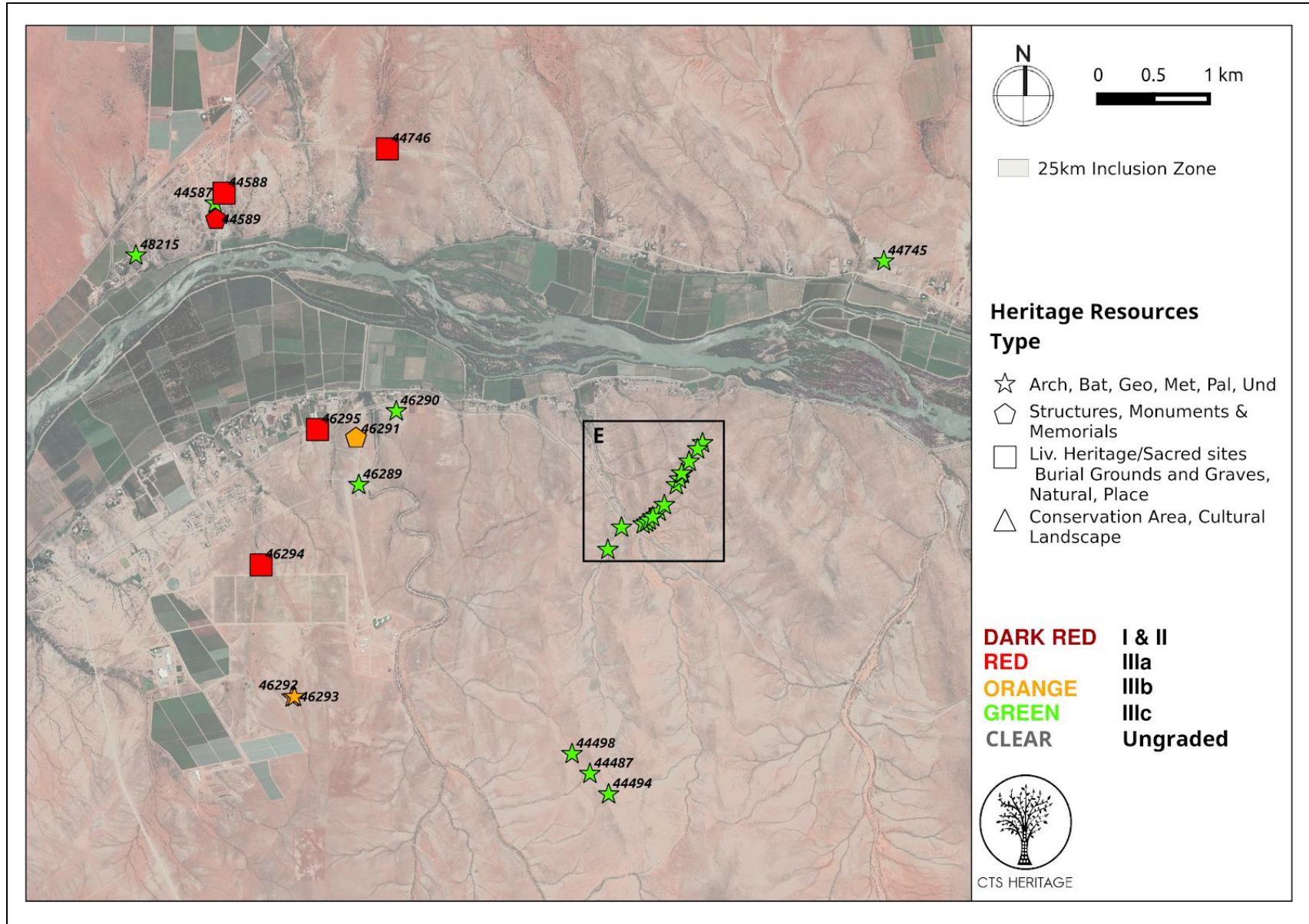


Figure 3c. Heritage Resources Map. Heritage Resources Inset B

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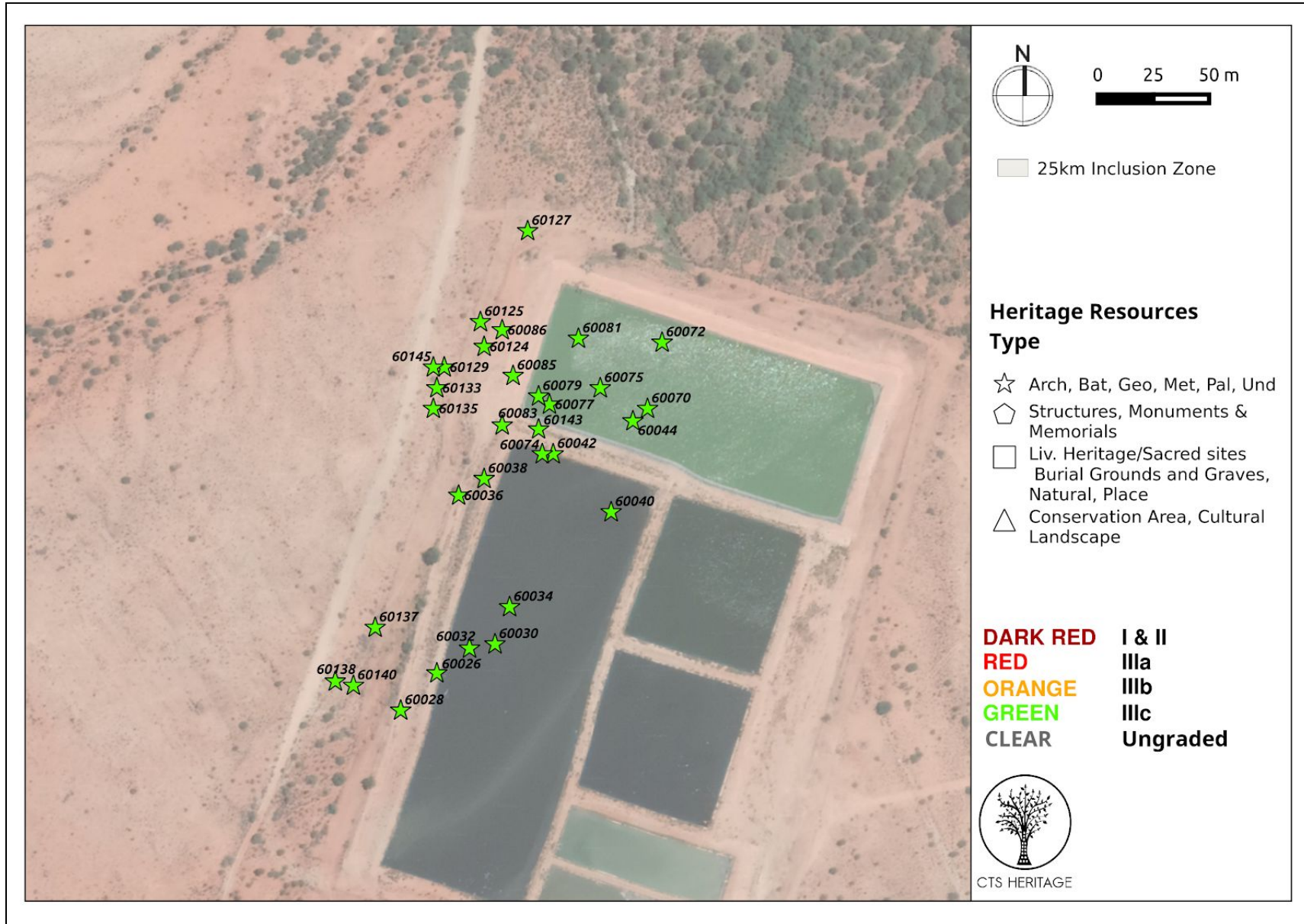


