

CTS HERITAGE

HERITAGE SCREENER

CTS Reference Number:	CTS18_197
SAHRA Ref:	12879
Client:	EnviroAfrica
Date:	19 October 2018
Title:	PROPOSED PIG ABATTOIR, ERF 205, VAALKOPPIES NEDERSETTING, DAWID KRUIPER MUNICIPALITY

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

RECOMMENDATION:
The heritage resources in the area proposed for development are sufficiently recorded.
Due to the location and nature of the proposed development, it is unlikely that significant heritage resources will be impacted by the development and as such, it is recommended that no further heritage studies are required.

Recommendation by
CTS Heritage
Specialists



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1. Proposed Development Summary

It is proposed that a portion (2500m²) of the property be rezoned to accommodate a pig abattoir. The proposed facility will slaughter and process up to six (6) pigs per day. No animals are expected to be concentrated on the site, with all animals being brought to the facility. It is also expected that no waste, waste by - products etc. will be disposed of on-site, but will rather be temporarily stored and then removed from the premises and disposed of at other facilities as described below.

The site is located on Erf 205, Vaalkoppies Nedersetting, located approximately 6km east of Upington, off the N10.

2. Application References

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

3. Property Information

Latitude / Longitude	S 28°25'58.32", E 21°22'05.05"
Erf number / Farm number	Erf 205
Local Municipality	Dawid Kruiper Municipality (formerly //Khara Hais Municipality)
District Municipality	ZF Mgqawu District Municipality
Previous Magisterial District	Gordonia
Province	Northern Cape
Current Use	Agriculture
Current Zoning	Agriculture
Total Extent	2500m ²

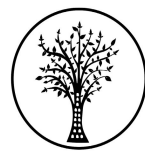
4. Nature of the Proposed Development

Total Surface Area	150m ²
Depth of excavation (m)	NA
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
	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

The services to the proposed development are described below:

- Electricity: Will be provided by Eskom. There is a 3 Phase electricity connection approximately 15m from the proposed site.
- Water: Will be supplied by a borehole located on Erf 205. The water has been tested and approved for the existing meat processing facility and household use.
- Waste: It is proposed that waste water used to clean the facility and carcasses, as well as blood and manure be pumped to a drain. From there, the contents will be pumped to a tank, and will then be transported to a facility in Upington for the purposes of compost production (see **Appendix J1** of the BAR).
- Animal by-product: It is proposed that the animal by-product and unused meat and carcasses will be temporarily stored within a freezer room in the facility, and will then be transported to the Tanien Crocodile Farm, to be used for crocodile food (see **Appendix J2** of the BAR)

