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HERITAGE SCREENER

CTS Reference Number:	CTS23_030
SAHRIS Case Number	
Client:	Savannah
Date:	May 2023
Title:	Proposed development of a solar PV plant and Battery energy storage system (BESS) to be located on Impala Platinum's Rustenburg operation site

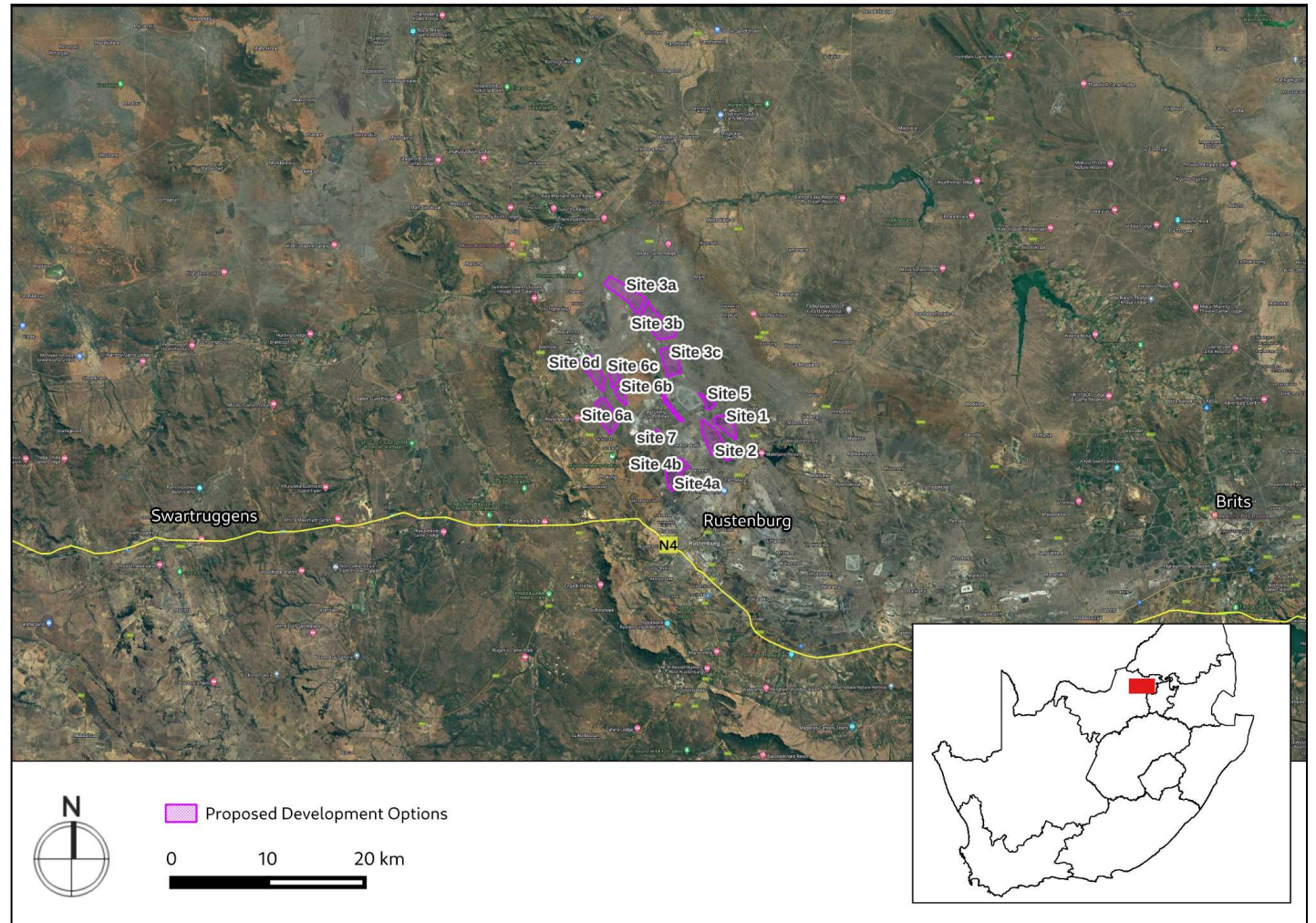


Figure 1a. Satellite map indicating the location of the proposed development in the North West Province

Recommendation:	RECOMMENDATION Based on the available information, the proposed development is not likely to impact on significant heritage resources and as such, it is recommended that no further heritage impact assessments are required in terms of section 38 of the NHRA.
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1. Proposed Development Summary

The Applicant, Impala Platinum Holding Limited, propose the development of a Solar Energy Facility and associated infrastructure, to be known as Impala Platinum Solar Energy Facility. The Solar Energy Facility with a contracted capacity of up to 140MWac will be located ~14km north west of Rustenburg on Portion 114 of the Farm Goedgecacht 114 JQ, within the Rustenburg Local Municipality and Bojanala District Municipality in the North West Province.

Infrastructure associated with Impala Platinum Solar Energy Facility will include the following:

- Solar PV array comprising bifacial PV modules and mounting structures, using single axis tracking technology. Once installed will stand up to 2.1m above ground level.
- Inverters and transformers.
- Cabling between the project components.
- Balance of Plant.
- On-site facility substation to facilitate the connection between the solar PV facility and Eskom electricity grid. The Size and Capacity of the on-site stations will be 33kV.
- An onsite medium voltage (MV) switching station.
- Battery Energy Storage System (BESS) with a size of 140MWh.
- Temporary Laydown areas.
- Access roads, internal roads and fencing around the development area.
- Up to 33kV Overhead Power Lines (OHPL) - up to 10m height with a 15m servitude width.
- Underground LV cabling will be used on the PV site.

Site 3C is the preferred site and Implats is already in the process of securing the site for the development. The Millenium substation (most likely point of integration) is adjacent to the northern border of site 3C which is the likely point of integration. Both the 66kV Eskom supply and 33kV Implats network are connected.

2. Application References

Name of relevant heritage authority(s)	SAHRA
Name of decision making authority(s)	Department of Mineral Resources and Energy

3. Property Information

Latitude / Longitude	25°29'21.36"S 27°13'11.16"E
Erf number / Farm number	Portion 114 of the Farm Goedgecacht 114 JQ
Local Municipality	Rustenburg

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District Municipality	Bojanala
Province	North West
Current Use	Mining
Current Zoning	Mining

4. Nature of the Proposed Development

Total Surface Area	The property has an extent of 706ha, of which 262ha will be used for the development of the Project
Depth of excavation (m)	TBA
Height of development (m)	PV panels will stand at 2.1m