Figure 3d. Heritage Resources Map. Heritage Resources Inset C

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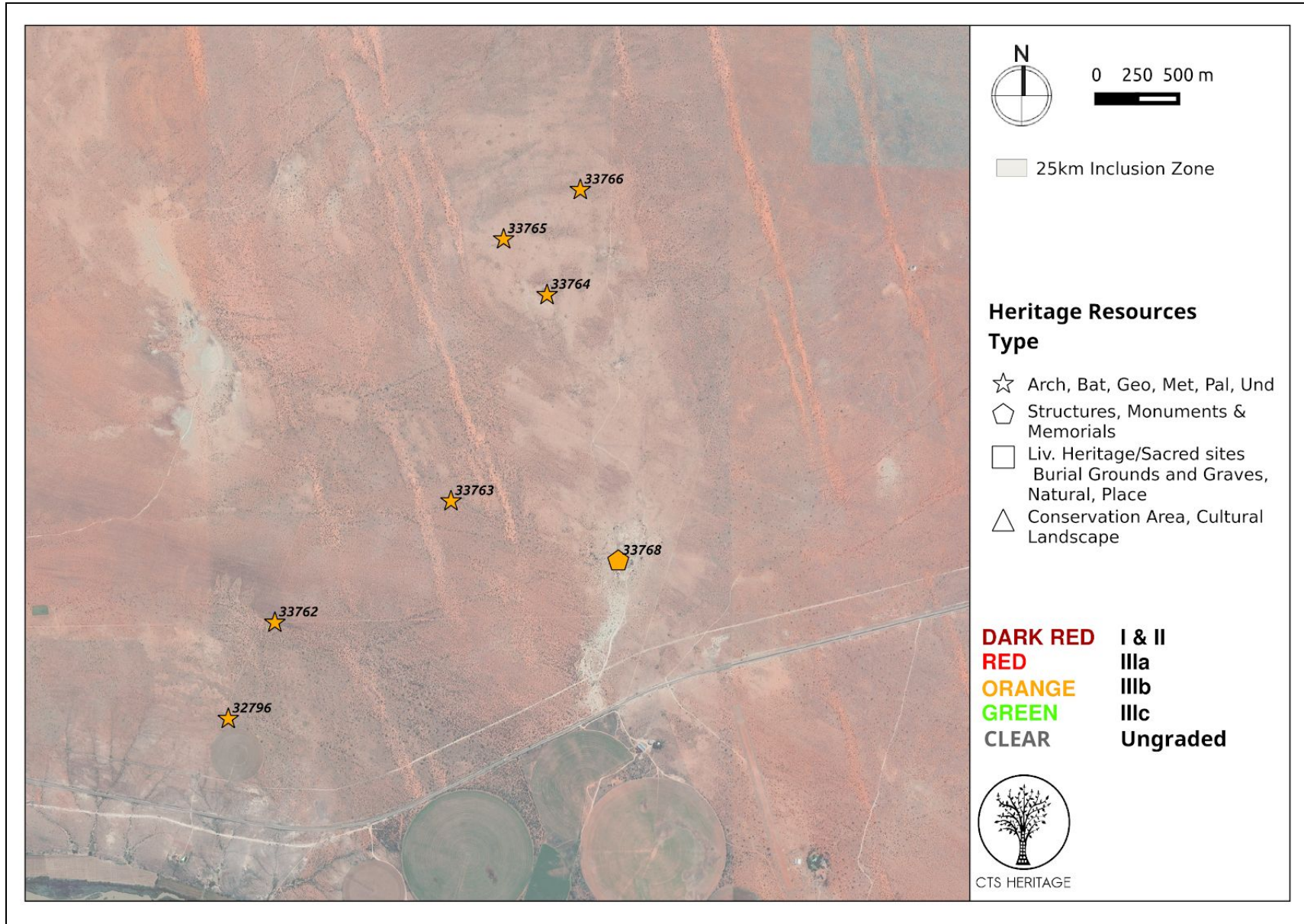