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

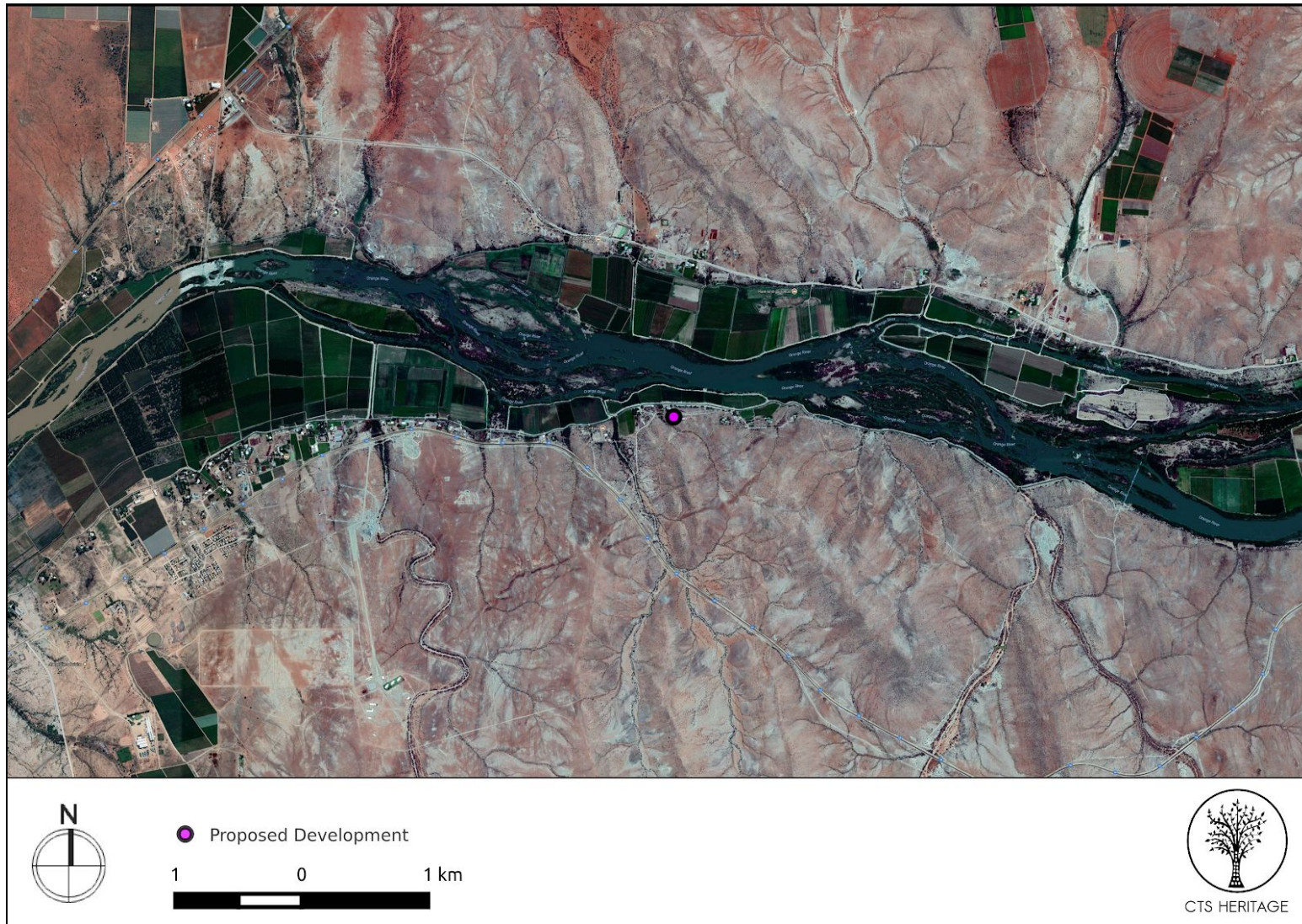
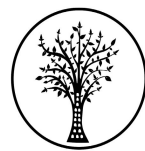


Figure 1b. Overview Map. Satellite image (2017) indicating the proposed development area at closer range.

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Proposed Development

100 0 100 m



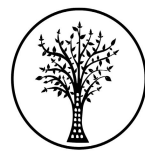
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Figure 1c. Overview Map. Satellite image (2017) indicating the proposed development area at closer range.

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 Proposed Development

100

0

100 m



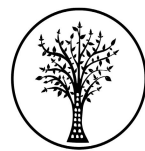
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Figure 1d. Overview Map. Satellite image (2017) indicating the proposed development area at closer range.

