

CTS HERITAGE

HERITAGE SCREENER

CTS Reference Number:	CTS20_009
SAHRIS Ref:	TBA
Client:	Enviroworks
Date:	17 January 2020
Title:	Proposed development of pipelines near Noenieput, Northern Cape

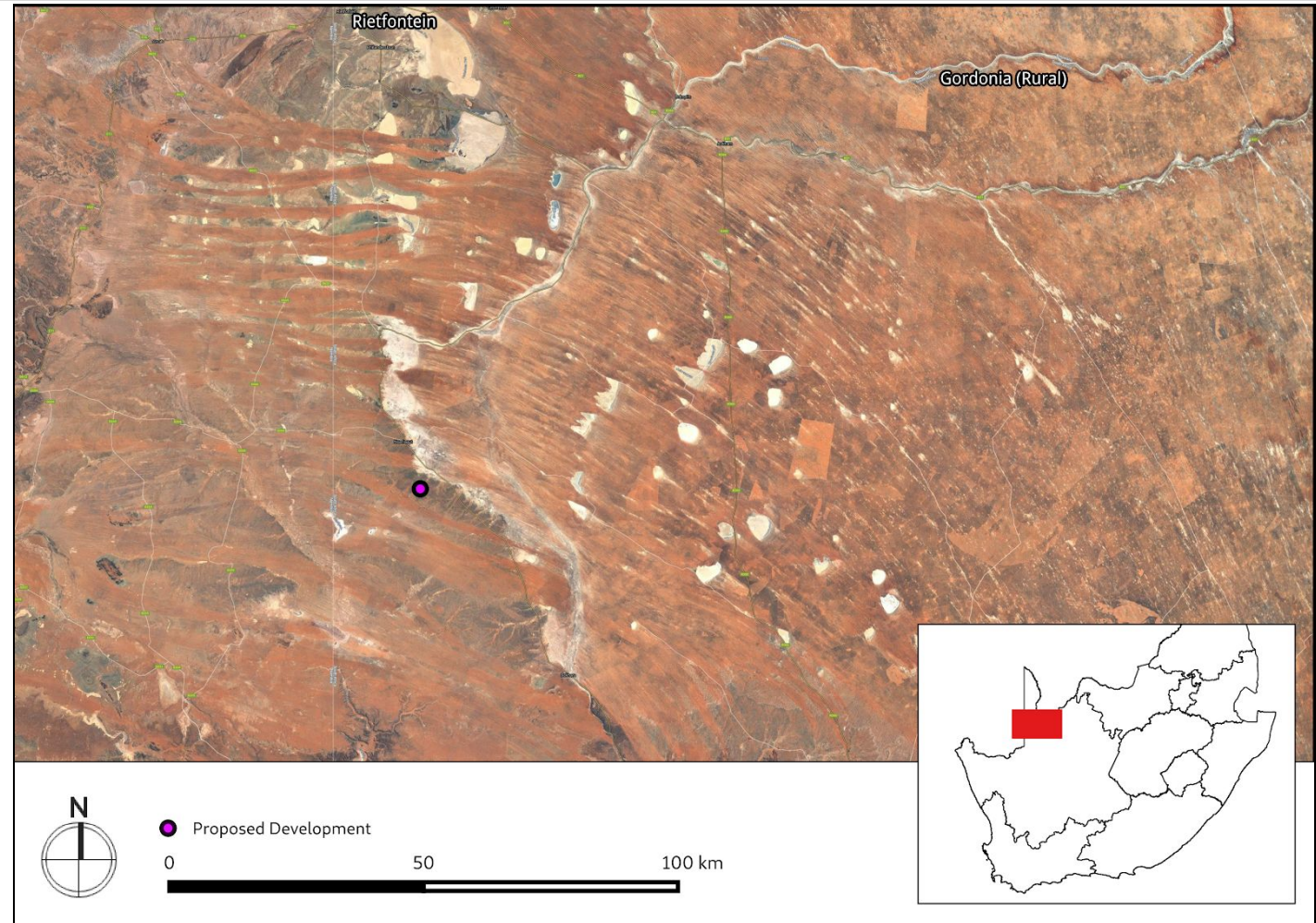


Figure 1a. Satellite map indicating the location of the proposed development in the Northern Cape Province

Recommendation by
CTS Heritage
Specialists

RECOMMENDATION:

As it is likely that any proposed development will impact significant heritage resources, it is recommended that a Heritage Impact Assessment be conducted that assesses impacts to archaeological and palaeontological heritage resources.