Figure 3e. Heritage Resources Map. Heritage Resources Inset D

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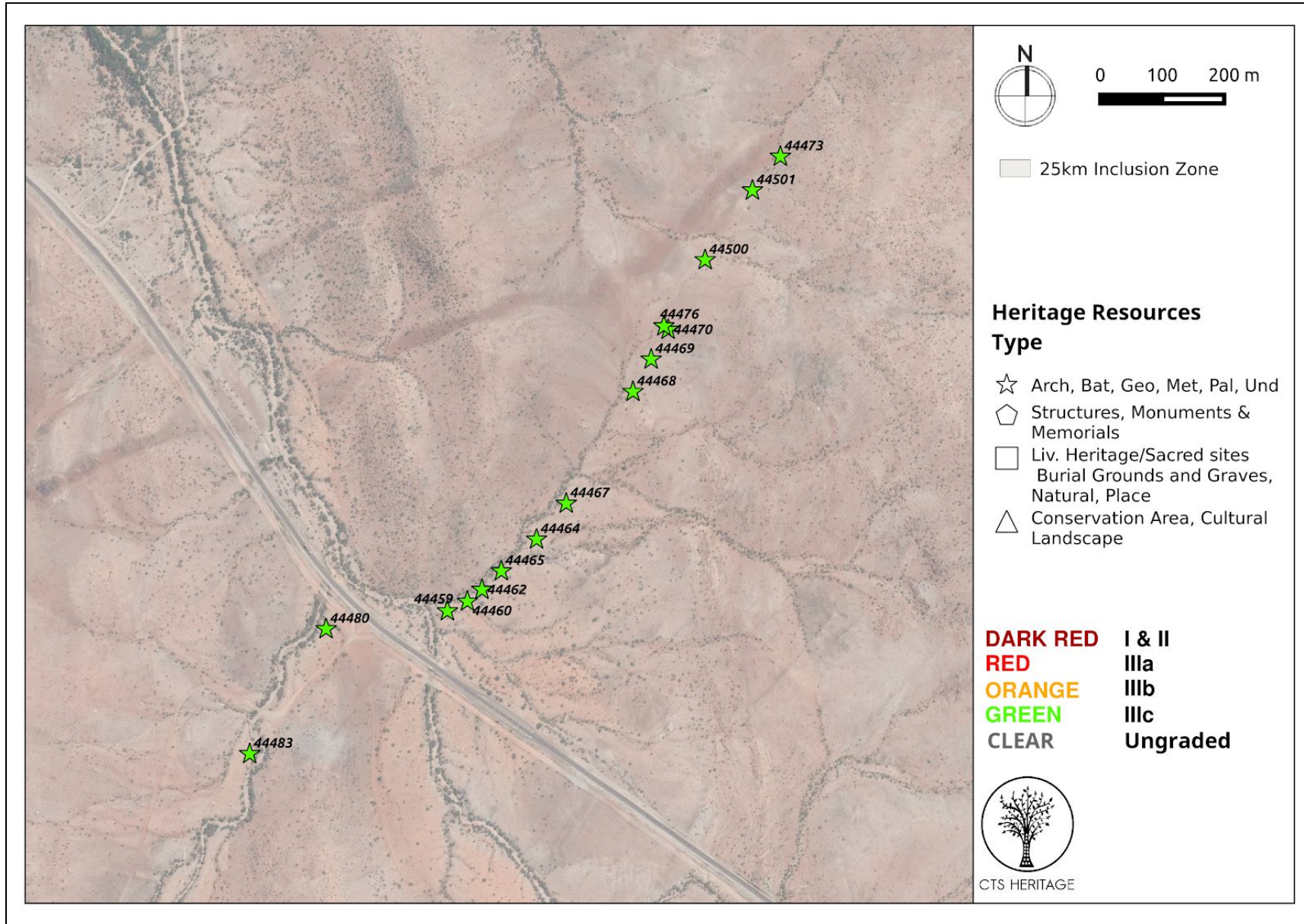
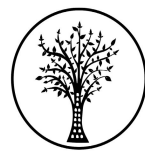


Figure 3f. Heritage Resources Map. Heritage Resources Inset E

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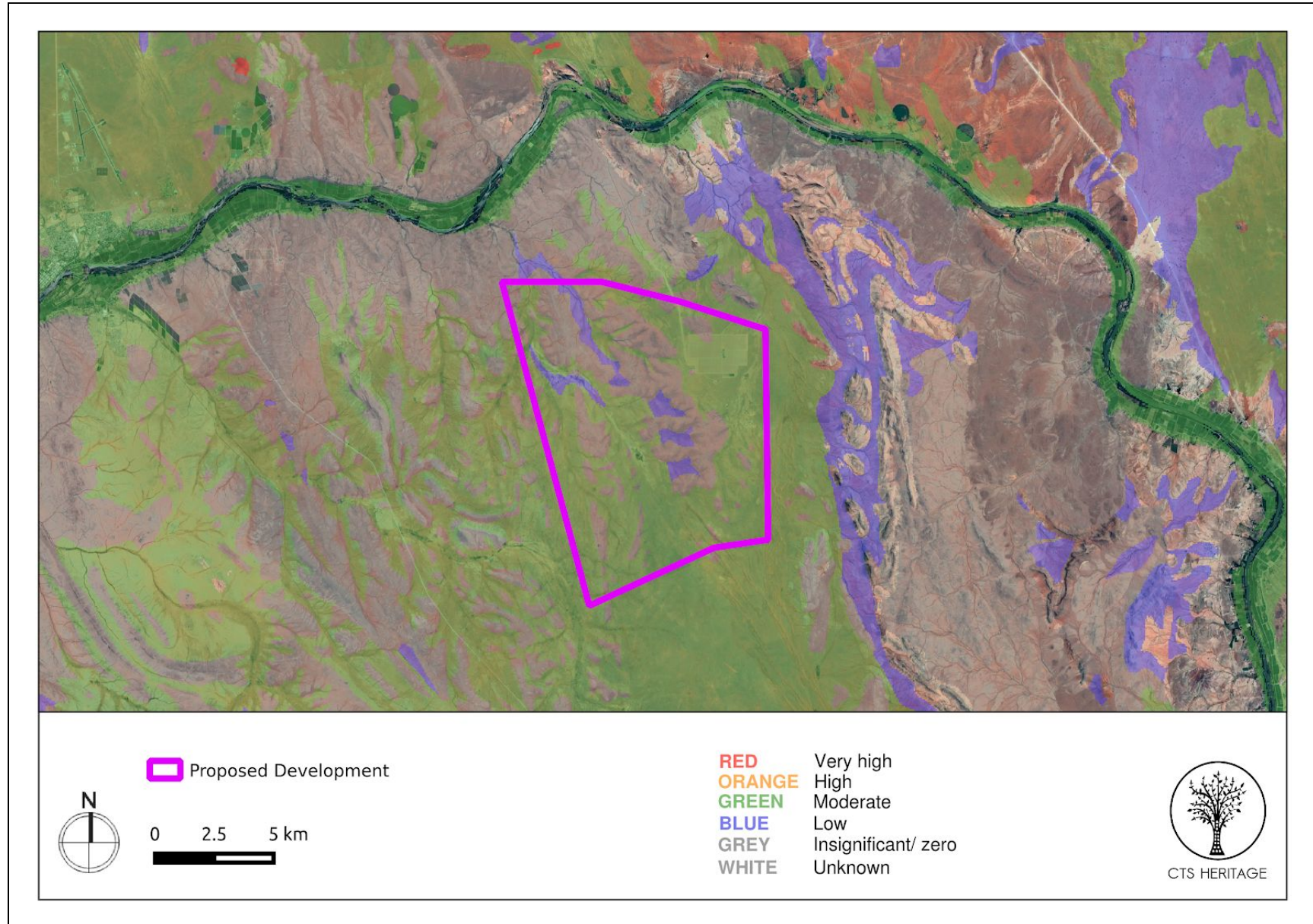
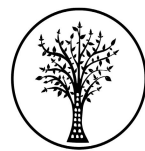


