

HERITAGE IMPACT ASSESSMENT

(REQUIRED UNDER SECTION 38(8) OF THE NHRA (No. 25 OF 1999))

FOR THE PROPOSED A13 BOERDERY CULTIVATION AND DAM PROJECT,
LIMPOPO PROVINCE

Type of development:

Cultivation and Dam Project

Client:

Tekplan Environmental Consultants

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Applicant Name	A13 Boerdery

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REPORT OUTLINE

Appendix 6 of the GNR 326 EIA Regulations published on 7 April 2017 provides the requirements for specialist reports undertaken as part of the environmental authorisation process. In line with this, Table 1 provides an overview of Appendix 6 together with information on how these requirements have been met.

Table 1. Specialist Report Requirements.

Requirement from Appendix 6 of GN 326 EIA Regulation 2017	Chapter
(a) Details of - (i) the specialist who prepared the report; and (ii) the expertise of that specialist to compile a specialist report including a curriculum vitae	Section a Section 11
(b) Declaration that the specialist is independent in a form as may be specified by the competent authority	<i>Declaration of Independence</i>
(c) Indication of the scope of, and the purpose for which, the report was prepared	Section 1
(cA) an indication of the quality and age of base data used for the specialist report	Section 3.4 and 7.1.
(cB) a description of existing impacts on the site, cumulative impacts of the proposed development and levels of acceptable change;	9
(d) Duration, Date and season of the site investigation and the relevance of the season to the outcome of the assessment	Section 3.4
(e) Description of the methodology adopted in preparing the report or carrying out the specialised process inclusive of equipment and modelling used	Section 3
(f) details of an assessment of the specific identified sensitivity of the site related to the proposed activity or activities and its associated structures and infrastructure, inclusive of a site plan identifying site alternatives;	Section 8 and 9
(g) Identification of any areas to be avoided, including buffers	Section 8 and 9
(h) Map superimposing the activity including the associated structures and infrastructure on the environmental sensitivities of the site including areas to be avoided, including buffers	Section 8
(l) Description of any assumptions made and any uncertainties or gaps in knowledge	Section 3.7
(j) a description of the findings and potential implications of such findings on the impact of the proposed activity including identified alternatives on the environment or activities;	Section 9
(k) Mitigation measures for inclusion in the EMPr	Section 9
(l) Conditions for inclusion in the environmental authorisation	Section 9
(m) Monitoring requirements for inclusion in the EMPr or environmental authorisation	Section 9
(n) Reasoned opinion - (i) as to whether the proposed activity, activities or portions thereof should be authorised; (iA) regarding the acceptability of the proposed activity or activities; and (ii) if the opinion is that the proposed activity, activities or portions thereof should be authorised, any avoidance, management and mitigation measures that should be included in the EMPr, and where applicable, the closure plan	Section 9.2
(o) Description of any consultation process that was undertaken during the course of preparing the specialist report	Section 6
(p) A summary and copies of any comments received during any consultation process and where applicable all responses thereto; and	Refer to EIA report
(q) Any other information requested by the competent authority	Section 9

Executive Summary

HCAC was appointed to conduct a Heritage Impact Assessment to determine the presence of cultural heritage sites and the impact of the proposed development on these non-renewable resources. The study area was assessed both on desktop level and by a field survey. The field survey was conducted as a non-intrusive pedestrian survey to cover the extent of the development footprint.


In terms of Section 35 of the NHRA Act 25 of 1999 no raw material suitable for stone tool manufacture occurs in the study area and no ceramics or stone walls attributed to the Iron Age were recorded. In terms of the palaeontology there is currently no record of Quaternary vertebrate fossils or sites in the area. The affected area is capped by superficial (Quaternary) deposits considered to be of low to very low palaeontological sensitivity, the latter being that the impact area is not situated within or near pan sediments, well-developed alluvium or spring deposits (considered to be potentially fossiliferous in the region). No further mitigation prior to construction is recommended in terms of Section 35 for the proposed development to proceed.

In terms of the built environment of the area (Section 34), no standing structures of significance older than 60 years occur within the study area. In terms of Section 36 of the Act no burial sites were recorded. If any graves are located in future they should ideally be preserved *in-situ* or alternatively relocated according to existing legislation. No public monuments are located within or close to the study area. The proposed development will not impact negatively on significant cultural landscapes or views as parts of the study area has been cultivated before. During the public participation process conducted for the project no heritage concerns was raised.

Due to the lack of significant heritage resources in the study area the impact of the proposed project on heritage resources is considered low and it is recommended that the proposed project can commence on the condition that the following recommendations are implemented as part of the EMP and based on approval from SAHRA:

- Implementation of a chance finds procedure.
- As far as palaeontological heritage is concerned, the proposed development can proceed without further palaeontological investigation provided that deforestation activities are restricted to the geologically recent soil overburden (the layer of loose, heterogeneous superficial deposits covering the solid rock) as per the current lay out.

Declaration of Independence

Specialist Name	Jaco van der Walt
Declaration of Independence	<p>I declare, as a specialist appointed in terms of the National Environmental Management Act (Act No 108 of 1998) and the associated 2014 Environmental Impact Assessment (EIA) Regulations, that I:</p> <ul style="list-style-type: none"> • I act as the independent specialist in this application; • I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant; • I declare that there are no circumstances that may compromise my objectivity in performing such work; • I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity; • I will comply with the Act, Regulations and all other applicable legislation; • I have no, and will not engage in, conflicting interests in the undertaking of the activity; • I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority; • All the particulars furnished by me in this form are true and correct; and • I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.
Signature	
Date	28/02/2018

a) Expertise of the specialist

Jaco van der Walt has been practising as a CRM archaeologist for 15 years. He obtained an MA degree in Archaeology from the University of the Witwatersrand focussing on the Iron Age in 2012 and is a PhD candidate at the University of Johannesburg focussing on Stone Age Archaeology with specific interest in the Middle Stone Age (MSA) and Later Stone Age (LSA). Jaco is an accredited member of ASAPA (#159) and have conducted more than 500 impact assessments in Limpopo, Mpumalanga, North West, Free State, Gauteng, KZN as well as he Northern and Eastern Cape Provinces in South Africa.

Jaco has worked on various international projects in Zimbabwe, Botswana, Mozambique, Lesotho, DRC Zambia and Tanzania. Through this he has a sound understanding of the IFC Performance Standard requirements, with specific reference to Performance Standard 8 – Cultural Heritage.

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ABBREVIATIONS

AIA: Archaeological Impact Assessment
ASAPA: Association of South African Professional Archaeologists
BGG Burial Ground and Graves
BIA: Basic Impact Assessment
CFPs: Chance Find Procedures
CMP: Conservation Management Plan
CRR: Comments and Response Report
CRM: Cultural Resource Management
DEA: Department of Environmental Affairs
EA: Environmental Authorisation
EAP: Environmental Assessment Practitioner
ECO: Environmental Control Officer
EIA: Environmental Impact Assessment*
EIA: Early Iron Age*
EIA Practitioner: Environmental Impact Assessment Practitioner
EMP: Environmental Management Programme
ESA: Early Stone Age
ESIA: Environmental and Social Impact Assessment
GIS Geographical Information System
GPS: Global Positioning System
GRP Grave Relocation Plan
HIA: Heritage Impact Assessment
LIA: Late Iron Age
LSA: Late Stone Age
MEC: Member of the Executive Council
MIA: Middle Iron Age
MPRDA: Mineral and Petroleum Resources Development Act
MSA: Middle Stone Age
NEMA National Environmental Management Act, 1998 (Act No. 107 of 1998)
NHRA National Heritage Resources Act, 1999 (Act No. 25 of 1999)
NID Notification of Intent to Develop
NoK Next-of-Kin
PRHA: Provincial Heritage Resource Agency
SADC: Southern African Development Community
SAHRA: South African Heritage Resources Agency

**Although EIA refers to both Environmental Impact Assessment and the Early Iron Age both are internationally accepted abbreviations and must be read and interpreted in the context it is used.*

GLOSSARY

Archaeological site (remains of human activity over 100 years old)

Early Stone Age (~ 2.6 million to 250 000 years ago)

Middle Stone Age (~ 250 000 to 40-25 000 years ago)

Later Stone Age (~ 40-25 000, to recently, 100 years ago)

The Iron Age (~ AD 400 to 1840)

Historic (~ AD 1840 to 1950)

Historic building (over 60 years old)

1 Introduction and Terms of Reference:

Heritage Contracts and Archaeological Consulting CC (**HCAC**) was appointed to conduct Heritage Impact Assessment for the proposed A13 Boerdery Development, Limpopo Province. The report forms part of the Environmental Impact Assessment (EIA) Report and Environmental Management Programme Report (EMPR) for the development.