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1. Proposed Development Summary

The construction of potable water supply pipeline. The proposed pipeline commences at Noenieput and will supply water to small and commercial farmers along the pipeline route as well as for Swartkopdam.

2. Application References

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

3. Property Information

Latitude / Longitude	27°36'12.33"S 20°10'19.87"E
Erf number / Farm number	Farm Witkop No.350 portion (2,3,4,5,18,28 and 29) Farm Abiquas ARR No.352 portion (1,2,3,5,8, and 9.)
Local Municipality	Dawid Kruiper
District Municipality	ZF Mgcawu
Previous Magisterial District	Gordonia
Province	Northern Cape
Current Use	Agriculture
Current Zoning	Agriculture
Total Extent	Swartkopdam - 25km Noenieput - 22km

4. Nature of the Proposed Development

Total Surface Area	25km (preferred) or 22km
Depth of excavation (m)	2.6m
Height of development (m)	NA
Expected years of operation before decommission	NA

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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
x	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-
	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

NA

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

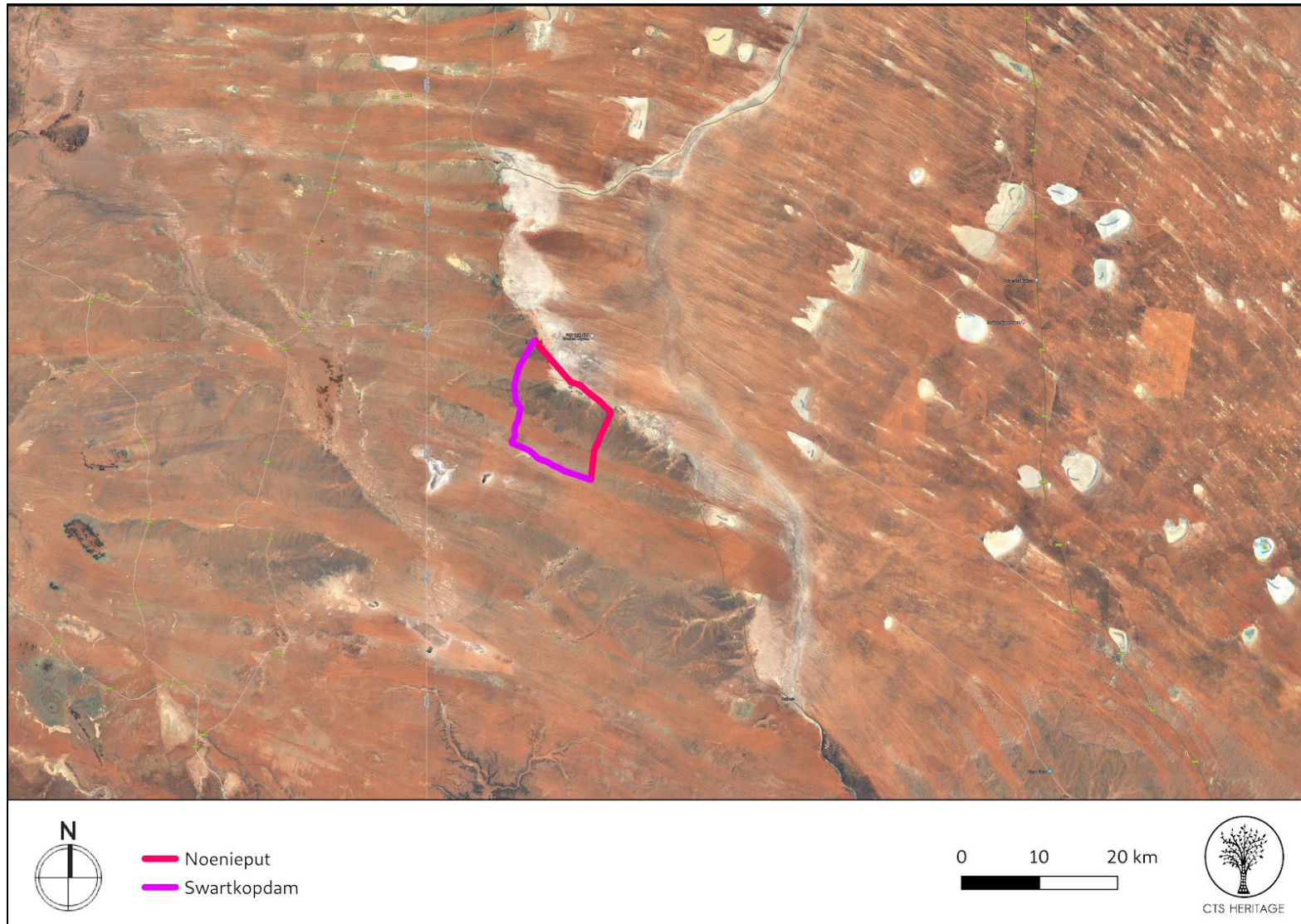
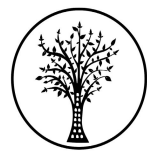


