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HERITAGE SCREENER

CTS Reference Number:	**CTS22_220**
SAHRA Ref	
Client:	**Enviroworks (Pty) Ltd**
Date:	**November 2022**
Title:	**BASIC ASSESSMENT PROCESS FOR THE PROPOSED CONSTRUCTION OF AN OXIDATION POND SYSTEM AND TWO GRAVITY OUTFALL SEWER LINES NEAR SCHWEIZER-RENEKE, NORTH WEST PROVINCE.**

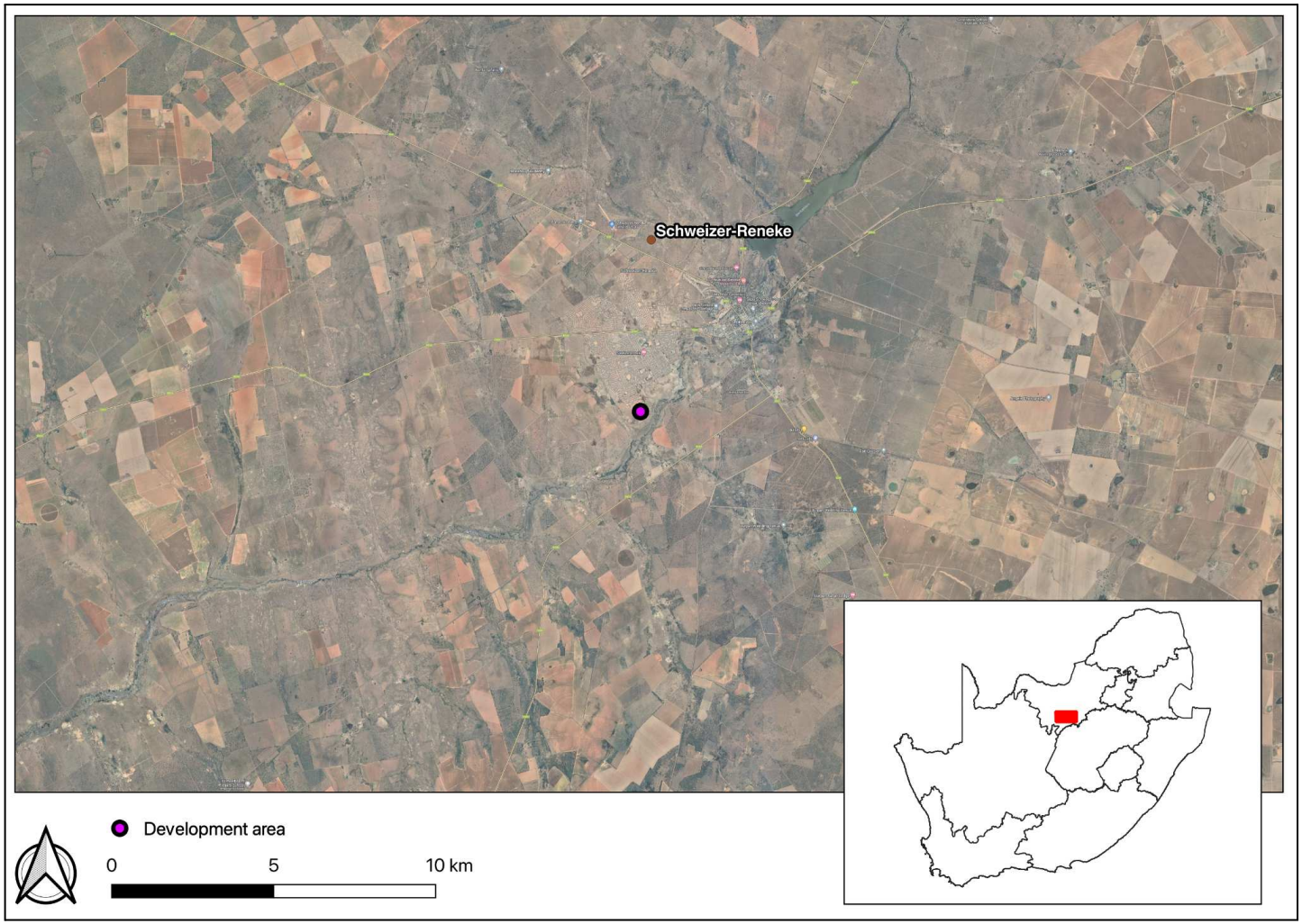

Figure 1a. Satellite map indicating the location of the proposed development in the North West Province