The aim of the study is to survey the proposed development footprint to identify cultural heritage sites, document, and assess their importance within local, provincial and national context. It serves to assess the impact of the proposed project on non-renewable heritage resources, and to submit appropriate recommendations with regard to the responsible cultural resources management measures that might be required to assist the developer in managing the discovered heritage resources in a responsible manner. It is also conducted to protect, preserve, and develop such resources within the framework provided by the National Heritage Resources Act of 1999 (Act No 25 of 1999). The report outlines the approach and methodology utilized before and during the survey, which includes: Phase 1, review of relevant literature; Phase 2, the physical surveying of the area on foot and by vehicle; Phase 3, reporting the outcome of the study.

During the survey, no heritage sites were identified. General site conditions and features on sites were recorded by means of photographs, GPS locations, and site descriptions. Possible impacts were identified and mitigation measures are proposed in the following report. SAHRA as a commenting authority under section 38(8) of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) require all environmental documents, compiled in support of an Environmental Authorisation application as defined by NEMA EIA Regulations section 40 (1) and (2), to be submitted to SAHRA. As such the Environmental Assessment report and its appendices must be submitted to the case as well as the EMPr, once it's completed by the Environmental Assessment Practitioner (EAP).

1.1 Terms of Reference

Field study

Conduct a field study to: (a) locate, identify, record, photograph and describe sites of archaeological, historical or cultural interest; b) record GPS points of sites/areas identified as significant areas; c) determine the levels of significance of the various types of heritage resources affected by the proposed development.

Reporting

Report on the identification of anticipated and cumulative impacts the operational units of the proposed project activity may have on the identified heritage resources for all 3 phases of the project; i.e., construction, operation and decommissioning phases. Consider alternatives, should any significant sites be impacted adversely by the proposed project. Ensure that all studies and results comply with the relevant legislation, SAHRA minimum standards and the code of ethics and guidelines of ASAPA.

To assist the developer in managing the discovered heritage resources in a responsible manner, and to protect, preserve, and develop them within the framework provided by the National Heritage Resources Act of 1999 (Act No 25 of 1999).

Table 2: Project Description

Size of farm and portions	700 ha on the farm Toby 601 MS, Afstap 608 MS, Bruilof 598 MS
Magisterial District	Makhado Local Municipality
1: 50 000 map sheet number	2229DC
Central co-ordinate of the development	22°46'12.40"S 29°43'46.33"E

Table 3: Infrastructure and project activities

Type of development	Cultivation and Dam
Project size	700 ha
Project Components	The project entails the clearing of 700ha indigenous vegetation for cultivation purposes as well as a 15 ha dam.

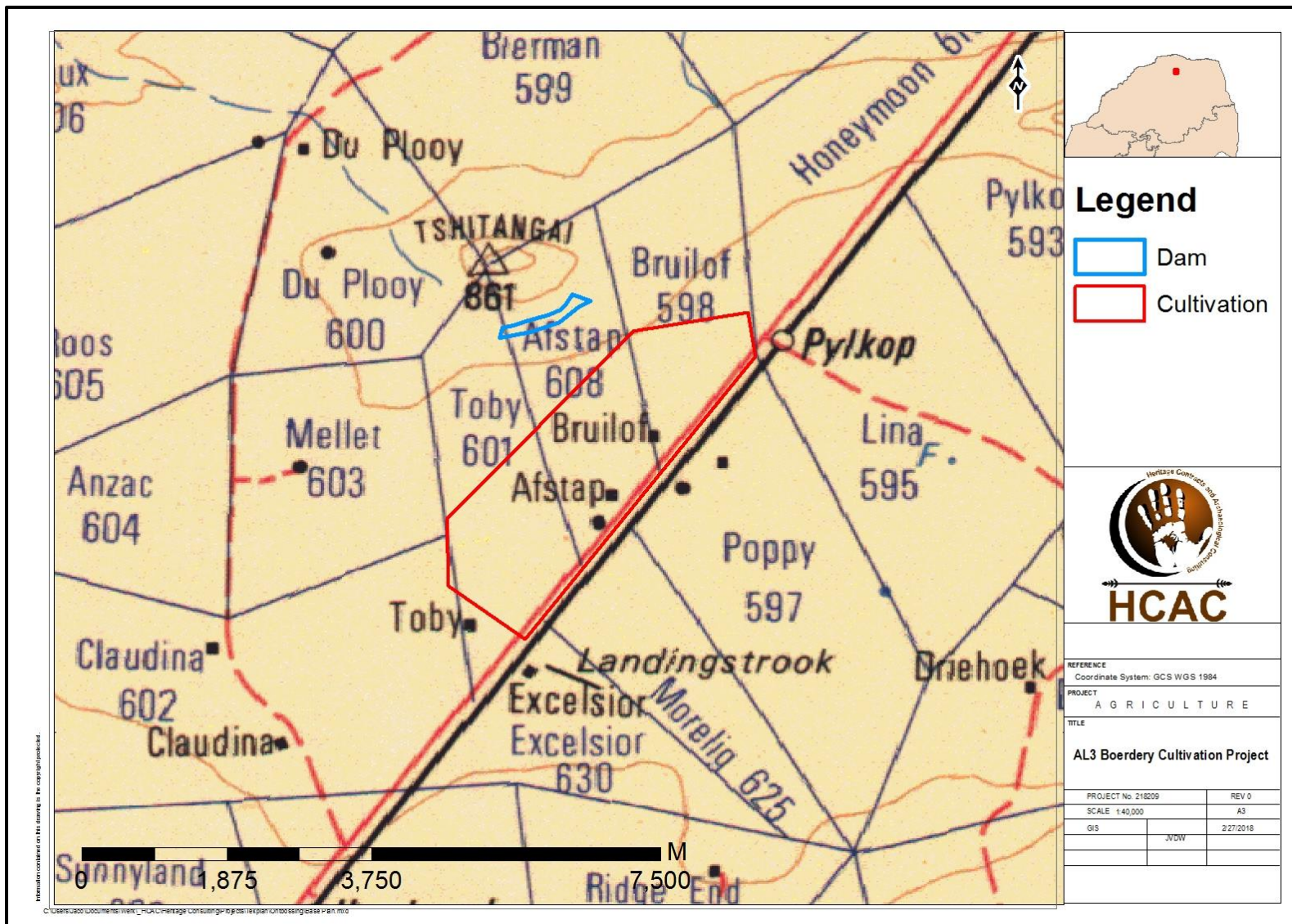


Figure 1. Provincial locality map (1: 250 000 topographical map)