Figure 4. Palaeosensitivity Map. Indicating Moderate and Very High fossil sensitivity underlying the study area. Please See Appendix 3 for full guide to the legend.

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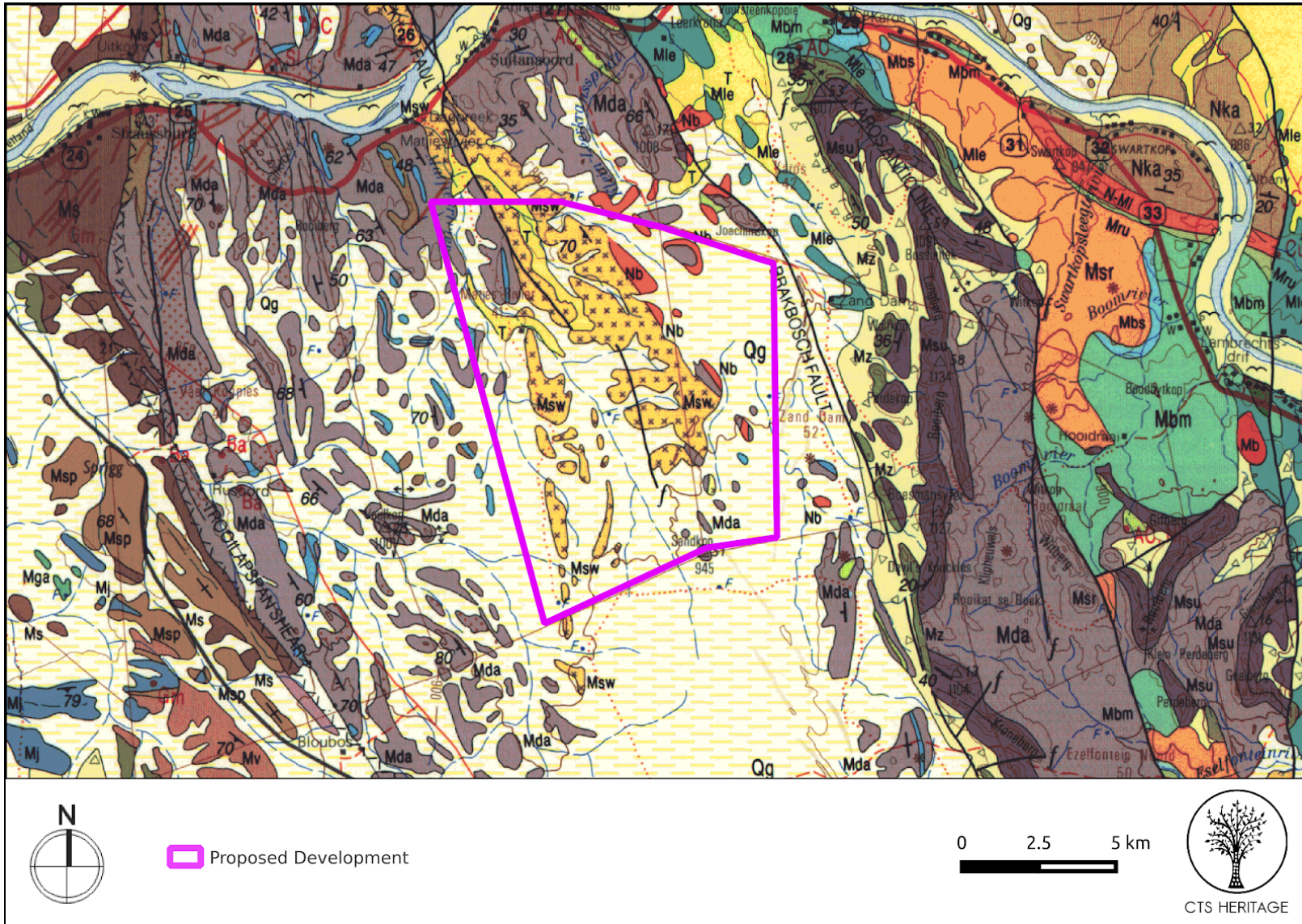
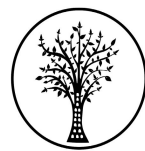