Recommendation:	**RECOMMENDATION** **Given the close proximity of the development to a semi-formal cemetery, a field verification assessment is necessary to clarify that no graves will be impacted by the placement of ponds and pipeline upgrades.**

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1. Proposed Development Summary

Moedi Consulting Engineers proposes to construct an oxidation pond system and two gravity outfall sewer lines near Schweizer-Reneke, North West Province. The configuration of the existing sewer system entails that all wastewater generated in Ipelegeng gravitates to five (5) pumping stations. The current pumping system installed on site is not sufficient to convey wastewater to the Waste Water Treatment Plant (WWTP) and this results in spillages occurring due to the overloading of infrastructure. The motivation for the proposed project is twofold. Firstly, it will address the current capacity shortfall by reducing the inflow volume at pumping stations, and secondly, it will optimise the current sewer network to operate more efficiently by decreasing the pumping and repumping of sewage. It is proposed that two “cut-off” gravity outfall lines be installed to reduce the load on the pumping stations and furthermore, it is proposed that an oxidation pond be constructed to decommission Pumping Station A.

2. Application References

Name of relevant heritage authority(s)	SAHRA
Name of decision making authority(s)	North West Department: Economic Development, Environment, Conservation and Tourism

3. Property Information

Latitude / Longitude	-27.21705962, 25.29591176
Erf number / Farm number	Farm No. 62
Local Municipality	Mamusa
District Municipality	Dr Ruth Segomotsi Mompati
Province	North West Province
Current Use	Residential
Current Zoning	Agriculture

4. Nature of the Proposed Development

Total Surface Area	1.53 ha
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
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

