

HERITAGE SCREENER

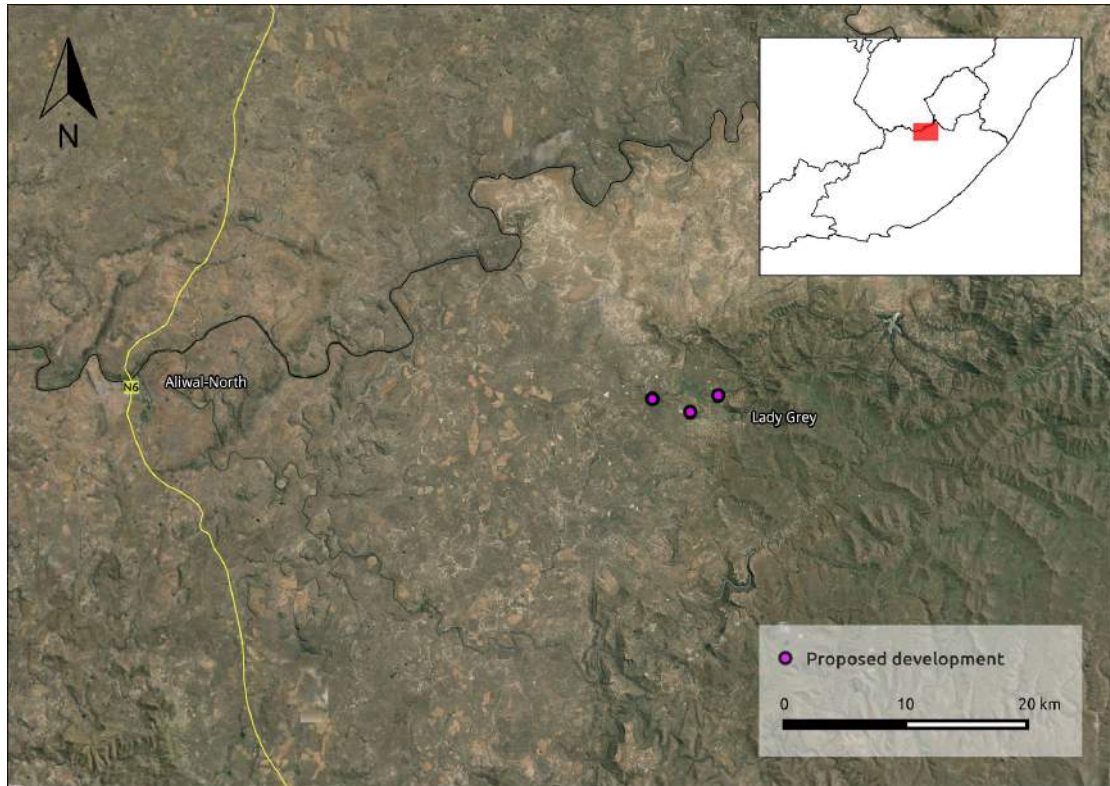
CTS Reference Number:	CTS15_045	
Client:	Indwe Environmental Consulting	
Date:	8 December 2015	
Title:	Lady Grey Bulk Water Supply Scheme	
Recommendation by CTS Heritage Specialists: (Type 2)	<p>(2) The heritage resources and the area proposed for development are only partially recorded - The surveys undertaken in the area have not adequately captured the heritage resources. It is recommended that:</p> <ul style="list-style-type: none">- a palaeontologist monitor the construction of any cuttings into the Stormberg Group (if applicable)- a palaeo chance find procedure be included in the EMP- an Archaeological Impact Assessment be undertaken	

Figure 1a. Satellite image with proposed development area indicated in the Eastern Cape province.

1. Proposed Development Summary

- Construction of a 160mm Ø rising main through a water course (rising main Findlay's Slood project).
- Construction of a new 1Ml storage reservoir with rising and gravity mains.
- Equipping a borehole with pump house and new Eskom supply to a new 300kl reservoir in Transwiler, as well as a new 160mm Ø PVC gravity main from the reservoir into the existing reticulation.

2. Application References

Name of relevant heritage authority(s)	Eastern Cape Provincial Heritage Resources Authority (ECPHRA)
Name of decision making authority(s)	Department of Economic Development, Environmental Affairs and Tourism (DEDEAT)

3. Property Information

Erf number / Farm number	Portion 1 of Farm 32, Portion 10 of Farm 32 Zagtevallei and Remainder of Erf 1, Aliwal North Rd
Local Municipality	Senqu Local Municipality
District Municipality	Joe Gqabi District Municipality
Previous Magisterial District	Lady Grey
Province	Eastern Cape
Current Use	Agricultural
Current Zoning	Commercial farming
Total Extent	About 4km for the pipelines

4. Nature of the Proposed Development

Surface area to be affected/destroyed	About 4km for the pipelines
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Depth of excavation (m)	n/a
Height of development (m)	n/a
Expected years of operation before decommission	n/a