Figure 5. Geology Map. Indicating the underlying geology across the study area through overlaying the geology maps from the CGS series 2820 Upington (T: Kalahari Groep (Talk), Nb: Blauwbosch Granite (Granite porphyry), Qg: Gordonia (Red-brown, wind-blown sand and dunes), Msw: Swartz Gneiss (Porphyroblastic biotite gneiss), Mda: Dagbreek (Quartzite and schist grading into banded gneiss and migmatite; lenses of leucogneiss; amphibolite and serpentinite))

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8. Heritage statement and character of the area

The area proposed for development is located approximately 20km east of Upington. Upington originated as a mission station established along the banks of the Orange River in 1871 and run by Reverend Christiaan Schröder, and was founded as a town in 1873. According to Gaigher (2012, SAHRIS ID 34135), prior to colonial settlement, this area was occupied by the Korana who had been forced to the outskirts of the Cape Colony along the Gariiep River. When this area was eventually settled by colonists, war broke out between the colonial settlers and the Korana, who were then dispersed upon their defeat. Upington has been noted as being the sunniest location on the planet for three months of the year, from November through to January, which is likely why this area has been earmarked for the development of renewable energy facilities as part of the Karoshoek Solar Valley development. The geomorphology of the area has been described by Van Schalkwyk (2011, SAHRIS ID 162266) as irregular plains with hills occurring to the south. The vegetation is described as Orange River Nama Karoo. Van Schalkwyk (2011) further notes that the area proposed for development were used for grazing purposes and no farmsteads were constructed this far from the Orange River.

Numerous Renewable Energy developments have been proposed for this area as part of the Karoshoek Solar Valley development and each of these proposed developments have undergone assessments for impacts to archaeological resources (Figure 2). Areas located to the south-east of the study area were surveyed by Sampson (1985), revealing a number of Karoo stone age sites, however similar densities of stone age sites are not known from the proposed development area. In his assessment, Van Schalkwyk (2011) identified a number of Later Stone Age artefacts associated with a non-perennial stream that traverses the development area, as well as along the outer edges of a pan (graded III). He also identified two small historic structures in the study area made of clay bricks of low heritage significance. Gaigher (2012, SAHRIS ID 34135) also assessed this area for impacts to archaeological resources. Gaigher identified “limited scatterings of Middle to Later Stone Age tools found in various areas”. He notes that these finds in themselves do not constitute sites, but do indicate the possible occurrence of such sites. The heritage resources identified in these reports have been extracted and mapped in Figures 3a to 3f. Further archaeological impact assessment work has been completed in this area by Van der Walt (2015 and 2016 - see Appendix 2). Van der Walt notes that the various assessments conducted in this area provide a robust baseline for the archaeology expected in this area. “These studies show that almost no significant archaeological sites occur within the immediate vicinity of the Ilanga Solar Facility. Although artefacts dating to the Early, Middle and Later Stone Age were recorded in the larger area, they occur as isolated finds that are temporally mixed, in deflated and un-stratified contexts without organic remains and other cultural materials. As a result, the archaeological record of the larger area is considered to be of low significance.”

According to Almond’s Desktop PIA for the proposed additional CSP sites within the Karoshoek Solar Valley (November 2015, SAHRIS ID 344305), which covers this area proposed for this development, the development area is underlain by PreCambrian basement rocks as well as late Cenozoic superficial sediments. Almond (2015) further notes that “The Precambrian igneous and metamorphic basement rocks underlying the entire study area at depth are entirely **unfossiliferous**. The fossil record of the Pleistocene to Recent Kalahari Group is generally sparse and low in diversity. The Gordonia Formation dune sands were mainly active during cold, drier intervals of the Pleistocene Epoch that were inimical to most forms of life, apart from hardy, desert-adapted species. **Porous dune sands are not generally conducive to fossil preservation**. However, mummification of soft tissues may play a role here and migrating lime-rich groundwaters derived from the underlying bedrocks (including, for example, dolerite) may lead to the rapid calcretisation of organic structures such as burrows and root casts. Occasional terrestrial fossil remains that might be expected within this unit include calcretized rhizoliths (root casts) and termitaria (e.g. *Hodotermes*, the harvester termite), ostrich egg shells (*Struthio*) and shells of land snails (e.g. *Trigonephrus*) (Almond 2008, Almond & Pether 2008). Other fossil groups such as freshwater bivalves and gastropods (e.g. *Corbula*, *Unio*) and snails, ostracods (seed shrimps), charophytes (stonewort algae), diatoms (microscopic algae within siliceous shells) and stromatolites (laminated microbial limestones) are associated with local watercourses and pans. Microfossils such as diatoms may be blown by wind into nearby dune sands. These Kalahari fossils (or subfossils) can be expected to occur sporadically but widely, and **the overall palaeontological sensitivity of the Gordonia Formation is therefore considered to be low**. Underlying calcretes of the Mokolanen Formation might also contain trace fossils such as rhizoliths, termite and other insect burrows, or even mammalian trackways. It is noted that potentially fossiliferous alluvial gravels of Neogene or Quaternary age (“High Level Gravels”) associated with the Orange River are *not* mapped within the present study area.”

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APPENDIX 1

List of heritage resources within the 25km Inclusion Zone from SAHRIS

Site ID	Site no	Full Site Name	Site Type	Grading
9021	2832CB 032		Artefacts	Grade IIIb
32796	AVSA01	Avondale 1	Artefacts	Grade IIIb
33762	AVSA02	Avondale 2	Artefacts	Grade IIIb
33763	AVSA03	Avondale 3	Artefacts	Grade IIIb
33764	AVSA04	Avondale 4	Artefacts	Grade IIIb
33765	AVSA05	Avondale 5	Artefacts	Grade IIIb
33766	AVSA06	Avondale 6	Artefacts	Grade IIIb
33768	AVSA07	Avondale 7	Building	Grade IIIb
39446	KHARA001	Khara Hais 001	Artefacts	Grade IIIa
39447	KHARA002	Khara Hais 002	Artefacts	Grade IIIa
39448	KHARA003	Khara Hais 003	Artefacts	Grade IIIa
39449	KHARA004	Khara Hais 004	Artefacts	Grade IIIa
39450	KHARA005	Khara Hais 005	Artefacts	Grade IIIa
39451	KHARA006	Khara Hais 006	Artefacts	Grade IIIa
39452	KHARA007	Khara Hais 007	Building	Grade IIIc
39453	KHARA008	Khara Hais 008	Structures	Grade IIIc
44459	VKPS01	Vaalkoppies 01	Artefacts	Grade IIIc
44460	VKPS02	Vaalkoppies 02	Artefacts	Grade IIIc
44462	VKPS03	Vaalkoppies 03	Artefacts	Grade IIIc
44464	VKPS05	Vaalkoppies 05	Artefacts	Grade IIIc
44465	VKPS04	Vaalkoppies 04	Artefacts	Grade IIIc
44467	VKPS06	Vaalkoppies 06	Artefacts	Grade IIIc