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

TBA

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

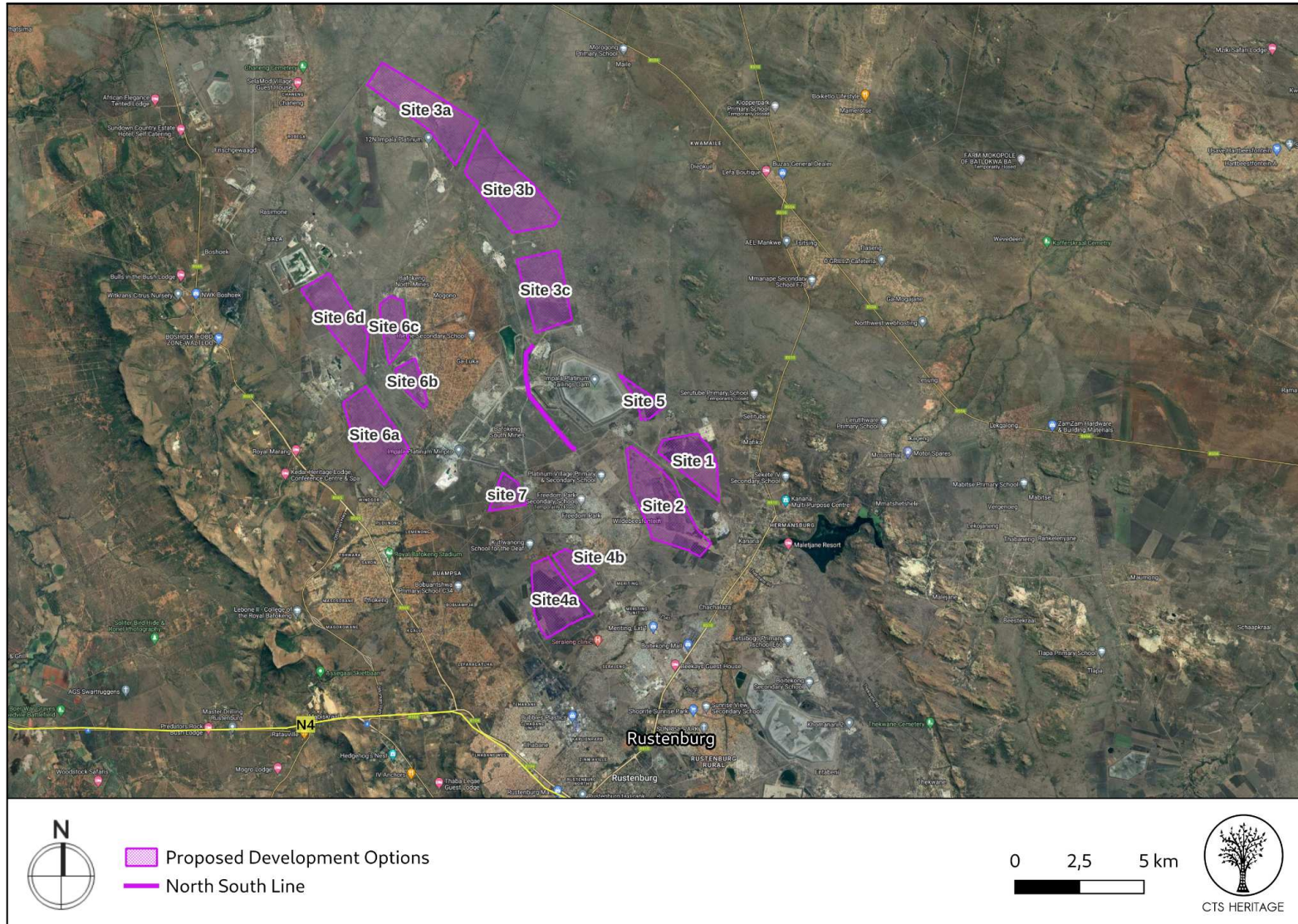


Figure 1b Overview Map. Satellite image (2022) indicating the proposed development area at closer range, relative to Rustenburg.

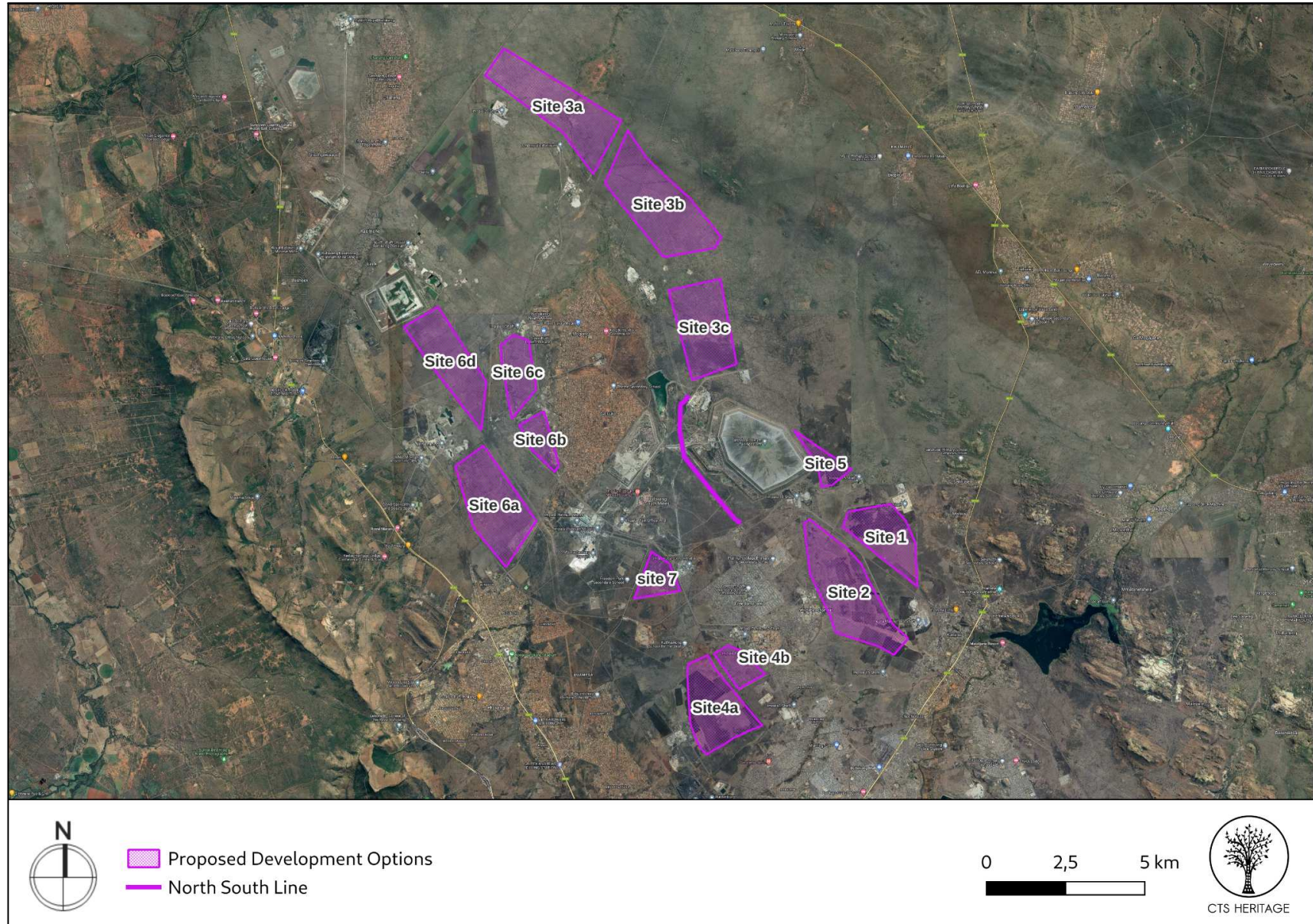


Figure 1c. Overview Map. Satellite image (2022) indicating the proposed development area at closer range.



Figure 1d. Overview Map. Satellite image (2022) indicating the proposed development area at closer range.