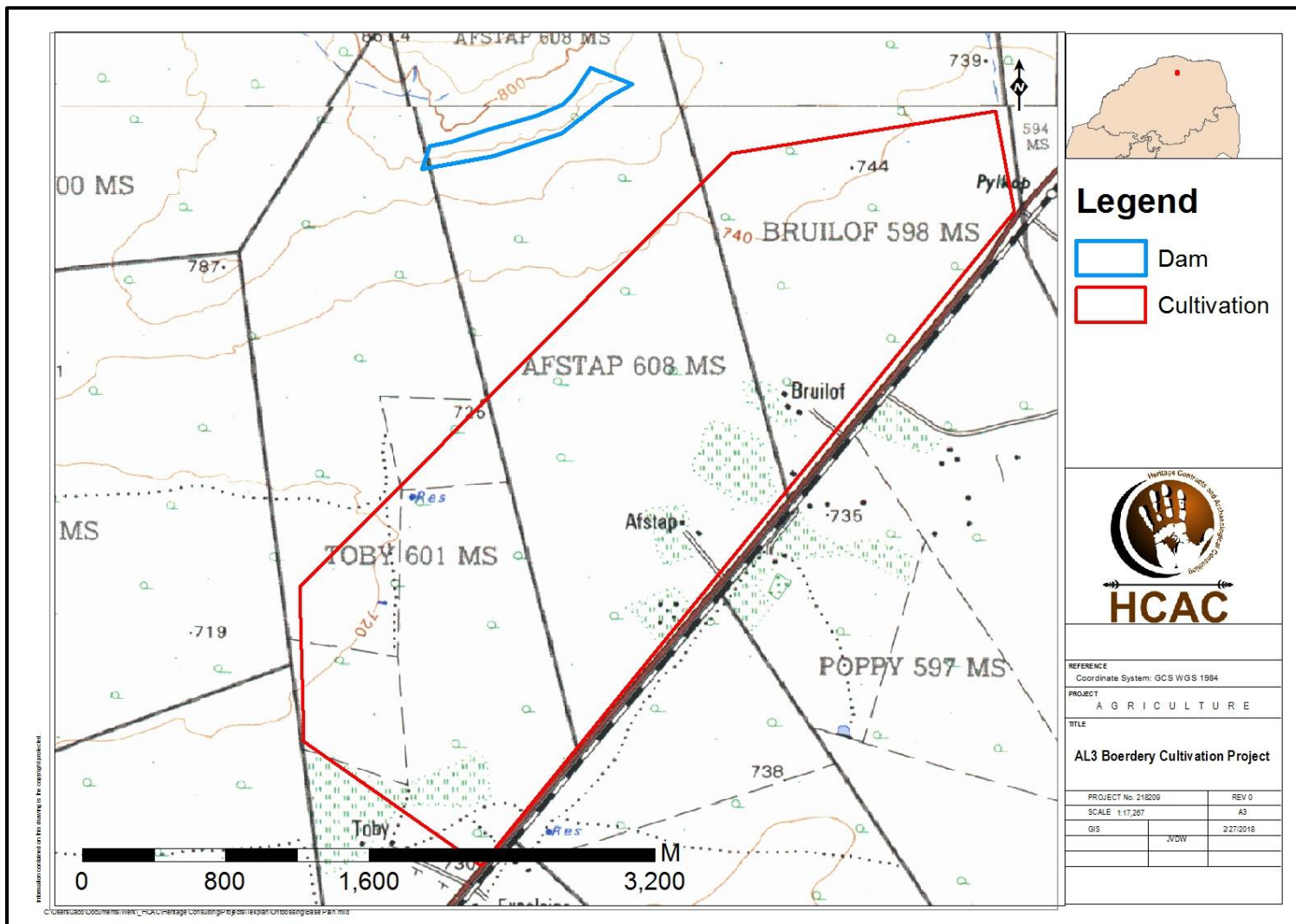


Figure 2: Regional locality map (1:50 000 topographical map).

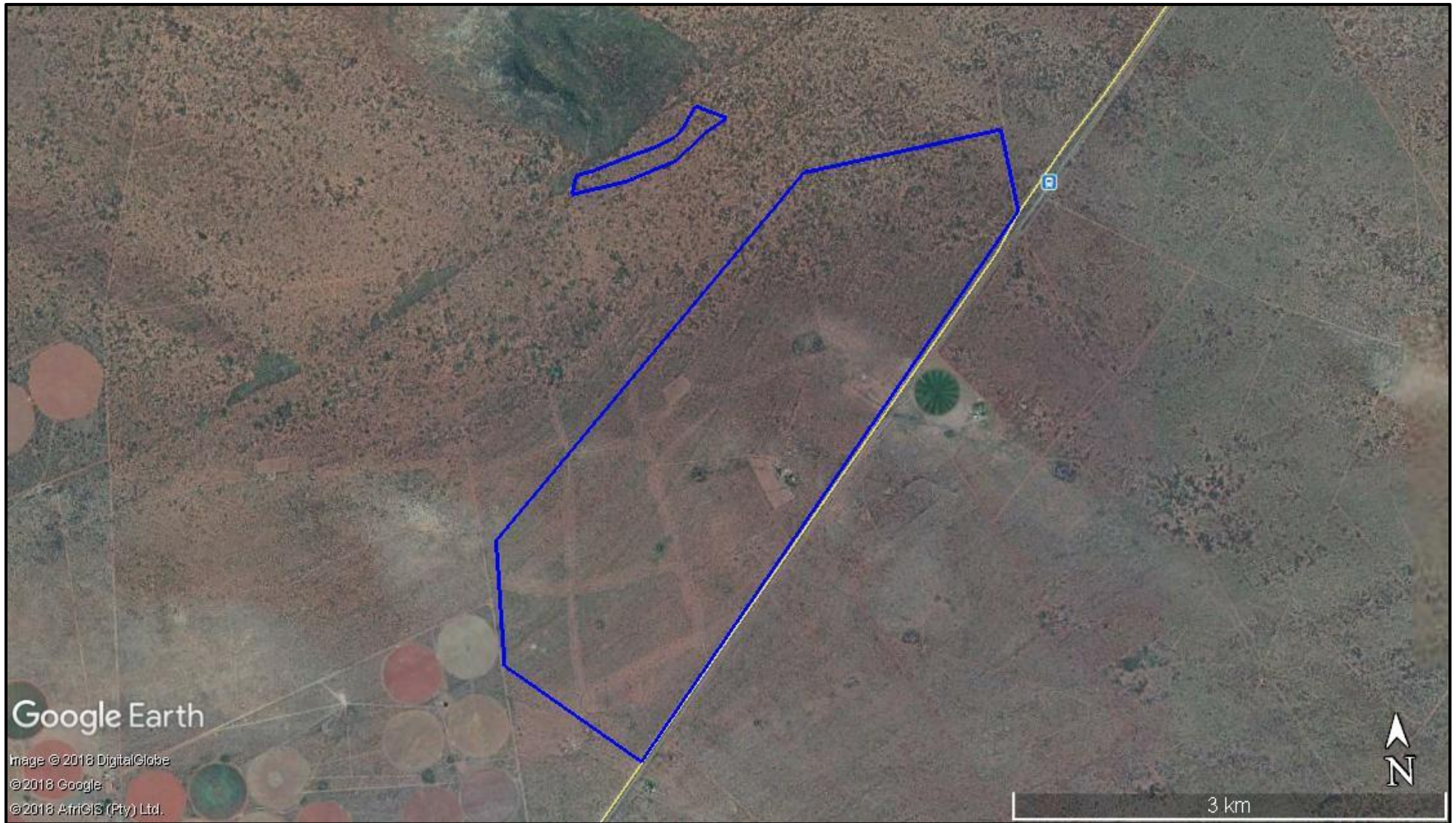


Figure 3. Google image of the agricultural developments

2 Legislative Requirements

The HIA, as a specialist sub-section of the EIA, is required under the following legislation:

- National Heritage Resources Act (NHRA), Act No. 25 of 1999)
- National Environmental Management Act (NEMA), Act No. 107 of 1998 - Section 23(2)(b)
- Mineral and Petroleum Resources Development Act (MPRDA), Act No. 28 of 2002 - Section 39(3)(b)(iii)

A Phase 1 HIA is a pre-requisite for development in South Africa as prescribed by SAHRA and stipulated by legislation. The overall purpose of heritage specialist input is to:

- Identify any heritage resources, which may be affected;
- Assess the nature and degree of significance of such resources;
- Establish heritage informants/constraints to guide the development process through establishing thresholds of impact significance;
- Assess the negative and positive impact of the development on these resources; and
- Make recommendations for the appropriate heritage management of these impacts.

The HIA should be submitted, as part of the impact assessment report or EMPr, to the PHRA if established in the province or to SAHRA. SAHRA will ultimately be responsible for the professional evaluation of Phase 1 AIA reports upon which review comments will be issued. 'Best practice' requires Phase 1 AIA reports and additional development information, as per the impact assessment report and/or EMPr, to be submitted in duplicate to SAHRA after completion of the study. SAHRA accepts Phase 1 AIA reports authored by professional archaeologists, accredited with ASAPA or with a proven ability to do archaeological work.

Minimum accreditation requirements include an Honours degree in archaeology or related discipline and 3 years post-university CRM experience (field supervisor level). Minimum standards for reports, site documentation and descriptions are set by ASAPA in collaboration with SAHRA. ASAPA is based in South Africa, representing professional archaeology in the SADC region. ASAPA is primarily involved in the overseeing of ethical practice and standards regarding the archaeological profession. Membership is based on proposal and secondment by other professional members.