5. Category of Development

Triggers: Section 38(8) of the National Heritage Resources Act	X
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.	X
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

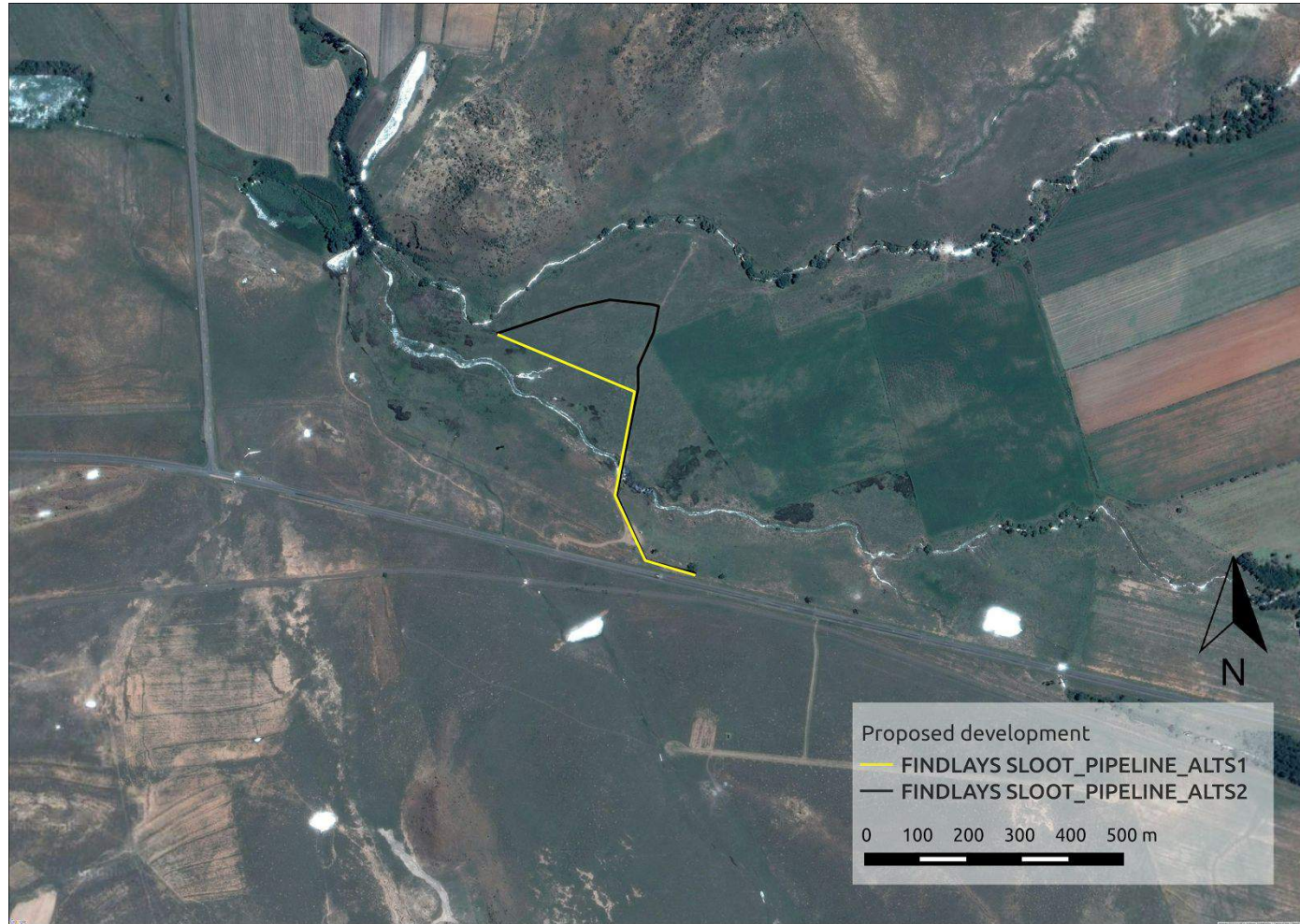


Figure 1b. Overview Map. Satellite image with proposed development indicated. Each of the proposed pipelines and their alternatives have been colour coded.