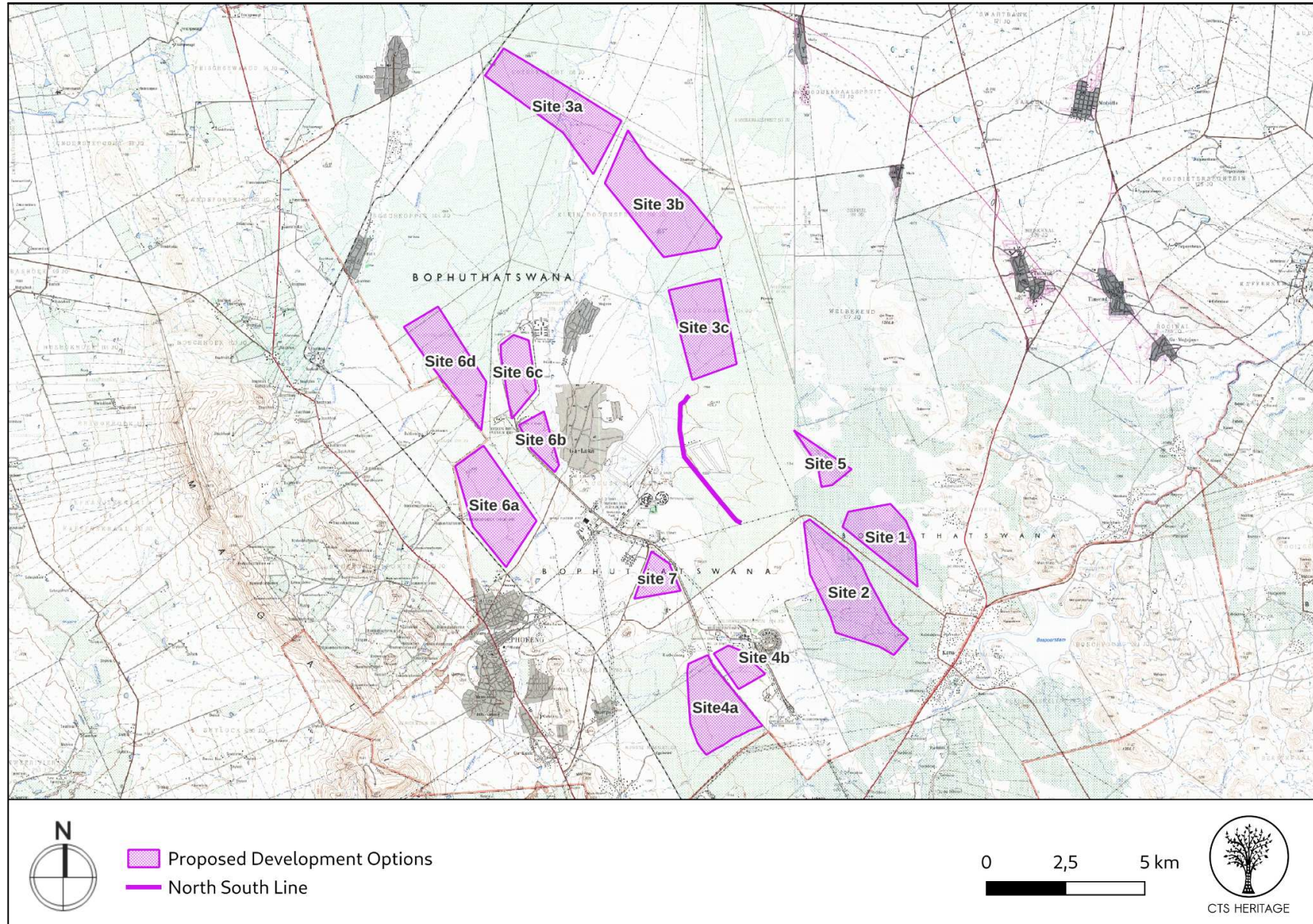


Figure 1f. Overview Map. Extract from the 1:50 000 Topo Map

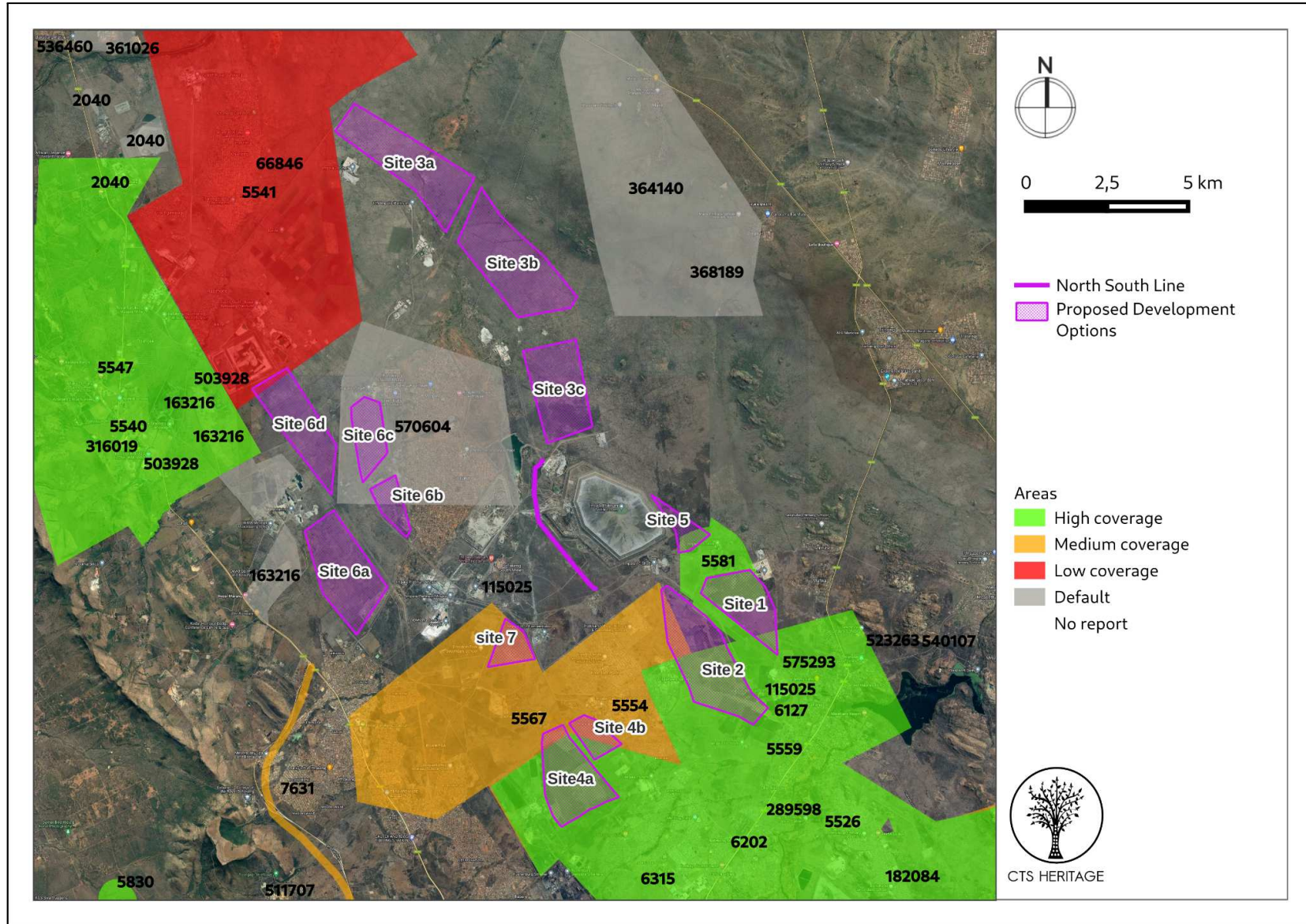


Figure 2. Previous HIAs Map. Previous Heritage Impact Assessments surrounding the proposed development area within 10km, with SAHRIS NIDS indicated. Please see Appendix 2 for a full reference list.

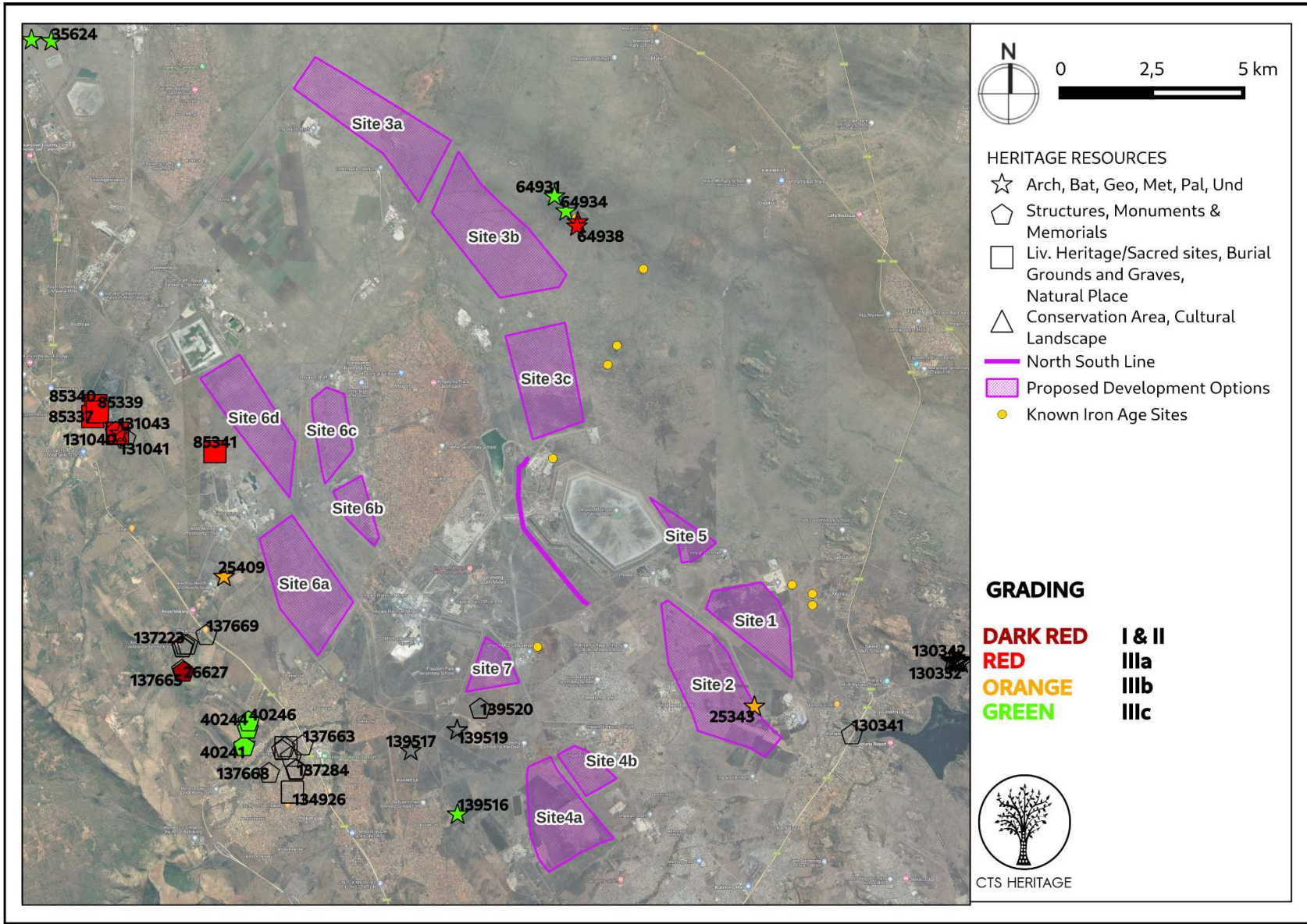
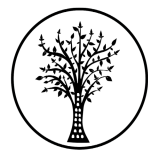


Figure 3. Heritage Resources Map. Heritage Resources previously identified in and near the study area, with SAHRIS Site IDs indicated. Please See Appendix 4 for full description of heritage resource types.