Phase 1 AIA's are primarily concerned with the location and identification of heritage sites situated within a proposed development area. Identified sites should be assessed according to their significance. Relevant conservation or Phase 2 mitigation recommendations should be made. Recommendations are subject to evaluation by SAHRA.

Conservation or Phase 2 mitigation recommendations, as approved by SAHRA, are to be used as guidelines in the developer's decision-making process.

Phase 2 archaeological projects are primarily based on salvage/mitigation excavations preceding development destruction or impact on a site. Phase 2 excavations can only be conducted with a permit, issued by SAHRA to the appointed archaeologist. Permit conditions are prescribed by SAHRA and includes (as minimum requirements) reporting back strategies to SAHRA and deposition of excavated material at an accredited repository.

In the event of a site conservation option being preferred by the developer, a site management plan, prepared by a professional archaeologist and approved by SAHRA, will suffice as minimum requirement.

After mitigation of a site, a destruction permit must be applied for with SAHRA by the applicant before development may proceed.

Human remains older than 60 years are protected by the National Heritage Resources Act, with reference to Section 36. Graves older than 60 years, but younger than 100 years fall under Section 36 of Act 25 of 1999 (National Heritage Resources Act), as well as the Human Tissues Act (Act 65 of 1983), and are the jurisdiction of SAHRA. The procedure for Consultation Regarding Burial Grounds and Graves (Section 36[5]) of Act 25 of 1999 is applicable to graves older than 60 years that are situated outside a formal cemetery administrated by a local authority. Graves in this age category, located inside a formal cemetery administrated by a local authority, require the same authorisation as set out for graves younger than 60 years, in addition to SAHRA authorisation. If the grave is not situated inside a formal cemetery, but is to be relocated to one, permission from the local authority is required and all regulations, laws and by-laws, set by the cemetery authority, must be adhered to.

Human remains that are less than 60 years old are protected under Section 2(1) of the Removal of Graves and Dead Bodies Ordinance (Ordinance No. 7 of 1925), as well as the Human Tissues Act (Act 65 of 1983), and are the jurisdiction of the National Department of Health and the relevant Provincial Department of Health and must be submitted for final approval to the office of the relevant Provincial Premier. This function is usually delegated to the Provincial MEC for Local Government and Planning; or in some cases, the MEC for Housing and Welfare. Authorisation for exhumation and reinternment must also be obtained from the relevant local or regional council where the grave is situated, as well as the relevant local or regional council to where the grave is being relocated. All local and regional provisions, laws and by-laws must also be adhered to. To handle and transport human remains, the institution conducting the relocation should be authorised under Section 24 of Act 65 of 1983 (Human Tissues Act).

3 METHODOLOGY

3.1 Literature Review

A brief survey of available literature was conducted to extract data and information on the area in question to provide general heritage context into which the development would be set. This literature search included published material, unpublished commercial reports and online material, including reports sourced from the South African Heritage Resources Information System (SAHRIS).

3.2 Genealogical Society and Google Earth Monuments

Google Earth and 1:50 000 maps of the area were utilised to identify possible places where sites of heritage significance might be located; these locations were marked and visited during the field work phase. The database of the Genealogical Society was consulted to collect data on any known graves in the area.

3.3 Public Consultation and Stakeholder Engagement:

Stakeholder engagement is a key component of any BAR process, it involves stakeholders interested in, or affected by the proposed development. Stakeholders are provided with an opportunity to raise issues of concern (for the purposes of this report only heritage related issues will be included). The aim of the public consultation process was to capture and address any issues raised by community members and other stakeholders during key stakeholder and public meetings. The process involved:

- Placement of advertisements and site notices
- Stakeholder notification (through the dissemination of information and meeting invitations);
- Stakeholder meetings undertaken with I&APs;
- Authority Consultation
- The compilation of an Environmental Impact Assessment (EIA) Report.

Please refer to section 6 for more detail.

3.4 Site Investigation

Conduct a field study to: a) systematically survey the proposed project area to locate, identify, record, photograph and describe sites of archaeological, historical or cultural interest; b) record GPS points of sites/areas identified as significant areas; c) determine the levels of significance of the various types of heritage resources recorded in the project area.

Table 4: Site Investigation Details

	Site Investigation
Date	13 and 14 February 2018
Season	Summer –The vegetation in the study area was still very dense. The impact area was however sufficiently covered (Figure 4) to adequately record the presence of heritage resources.

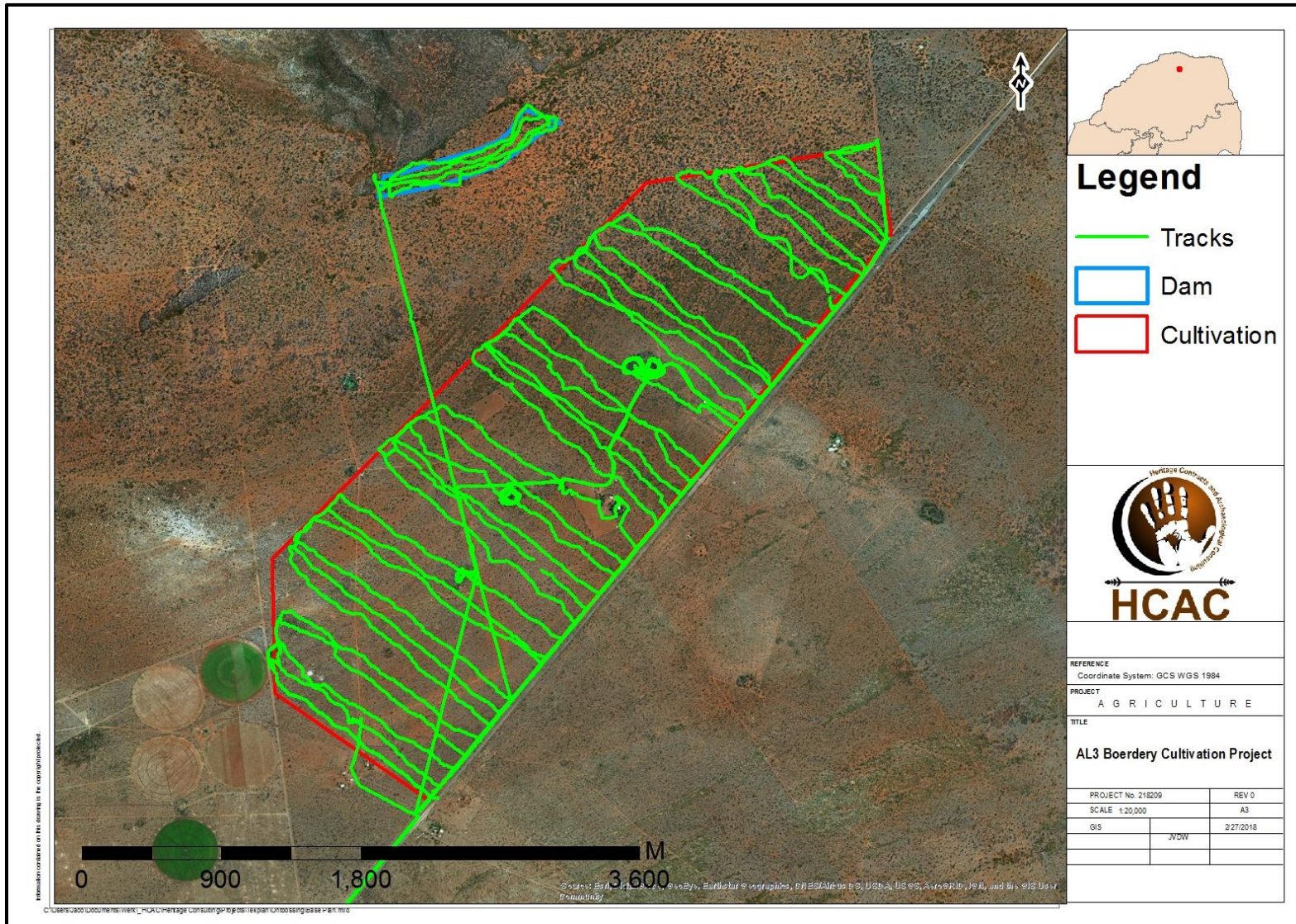


Figure 4: Track logs of the survey.