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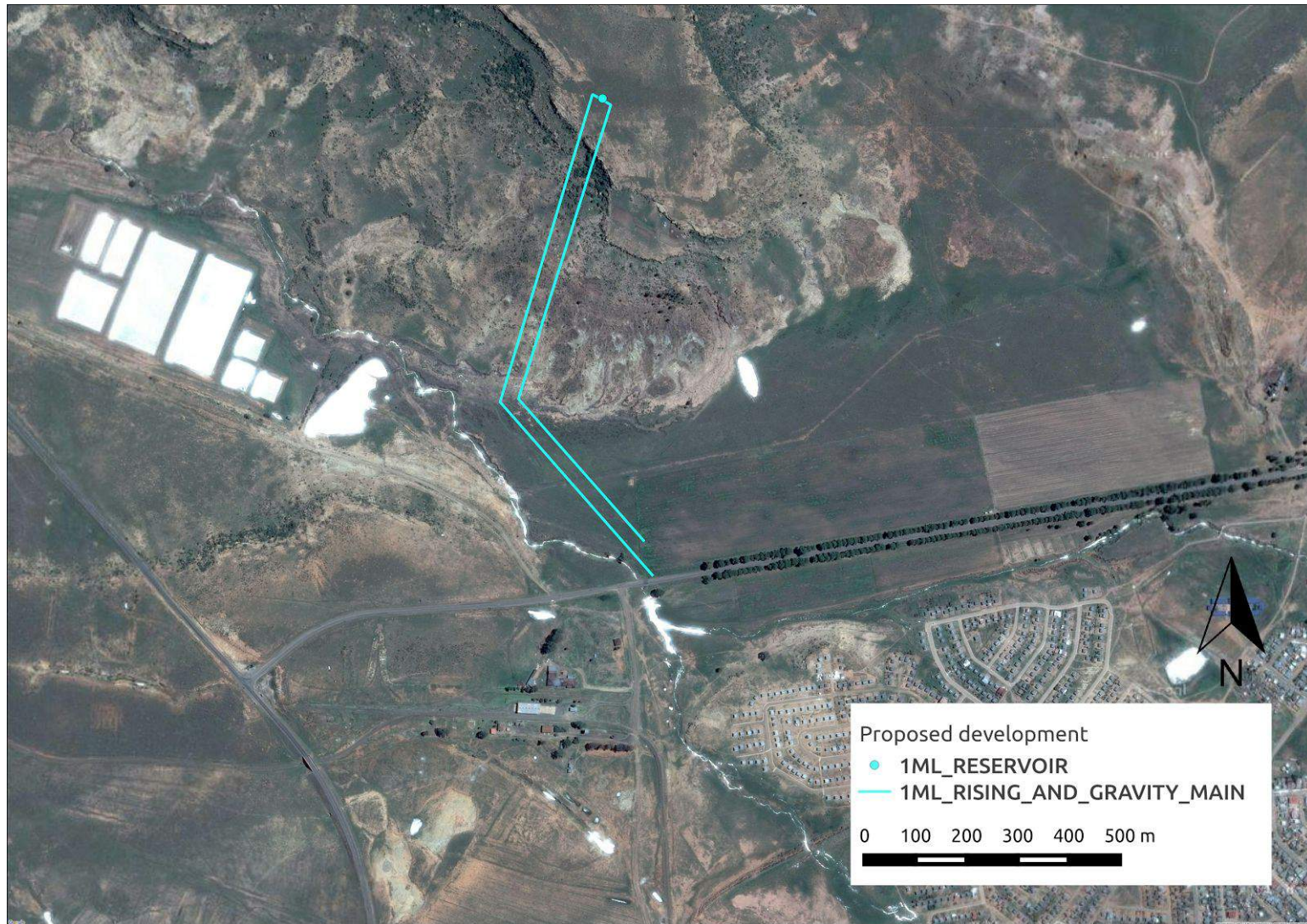


Figure 1c. Overview Map. Satellite image with proposed development indicated.