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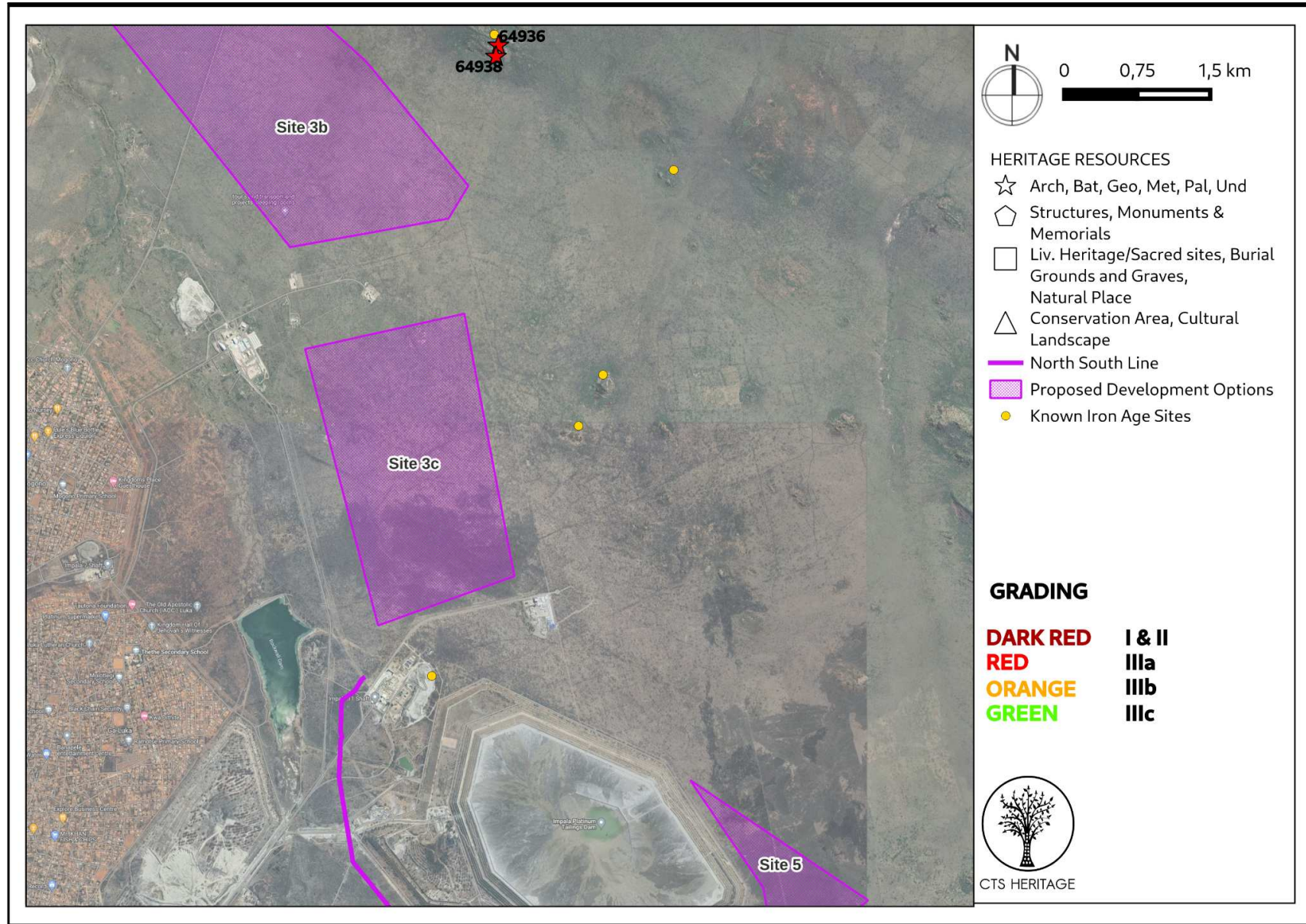


Figure 3a. Heritage Resources Map. Inset A

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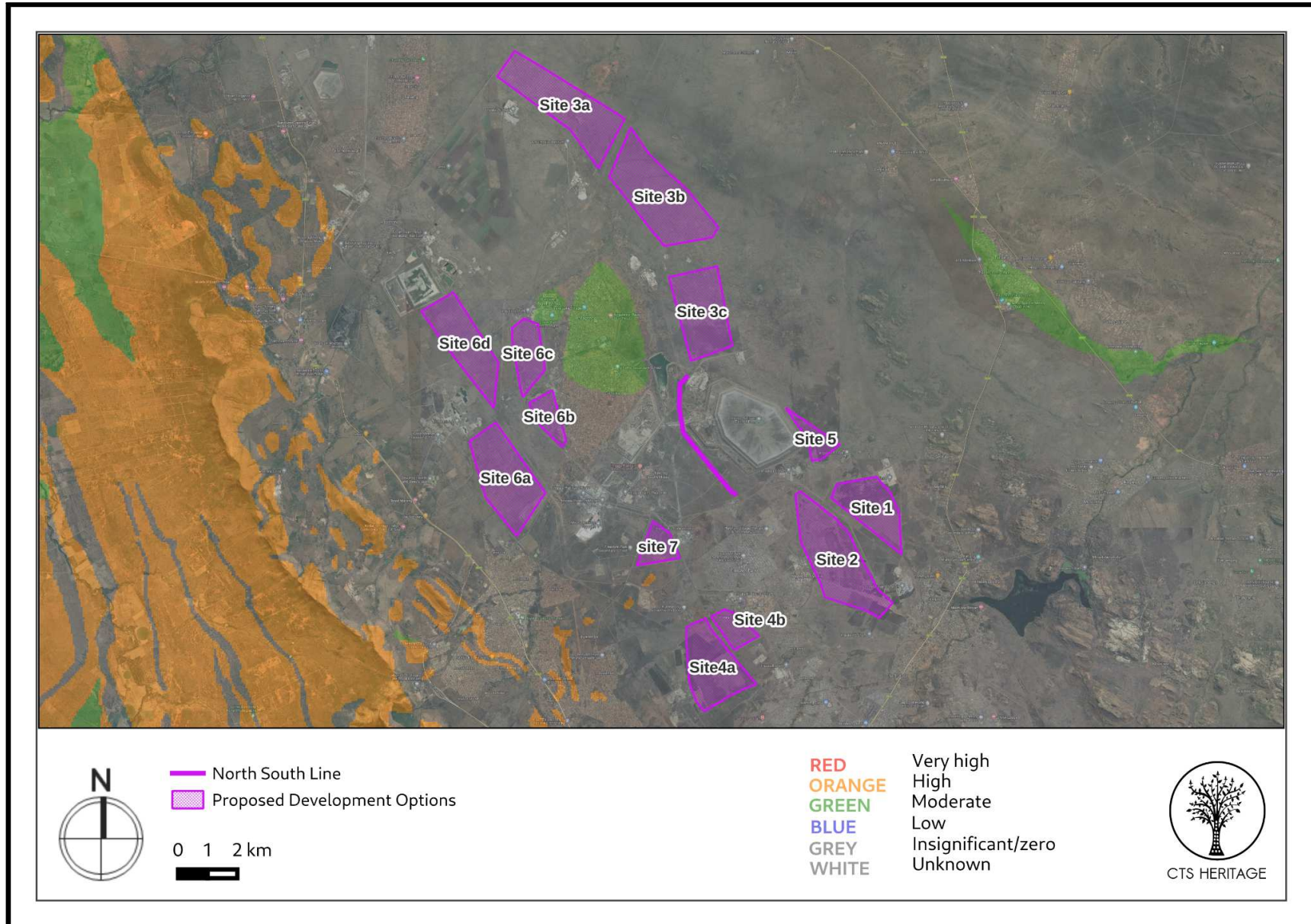


Figure 4. Palaeosensitivity Map. Indicating zero fossil sensitivity underlying the study area. Please See Appendix 3 for a full guide to the legend.