Figure 1b. Overview Map. Satellite image (2019) indicating the proposed development area at closer range.

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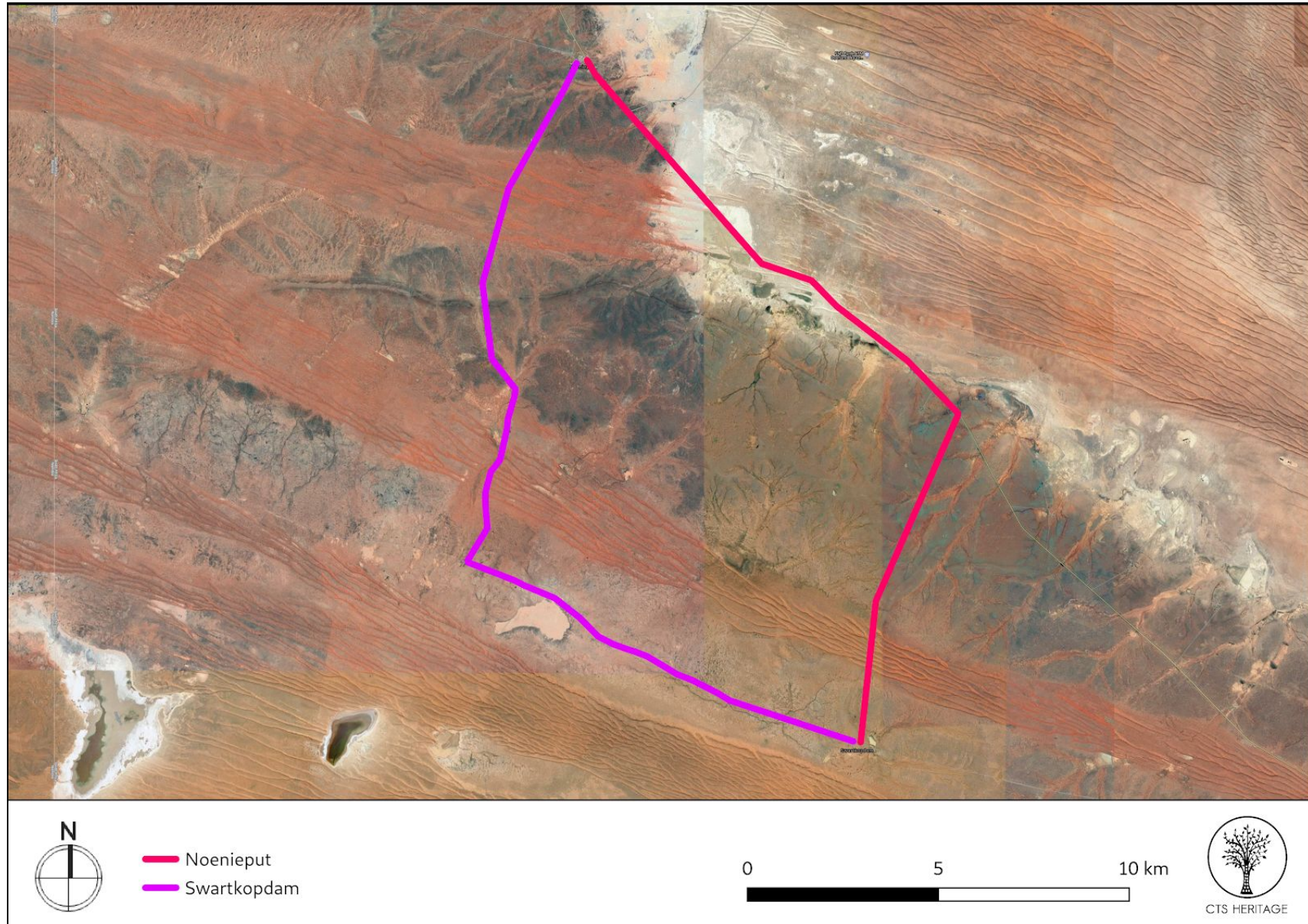


Figure 1c. Overview Map. Satellite image (2019) indicating the proposed development area at closer range.