N/A

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

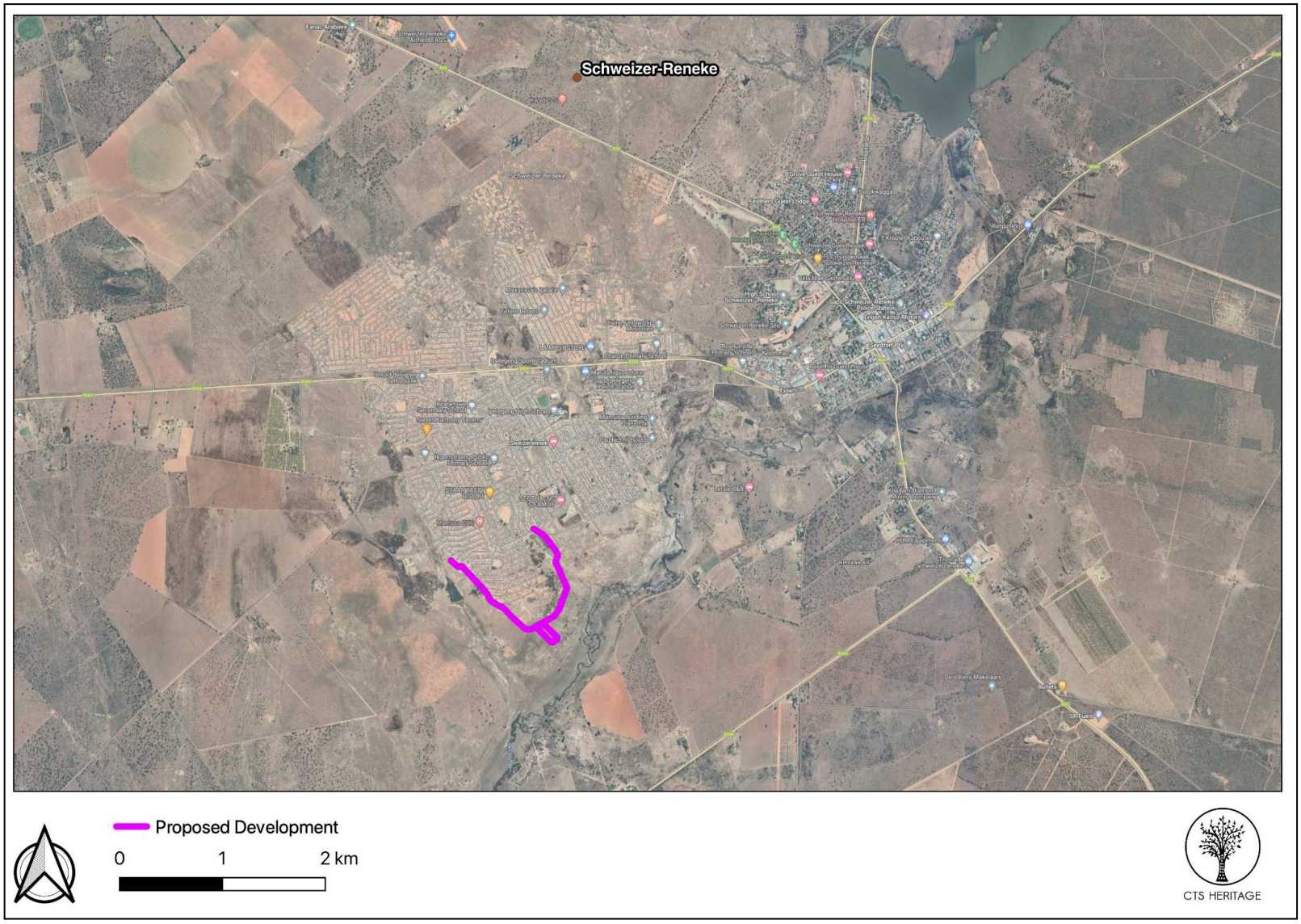

Figure 1b Overview Map. Satellite image (2022) indicating the proposed development area at a closer range.

Figure 1c Overview Map. Satellite image (2022) indicating the proposed development area, close up.

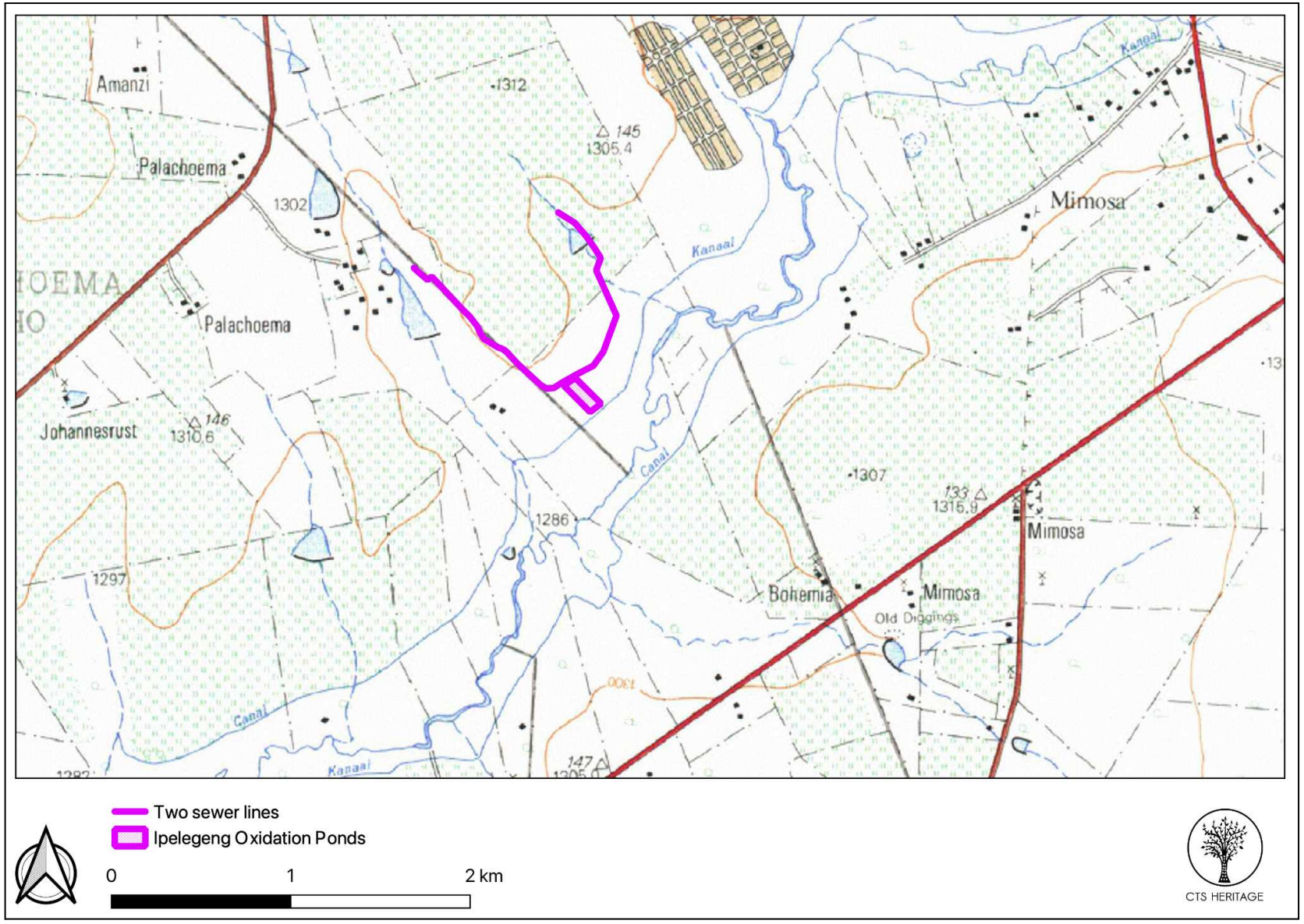

Figure 1d Overview Map. Extract from the 1:50 000 topographical map for the development area.