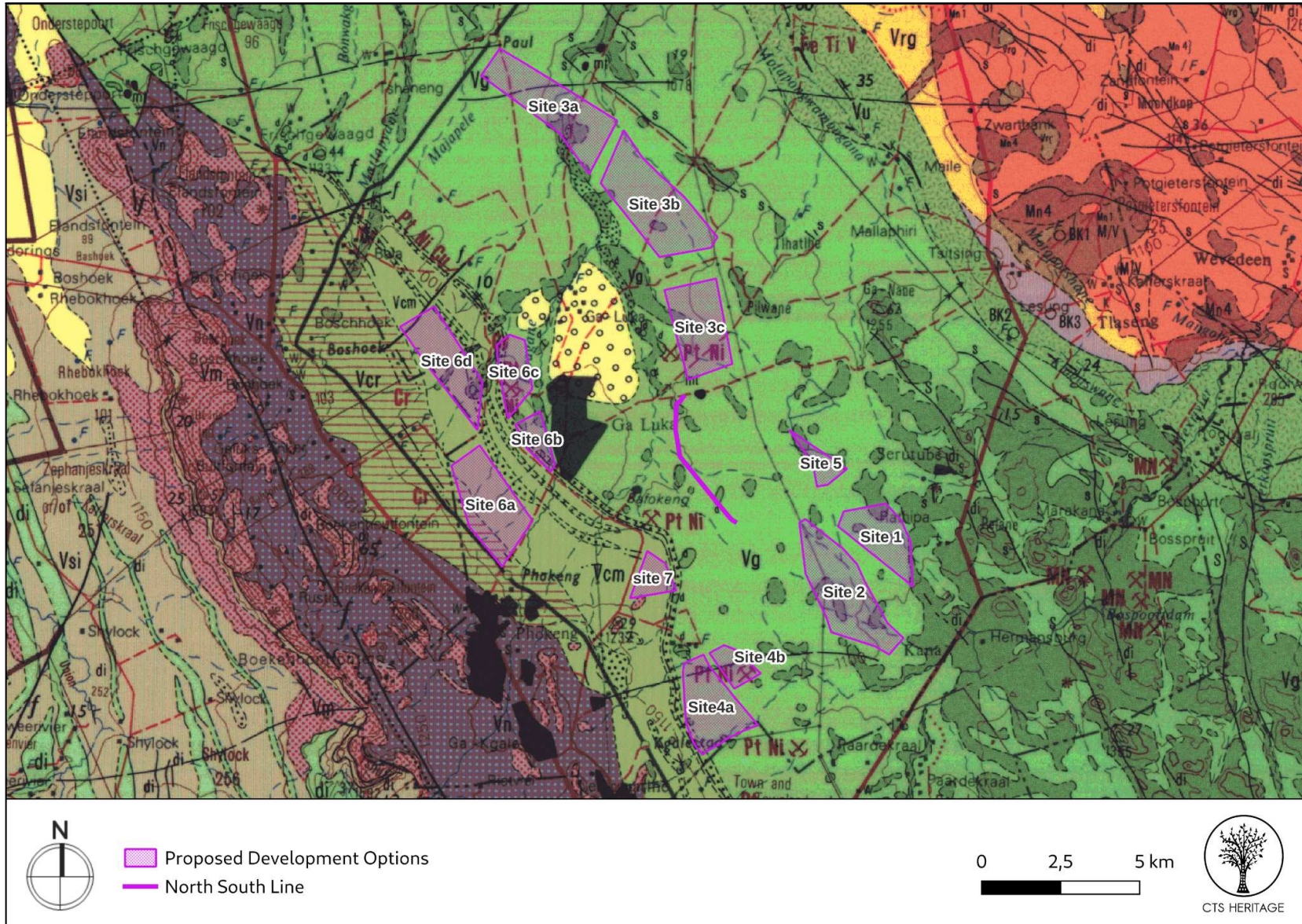


Figure 5. Geology Map. Extract from the Council for GeoScience Rustenburg Map 2526 indicating that the area proposed for development is underlain by Vg (Pyramid Gabbro-norite) and Vcr (Ruighoek Pyroxenite)



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8. Heritage statement and character of the area

Background

This application is for the proposed development of a solar PV facility to support the activities at the Impala Platinum Mine located immediately north of Rustenburg in the North West Province. A number of options are proposed for review for the proposed PV infrastructure, however it has been noted that the preferred development area is mapped as Area 3c in the maps above.

Cultural Landscape

Rustenburg town was established at the foot of the Magaliesburg in 1851 as an administrative centre for the farmers of the broader region, and received its first church under a syringa tree in 1859. During the 1800's, more and more farmers settled in the area. The streets are lined with the ubiquitous jacaranda tree. It started out as a small farming community producing citrus and Virginia tobacco and still manages to retain its small-town atmosphere¹. The area surrounding Rustenburg was heavily impacted by the outbreak of both of the Anglo-Boer Wars. The siege of Rustenburg was a siege that took place between 1880 and 1881 during the first war. The siege was carried out by Boer forces on the British controlled town. Some of the final, decisive battles of the South African War were fought in and around the mountains near Hekpoort. During the war's guerilla phase, the maze of mountains provided a conduit by which the Boer forces moved through occupied territory². British blockhouses can still be seen guarding the approaches to some of the well-known passes³. It is possible that remnants of battlefields and other infrastructure are located within the areas proposed for development.

In 1925, a seam of platinum-bearing rock was discovered outside of Rustenburg which resulted in the accelerated growth of the town and the establishment of the Impala Platinum mine. All of the options under consideration in this assessment are located within the existing mines boundaries. As such, it is unlikely that the proposed development will negatively impact on any significant cultural landscape as the development will be read as part of the existing mine infrastructure.

Archaeology

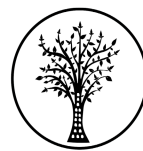
Archaeological sites spanning the Earlier, Middle and Later Stone Age have been found in the region despite the extensive agricultural transformation of the area. According to Van Schalkwyk (2015), "No stratified sites dating to the Stone Age are known from the region. However, surface scatters of tools dating to the Early Stone Age are known to occur in the region of the Vaal River. Apart from that, rock engravings dating to the Late Stone Age are known from various sites in the larger region." He goes on to note that "The occupation of the larger geographical area (including the study area) did not start much before the 1500s. By the 16th century things changed, with the climate becoming warmer and wetter, creating conditions that allowed Late Iron Age (LIA) farmers to occupy areas previously unsuitable, for example the Witwatersrand and the treeless plains of the Free State. The earliest Iron Age settlers who moved into the North-West Province region were Sothospeaking groups such as the Hurutshe, Kwena, Fokeng, Kgatla and Rolong." As such, stone age archaeology, Iron age archaeology and archaeological heritage associated with the colonial occupation of the region are known to be present in the broader area.

A broad history of the area is included in Murimbika (2010) and is referred to here. According to Murimbika (2010), the broader region has also yielded some significant Iron Age Sites such as the Mzonjani facies Broederstroom site (AD 430 to AD 780). According to Murimbika (2010), the broader region was subject to a number of instances of migration and settlement from 450 AD. Evidence indicates that Sotho-Tswana groups migrated in and out of the Magaliesberg region, and such groups are responsible for the many early stone-walled settlements in this region. One of the most documented migrations is the Mfecane (forced migration or scattering) which was a period of widespread chaos and warfare among indigenous ethnic communities in southern Africa during the period between 1815 and about 1840. During this time, the Ndebele under Mzilikazi reached the Magaliesberg region and are responsible for introducing the Doornspruit-type walled settlements that are known from this region. According to Murimbika (2010) this type of stone-walled settlement

¹ <https://www.century21.co.za/area-profiles/rustenburg/>

² <https://www.theheritageportal.co.za/article/battles-magaliesberg>

³ <https://southafrica.co.za/history-rustenburg.html>



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represents “typical Nguni-Sotho-Tswana acculturation”. By the mid-1800’s, Voortrekkers had begun to settle in the foothills of the Magaliesberg mountains and in so doing, clashed with Mzilikazi’s Ndebele in 1837. These early colonial battles forced the Ndebele north of the Limpopo River and effectively ended the independence of African Chiefdoms in the area. The Voortrekkers went on to establish the Republic of the Transvaal.

Previous heritage impact assessments conducted in the area have identified a number of heritage resources (Figure 3 and 3a, Appendix 1). These resources are largely associated with the extensive agricultural and mining past of the region and reflect historic farm werfs and infrastructure and associated burial grounds. Additionally, there are known Iron Age sites located in very close proximity to the area proposed for development, and reflected by the number of “stone-walling” sites identified on SAHRIS. It is therefore very likely that the proposed development may impact on significant archaeological heritage and it is recommended that this impact be further assessed in the recommended HIA.