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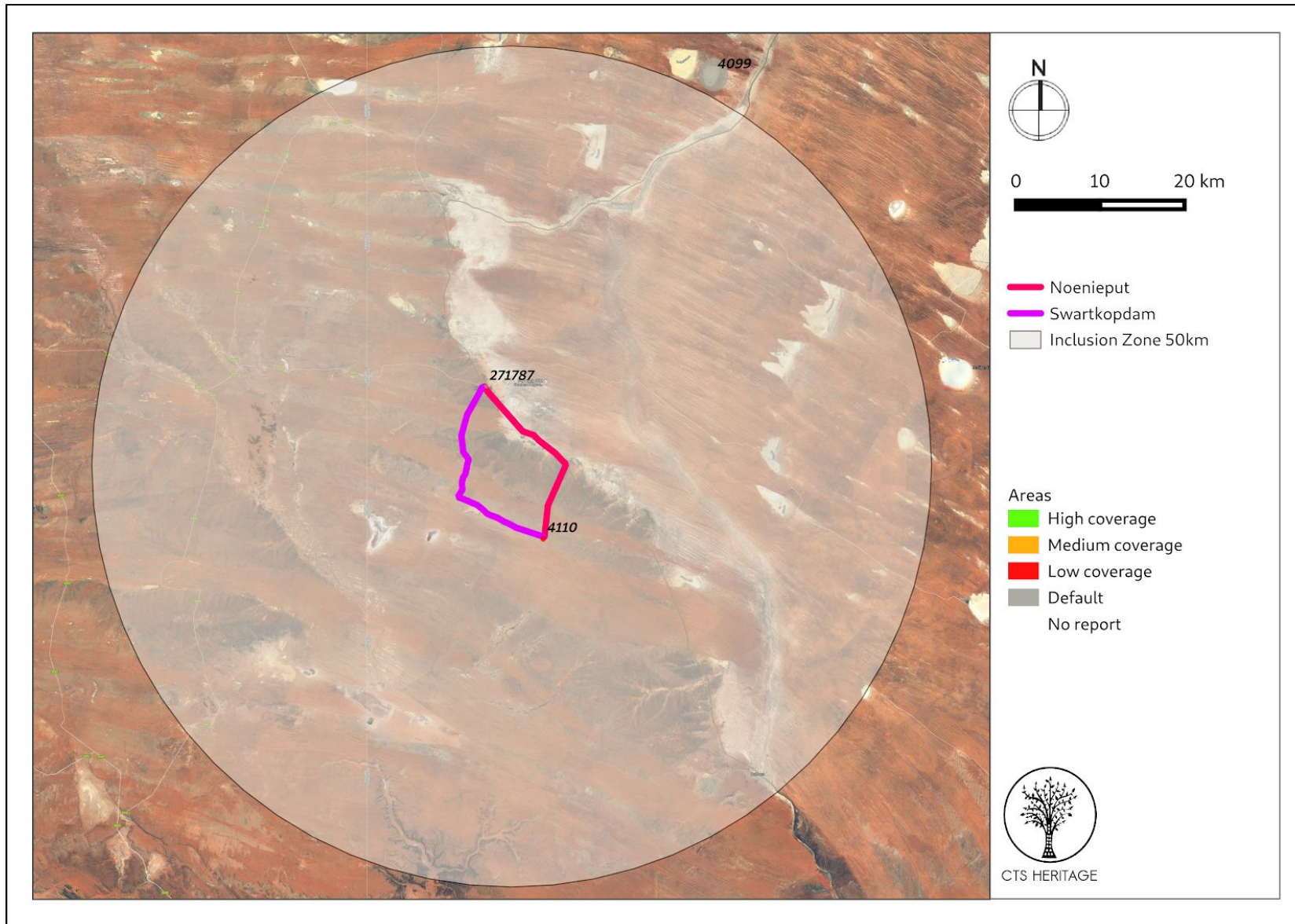


Figure 2. Previous HIAs Map. Previous Heritage Impact Assessments surrounding the proposed development area within 5km, with SAHRIS NIDS indicated. Please see Appendix 2 for full reference list.