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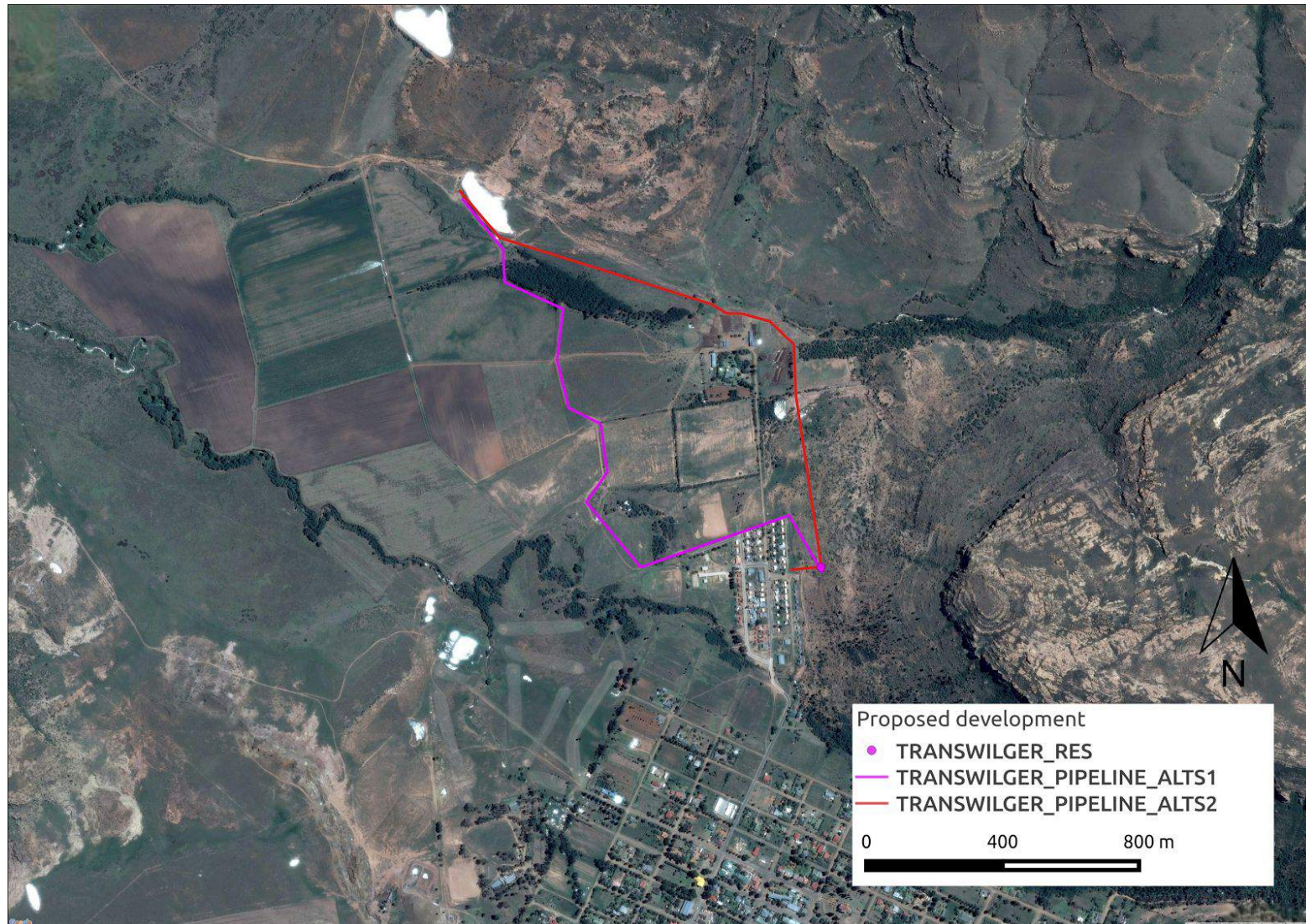
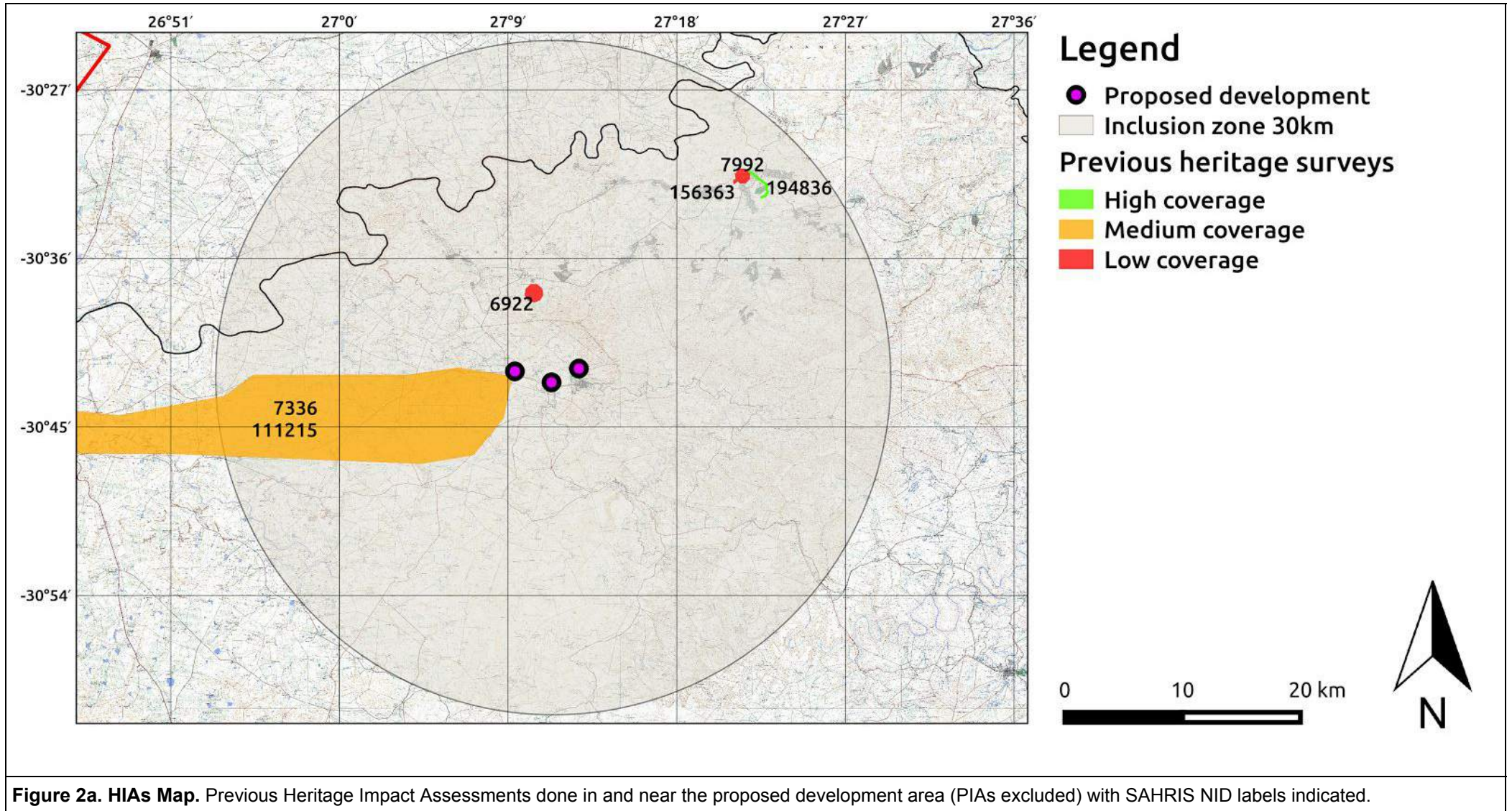