Palaeontology

According to the SAHRIS Palaeosensitivity Map (Figure 4), the area proposed for development is underlain by sediments of zero palaeontological sensitivity. According to the extract from the Council of GeoScience Map for Rustenburg (Figure 5), the geology of the area consists of gabbro-norite and pyroxenite of the Rustenburg Layered Suite, Bushveld Complex which does not contain any fossil material. This geology includes platinum and is the reason why the mine has been established here. As per a recent letter for exemption from palaeontological studies completed by Butler (2022) for an adjacent property located within the same geology, “This correlates with the fact that the sediments of the Bushveld Complex are igneous in origin and thus unfossiliferous. For this reason, an overall Zero Palaeontological Sensitivity is allocated to the development footprint. Thus, the construction of the development may be authorised in its whole extent, as the development footprint is not considered sensitive in terms of palaeontological resources.” As such, it is *very unlikely that the proposed development here will impact on significant palaeontological heritage* and no further assessment of impacts to palaeontological heritage is recommended.

Site Sensitivity Verification

According to the DFFE Screening Tool analysis, 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 desktop assessment in terms of site sensitivity are summarised below:

- The cultural value of the broader cultural landscape is LOW due to the existing mining infrastructure that dominates the area (LOW)
- Many significant archaeological resources have been identified within the broader area and may be present on site including archaeology associated with the South African War and Iron Age archaeological sites (known Iron Age sites are located less than 2km from Option 3C) (HIGH)
- The igneous geology underlying the development area is not sensitive for impacts to fossils at all (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 both Palaeontology - this should be LOW - and for Archaeology and Cultural Heritage - this should be HIGH. This evidence is provided in the body of this report and in the appendices (Appendix 1 and 2).

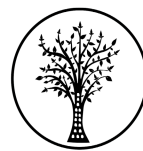
Conclusion

The Impala Platinum Mine proposed to develop a PV facility in one of many proposed areas for assessment. All of these areas are located within the footprint of the existing mine and as such, this proposed development is not likely to impact on any significant cultural landscape resources. In addition, the underlying geology of the development area is igneous in origin and as such, has no sensitivity for impacts to significant fossil resources.

Although the areas proposed for development are far from pristine due to their location within an existing platinum mine, it is known that the broader area has archaeological sensitivity for resources associated with the Iron Age occupation of the area, as well as its more recent agricultural and mining history.

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RECOMMENDATION

Based on the available information, the proposed development is likely to impact on significant archaeological resources and as such, it is recommended that a heritage impact assessment is required in terms of section 38 of the NHRA to assess this impact.

9. Scoping Assessment

Impact Destruction of significant heritage resources				
Issue	Nature of Impact	Extent of Impact	Likelihood	No-go Areas
Destruction of archaeological heritage	Direct impact to archaeological heritage of scientific significance	Within project boundary	High	None identified at this stage
Destruction of palaeontological heritage	Direct impact to palaeontological heritage of scientific significance	Within project boundary	Low	None identified at this stage
Negative impact to significant cultural landscapes	Direct and indirect impact to significant cultural landscapes and cultural landscape elements	Regional	Low	None identified at this stage
Description of expected significance of impact Field assessment will determine the significance of the archaeological resources likely to be impacted. Impacts can be minimised through the implementation of appropriate mitigation measures.				
Gaps in knowledge & recommendations for further study The project area and the area more broadly have been subjected to many heritage impact assessments however many of the areas proposed for the PV facility have not been specifically assessed. Field assessment will fill these gaps.				
Recommendations with regards to general field surveys Archaeological field surveys must provide sufficient ground-coverage of the areas to be developed to be able to determine the nature of the resources likely to be impacted.				

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APPENDIX 1: List of heritage resources in proximity to the development area

Site ID	Site no	Full Site Name	Site Type	Grading
26627	9/2/263/0007	Boekenhoutfontein, Rustenburg District	Building	Grade II
25409	BCM -01	Boekenhoutfontein Chrome Mine	Artefacts	Grade IIIb
25343	RKK -01	Reinkoyalskraal 278JQ	Stone walling	Grade IIIb
64931	BAFO001	BAFOKENG 001	Archaeological	Grade IIIc
64934	BAFO002	BAFOKENG 002	Settlement	Grade IIIc
64936	BAFO003	BAFOKENG 003	Stone walling, Settlement	Grade IIIa
64938	BAFO004	BAFOKENG 004	Stone walling	Grade IIIa
40241	PHOK002	Phokeng 002	Stone walling	Grade IIIc
40243	PHOK003	Phokeng 003	Structures	Grade IIIc
40244	PHOK004	Phokeng 004	Structures	Grade IIIc
40246	PHOK006	Phokeng 006	Structures	Grade IIIc
85337	BOSH001	Boshhoek Smelter 001	Burial Grounds & Graves	Grade IIIa
85338	BOSH002	Boshhoek Smelter 002	Burial Grounds & Graves	Grade IIIa
85339	BOSH003	Boshhoek Smelter 003	Burial Grounds & Graves	Grade IIIa
85340	BOSH004	Boshhoek Smelter 004	Burial Grounds & Graves	Grade IIIa
85341	BOSH005	Boshhoek Smelter 005	Burial Grounds & Graves	Grade IIIa
135015	DC37/NAMM/0002	Monumental grave, Saron, Phokeng	Burial Grounds & Graves	

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135818	DC37/NAMM/0008	Old Anglican Church Rustenburg, Saron, Phokeng	Monuments & Memorials	
130341	2527CB/Elandsheuvcl 282 JQ/ Site BP 2	Roadside Memorial, Kanana, Rustenburg	Monuments & Memorials	Grade IV
130342	2527CB/ Municipal Infrastructure/ farms Elandsheuvcl 282 JQ/ Site BP 3	Stone walling	Archaeological	Grade IV
130343	2527CB/ Municipal Infrastructure/ farms Elandsheuvcl 282 JQ/ Site BP 4	Stone walling	Archaeological	Grade IV
130344	2527CB/ Municipal Infrastructure/ farms Elandsheuvcl 282 JQ/ Site BP 5	Stone walling	Archaeological	Grade IV
130345	2527CB/ Municipal Infrastructure/ farms Elandsheuvcl 282 JQ/ Site BP 6	Stone walling	Archaeological	Grade IV
130346	2527CB/ Municipal Infrastructure/ farms Elandsheuvcl 282 JQ/ Site BP 7	Stone walling	Archaeological	Grade IV
130347	2527CB/ Municipal Infrastructure/ farms Elandsheuvcl 282 JQ/ Site BP 8	Stone walling	Archaeological	Grade IV
130348	2527CB/ Municipal Infrastructure/ farms Elandsheuvcl 282 JQ/ Site BP 9	Stone walling	Archaeological	Grade IV
139516	KFT-001	KOOFONTEIN	Artefacts	Grade IIIc
130349	2527CB/ Municipal Infrastructure/ farms Elandsheuvcl 282 JQ/ Site BP 10	Stone walling	Archaeological	Grade IV
139517	KFT-002	KOOFONTEIN	Stone walling	
130350	2527CB/ Municipal Infrastructure/ farms Elandsheuvcl 282 JQ/ Site BP 11	Stone walling	Archaeological	Grade IV
139518	KFT-003	KOOFONTEIN	Stone walling	

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139519	KFT-003	KOOFONTEIN	Stone walling	
130351	2527CB/ Municipal Infrastructure/ farms Elandsheuvel 282 JQ/ Site BP 12	Stone walling	Archaeological	Grade IV
130352	2527CB/ Municipal Infrastructure/ farms Elandsheuvel 282 JQ/ Site BP 13	Stone walling	Archaeological	Grade IV
139520	KFT-004	KOOFONTEIN	Structures	
139521	KFT-004	KOOFONTEIN	Structures	
132589	BP3	Bospoort LIA Site BP3	Archaeological, Stone walling	
132590	BP4	Bospoort LIA Site BP4	Archaeological, Stone walling	
132591	BP5	Bospoort LIA Site BP5	Archaeological, Stone walling	
131040	2527AC/ Infrastructure/ Farm Boschhoek 103JQ/ Site Exigo-TBL-HP01	Railway bridge	Structures	Ungraded
132592	BP6	Bospoort LIA Site BP6	Archaeological, Stone walling	
131041	2527AC/ Infrastructure/ Farm Boschhoek 103JQ/ Site Exigo-TBL-HP02	Box culverts	Structures	Ungraded
132593	BP7	Bospoort LIA Site BP7	Archaeological, Stone walling	
131042	2527AC/ Infrastructure/ Farm Boschhoek 103JQ/ Site Exigo-TBL-FT01	House foundation	Archaeological	Ungraded