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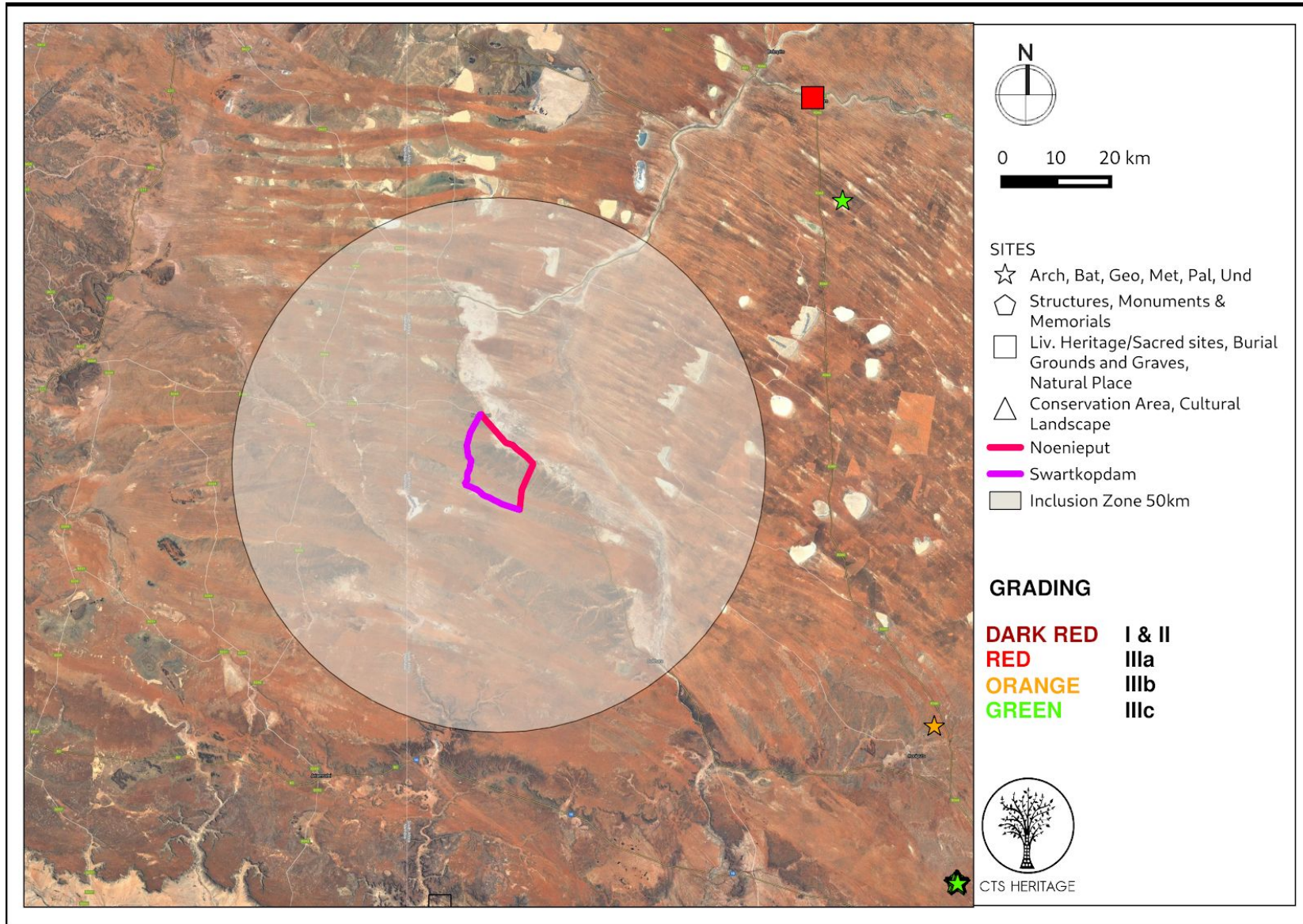


Figure 3. Heritage Resources Map. Heritage Resources previously identified in and near the study area. See insets a to d below with SAHRIS Site IDs indicated. Please See Appendix 4 for full description of heritage resource types.