3.5 Site Significance and Field Rating

Section 3 of the NHRA distinguishes nine criteria for places and objects to qualify as 'part of the national estate' if they have cultural significance or other special value. These criteria are:

- Its importance in/to the community, or pattern of South Africa's history;
- Its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;
- Its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;
- Its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;
- Its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;
- Its importance in demonstrating a high degree of creative or technical achievement at a particular period;
- Its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;
- Its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa;
- Sites of significance relating to the history of slavery in South Africa.

The presence and distribution of heritage resources define a 'heritage landscape'. In this landscape, every site is relevant. In addition, because heritage resources are non-renewable, heritage surveys need to investigate an entire project area, or a representative sample, depending on the nature of the project. In the case of the proposed project the local extent of its impact necessitates a representative sample and only the footprint of the areas demarcated for development were surveyed. In all initial investigations, however, the specialists are responsible only for the identification of resources visible on the surface. This section describes the evaluation criteria used for determining the significance of archaeological and heritage sites. The following criteria were used to establish site significance with cognisance of Section 3 of the NHRA:

- The unique nature of a site;
- The integrity of the archaeological/cultural heritage deposits;
- The wider historic, archaeological and geographic context of the site;
- The location of the site in relation to other similar sites or features;
- The depth of the archaeological deposit (when it can be determined/is known);
- The preservation condition of the sites; and
- Potential to answer present research questions.

In addition to this criteria field ratings prescribed by SAHRA (2006), and acknowledged by ASAPA for the SADC region, were used for the purpose of this report. The recommendations for each site should be read in conjunction with section 10 of this report.

FIELD RATING	GRADE	SIGNIFICANCE	RECOMMENDED MITIGATION
National Significance (NS)	Grade 1	-	Conservation; national site nomination
Provincial Significance (PS)	Grade 2	-	Conservation; provincial site nomination
Local Significance (LS)	Grade 3A	High significance	Conservation; mitigation not advised
Local Significance (LS)	Grade 3B	High significance	Mitigation (part of site should be retained)
Generally Protected A (GP. A)	-	High/medium significance	Mitigation before destruction
Generally Protected B (GP. B)	-	Medium significance	Recording before destruction
Generally Protected C (GP.C)	-	Low significance	Destruction

3.6 Impact Assessment Methodology

The criteria below are used to establish the impact rating on sites:

- The **nature**, which shall include a description of what causes the effect, what will be affected and how it will be affected.
- The **extent**, wherein it will be indicated whether the impact will be local (limited to the immediate area or site of development) or regional, and a value between 1 and 5 will be assigned as appropriate (with 1 being low and 5 being high):
- The **duration**, wherein it will be indicated whether:
 - * the lifetime of the impact will be of a very short duration (0-1 years), assigned a score of 1;
 - * the lifetime of the impact will be of a short duration (2-5 years), assigned a score of 2;
 - * medium-term (5-15 years), assigned a score of 3;
 - * long term (> 15 years), assigned a score of 4; or
 - * permanent, assigned a score of 5;
- The **magnitude**, quantified on a scale from 0-10 where; 0 is small and will have no effect on the environment, 2 is minor and will not result in an impact on processes, 4 is low and will cause a slight impact on processes, 6 is moderate and will result in processes continuing but in a modified way, 8 is high (processes are altered to the extent that they temporarily cease), and 10 is very high and results in complete destruction of patterns and permanent cessation of processes.
- The **probability of occurrence**, which shall describe the likelihood of the impact actually occurring. Probability will be estimated on a scale of 1-5 where; 1 is very improbable (probably will not happen), 2 is improbable (some possibility, but low likelihood), 3 is probable (distinct possibility), 4 is highly probable (most likely) and 5 is definite (impact will occur regardless of any prevention measures).
- The **significance**, which shall be determined through a synthesis of the characteristics described above and can be assessed as low, medium or high; and
- the **status**, which will be described as either positive, negative or neutral.
- the degree to which the impact can be reversed.
- the degree to which the impact may cause irreplaceable loss of resources.
- the *degree* to which the impact can be mitigated.

The **significance** is calculated by combining the criteria in the following formula:

$$S=(E+D+M) P$$

S = Significance weighting

E = Extent

D = Duration

M = Magnitude

P = Probability

The **significance weightings** for each potential impact are as follows:

- < 30 points: Low (i.e., where this impact would not have a direct influence on the decision to develop in the area),
- 30-60 points: Medium (i.e., where the impact could influence the decision to develop in the area unless it is effectively mitigated),
- 60 points: High (i.e., where the impact must have an influence on the decision process to develop in the area).

3.7 Limitations and Constraints of the study

The authors acknowledge that the brief literature review is not exhaustive on the literature of the area. Due to the subsurface nature of archaeological artefacts, the possibility exists that some features or artefacts may not have been discovered/recorded during the survey and the possible occurrence of unmarked graves and other cultural material cannot be excluded. Similarly, the depth of the deposit of heritage sites cannot be accurately determined due its subsurface nature. This report only deals with the footprint area of the proposed development and consisted of non-intrusive surface surveys. This study did not assess the impact on medicinal plants and intangible heritage as it is assumed that these components would have been highlighted through the public consultation process if relevant. It is possible that new information could come to light in future, which might change the results of this Impact Assessment.

4 Description of Socio Economic Environmental

According to StatsSA the majority of the people residing in the municipality speaks Tshivenda as their first language at 67,3%. The population in Makhado Local Municipality is dominated by a younger generation, with 35,9% of people aged 15–34 years, followed by people aged 5–14 years (22,2%) and adults aged 36–64 years (also 22,2%).

The municipality still has more than 10% of people who have no schooling, and only 4,4% of its population have a tertiary qualification. The municipality's economic growth potential is in agriculture and ecotourism. Most of the people derive their livelihood through agricultural pursuits. The main occupation sector is agriculture (commercial and subsistence farming). With the unemployment at 36,7%, there is a great dependency on pension and social grants.

5 Description of the Physical Environment

The proposed A13 Boerdery Cultivation and Dam Development is proposed on parts of the Farms Toby 601 MS, Afstap 608 MS and Bruilof 598 MS. The properties are situated approximately 15km north-east of Waterpoort. They are situated in the Makhado Local Municipality in the Vhembe District Municipality within the Limpopo Province.

These farms and surrounding properties are/were mostly cattle farms or game farms with their main focus on cattle farming or the hunting industry. Recently a lot of these farms, especially those along or near the Sand River have changed their focus to the cultivation of crops. These will all be reliant on the irrigation of the crops from water from the Sand River or from boreholes. The study area measures approximately 700ha in size for the cultivation project and 15 hectares for the dam and the properties are situated to the west of the railway line from Waterpoort to Mussina as well as the gravel road from Waterpoort next to the railway line to Huntleigh.

The prevailing vegetation type and landscape features of the area form part of the Musina Mopane Bushveld within the Savanna Biome. It is described as undulating to very irregular plains, with some hills. In the western section, open woodland to moderately closed shrubveld dominated by *Colophospermum mopane* on clayey bottomlands and *Combretum apiculatum* on hills. In the eastern section on basalt, moderately closed to open shrubveld is dominated by *Colophospermum mopane* and *Terminalia prunioides*. On areas with deep soils, moderately open savanna dominated by *Colophospermum mopane*, *T. sericea*, *Grewia flava* and *Combretum apiculatum*. Field layer well developed (especially on the basalt), open during the dry season; the herbaceous layer is poorly developed in areas with dense cover of *Colophospermum mopane* shrubs, for example, north of Alldays bordering the Limpopo floodplain (Mucina & Rutherford, 2006). The proposed site shows features of the described vegetation types (Fig 5 -8).



Figure 5: General Site conditions.



Figure 6. General site conditions.