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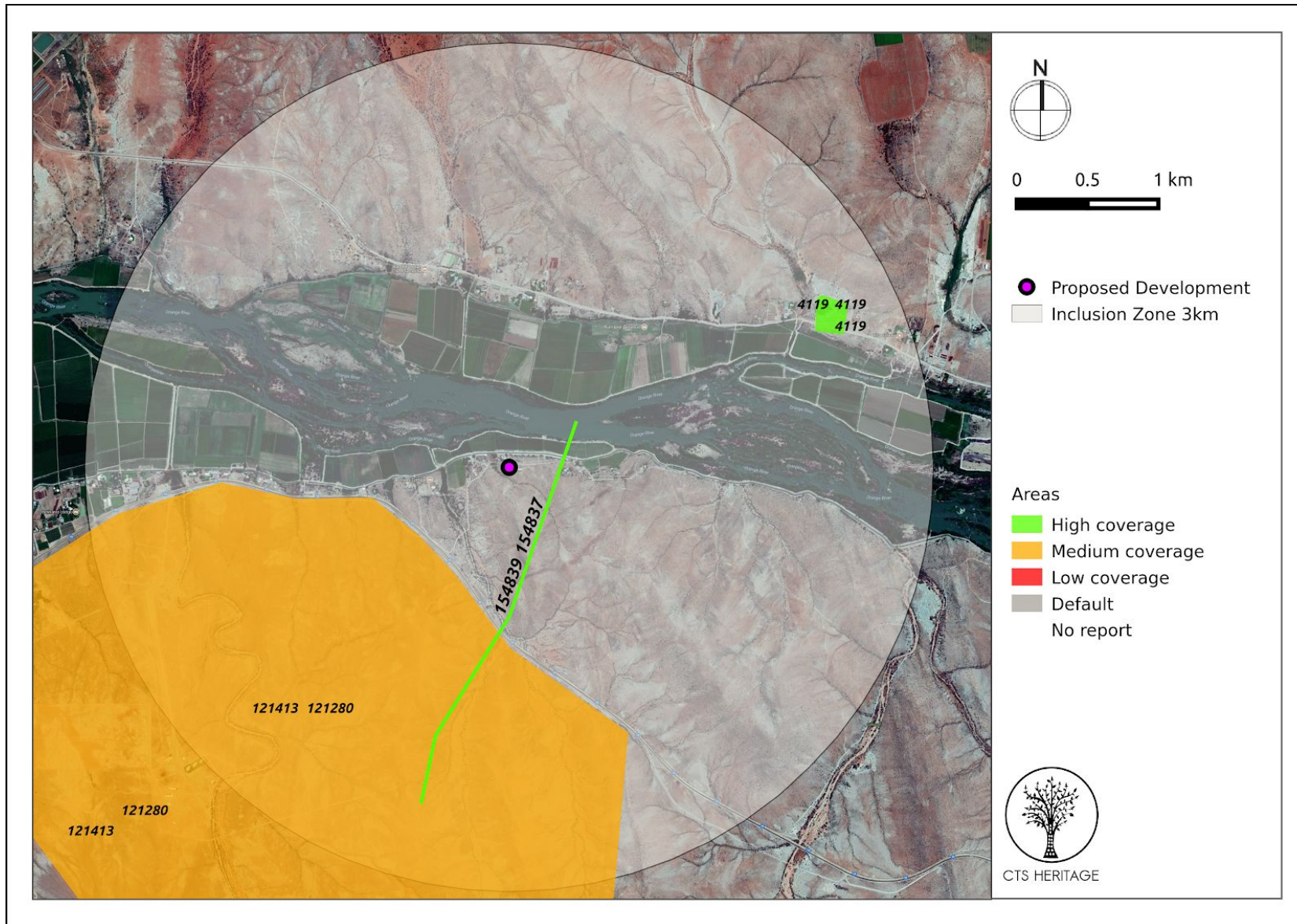


Figure 2. Previous HIAs Map. Previous Heritage Impact Assessments surrounding the proposed development area within 5km, with SAHRIS NIDS indicated. Please see Appendix 2 for full reference list.