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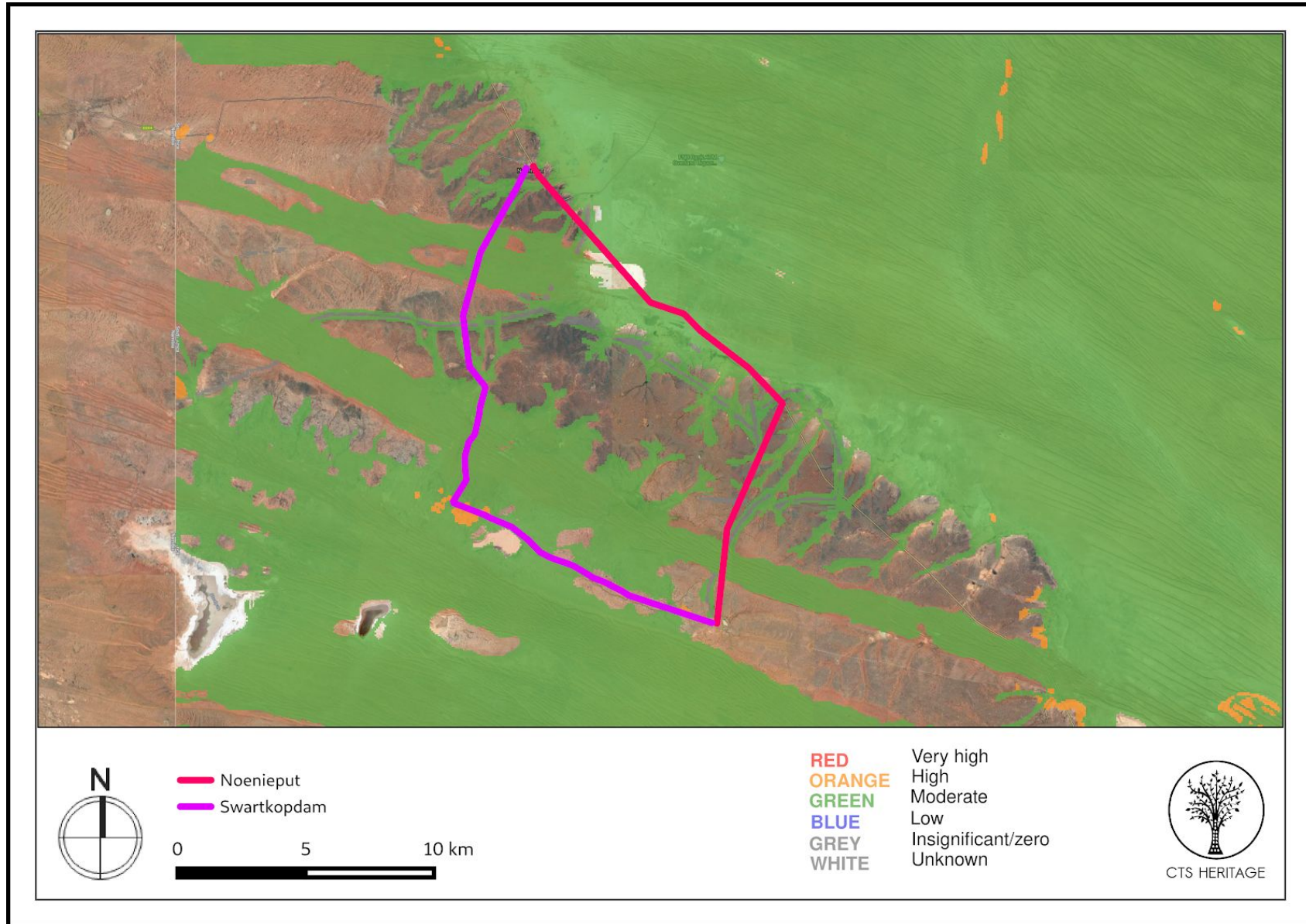
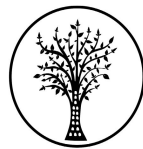


Figure 4.1. SAHRIS Palaeosensitivity Map. Indicating moderate fossil sensitivity underlying the study area. Please See Appendix 3 for full guide to the legend.