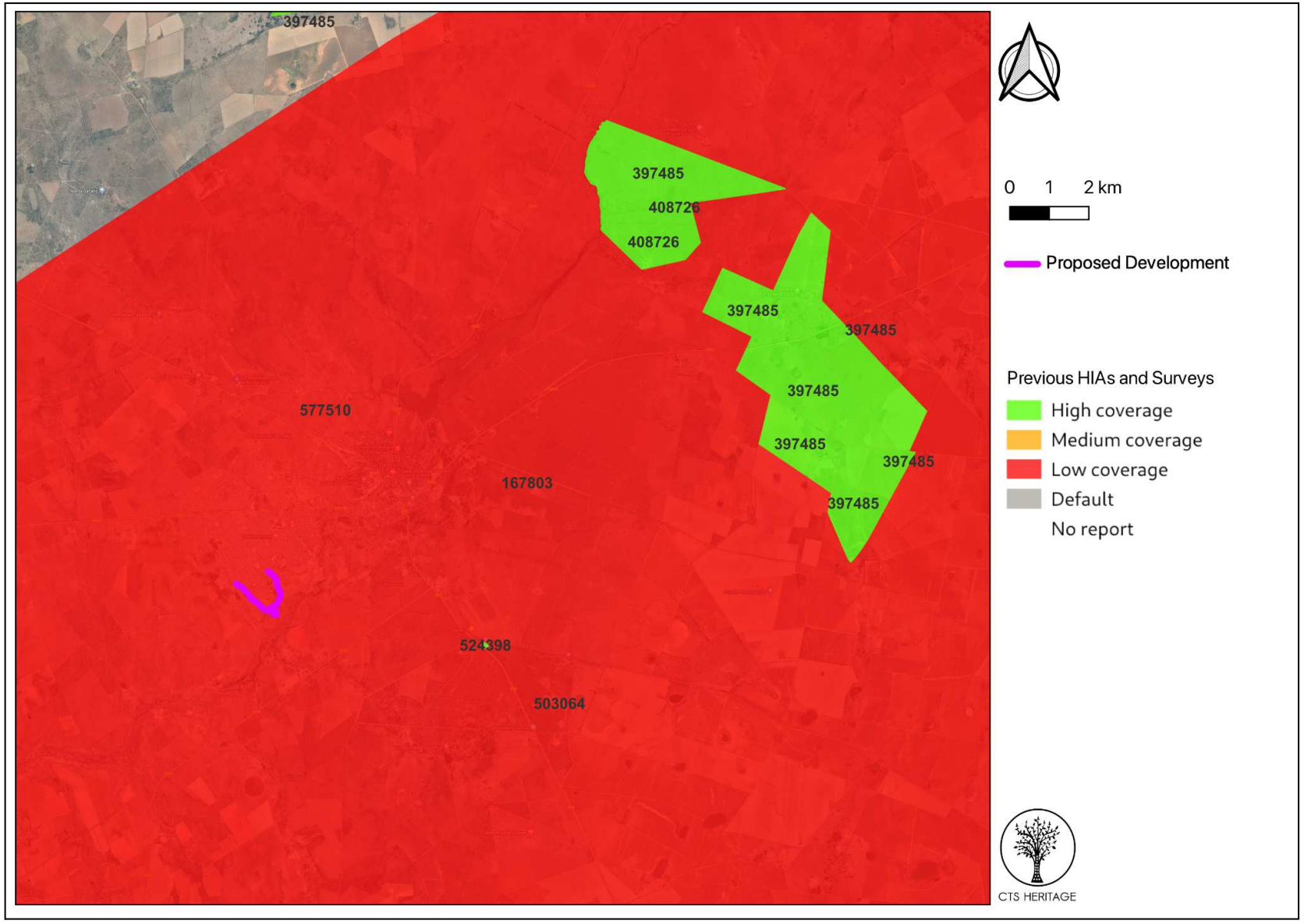

Figure 2. Previous HIAs Map. Previous Heritage Impact Assessments surrounding the proposed development area within 20km, with SAHRIS NIDS indicated. Please see Appendix 2 for a full reference list.