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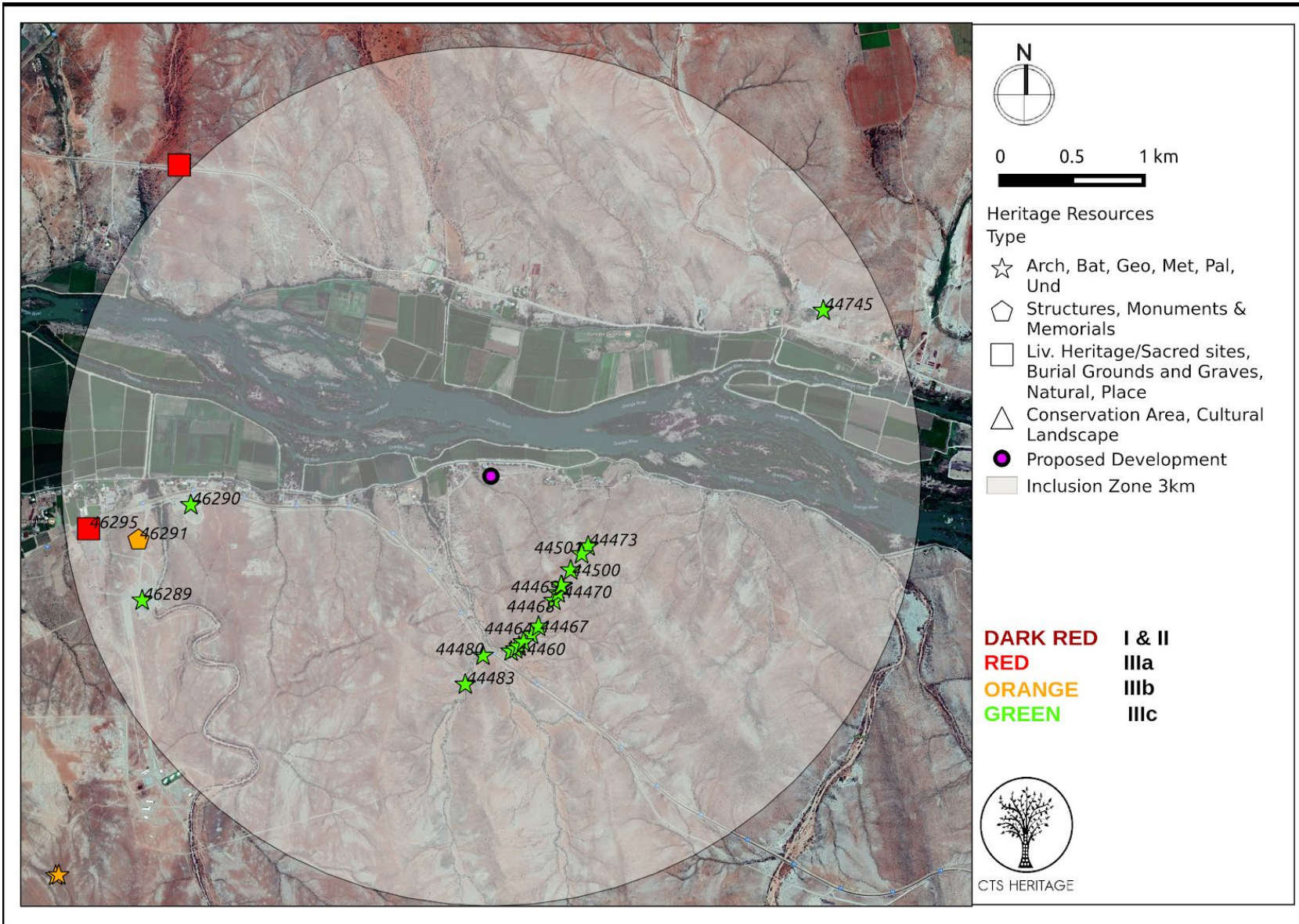


Figure 3. Heritage Resources Map. Heritage Resources previously identified in and near the study area, with SAHRIS Site IDs indicated. Please See Appendix 1 for more information about these resources and Appendix 4 for a full description of heritage resource types.