Figure 7. General Site conditions

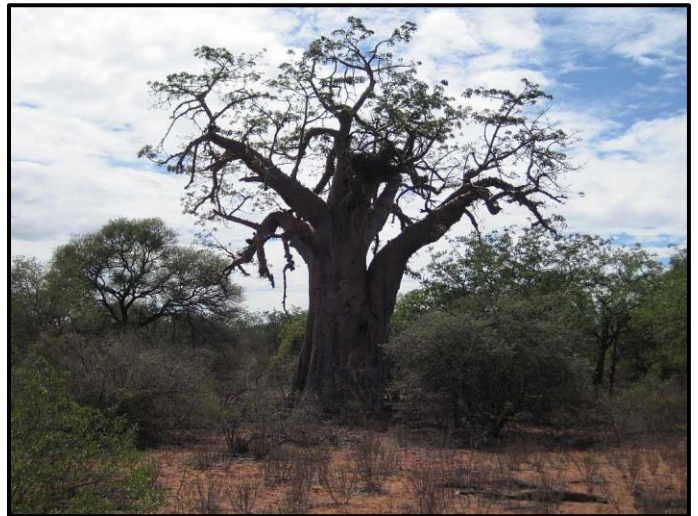


Figure 8. General site conditions.

6 Results of Public Consultation and Stakeholder Engagement:

6.1.1 Stakeholder Identification

Adjacent landowners and the public at large were informed of the proposed activity as part of the EIA process. Site notices and advertisements notifying interested and affected parties were placed at strategic points and in local newspapers as part of the process.

7 Literature / Background Study:

7.1 Literature Review

The following CRM studies were conducted in the area.

Author	Year	Project	Findings
Pistorius, J.C.C.	2007	A Phase I Heritage Impact Assessment (HIA) Study for Rio Tinto's Exploration Activities on Various Farms in The Chapudi Project Area North of the Soutpansberg in the Limpopo Province of South Africa	Graves and Cemeteries, Historical Structures, Iron Age sites and Stone age scatters.
Silidi, M.A. and Matenga, E.	2013	Heritage Impact Assessment for The Proposed Greater Soutpansberg Chapudi Project	Graves, Stone Age sites, Iron Age sites and historical structures.
Silidi, M.A. and Matenga, E.	2013	Heritage Impact Assessment for The Proposed Greater Soutpansberg Mopane Project	Graves, Stone Age and Iron Age sites Buildings older than 60 years
Silidi, M.A. and Matenga, E.	2013	Heritage Impact Assessment for The Proposed Greater Soutpansberg Generaal Project	Graves, Stone Age and Iron Age Sites

7.1.1 Genealogical Society and Google Earth Monuments

No known grave sites are indicated in the study area.

7.2 General History of the area

7.2.1 Archaeology of the area

The archaeological record for the greater study area consists of the Stone Age and Iron Age.

7.2.1.1 Stone Age

South Africa has a long and complex Stone Age sequence of more than 2 million years. The broad sequence includes the Later Stone Age (LSA), the Middle Stone Age (MSA) and the Earlier Stone Age (ESA). Each of these phases contain sub-phases or industrial complexes, and within these we can expect regional variation regarding characteristics and time ranges. The three main phases can be divided as follows;

- * Later Stone Age; associated with Khoi and San societies and their immediate predecessors. Recently to ~30 thousand years ago
- * Middle Stone Age; associated with Homo sapiens and archaic modern humans. 30-300 thousand years ago.
- * Earlier Stone Age; associated with early Homo groups such as Homo habilis and Homo erectus. 400 000- > 2 million years ago.

The larger geographical area was inhabited since the ESA and was subjected to intensive research (Kuman *et al* 2000). In terms of the MSA evidence of bipolar flaking that is associated with the MSA Pietersburg Industry (Mason 1962) occurs at the earlier Limpopo site, Kudu Koppie (Sumner 2013). During the LSA, people started to occupy sites on a recurring basis often in rock shelters and caves and often left panels of rock art in these shelters. To the north a rock art survey on both sides of the Limpopo Sashi confluence area identified close to 150 rock art sites (Eastwood and Cnoops 1999).

7.2.2 The Iron Age (AD 400 to 1840)

The Iron Age as a whole represents the spread of Bantu speaking people and includes both the pre-Historic and Historic periods. The Iron Age is characterised by the ability of these early people to manipulate and work Iron ore into implements that assisted them in creating a favourable environment to make a better living. The Iron Age is divided into three distinct periods:

- The Early Iron Age: Most of the first millennium AD.
- The Middle Iron Age: 10th to 13th centuries AD
- The Late Iron Age: 14th century to colonial period.

According to the most recent archaeological cultural distribution sequences by Huffman (2007), this area falls within the distribution area of various cultural groupings originating out of both the Urewe Tradition (eastern stream of migration) and the Kalundu Tradition (western stream of migration) (Fig 9).

The facies that may be present are:

- Urewe Tradition: Kwale branch- Silver Leaves *facies* AD 280-450 (Early Iron Age)
- *Mzonjani facies* AD 450 – 750 (Early Iron Age)
- Moloko branch- *Icon facies* AD 1300 - 1500 (Late Iron Age)
- Kalundu Tradition: Happy Rest sub-branch - *Doornkop facies* AD 750 - 1000 (Early Iron Age)
- *Letaba facies* AD 1600 - 1840 (Late Iron Age)

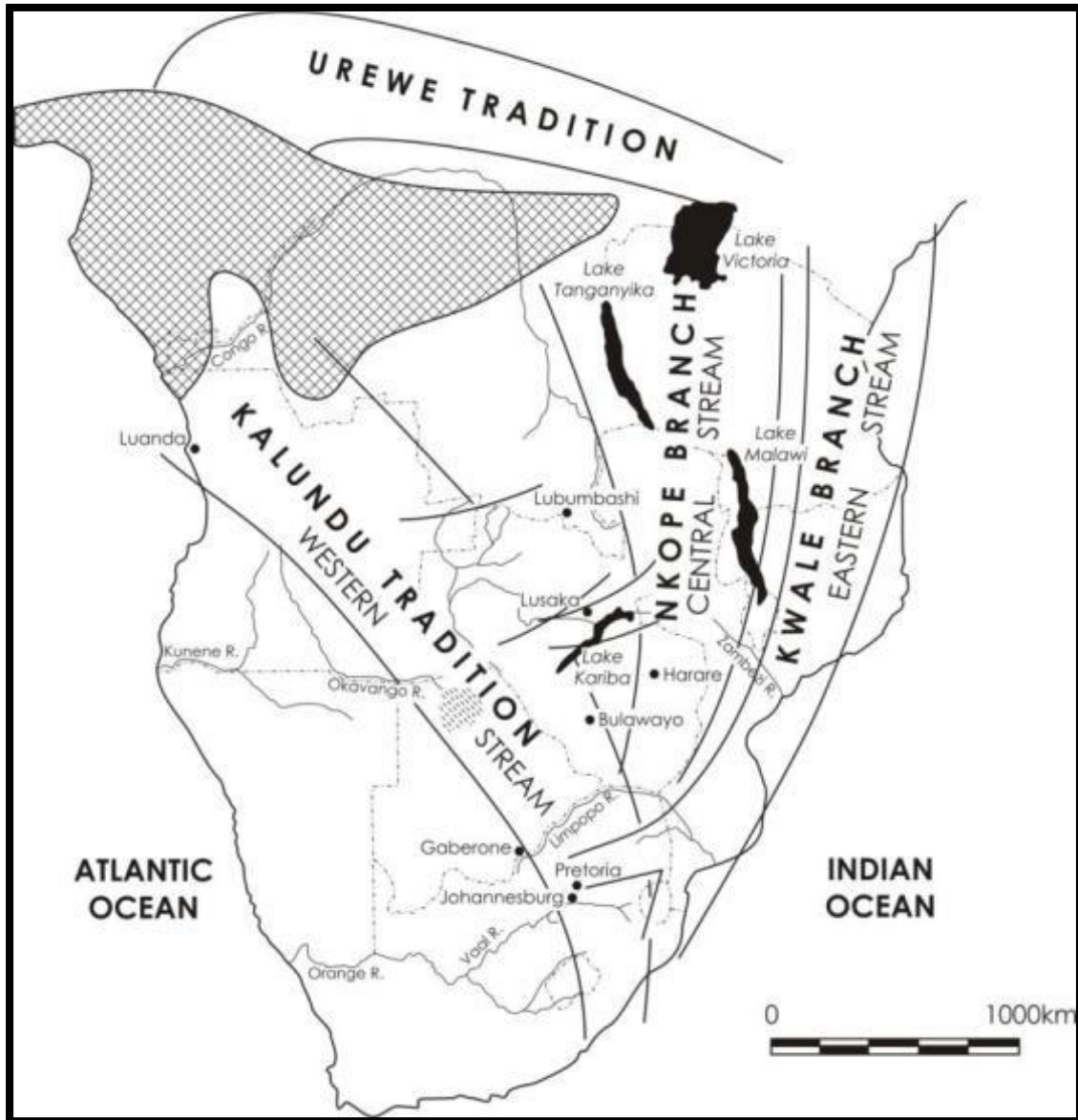


Figure 9: Map of southern Africa indicating migration routes of different Iron Age Traditions (Adapted from Huffman 2007).