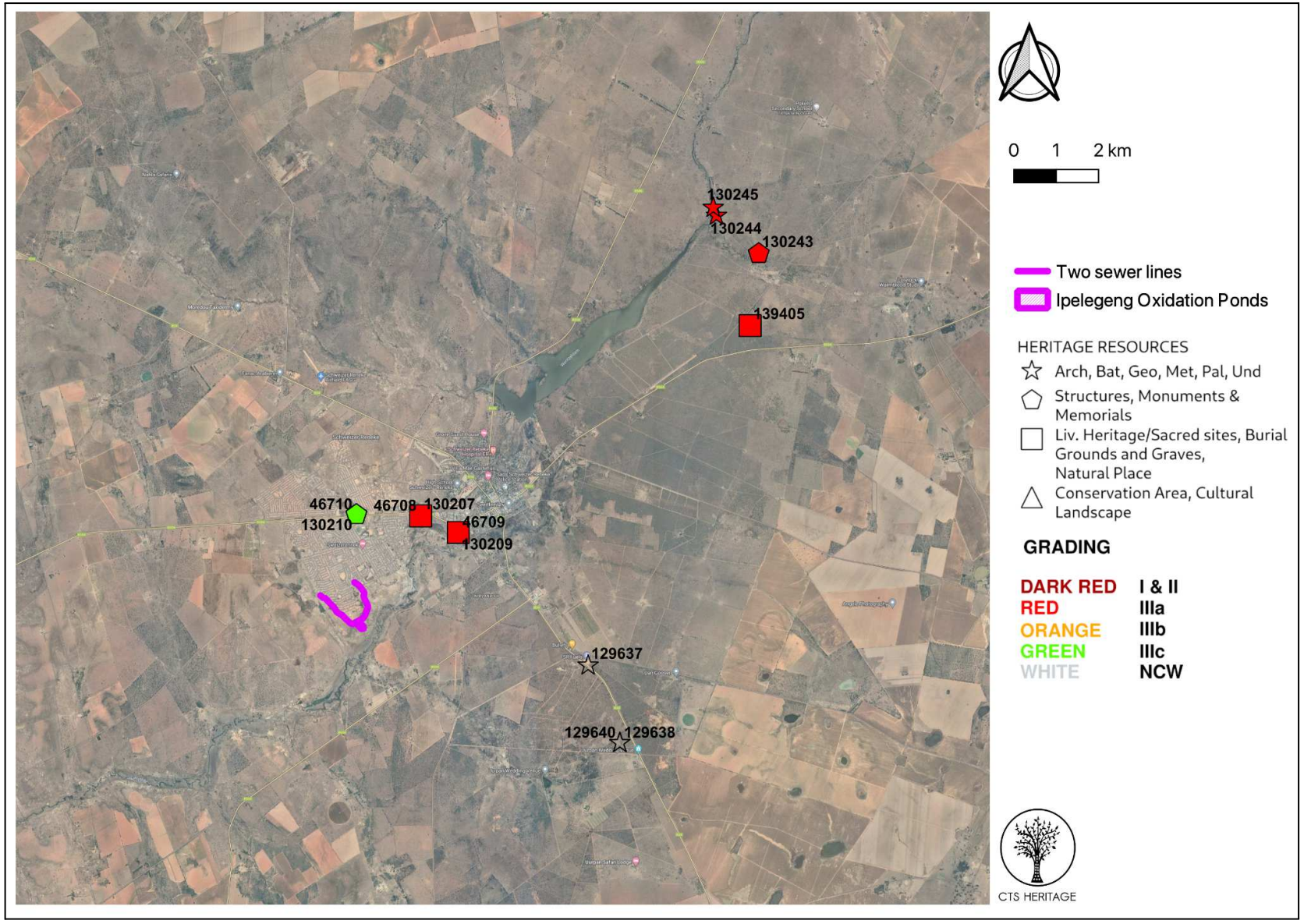

Figure 3. Heritage Resources Map. Heritage Resources previously identified in and near the study area, with SAHRIS Site IDs indicated. Please See Appendix 4 for full description of heritage resource types.