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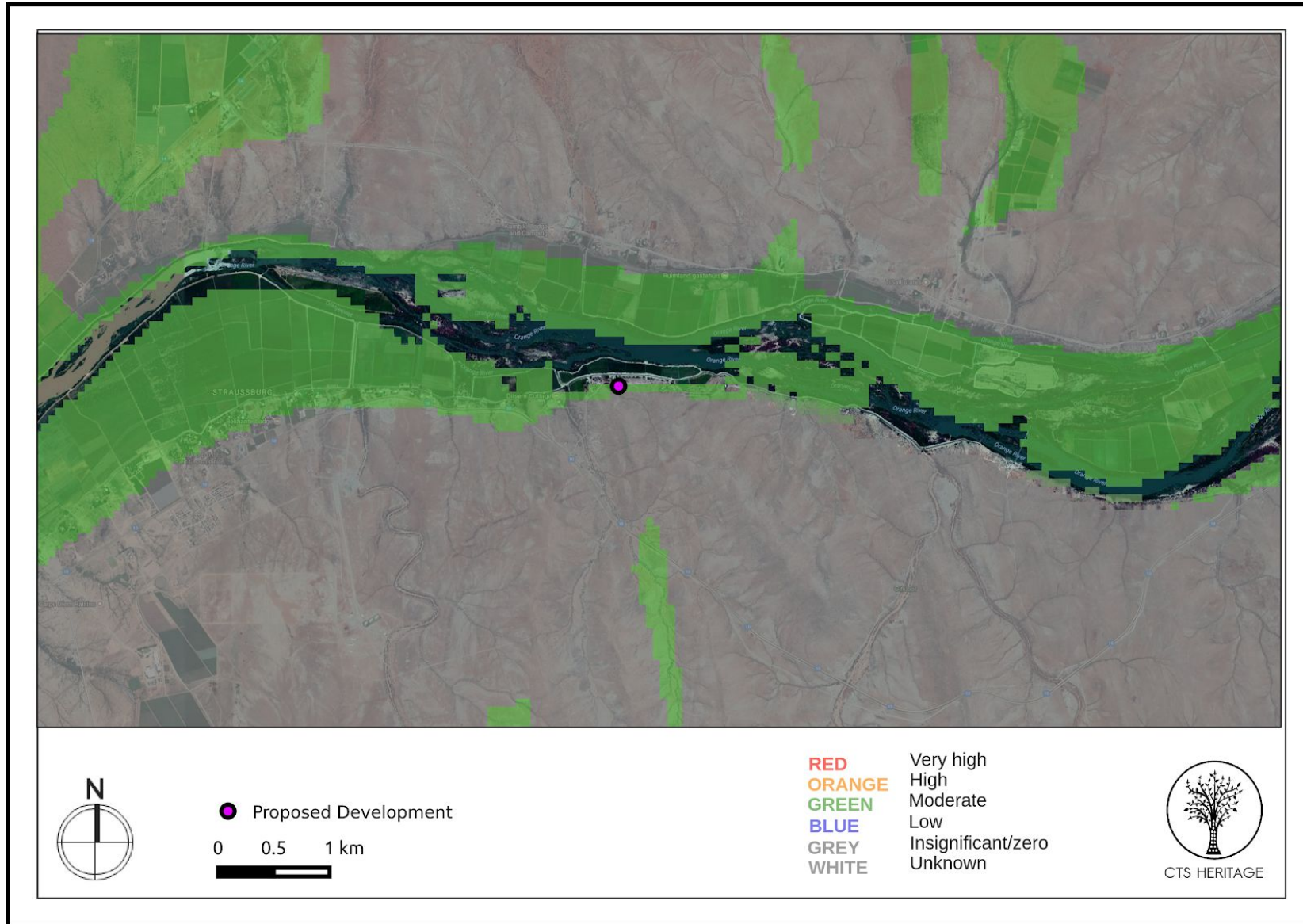


Figure 4. SAHRIS Palaeosensitivity Map. Indicating varied fossil sensitivity underlying the study area. Please See Appendix 3 for full guide to the legend. The moderate sensitivity mapped here refers to alluvial deposits,



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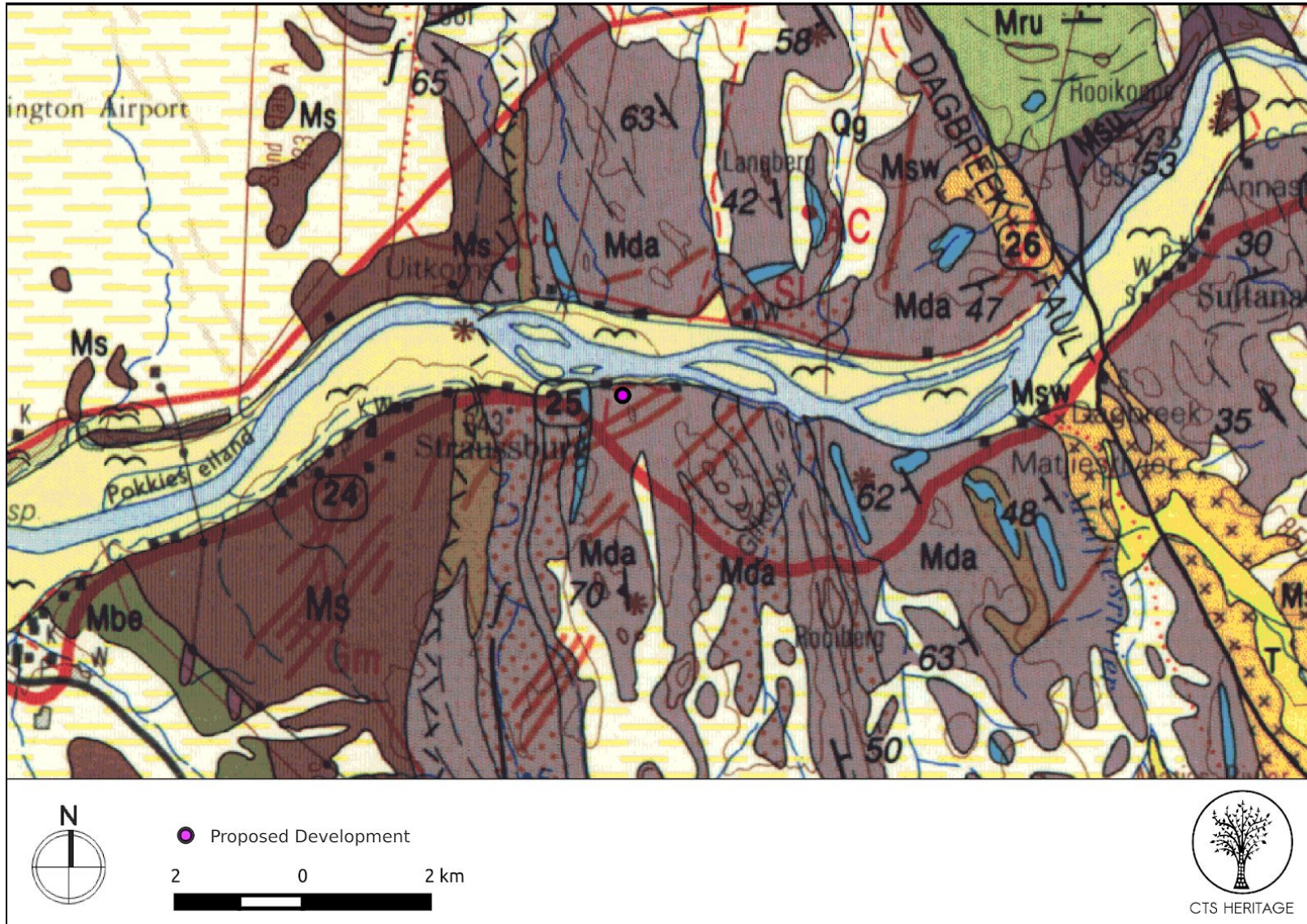
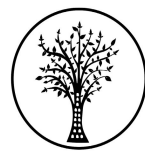