7.3 Historical Information

By the 19th century, several local Ndebele communities occupied the region, one of the most prominent being the Kekana. Few Afrikaner people visited the Zoutpansberg Region before the first Voortrekker Leaders, Louis Tregardt (1783–1838) and Lang Hans van Rensburg crossed the Pietersburg Plateau during 1836. They were merely travelling through the area and only during 1848 did Andries Hendrik Potgieter (1792-1852) arrive to establish a permanent Afrikaner settlement in this part of the world. This was agreed with Tregardt ten years earlier. Andries Hendrik Potgieter set up the first Afrikaner settlement in Ohrigstad in 1845. Later some Voortrekkers moved with Potgieter late in 1848 and settled in a town they called Zoutpansberg-dorp, about 100 km North West of the current town of Polokwane. This was later changed to Schoemansdal (www.sahistory.co.za).

“Swart” Barend Vorster and some other families settled to the north of the present town of Polokwane during the winter of 1847 in anticipation to the arrival of Potgieter. Potgieter moved to the Zoutpansberg but many Voortrekkers chose farmland on the plateau. Amongst those were ancestors of present day community leaders, including the Vorster, Duvenhage, Snyman, Vercueil and Grobler-families.

Further to the North of the study area in 1903 the copper deposits in the Musina area were investigated by Colonel John P Grenfell. He also established the Messina (Transvaal) Development Company Limited to exploit the copper deposits. The town of Messina now referred to as Musina was founded in 1904 on the farm Berkenrode, as a result of the exploitation of the copper deposits. It was proclaimed as town in 1957 (Hammerbeck & Schoeman 1976).

7.3.1. Anglo-Boer War

No battle or concentration camps sites are located close to the study area.

7.3.2. Cultural Landscape

The larger area includes the World Heritage site of Mapungubwe that is located more than a 100 km away from the study area. The Mapungubwe Cultural Landscape is comprised of:

- Remains of palaces – (Mapungubwe period);
- Archaeological remains testifying to Mapungubwe’s growth 900-1200 AD (Zhizo, Leopard’s Kopje);
- Remains of early settlement: Stone Age & Iron Age & rock art;
- ‘Natural’ landscape surrounding the built remains;
- Intangible heritage: Mapungubwe Hill associated with sacredness, beliefs, customs and traditions of local communities;
- Living heritage: continuing traditions and associations such as rain making, and participation by local communities in reburial ceremonies;
- Landscape sharing and interaction between farmers and hunter-gatherers.

Historical maps illustrate that the study area has been cultivated and developed from the 1960’s onwards (Fig 11 – 13)

The site under investigation is located about 10 km north of the R523 Main Road, 33 km north west of Makhado and about 35 km north west of Louis Trichardt in Limpopo Province.

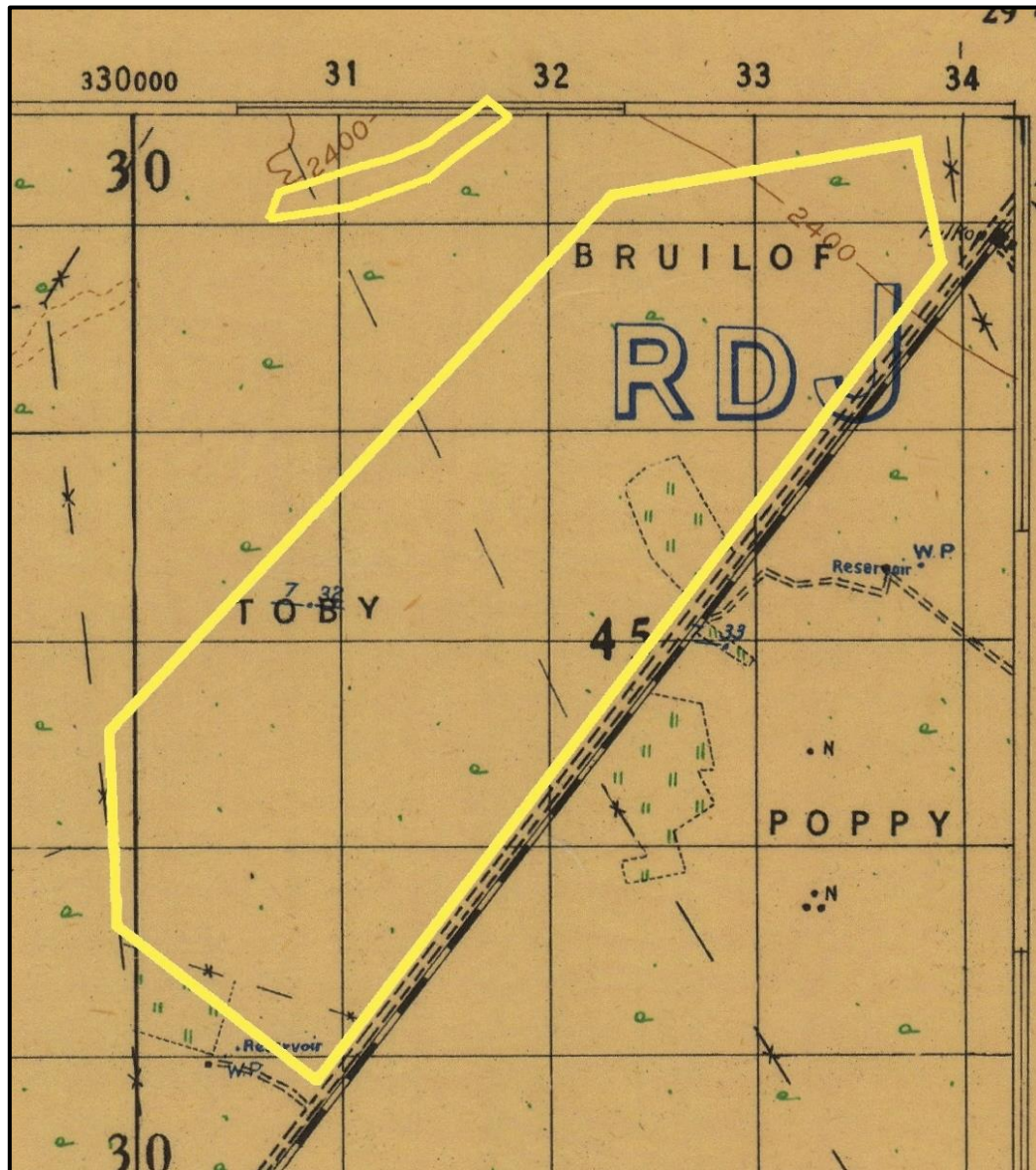


Figure 10. 1941 Topographical map of the area under investigation. The area of interest is indicated with yellow borders. The area extended over the farms Toby and Bruilof. No developments are visible in the smaller, northern site. A railway line and road ran alongside the south eastern boundary of the larger site. A small section of land on the property Bruilof was used as cultivated lands. To the south west of the study area, a building, a water pipe and a reservoir are visible near a section of cultivated land. Another cultivated field can be seen just to the east of the study area. The Pylkop Railway Station is visible to the north east on the railway line. (Topographical Map 1941)