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8. Heritage statement and character of the area

This application is for the proposed development of pipelines between Swartkopdam and Noenieput which form part of the Mier Municipality in the Northern Cape. According to Beaumont (2007), “Swartkopdam is a small Kalahari settlement comprising a few dozen families of which the menfolk are mainly employed on farms in this region. Homes, mainly galvanized iron, and each with its own nearby rubbish midden, were randomly scattered on communally - held (Congregational Church) land.” The Mier Municipality is named after the Mier settlement where the descendants of indigenous groups from de Tuin near Kenhardt who were denied land in Bushmanland by the government in mid-19th century crossed the Orange River and settled others of the same remnant groups settled further north at Rehoboth in Namibia (Kaplan 2013).

According to SAHRIS, there are no known heritage resources within a 50km radius of the proposed development area (Map 3). However, according to Beaumont (2007); “The closest recorded archaeological occurrence (to Swartkopdam) is Eensaamheid Pan, some 40 km to the east, where what seems to be an ancient strand line terrace is covered by a fair density of Fauresmith or Late Acheulean material based on exotic rocks”. Additionally, according to Kaplan (2013), “During the 1980s archaeological surveys were done in the region of Rietfontein (Smith 1995). The survey revealed a number of surface sites, most of them on dune surfaces. A concentration was noted on a dune above the town 8 km on the northeast road. All the flattened hollows on this dune had cultural material. One square metre sample was collected. Pottery sherds were present; 24 quartz flakes, 10 quartzite, 5 silcrete and 11 shale; cores 3 miscellaneous segments and chunks; and 1 lithic manuport. Around the dry pans in the area similar stone assemblages were located.” In his assessment of the area, Beaumont (2007) identified occasional stone artefacts and certainly no sites, fossil bones or graves. However, on the rubble-strewn flats flanking the road to the settlement, and, to a lesser extent, at its upper end, near the school, a modest number of associated fresh-weathered artefacts occur. The fresh fraction included a blade and a small 5 cm - long handaxe, both of quartzite, and best ascribed to the Fauresmith, but the older material, with prepared cores, is probably Middle Acheulean. Based on the information available for the proposed development area, it is therefore likely that the proposed pipeline development will negatively impact on significant archaeological resources.

Beaumont (2007) describes the superficial geology of the area as “Surface silts overlie Karoo shale in the inspected swale area, whereas subangular - subrounded exotic (often quartzite) clasts were seen to cover the abutting plains to the east. These could be Dwyka tillite vestiges and, if so, a nearby (but not visited) low outcrop of black rock, perhaps the source of the settlement name (Swartkopdam), may show smoothing or plucking as a result of ice action at that time, about 300 million years ago.” According to the SAHRIS Palaeosensitivity map (Figure 4), most of the area proposed for development is underlain by sediments of moderate palaeontological sensitivity. These sediments are primarily sands of the Gordonia Formation. Additionally, according to the SAHRIS Palaeosensitivity map, the eastern extent of the proposed Swartkopdam alignment is likely to impact sediments of high palaeontological sensitivity of the Mokalanen Formation. Both the Gordonia Formation and the Mokalanen Formations form part of the Kalahari Group of sediments which are known to preserve palynomorphs, root casts (rhizomorphs) and burrows (eg termitaria), rare vertebrate remains (mammals, fish, ostrich egg shell etc), diatom-rich limestones, freshwater stromatolites, freshwater and terrestrial shells (gastropods, bivalves), ostracods and charophytes. As such, the proposed pipelines may negatively impact on significant palaeontological heritage.

RECOMMENDATION:

As it is likely that any proposed development will impact significant heritage resources, it is recommended that a Heritage Impact Assessment be conducted that assesses impacts to archaeological and palaeontological heritage resources.

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APPENDIX 1

List of heritage resources within the 50km Inclusion Zone from SAHRIS

No heritage resources are known from within 50km of the proposed development area

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APPENDIX 2 Reference List

Heritage Impact Assessments				
Nid	Report Type	Author/s	Date	Title
4110	HIA	Peter Beaumont	24/10/2007	Phase 1 Heritage Impact Assessment Report on a Proposed Waste Disposal Site at the Swartkopdam Settlement near Noenieput, North-West of Upington, in the Siyanda District Municipality of the Northern Cape Province
271787	HIA	Jonathan Kaplan	30/10/2013	Heritage Impact Assessment Report Proposed Low Income Housing Project Noenieput, Groot Mier Municipality, Northern Cape.

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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.

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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