Figure 1d. Overview Map. Satellite image with proposed development indicated. Each of the proposed pipelines and their alternatives have been colour coded.

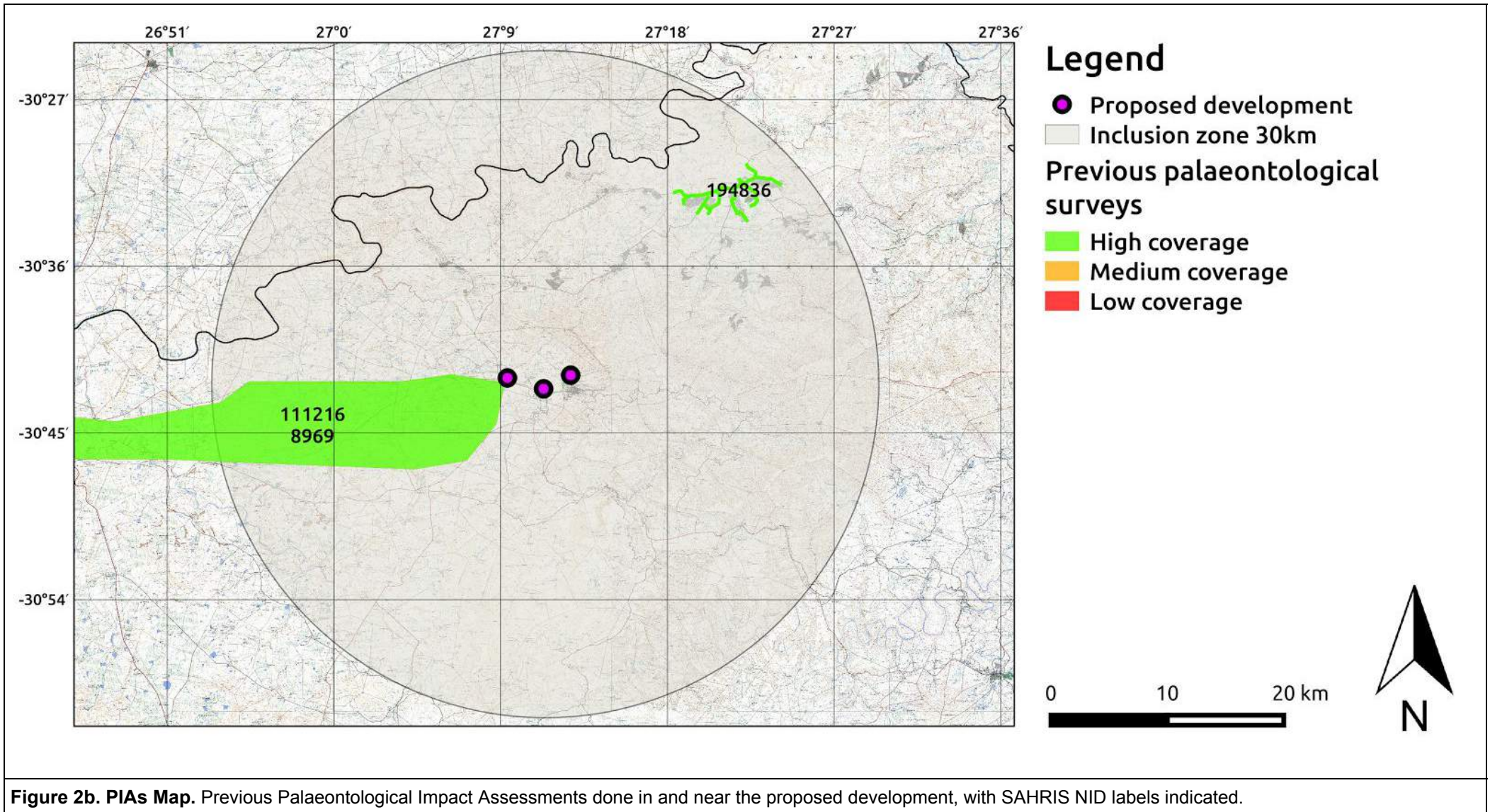


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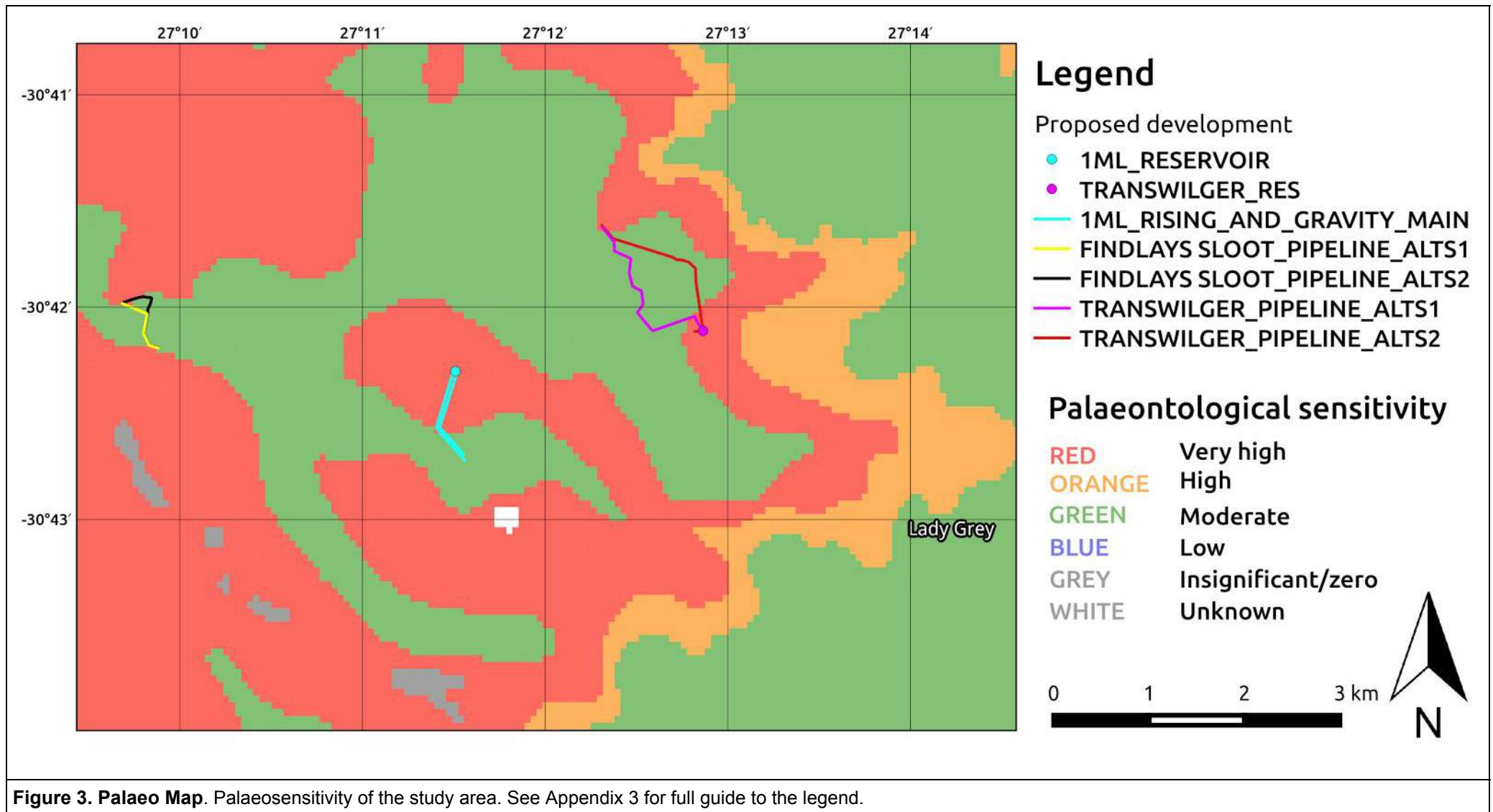