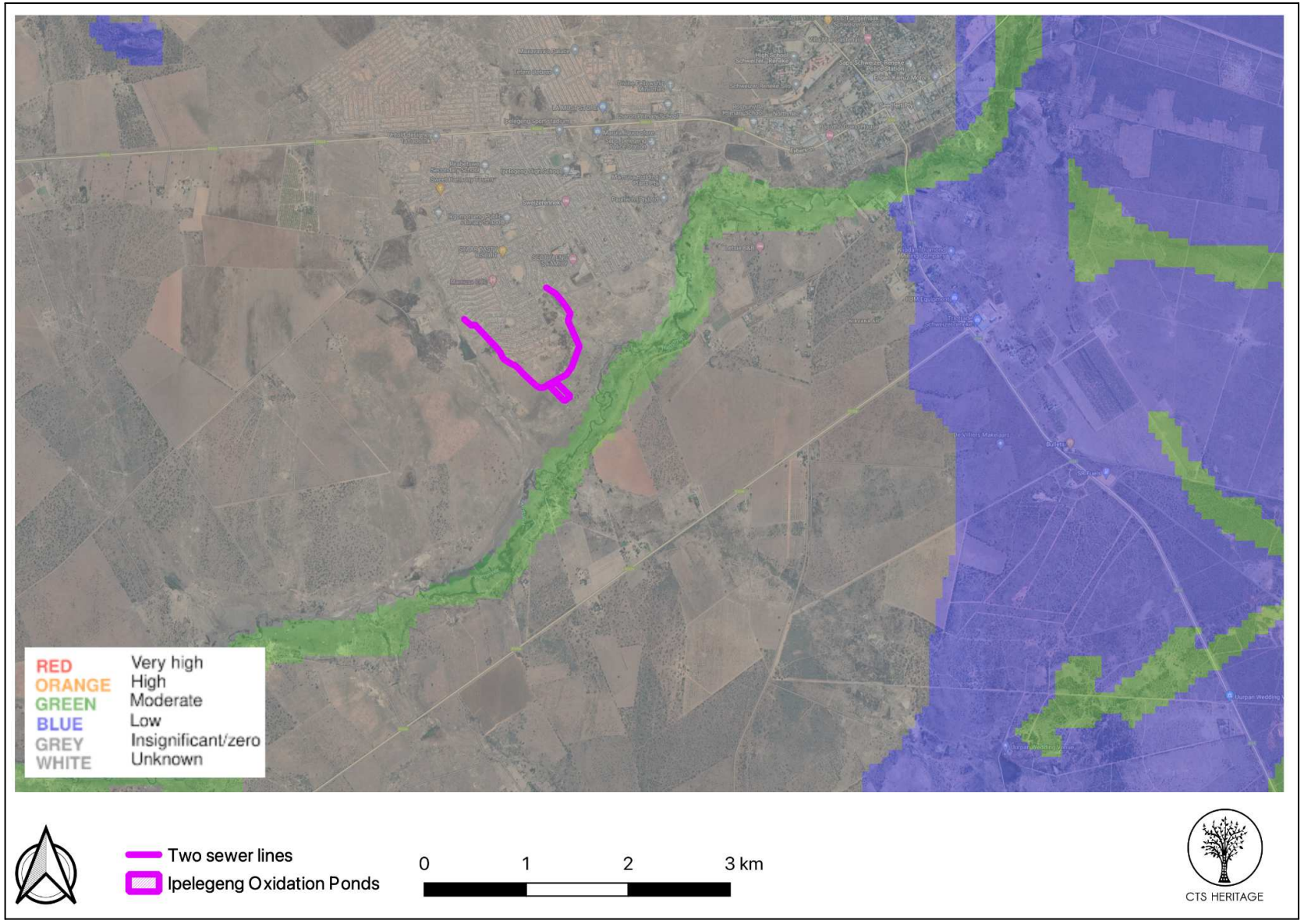

Figure 4a. Palaeosensitivity Map. Indicating low to insignificant fossil sensitivity underlying the study area. Please See Appendix 3 for a full guide to the legend.

8. Heritage Assessment

Background
Moedi Consulting Engineers proposes to construct an oxidation pond system and two gravity outfall sewer lines near Schweizer-Reneke, North West Province. The configuration of the existing sewer system entails that all wastewater generated in Ipelegeng gravitates to five (5) pumping stations. The current pumping system installed on site is not sufficient to convey wastewater to the Waste Water Treatment Plant (WWTP) and this results in spillages occurring due to the overloading of infrastructure. The motivation for the proposed project is twofold. Firstly, it will address the current capacity shortfall by reducing the inflow volume at pumping stations, and secondly, it will optimise the current sewer network to operate more efficiently by decreasing the pumping and repumping of sewage. It is proposed that two "cut-off" gravity outfall lines be installed to reduce the load on the pumping stations and furthermore, it is proposed that an oxidation pond be constructed to decommission Pumping Station A.