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44468	VKPS07	Vaalkoppies 07	Artefacts	Grade IIIc
44469	VKPS08	Vaalkoppies 08	Artefacts	Grade IIIc
44470	VKPS09	Vaalkoppies 09	Artefacts	Grade IIIc
44473	VKPS11	Vaalkoppies 11	Artefacts	Grade IIIc
44476	VKPS13	Vaalkoppies 13	Artefacts	Grade IIIc
44480	VKPS14	Vaalkoppies 14	Artefacts	Grade IIIc
44483	VKPS15	Vaalkoppies 15	Artefacts	Grade IIIc
44487	VKPS17	Vaalkoppies 17	Artefacts	Grade IIIc
44494	VKPS18	Vaalkoppies 18	Artefacts	Grade IIIc
44498	VKPS16	Vaalkoppies 16	Artefacts	Grade IIIc
44500	VKPS10	Vaalkoppies 10	Artefacts	Grade IIIc
44501	VKPS12	Vaalkoppies 12	Artefacts	Grade IIIc
44587	MKSTM01	Melkstroom 563 01	Artefacts	Grade IIIc
44588	MKSTM02	Melkstroom 563 02	Burial Grounds & Graves	Grade IIIa
44589	MKSTM03	Melkstroom 563 03	Building	Grade IIIa
44744	DR3321 UAP 01	DR3321 UAP 01-Northern Cape	Artefacts	Grade IIIc
44745	DR3321 UAP 02	DR3321 UAP 02-Northern Cape	Artefacts	Grade IIIc
44746	DR3321 UAP 03	DR3321 UAP 03-Northern Cape	Burial Grounds & Graves	Grade IIIa
45504	UPING01	Upington 01	Artefacts	Grade IIIa
45507	UPING04	Upington 04	Artefacts	
45509	UPING06	Upington 06	Artefacts	Grade IIIa
45511	UPING08	Upington 08	Structures	Grade IIIc
45512	UPING02	Upington 02	Artefacts	Grade IIIa
45513	UPING03	Upington 03	Artefacts	

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45514	UPING05	Upington 05	Artefacts	Grade IIIa
45515	UPING07	Upington 07	Structures	Grade IIIc
45990	KARO001	Karoshhoek 001	Artefacts	Grade IIIc
45991	KARO002	Karoshhoek 002	Living Heritage/Sacred sites	Grade IIIc
45992	KARO003	Karoshhoek 003	Artefacts	Grade IIIb
45993	KARO004	Karoshhoek 004	Artefacts	Grade IIIc
45994	KARO005	Karoshhoek 005	Artefacts	Grade IIIc
46289	VKPS19	Vaalkoppies 19	Archaeological	Grade IIIc
46290	VKPS20	Vaalkoppies 20	Archaeological	Grade IIIc
46291	VKPS21	Vaalkoppies 21	Monuments & Memorials	Grade IIIb
46292	VKPS22	Vaalkoppies 22	Artefacts	Grade IIIb
46293	VKPS23	Vaalkoppies 23	Artefacts	Grade IIIb
46294	VKPS24	Vaalkoppies 24	Burial Grounds & Graves	Grade IIIa
46295	VKPS25	Vaalkoppies 25	Burial Grounds & Graves	Grade IIIa
48215	MLKST001	Melkstroom 001	Artefacts	Grade IIIc
60026	LOUI01	Louisevale 01	Artefacts	Grade IIIc
60028	LOUI02	Louisevale 02	Artefacts	Grade IIIc
60030	LOUI03	Louisevale 03	Artefacts	Grade IIIc
60032	LOUI04	Louisevale 04	Artefacts	Grade IIIc
60034	LOUI05	Louisevale 05	Artefacts	Grade IIIc
60036	LOUI06	Louisevale 06	Artefacts	Grade IIIc
60038	LOUI07	Louisevale 07	Artefacts	Grade IIIc
60040	LOUI08	Louisevale 08	Artefacts	Grade IIIc

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60042	LOUI09	Louisevale 09	Artefacts	Grade IIIc
60044	LOUI10	Louisevale 10	Artefacts	Grade IIIc
60070	LOUI11	Louisevale 11	Artefacts	Grade IIIc
60072	LOUI12	Louisevale 12	Artefacts	Grade IIIc
60074	LOUI13	Louisevale 13	Artefacts	Grade IIIc
60075	LOUI14	Louisevale 14	Artefacts	Grade IIIc
60077	LOUI15	Louisevale 15	Artefacts	Grade IIIc
60079	LOUI16	Louisevale 16	Artefacts	Grade IIIc
60081	LOUI17	Louisevale 17	Artefacts	Grade IIIc
60083	LOUI18	Louisevale 18	Artefacts	Grade IIIc
60085	LOUI19	Louisevale 19	Artefacts	Grade IIIc
60086	LOUI20	Louisevale 20	Artefacts	Grade IIIc
60124	LOUI21	Louisevale 21	Artefacts	Grade IIIc
60125	LOUI22	Louisevale 22	Artefacts	Grade IIIc
60127	LOUI23	Louisevale 23	Artefacts	Grade IIIc
60129	LOUI24	Louisevale 24	Artefacts	Grade IIIc
60133	LOUI25	Louisevale 25	Artefacts	Grade IIIc
60135	LOUI26	Louisevale 26	Artefacts	Grade IIIc
60137	LOUI27	Louisevale 27	Artefacts	Grade IIIc
60138	LOUI28	Louisevale 28	Artefacts	Grade IIIc
60140	LOUI29	Louisevale 29	Artefacts	Grade IIIc
60143	LOUI31	Louisevale 31	Artefacts	Grade IIIc
60145	LOUI30	Louisevale 30	Artefacts	Grade IIIc