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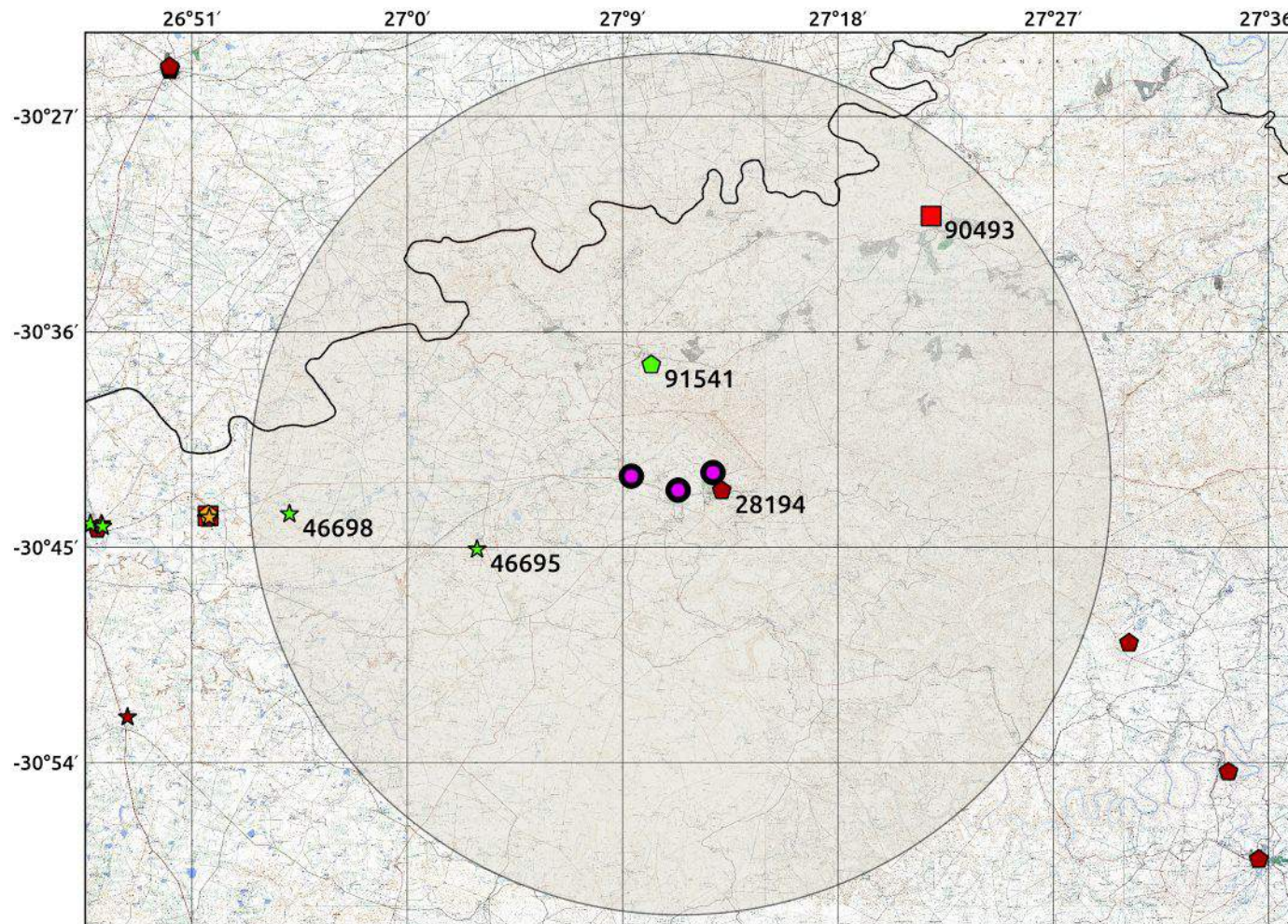


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Legend

- Proposed development
- Inclusion zone 30km

Heritage resources

Type

- ☆ Arch, Bat, Geo, Met, Pal, Und
- ⬠ Structures, Monuments & Memorials
- Liv. Heritage/Sacred sites, Burial Grounds and Graves, Natural, Place
- △ Conservation Area, Cultural Landscape

Grading

- | | |
|----------|----------|
| DARK RED | I & II |
| RED | IIIa |
| ORANGE | IIIb |
| GREEN | IIIc |
| CLEAR | Ungraded |

0 10 20 km



Figure 4. Heritage Resources Map. Heritage resources previously identified in and near the study area, with SAHRIS Site IDs indicated.

8. Heritage statement and character of the area

Indwe Environmental Consulting is undertaking an Environmental Impact Assessment process for the construction of a water system within the Joe Gqabi District Municipality. Two pipelines, one rising and gravity main and two reservoirs (1Ml and 300kl) are proposed. Alternatives for the pipeline routes have also been provided (Figures 1b & 1d).

The area is underlain by the Elliot and Molteno Formations of the Stormberg Group which have very high fossil sensitivity. Alluvium of moderate fossil sensitivity is also found in the area. Three Palaeontological Impact Assessments were previously undertaken within 30km from the proposed development. During the field surveys done for these assessments, no fossil material was identified in Quaternary alluvium deposits (Rossouw 2015, Looock 2013) and both specialists stated that these deposits have a low fossil sensitivity. Therefore it is recommended that **a palaeo chance find procedure be included in the EMP but that no site visit is necessary for construction of the pipelines**. Since the Elliot Formation is very rich in early dinosaur fauna, amphibians, turtles, crocodilians, advanced therapsids and primitive mammals and the Molteno Formation in very diverse vascular plant, insect biota, dinosaur trackways and rare fish (Almond et al. 2009), **it is recommended that a palaeontologist monitor construction activities which require cuttings into the Stormberg Group**.