Archaeology
In the development of the Amalia Extension 5 Township project, Pelser did not identify any archaeological sites. However, some historic farming remnants were recorded on site as well as a couple of cemeteries (Pelser, 2014, SAHRIS NID 167803). In Coetzee's (2017) HIA for proposed diamond mining prospecting no Stone Age or Iron Age archaeological sites were found but further burial grounds and graves were recorded along with various historic homesteads. Coetzee further noted that, "Although erosion areas near the Harts River yielded no Stone Age assemblages, it is well known that Late Iron Age stone-walled settlements do not usually occur in open low-lying grasslands. The well-known Korana settlements of Chief Mossweu are located near Mamusa Hill (further west near Schweizer-Reneke) and other Tswana settlement (Rolong and Tlhaping) occur further north and west of the survey area. A total of four historical farmhouse complexes or individual houses dating to the late 19th and early 20th centuries were recorded. In addition one historical stonewalled cattle kraal was also noted. These structures are associated with the land granted to the local farmers by Chief Mossweu in 1882. Seven graveyards and individual graves were recorded which represent farm workers and the families that settled in the area since the 1880s. If the exhumation and reburial of the graveyards are envisaged it will entail social consultation and permit application".

Given the extremely small footprint of the sewer upgrades and the highly disturbed ground that has already been heavily impacted by urbanisation and farming, it is unlikely that any significant archaeological heritage resources will be found for this development.

Built Environment & Cultural Landscapes
There are no buildings or cultural landscape elements in the proposed development area.

Graves
The proposed route of the pipeline falls within an existing path around a cemetery serving the community of Ipelegeng in Schweizer-Reneke. It is clear that the proposed development may well impact on modern graves and the route and excavation work will have to be carefully done to avoid impacts on any graves, however this is not a heritage concern as these graves are modern.

Palaeontology
The proposed sewer system upgrades fall in an area of insignificant/zero palaeontological sensitivity according to the SAHRIS Palaeonsensitivity map as the geological context consists of biotite gneiss, augen gneiss, porphyritic and honogeneous granite and pegmatite. There is therefore no need to carry out further palaeontological studies for this development.

RECOMMENDATION
Given the close proximity of the development to a semi-formal cemetery, a field verification assessment is necessary to clarify that no graves will be impacted by the placement of ponds and pipeline upgrades.

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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
129637	Schweizer-Reneke Diesel Depot & Mill Development		Archaeological	
129638	PT22_MN61HO_SA01	Site 1	Archaeological	
129640	GB_83HO_SA02	Grootboom 83HO Mill Development	Deposit	
130207	2725AB/ Electrical Infrastructure/ Farm Moredou 62 / Site 008	Cemetery	Burial Grounds & Graves	Grade IIIb
130209	2725AB/ Electrical Infrastructure/ Farm Moredou 62 / Site 009	Cemetery	Burial Grounds & Graves	Grade IIIb
130210	2725AB/ Electrical Infrastructure/ Farm Moredou 62 / Site 017	Railway bridge	Structures	Grade IIIc
130243	"2725AB/ Minerals/ farm Maraetchesfontein 54/ Site 1 "	Historical farmstead	Structures	Grade IIIa
130244	"2725AB/ Minerals/ farm Maraetchesfontein 54/ Site 2"	Rock engraving	Archaeological	Grade IIIa
130245	2725AB/ Minerals/ farm Maraetchesfontein 54/ Site 3	Rock Engraving	Archaeological	Grade IIIa
139405	MHF-001	MARAETCHESFONTEIN 54	Burial Grounds & Graves	Grade IIIa
46708	MOOK003	Mookodi 003	Burial Grounds & Graves	Grade IIIa
46709	MOOK004	Mookodi 004	Burial Grounds & Graves	Grade IIIa
46710	MOOK005	Mookodi 005	Bridge	Grade IIIc