Figure 5. Geology Map. Indicating the geology underlying the study area. Extract from CGS 1:250 000 Upington geological map 2820 (Bird wings: Quarternary Gordonia Formation (aeolian sands), Mda: Dagbreek Formation of the Vaalkoppies Group, part of the Precambrian Namaqua Metamorphic Province, quartzite and schist grading into banded gneiss and migmatite)

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Figure 6.1. General Site Context. General view of the site, looking south-east over the site. The Witgat Tree (*Boscia albitrunca*) can be seen in the background, but it will not be within the highly disturbed development footprint

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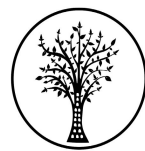


Figure 6.2. General Site Context General view of the highly disturbed site, looking west over the proposed development footprint towards the existing shed.

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8. Heritage statement and character of the area

In this application, it is proposed that a portion (2500m²) of erf 205 be rezoned to accommodate a pig abattoir. The proposed facility will slaughter and process up to six (6) pigs per day. No animals are expected to be concentrated on the site, with all animals being brought to the facility. It is also expected that no waste, waste by-products etc. will be disposed of on-site, but will rather be temporarily stored and then removed from the premises and disposed of at other facilities. The site is located on Erf 205, Vaalkoppies Nedersetting, located approximately 6km east of Upington, off the N10. This application triggers NEMA due to its proximity to the Orange River. The proposed facility is located within an area that has been extensively previously disturbed through agricultural and related activities (Figures 1d, 6.1 and 6.2).