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APPENDIX 2

Reference List from SAHRIS

Heritage Impact Assessments				
Nid	Report Type	Author/s	Date	Title
4119	AIA Phase 1	Jonathan Kaplan	01/08/2008	An Archaeological Assessment of Two Borrow Pits Alongside DR 3321 Uap, Northern Cape Province
4127	AIA Phase 1	Peter Beaumont	15/08/2006	On a Planned Extension of the Lambrechtsdrift Township, Siyanda District Municipality, Northern Cape
4128	AIA Phase 1	Peter Beaumont	16/08/2006	On a Planned Extension of the Leerkrantz Township, Siyanda District Municipality, Northern Cape
4129	AIA Phase 1	Peter Beaumont	16/08/2006	On a Planned Extension of the Karos Township, Siyanda District Municipality, Northern Cape
4130	AIA Phase 1	Peter Beaumont	16/08/2006	Phase 1 Heritage Impact Assessment Report on a Planned Extension of the Louisvaleweg Township, //Khara Hais Municipality, Northern Cape Province
4132	AIA Phase 1	Peter Beaumont	18/08/2006	Phase 1 Heritage Impact Assessment Report on a Planned Extension Flanking Rondonstraat, //Khara Hais Municipality, Northern Cape Province
15988	Heritage Statement	Johnny Van Schalkwyk	01/04/2012	DOCUMENTATION OF FOUR BRIDGES ON THE N10 NATIONAL ROAD BETWEEN UPINGTON AND GROBLERSHOOP, NORTHERN CAPE PROVINCE
15989	Palaeontological Specialist Reports	John E Almond	01/03/2012	RECOMMENDED EXEMPTION FROM FURTHER PALAEOLOGICAL STUDIES & MITIGATION: PROPOSED UPGRADING OF FOUR ROAD BRIDGES ALONG THE N10 BETWEEN GROBLERSHOOP & LAMBRECHTSDRIFT, NORTHERN CAPE
34135	HIA Phase 1	Stephan Gaigher	30/04/2012	Heritage Impact Assessment Report EIA Phase: Proposed Establishment of the Karoshoek Valley Solar Park Components on Sites 1.1, 1.3, 1.4, 2, 3, 4 & 5 on Sites Located South and East of Upington, Northern Cape Province
45016	HIA Phase 1	Johnny Van Schalkwyk	01/05/2011	Heritage Impact Assessment for the Proposed Establishment of the Ilanga Solar Thermal Power Plant near Upington, Northern Cape
49492	HIA Phase 1	Cobus Dreyer	09/09/2011	FIRST PHASE ARCHAEOLOGICAL & HERITAGE ASSESSMENT OF THE HOUSING DEVELOPMENTS AT MELKSTROOM 563, UPINGTON, NORTHERN CAPE
108359	HIA Phase 1	Cobus Dreyer	01/09/2011	FIRST PHASE ARCHAEOLOGICAL & HERITAGE ASSESSMENT OF THE HOUSING DEVELOPMENTS AT MELKSTROOM 563, UPINGTON, NORTHERN CAPE
111142	HIA Phase 1	Johnny Van Schalkwyk	01/03/2012	Heritage Impact Assessment for the Proposed Development of an Agri-estate on the Farm Melkstroom East of Upington,

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Gordonia Magisterial District, Northern Cape Province				
117805	AIA Phase 1	Cobus Dreyer	18/04/2013	FIRST PHASE ARCHAEOLOGICAL & HERITAGE ASSESSMENT OF THE HOUSING DEVELOPMENTS AT MELKSTROOM 563, UPINGTON, NORTHERN CAPE
121280	HIA Phase 1	Robert de Jong	05/11/2010	FINAL HERITAGE IMPACT ASSESSMENT REPORT: PROPOSED LAND USE CHANGE TO PROVIDE FOR THE DEO GLORIA OLIVE ESTATE ON PORTION 67 AND THE REMAINDER OF THE FARM VAALKOPPIES 40 NEAR UPINGTON, KAI! GARIB MUNICIPALITY, NORTHERN CAPE PROVINCE
121413	AIA Phase 1	Johnny Van Schalkwyk	01/08/2010	Archaeological impact survey report for THE LAND USE CHANGE ON SECTIONS OF THE FARM VAALKOPPIES 40, GORDONIA DISTRICT, NORTHERN CAPE PROVINCE
121413	AIA Phase 1	Johnny Van Schalkwyk	01/08/2010	Archaeological impact survey report for THE LAND USE CHANGE ON SECTIONS OF THE FARM VAALKOPPIES 40, GORDONIA DISTRICT, NORTHERN CAPE PROVINCE
130139	Archaeological Specialist Reports	Jonathan Kaplan	01/02/2013	ARCHAEOLOGICAL IMPACT ASSESSMENT THE PROPOSED UPGRADING OF THE LOUISEVALE ROAD WASTE WATER TREATMENT WORKS IN LOUISVALE
131589	Heritage Impact Assessment Specialist Reports	Stephan Gaigher	22/02/2013	Proposed Establishment of Several Electricity Distribution Lines within the Northern Cape Province
154837	AIA Phase 1	Peter Nilssen	06/12/2012	AIA - Proposed Deo Gloria Bulk Water Supply Line & Reservoir
154839		John E Almond	31/03/2013	Letter of Exemption
159293	HIA Phase 1	Johnny Van Schalkwyk	12/03/2014	Cultural Heritage Impact Assessment for proposed township development, Louisvaleweg, UPINGTON
161427	HIA Phase 1	Stephan Gaigher	15/04/2014	Proposed Establishment of Several Electricity Distribution Lines within the Northern Cape Province
162266	Heritage Impact Assessment Specialist Reports	Johnny Van Schalkwyk	31/05/2011	Heritage Impact Assessment for the Proposed Establishment of the Ilanga Solar Thermal Power Plant near Upington, Northern Cape Province
165290	AIA Phase 1	Neels Kruger	01/04/2015	ARCHAEOLOGICAL IMPACT ASSESSMENT (AIA) OF A DEMARCATED SURFACE PORTION ON THE FARM AVONDALE 410 FOR THE PROPOSED AVONDALE 1 PHOTOVOLTAIC POWER PLANT & 132KV POWER LINES