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132594	BP8	Bospoort LIA Site BP8	Archaeological, Stone walling	
131043	2527AC/ Infrastructure/ Farm Boschhoek 103JQ/ Site Exigo-TBL-BP01	Grave	Burial Grounds & Graves	Ungraded
132595	BP9	Bospoort LIA Site BP9	Archaeological, Stone walling	
132596	BP10	Bospoort LIA Site BP10	Archaeological, Stone walling	
132597	BP11	Bospoort LIA Site BP11	Archaeological, Stone walling	
132598	BP12	Bospoort LIA Site BP12	Archaeological, Stone walling	
132599	BP13	Bospoort LIA Site BP13	Archaeological, Stone walling	
137221	DC37/NAMM/0005	Sol Plaatjie Statue, Kedar Heritage Lodge, Rustenburg	Monuments & Memorials	
137222	DC37/NAMM/0006	Anglo Boer War Memorial, Kedar Heritage Lodge, Rustenburg	Monuments & Memorials	
137223	DC37/NAMM/0011	Mahatma Gandhi Memorial, Kedar Heritage Lodge, Rustenburg	Monuments & Memorials	
134926	Monumental grave(traditional grave)	Monumental grave(traditional grave)	Burial Grounds & Graves	
137284	DC37/NAMM/0012	Setlogano Ramakgala Makgala Memorial, Saron, Phokeng	Monuments & Memorials	
137588	Memorial(saron cemetery)	Memorial(saron cemetery)	Monuments & Memorials	

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137667	Jan Smuts Memorial	Jan Smuts Memorial	Monuments & Memorials	
137668	Direpotsane Cemetery	Direpotsane Cemetery	Monuments & Memorials	
137669	Kgosigolo Lentswe I Memorial	Kgosigolo Lentswe I Memorial	Monuments & Memorials	
137662	Royal Compound	Royal Compound	Monuments & Memorials	
137663	Old Post Office, Direpotsane	Old Post Office, Direpotsane	Monuments & Memorials	
137665	Boekenhoutfontein Farm	Boekenhoutfontein Farm	Monuments & Memorials	
137666	Saron Lutheran Church	Saron Lutheran Church	Monuments & Memorials	

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APPENDIX 2: Reference List

Heritage Impact Assessments				
Nid	Report Type	Author/s	Date	Title
2040	AIA Phase 1	Jaco van der Walt	30/09/2011	Archaeological Impact Assessment FOR THE PROPOSED WBJV MASEVE PLATINUM PROJECT ON PORTION 2 OF THE FARM ELANDSFONTEIN 102 JQ AND VARIOUS PORTIONS OF THE FARM FRISCHGEWAAGD 96 JQ
5526	AIA Phase 1	Johnny Van Schalkwyk	01/06/2003	A Survey of Cultural Resources in the Boitekong Township Development Area, Rustenburg District, North West
5528	AIA Phase 1	Anton van Vollenhoven, Anton Pelser	01/05/2008	A Report on a Cultural Heritage Impact Assessment for the Proposed Development of the Bellevue Extension 3 Residential Town, Located in the Rustenburg Local Municipality, Northwest Province
5540	AIA Phase 1	Julius CC Pistorius	01/08/2000	An Archaeological Scoping Report Supplemented with a Phase 1 Archaeological Survey for SA Chrome's Proposed New Ferrochrome Smelter on the Farm Boschhoek 103 JQ in the Rustenburg District of the Central Bankeveld in the North West Province
5541	AIA Phase 1	Julius CC Pistorius	01/10/2001	Rasimone Platinum Mine on the Farms Boschkoppie 104 JQ and Styldrif 90 JQ
5547	AIA Phase 1	Julius CC Pistorius	09/02/2003	A Heritage Impact Assessment (HIA) for SA Ferrochrome's New Proposed Expansion Operations in Boschhoek, North of Rustenburg in the North-West Province of South Africa
5553	AIA Phase 1	Udo Kusel	10/03/2005	Cultural Heritage Impact Assessment Cape Archaeological Survey CChan Extension 3 Rustenburg
5554	AIA Phase 1	Cobus Dreyer	28/06/2006	First Phase Archaeological and Cultural Heritage Assessment of the Proposed Development Site at the Farm Wildebeestfontein JQ 274, Rustenburg, North West Province
5559	AIA Phase 1	Julius CC Pistorius	01/05/2007	A Phase I Heritage Impact Assessment (HIA) Study for Eskom's Proposed New 3X88 kV Power Lines Between the Marang Substation and Impala Platinum's Shaft 16 in the North West Province of South Africa
5563	AIA Phase 1	Anton van	01/11/2007	A Report on a Cultural Heritage Impact Assessment at the Site for the Proposed New Laying House on the Farm

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		Vollenhoven, Anton Pelser		Bulhoek 368 JP, Northwest Province
5567	AIA Phase 1	Johnny Van Schalkwyk	01/09/1996	A Survey of Cultural Resources in the Bafokeng District, North West
5574	AIA Phase 1	Polke Birkholtz, A van Rooyen	26/02/2004	Cultural Heritage Impact Assessment as Part of the Environmental Scoping Report for the Proposed Cape Archaeological Survey CChan Extension 7 Residential Development on the Remainder of Portion 43 of the Farm Waterval 306 JQ in North West Province, SA
5581	AIA Phase 1	Julius CC Pistorius	01/02/2006	A Phase 1 Heritage Impact Assessment (HIA) Study for the Impala Platinum Shaft 17 Complex on the Farm Vlakfontein 276 JQ near Rustenburg in the North-West Province of South Africa
5830	AIA Phase 1	McEdward Murimbika	01/04/2008	Phase 1 Archaeological and Cultural Heritage Assessment Specialist Study for the Proposed Construction of Trident to Koster Power-Line in the Bojanala District Municipality, North West Province
6125	AIA Phase 1	Udo Kusel	01/08/2007	Cultural Heritage Resources Impact Assessment of Quality Vacation Club and a Golf Course at Sun City (Farm Ledig 909 JQ) North West Province
6127	AIA Phase 1	Julius CC Pistorius	01/04/2004	A Heritage Impact Assessment Study for Impact Platinum's Proposed New No. 16 Shaft Complex on the Farm Reinkoyalskraal 278 JQ in the Bokone-Bothlaba District Municipality of the North-West Province
6202	AIA Phase 1	Thomas Huffman	01/02/2005	The Archaeology of the Anglo Platinum Lease Area, Rustenburg
6315	AIA Phase 1	Thomas Huffman	01/08/2002	Archaeological Study of the Boschfontein East Options, Rustenburg
7138	AIA Phase 1	Johnny Van Schalkwyk	01/06/2001	A Survey of Cultural Resources on the Farm Kroondal 304 JQ, East of Rustenburg,
7366	AIA Phase 1	Jaco van der Walt	29/06/2007	Proposed Platinum Mining on Portions of the Farms Ledig 909 JQ, Frischgewaagd 96 JQ & Mimosa 81 JQ, North West Province
7631	AIA Phase 1	Johnny Van Schalkwyk	01/09/2008	Archaeological Impact Survey Report for the Proposed Phokeng Bypass Road Between the Rustenburg N4 Interchange and the R565 Junctions, North-West Province
8209	AIA Phase 1	Johnny Van	01/10/2008	Archaeological impact survey report for the proposed development on Waagfontein 89 JQ, Mankwe Magisterial