In his assessment of a proposed borrow pit application located in a similar location to the proposed development on the other side of the Orange River, Kaplan (2008, SAHRIS ID 4119) noted that "Relatively large numbers of Later Stone Age (LSA) tools were counted in a thin (± 2 m wide) strip of land between the fenced off site and the edge of the borrow pit. These included several end and convex scrapers, one adze, a number of miscellaneous retouched pieces, utilised and unmodified flakes and several round cores (Figure 6). Most of the tools are made on rolled, fine grained chalcedony, which very likely came from the nearby Orange River, while a few retouched flakes and utilised pieces are also made on locally available dolerite, including a large, chunky convex scraper. A few tools in quartz were also noted. In addition, several larger Middle Stone Age flakes in quartzite and indurated shale were also found. Since the receiving environment has already been largely destroyed, the archaeological remains have been rated as having low local significance." Similar findings were noted by Nilssen (2012 SAHRIS ID 154837); "Although numerous Stone Age artefacts were identified along most of the studied area, these are scattered on the surface in low densities and occur mostly as isolated finds. No faunal remains or other cultural materials were seen. The vast bulk of specimens are in quartz with only a few pieces made in banded ironstone. A few artefacts of potentially Middle Stone Age (MSA) origin were seen, but the overwhelming majority are of the Later Stone Age (LSA). No archaeological materials were identified in exposed profiles of geotech test holes or stream cuttings. Stone artefact types include cores (some microlithic and a few bladelet cores), flakes, chunks, and numerous retouched pieces were identified. The latter are dominated by a variety of scrapers and notched pieces/adzes. A bifacially retouched point or convergent flake was also noted." These were also determined to be of low archaeological significance. Based on the available information for this area, while the proposed development may impact on archaeological resources, these resources are unlikely to be in situ, and will have low archaeological significance. In addition, due to the nature and scale of the proposed development, as well as the previously disturbed context of the development, it is unlikely that the proposed abattoir will impact on significant archaeological heritage.

The area proposed for development is underlain by alluvial deposits of the Orange River of moderate palaeontological sensitivity, as well as metamorphic sediments of the Dagbreek Formation belonging to the Vaalkoppies Formation of the Namaqua-Natal Province of no palaeontological sensitivity (Figure 4 and 5). Due to the low levels of palaeontological sensitivity in the area proposed for development resulting from metamorphism and its Precambrian-age, as well as the limited nature and scale of the proposed development (Small footprint, no substantial excavations involved), and the previously disturbed context of the development, it is unlikely that the proposed abattoir will impact on significant palaeontological heritage.

This conclusion is also reached by Almond (2013) in a Letter of Exemption completed for a nearby area with comparable geology (SAHRIS ID 154839) who notes that the area "is underlain by unfossiliferous Precambrian basement rocks (Vaalkoppies Group) and well as locally by thin superficial sediments (geologically young stream and river alluvium, surface gravels, aeolian sands) of low palaeontological sensitivity. Potentially fossiliferous Tertiary river gravels are not mapped in this area."

The impact significance of the proposed development on local fossil heritage resources is considered to be LOW. It is therefore recommended that no further palaeontological studies are required.

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RECOMMENDATION:

The heritage resources in the area proposed for development are sufficiently recorded.

Due to the location and nature of the proposed development, it is unlikely that significant heritage resources will be impacted by the development and as such, it is recommended that no further heritage studies are required

Desktop Palaeontological Screening Assessment reviewed by Dr John Almond (palaeontologist) and proposed palaeontological recommendations endorsed.

Signed: Dr John Almond
Date: 18 January 2019

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APPENDIX 1

List of heritage resources within the 3km Inclusion Zone

Site ID	Site no	Full Site Name	Site Type	Grading
46289	VKPS19	Vaalkoppies 19	Archaeological	Grade IIIc
46291	VKPS21	Vaalkoppies 21	Monuments & Memorials	Grade IIIb
46295	VKPS25	Vaalkoppies 25	Burial Grounds & Graves	Grade IIIa
46290	VKPS20	Vaalkoppies 20	Archaeological	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
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
44500	VKPS10	Vaalkoppies 10	Artefacts	Grade IIIc
44501	VKPS12	Vaalkoppies 12	Artefacts	Grade IIIc
44745	DR3321 UAP 02	DR3321 UAP 02-Northern Cape	Artefacts	Grade IIIc

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APPENDIX 2 Reference List

Heritage Impact Assessments				
Nid	Report Type	Author/s	Date	Title
154837	AIA	Peter Nilssen	06/12/2012	AIA - Proposed Deo Gloria Bulk Water Supply Line & Reservoir
154839	PIA	John E Almond	31/03/2013	Letter of Exemption - RECOMMENDED EXEMPTION FROM FURTHER PALAEONTOLOGICAL STUDIES: PROPOSED BULK WATER SUPPLY LINE FOR THE DEO GLORIA OLIVE ESTATE NEAR UPINGTON, NORTHERN CAPE
121413	AIA	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
121280	HIA	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
4119	AIA	Jonathan Kaplan	01/08/2008	An Archaeological Assessment of Two Borrow Pits Alongside DR 3321 Uap, Northern Cape 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.

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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