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				DEVELOPMENT, //KHARA HAIS LOCAL MUNICIPALITY, ZF MGCAWU DISTRICT MUNICIPALITY, NORTHE
254926	PIA Desktop	Barry Millstead	10/02/2015	Full Palaeontological Heritage Impact Assessment Report on the Site of Proposed Solra Energy Generation Facilities (Grootdrink Solar Projects 1 and 2) to be located on the farm Albany 405 near Karos, Northern Cape Province
254927	Heritage Scoping	Jaco van der Walt	10/02/2015	Heritage Scoping Report for the Proposed Grootdrink Solar (PV) Energy Facility East of Upington
266098	Archaeological Specialist Reports	Jaco van der Walt	13/03/2015	Archaeological Impact Assessment for the Proposed Realignment of the N10 to Facilitate Access to the Ilanga CSP Facility Site, East of Upington, NC Province
341377	HIA Phase 1	Jayson Orton	22/06/2015	
344305	PIA Desktop	John E Almond	13/11/2015	Palaeontological Heritage Assessment Desktop Study for the Additional CSP Facilities Associated with the Authorized CSP Sites (1.3, 1.4, 3, 4 & 5) within the Karoshoek Solar Valley Development near Upington, ZK Mgcawu Distrcitu, NC Province
344306	Heritage Scoping	Jaco van der Walt	13/11/2015	Archeological Scoping Report for the Additional CSP Facilities Associated with the Authorized CSP Sites (1.3, 1.4, 3, 4 & 5) within the Karoshoek Solar Valley Development near Upington, ZK Mgcawu Distrcitu, NC Province
351273	Palaeontological Specialist Reports	Barry Millstead		FULL PALAEONTOLOGICAL HERITAGE IMPACT ASSESSEMENT REPORT ON THE SITE OF PROPOSED SOLAR ENERGY GENERATION FACILITIES (TEWA ISITHA SOLAR 1 AND 2) TO BE LOCATED ON THE REMAINING EXTENT OF THE FARM ALBANY 405 NEAR KAROS, NORTHERN CAPE PROVINCE
351279	Archaeological Specialist Reports	Jaco van der Walt	02/12/2015	Archaeological Impact Assessment for the proposed Tewa Isitha Solar 1 PV Facility East Of Upington, Northern Cape Province.
351311	Archaeological Specialist Reports	Jaco van der Walt	02/12/2015	Archaeological Impact Assessment for the proposed Tewa Isitha Solar 2 PV Facility East Of Upington, Northern Cape Province.
354735	PIA Desktop	John Almond	16/11/2015	Palaeontological Heritage Assessment: Desktop Study for the Proposed Ilanga CSP 7, 8 & 9 facilities and associated infrastructure within the Karoshoek Solar Valley Development near Upington, NC Province
354736	Archaeological Specialist Reports	Jaco van der Walt	16/11/2015	Archaeological Scoping Report for the Ilanga CSP 9 facility and associated infrastructure within the Karoshoek Solar Development near Upington, NC Province

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354743	Archaeological Specialist Reports	Jaco van der Walt	16/11/2015	Archaeological Scoping Report for the Ilanga CSP 7 & 8 facilities and associated infrastructure within the Karoshoek Solar Development near Upington, NC Province
361653	Heritage Impact Assessment Specialist Reports	Jaco van der Walt	18/04/2016	Archaeological Impact Assessment Report for the Proposed Establishment of the Ilanga CSP 2 Project, near Upington, Northern Cape Province
361654	Heritage Impact Assessment Specialist Reports	Jaco van der Walt	13/04/2016	Archaeological Impact Assessment Report for the Proposed Establishment of the Ilanga Tower 1 Project, near Upington, NC Province
363353	Archaeological Specialist Reports	Jaco van der Walt	12/04/2016	Archaeological Impact Assessment Report for the Ilanga CSP 3 Project, near Upington, Northern Cape Province
363356	Archaeological Specialist Reports	Jaco van der Walt	11/04/2016	Archaeological Impact Assessment Report for the Proposed Establishment of the Ilanga CSP 5 Project, near Upington, Northern Cape Province
363357		Jaco van der Walt		Archaeological Impact Assessment Report for the Proposed Establishment of the Ilanga CSP 4 Project, near Upington, Northern Cape Province
365243	Archaeological Specialist Reports	Jaco van der Walt	20/06/2016	AIA for the proposed Ilanga Tower 1 project, near Upington, NC Province
365251	Archaeological Specialist Reports	Jaco van der Walt	20/06/2016	AIA for the proposed establishment of the Ilanga CSP 3 project, near Upington, NC Province
365252	Archaeological Specialist Reports	Jaco van der Walt	20/06/2016	AIA for the proposed Ilanga CSP 5
365253	Archaeological	Jaco van der Walt	20/06/2016	AIA for the Ilanga CSP 4

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	al Specialist Reports			
365875	Archaeological Specialist Reports	Jaco van der Walt	14/06/2016	Ilanga CSP9 and Associated Infrastructure Within Karoshoek Solar Valley Development Near Upington, Northern Cape Province
365889		Jaco van der Walt		Archaeological Impact Assessment Report

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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 PALAEOLOGICAL 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

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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:

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- 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.

The compilation of the Heritage Screener will not include any field assessment. The Heritage Screener will be submitted to the applicant within 24 hours from receipt of full payment. **If the 24-hour deadline is not met by CTS, the applicant will be refunded in full.**

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