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		Schalkwyk		District, North West Province
8234	AIA Phase 1	Anton van Vollenhoven, Anton Pelser	01/02/2008	A Report on a Heritage Impact Assessment for the Proposed Development of Waterval East Extension 7 in Rustenburg, North West Province
8236	AIA Phase 1	Anton van Vollenhoven, Anton Pelser	01/02/2008	A Report on a Heritage Impact Assessment for the Proposed Development of Waterval Portion 8 in Rustenburg, North West Province
8238	AIA Phase 1	Anton van Vollenhoven	01/09/2008	A Report on a Cultural Heritage Impact Assessment for the Proposed Industrial Town Development on Holdings Re/31 and 3/31 of the Waterval Smallholdings, North West Province
8255	AIA Phase 1	Thomas Huffman	01/03/2002	Archaeological Study for the Western Limb Tailings Re-Treatment Project, Rustenburg
8306	AIA Phase 1	Wouter Fourie	09/11/2007	Ingwe Eco Estate Archaeological Impact Assessment. Residential Development on Portion 71 of the Farm Wysfontein 427 JP, North West Province
8374	HIA Phase 1	McEdward Murimbika	01/10/2008	Phase 1 Archaeological and Heritage Impact Assessment Specialist Study Report. Proposed Construction of a New 6 km 88 kV Koster Powerline in Kgetheng Local Municipality, Bojanala District, North West Province
8484	HIA Phase 1	Robert de Jong	01/09/2008	Final Heritage Impact Assessment Report: Proposed Western Bypass Road (Phokeng Bypass Road) of 10 km Between the Rustenburg N4 Interchange and the R565 Junctions, North-West Province
8498	HIA Phase 1	Johnny Van Schalkwyk	03/01/2008	Heritage Survey Report for the Upgrading of a Section of Road P16/1 (R30), Rustenburg Magisterial District, North West Province
66846	HIA Phase 1	Francois P Coetzee	01/01/2012	Cultural Heritage Survey of the Proposed New Ventilation Shaft Phase 3 Project, Bafokeng Rasimone Platinum Mine, North West Province
89339	HIA Phase 1	Makhosazana Mngomezulu	01/07/2012	Heritage Impact Assessment: THE PROPOSED DEVELOPMENT OF A HOTEL, CONFERENCE AND WEDDING FACILITIES, HEALTH SPA AND RECREATIONAL FACILITIES ON PORTION 48 (A PORTION OF PORTION 39) OF THE FARM RIETVLY 271 JQ, RUSTENBURG, NORTH WEST PROVINCE
115025	HIA Phase 1	Julius CC Pistorius	01/07/2012	A PHASE I HERITAGE IMPACT ASSESSMENT (HIA) STUDY FOR IMPALA PLATINUM LIMITEDâ€™S (IMPALA) PROPOSED OPEN CAST PIT8C AND THE EXPANSION OF THE SHAFT 16 WASTE ROCK DUMP IN THE

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117447	Heritage Impact Assessment	Anton van Vollenhoven	15/03/2012	A REPORT ON A HERITAGE IMPACT ASSESSMENT FOR THE PROPOSED STRUMOSA SOLID WASTE TRANSFER STATION NEAR RUSTENBURG IN THE NORTHWEST PROVINCE
145611	Heritage Impact Assessment Specialist Reports	Anton van Vollenhoven	30/09/2013	Heritage Impact Assessment for the proposed Waterval Retrofit E-Feed Project located in Rustenburg, North West Province.
161099	AIA Phase 1	Anton van Vollenhoven	01/02/2014	A REPORT ON THE UPDATING OF A PREVIOUS CULTURAL HERITAGE IMPACT ASSESSMENT FOR THE EMPR ALIGNMENT AND CONSOLIDATION PROCESS AT ANGLO AMERICAN PLATINUM: RUSTENBURG PLATINUM MINES “ RUSTENBURG SECTION, NORTHWEST PROVINCE
163216	HIA Phase 1	Julius CC Pistorius	06/05/2014	Phase I Base Line Heritage study for the proposed Glencore Merafe Venture Operation - Boshhoek Operations near Boshhoek in the North-West Province of South Africa
182083	Archaeological Specialist Reports	Munyadziwa Magoma	18/01/2016	PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT SPECIALIST STUDY REPORT FOR THE PROPOSED RUSTENBURG STRENGTHENING PROJECT WITHIN RUSTENBURG LOCAL MUNICIPALITY OF BOJANALA MUNICIPALITY. NORTH WEST PROVINCE.
182084	PIA Desktop	JF Durand	15/02/2014	Proposed construction of Marang B - a new 3 x 500MVA 400/132kV Main Transmission Substation east of Rustenburg, North West Province
252212	Heritage Scoping	Johnny Van Schalkwyk	01/10/2013	Cultural heritage impact assessment for the PROPOSED TOWNSHIP DEVELOPMENT ON PORTIONS OF THE FARM ROOIWAL 285JQ, NORTH WEST PROVINCE
289598	Heritage Impact Assessment	Natasha Higgitt, Johan Nel	23/06/2015	Environmental Authorisation Application: Prospecting Right Application for Paardekraal 279JQ & Waterval 306JQ, Phase 2 Draft Heritage Basic Assessment Report
289748		Natasha Higgitt	23/06/2015	Environmental Authorisation Application: Prospecting Right Application for Waterval 306JQ, Phase 2

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				Notification of Intent to Develop:
289754		Natasha Higgitt	23/06/2015	Environmental Authorisation Application: Prospecting Right Application for Paardekraal 279JQ, Phase 2 Notification of Intent to Develop
316019	HIA Phase 1	Makhosazana Mngomezulu	10/06/2015	Phase 1 Heritage Impact Assessment for Section 24G rectification process and Water Use License Application for the chrome crushing, screening and washing plant on portion 8 of the Boshhoek 103 JQ in Rustenburg, Bojanala Platinum District Municipality, North West Province
361026	HIA Phase 1	Polke Birkholtz	31/03/2016	PROPOSED CHANGES TO INFRASTRUCTURE AT BAKUBUNG PLATINUM MINE, LEDIG, BOJANALA DISTRICT MUNICIPALITY, NORTH WEST PROVINCE Remaining Extent and Portions 1, 3, 4 and 11 of the farm Frischgewaagd 96 JQ and the Remainder of the farm Mimosa 81 JQ
361026	HIA Phase 1	Polke Birkholtz	31/03/2016	PROPOSED CHANGES TO INFRASTRUCTURE AT BAKUBUNG PLATINUM MINE, LEDIG, BOJANALA DISTRICT MUNICIPALITY, NORTH WEST PROVINCE Remaining Extent and Portions 1, 3, 4 and 11 of the farm Frischgewaagd 96 JQ and the Remainder of the farm Mimosa 81 JQ
361026	HIA Phase 1	Polke Birkholtz	31/03/2016	PROPOSED CHANGES TO INFRASTRUCTURE AT BAKUBUNG PLATINUM MINE, LEDIG, BOJANALA DISTRICT MUNICIPALITY, NORTH WEST PROVINCE Remaining Extent and Portions 1, 3, 4 and 11 of the farm Frischgewaagd 96 JQ and the Remainder of the farm Mimosa 81 JQ
364140	AIA Phase 1	Julius CC Pistorius	01/05/2013	A PHASE I HERITAGE IMPACT ASSESSMENT FOR IMPALA PLATINUM LIMITED (IMPLATS) PROPOSED NEW SHAFT 18 COMPLEX IN THE RUSTENBURG (BAFOKENG) DISTRICT IN THE NORTH-WEST PROVINCE (WITH AMENDMENTS TO THE SHAFT 18 COMPLEX IN ORDER TO AVOID SITES LIA03 AND SITE LIA04)
368189	HIA Phase 1	Julius Pistorius	29/07/2016	A HERITAGE ASSESSMENT STUDY FOR IMPALA PLATINUM LIMITED (IMPALA) PROPOSED PROSPECTING DRILL HOLES ON THE FARM DIEPKUIL 116JQ IN THE RUSTENBURG DISTRICT IN THE NORTH-WEST PROVINCE
374016	AIA Phase 1	Neels Kruger	02/11/2015	Archaeological Impact Assessment: Proposed Rustenburg Extension 30 Township Establishment on the Remaining Extent of Portion 1 of the farm Town and Townlands of Rustenburg 272-JQ, Rustenburg Local Municipality, North West Province

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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

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.

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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

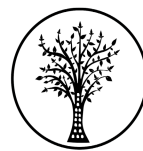
(2) The heritage resources and the area proposed for development are only partially recorded - The surveys undertaken in the area have not adequately captured the heritage resources and/or there are sites which require mitigation or management plans. Further specific heritage work is recommended for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

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- 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.

APPENDIX 5 -Summary of Specialist Expertise

Jenna Lavin, an archaeologist with an MSc in Archaeology and Palaeoenvironments, and currently completing an MPhil in Conservation Management, heads up the heritage division of the organisation, and has a wealth of experience in the heritage management sector. Jenna's previous position as the Assistant Director for Policy, Research and Planning at Heritage Western Cape has provided her with an in-depth understanding of national and international heritage legislation. Her 8 years of experience at various heritage authorities in South Africa means that she has dealt extensively with permitting, policy formulation, compliance and heritage management at national and provincial level and has also been heavily involved in rolling out training on SAHRIS to the Provincial Heritage Resources Authorities and local authorities.

Jenna is a member of the Association of Professional Heritage Practitioners (APHP), and is also an active member of the International Committee on Monuments and Sites (ICOMOS) as well as the International Committee on Archaeological Heritage Management (ICAHM). In addition, Jenna has been a member of the Association of Southern African Professional Archaeologists (ASAPA) since 2009. Recently, Jenna has been responsible for conducting training in how to write Wikipedia articles for the Africa Centre's WikiAfrica project.

Since 2016, Jenna has drafted over 70 Heritage Impact Assessments throughout South Africa.

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