Very few Heritage Impact Assessments have been previously undertaken in the area and very few sites have been identified during these assessments. Even during the field survey for the Melkspruit-Riebeeck power line, only two sites of low significance were identified.

Findlay's Slood (Figure 1b):

The routes of the proposed pipelines (700m/1km) pass through relatively undisturbed areas neighbouring a nearby farm. We therefore recommend that an archaeologist surveys the two routes on foot and records possible graves, Iron Age settlements and Stone Age sites which may be encountered. No palaeontological studies are recommended for this part of the proposal.

1Ml storage reservoir with rising and gravity mains (Figure 1c):

The pipelines (1km) and the proposed reservoir are located in a mountainous area in the Stormberg Group. If cuttings into this very sensitive fossil group are proposed, a palaeontologist will be required to monitor excavations during construction. An Archaeological Impact Assessment is recommended as part of an HIA assessing possible rock art, Iron Age and Stone Age sites along the route.

Transwilger (Figure 1d):

There are two alternative pipeline routes (2km) for the Transwilger area. We recommend that the route labeled ALTS1 should be considered as the preferred option as it follows an existing road and will have less of an overall impact on heritage resources. It is unlikely that *in situ* Stone Age or Iron Age sites will be found along ALTS1, but ALTS2 may have *in situ* sites. Note that informal and formal marked graves may be found along either route. An Archaeological Impact Assessment is recommended as part of an HIA assessing possible graves, Iron Age and Stone Age sites along the two routes. No palaeontological studies are recommended for this part of the proposal unless cuttings into the Stormberg Group are required near the proposed reservoir.

Overall, a 1-2 day field survey should suffice to cover the various areas impacted by this proposal.



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APPENDIX 1 - List of sites within 30 km inclusion zone

SITEID	Site No	Full site name	Site type	Grading
28194	9/2/057/0004	Dutch Reformed Church, Joubert Street, Lady Grey	Building	Grade II
90493	STER001	Sterkspruit 001	Burial Grounds & Graves	Grade IIIa
91541	HERSCH 01	Herschel 01	Structures	Grade IIIc
46698	MRB018	Melkspruit-Riebeek 018	Artefacts	Grade IIIc
46695	MRB015	Melkspruit-Riebeek 015	Artefacts	Grade IIIc

APPENDIX 2 - Reference List

Previous heritage assessments within the 30km inclusion zone

Nid	Author/s	Date	Title	Type of report
6922	Cobus Dreyer	29/11/2005	Archaeological And Cultural Heritage Assessment Of The Proposed Installation Of A Sewer Plant At Herschel, Eastern Cape	AIA
7336	Len van Schalkwyk, Elizabeth Wahl	31/10/2011	Phase 1 HIA Of Construction Of 132kv Overhead Line From Melkspruit To Riebeek Substations And The Installation Of Transformers At The Riebeek And Sterkspruit Substations, Maletswai Local Municipality, Eastern Cape Province, South Africa	AIA
7992	Cobus Dreyer	14/08/2008	First Phase Archaeological And Cultural Heritage Investigation Of The Proposed New Solid Waste Landfill Site At Sterkspruit, Eastern Cape	AIA
8969	John E Almond	18/10/2011	Palaeontological Specialist Study: Desktop Assessment Proposed Melkspruit - Riebeek 132 kV transmission line, Ukhahlamba District Municipality, Eastern Cape	PIA
111215	Gavin Anderson	20/02/2013	Heritage Survey Of The Melkspruit-riebeek 132kv Powerline Project	AIA
111216	Johan Loock	4/3/2013	Palaeontological Field Investigation Phase 1 Report Proposed Melkspruit-riebeek 132kv Powerline	PIA
156363	Makhosazana Mngomezulu	12/2/2014	Application For Exemption On The Proposed Construction Of Further Education Training (fet) Colleges In Sterkspruit, Eastern Cape Province.	HIA
194831	Lloyd Rossouw	28/11/2014	Phase 1 Heritage Impact Assessment of the proposed new construction of a new Waste Water Treatment Works (WWTW) and associated pipe line infrastructure in the town of Sterkspruit, EC Province	HIA
194836	Lloyd Rossouw	28/11/2014	Phase 1 Heritage Impact Assessment of the proposed new construction of a new Waste Water Treatment Works (WWTW) and associated pipeline infrastructure in the town of Sterkspruit, EC Province	PIA
Additional references				
108744	John E Almond, Billy de Klerk, Rob Gess	01/03/2009	Palaeontological heritage of the Eastern Cape	Palaeotechnical Report

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
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
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.



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.

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.**