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APPENDIX 2: Reference List

Heritage Impact Assessments				
Nid	**Report Type**	**Author/s**	**Date**	**Title**
167803	HIA Phase 1	Anton Pelser	03/02/2014	Phase 1 HIA Report for the proposed township development (Amalia Ext. 5) on a portion of the Remaining Extent of Portion 2 and a portion of the Remaining Extent of Portion 6 of the farm Nieuwjaarsfontein No. 73HO, Mamusa Local Municipality
397485	HIA Phase 1	Francois P Coetzee	12/04/2017	Cultural Heritage Impact Assessment: Phase 1 Investigation of the Locklore Boerdery (Pty) Ltd, Schweizer-Reneke, Mamusa Local Municipality, Dr Ruth Segomotsi Mompati District Municipality, North West Province
407665	HIA Phase 1	Lloyd Rossouw	05/09/2017	Phase 1 Heritage Impact Assessment of the Remaining Extent of Portion 2 (Cypherfontein) and Portion 15 (On Avon – a Portion of Portion 2) of the farm Maraetchesfontein 54, near Schweizer Reneke, Northwest Province.
408726	HIA Phase 1 (Revised)	Lloyd Rossouw	13/10/2017	Phase 1 Heritage Impact Assessment of the Remaining Extent of Portion 2 (Cypherfontein) and Portion 15 (On Avon – a Portion of Portion 2) of the farm Maraetchesfontein 54, near Schweizer Reneke, Northwest Province.
503064	HIA Phase 1	Johnny van Schalkwyk	09/04/2018	Phase 1 Cultural Heritage Impact Assessment: PROSPECTING RIGHT OF DIAMOND ALLUVIAL AND DIAMOND GENERAL ON THE REMAINING EXTENT OF PORTION 23 OF THE FARM MIMOSA, NEAR SCHWEIZER-RENEKE, MAMUSA LOCAL MUNICIPALITY, NORTH WEST PROVINCE
503067	PIA Desktop	Elize Butler	09/04/2018	PALAEONTOLOGICAL DESKTOP ASSESSMENT OF THE PROPOSED DIAMONDS ALLUVIAL AND DIAMONDS GENERAL PROSPECTING RIGHT APPLICATION NEAR SCHWEIZER-RENEKE ON THE REMAINING EXTENT OF PORTION 23 OF THE FARM MIMOSA 61 REGISTRATION DIVISION: HO, NORTH WEST PROVINCE
524398	HIA Phase 1	Anton Pelser	06/06/2019	PHASE 1 HIA REPORT FOR THE EXISTING DEVELOPMENT OF A DIESEL DEPOT ON PORTION 22 OF MIMOSA 61HO & THE DEVELOPMENT OF A MILL ON A PORTION OF GROOTPOORT 83HO NEAR SCHWEIZER-RENEKEN IN THE MAMUSA LOCAL MUNICIPALITY, NORTH-WEST PROVINCE - APAC019/58
577510	HIA Phase 1	Anton Pelser	09/07/2021	REPORT ON A PHASE 1 HIA FOR THE PROPOSED IPELEGENG EXTENSION 12 TOWNSHIP ESTABLISHMENT AT SCHWEIZER-RENEKE IN THE MAMUSA LOCAL MUNICIPALITY OF THE NORTHWEST 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)
DEFF	Department of Environment, Forest and Fisheries (National)
DEADP	Department of Environmental Affairs and Development Planning (Western Cape)
DEDEAT	Department of Economic Development, Environmental Affairs and Tourism (Eastern Cape)
DEDECT	Department of Economic Development, Environment, Conservation and Tourism (North West)
DEDT	Department of Economic Development and Tourism (Mpumalanga)
DEDTEA	Department of economic Development, Tourism and Environmental Affairs (Free State)
DENC	Department of Environment and Nature Conservation (Northern Cape)
DMR	Department of Mineral Resources (National)
GDARD	Gauteng Department of Agriculture and Rural Development (Gauteng)
HIA	Heritage Impact Assessment
LEDET	Department of Economic Development, Environment and Tourism (Limpopo)
MPRDA	Mineral and Petroleum Resources Development Act, no 28 of 2002
NEMA	National Environmental Management Act, no 107 of 1998
NHRA	National Heritage Resources Act, no 25 of 1999
PIA	Palaeontological Impact Assessment
SAHRA	South African Heritage Resources Agency
SAHRIS	South African Heritage Resources Information System
VIA	Visual Impact Assessment

Full guide to Palaeosensitivity Map legend

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

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APPENDIX 4 - Methodology

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

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

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

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

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

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

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

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

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

DETERMINATION OF THE PALAEONTOLOGICAL SENSITIVITY

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

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

DETERMINATION OF THE COVERAGE RATING ASCRIBED TO A REPORT POLYGON

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

Low coverage will be used for:

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

Medium coverage will be used for

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

High coverage will be used for

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

RECOMMENDATION GUIDE

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

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

This recommendation is made when:

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

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

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

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

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

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

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