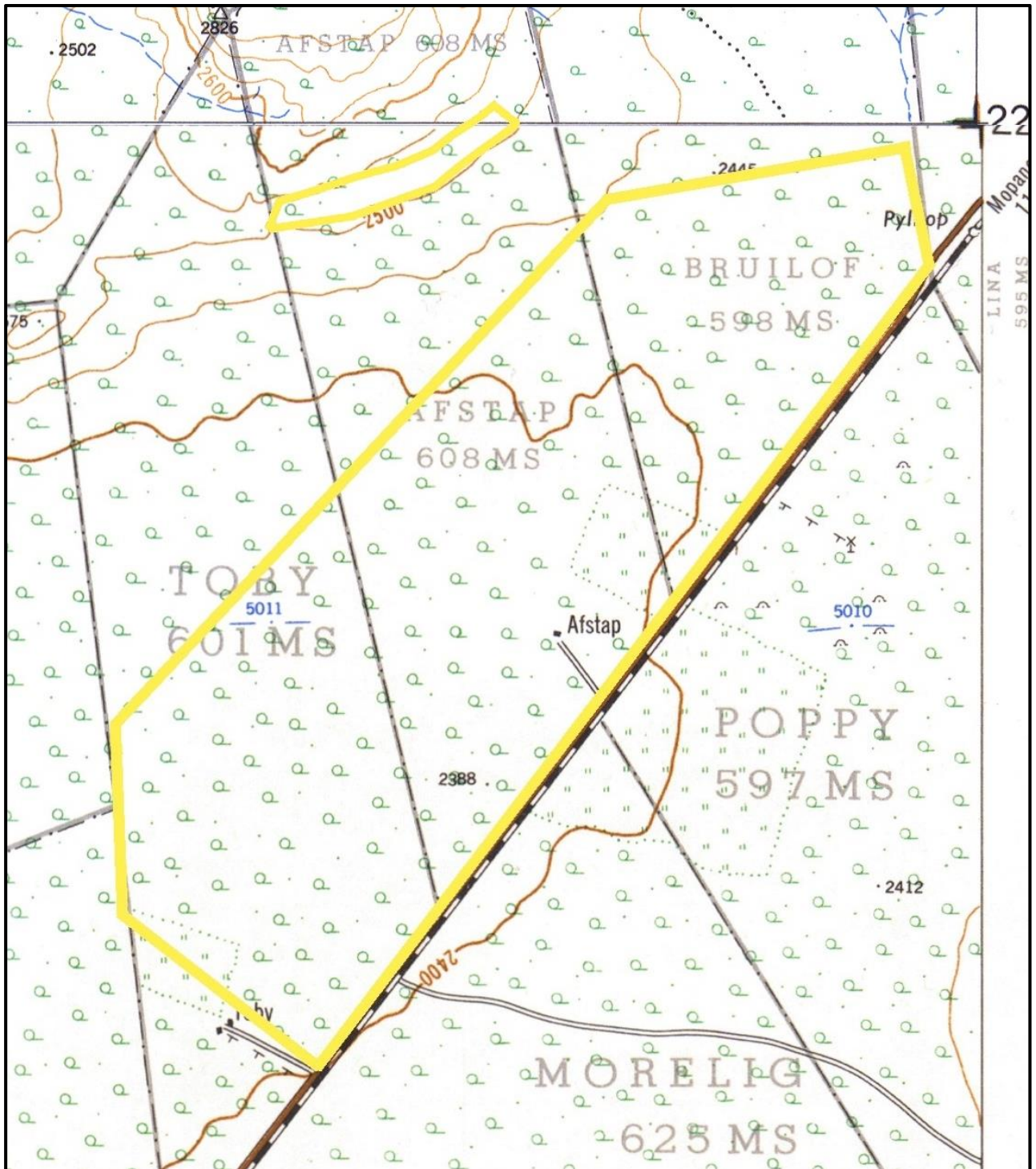


Figure 11. 1966-1967 Topographical map of the area under investigation. The area of interest is indicated with yellow borders. The study area extended over the farms Toby 601 MS, Afstap 608 MS and Bruilof 598 MS. No developments are visible in the smaller, northern site. A railway line and secondary road ran alongside the eastern border of the larger site, and the Pyklop Railway Station can still be seen. The vegetation in the study area consisted of bush veld, and a section of land bordering the eastern boundary of the larger site was used as cultivated lands. A minor road and one building are visible at the "Afstap" site. (Topographical Map 1966; Topographical Map 1967)

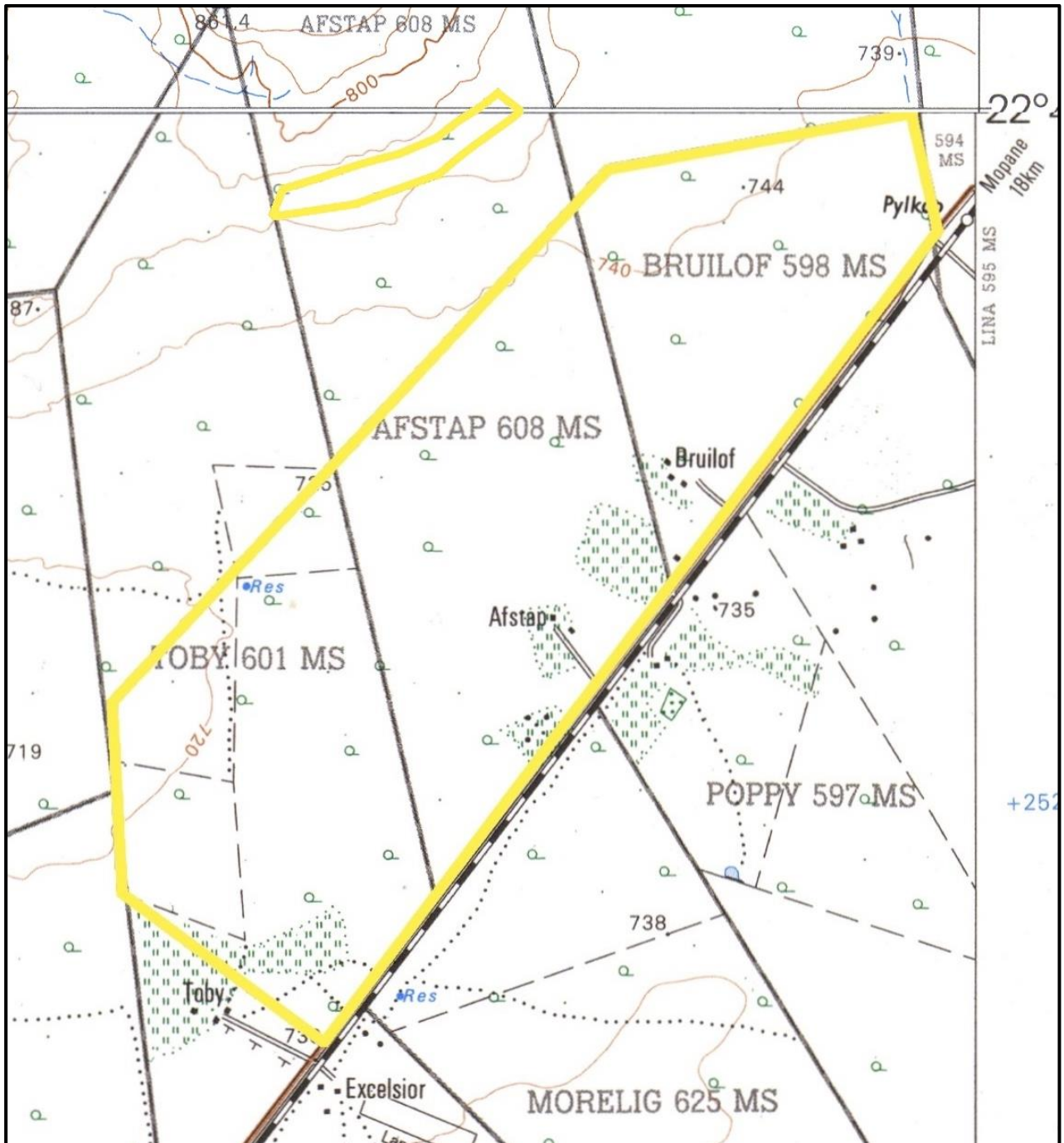


Figure 12. 1979 Topographical map of the area under investigation. The area of interest is indicated with yellow borders. No developments are visible in the smaller, northern site. A railway line and secondary road ran alongside the eastern boundary of the larger site, and the Pylkop Railway Station can still be seen. The vegetation on the property was still mainly bush veld, but more sections of cultivated lands can be seen along the eastern and southern boundaries of the larger study area. About five buildings and a farm road can be seen at “Afstap”, and four buildings and a farm road are visible at “Bruilof”. One can see a water reservoir near the north western boundary of the site. (Topographical Map 1979; Topographical Map 1979)

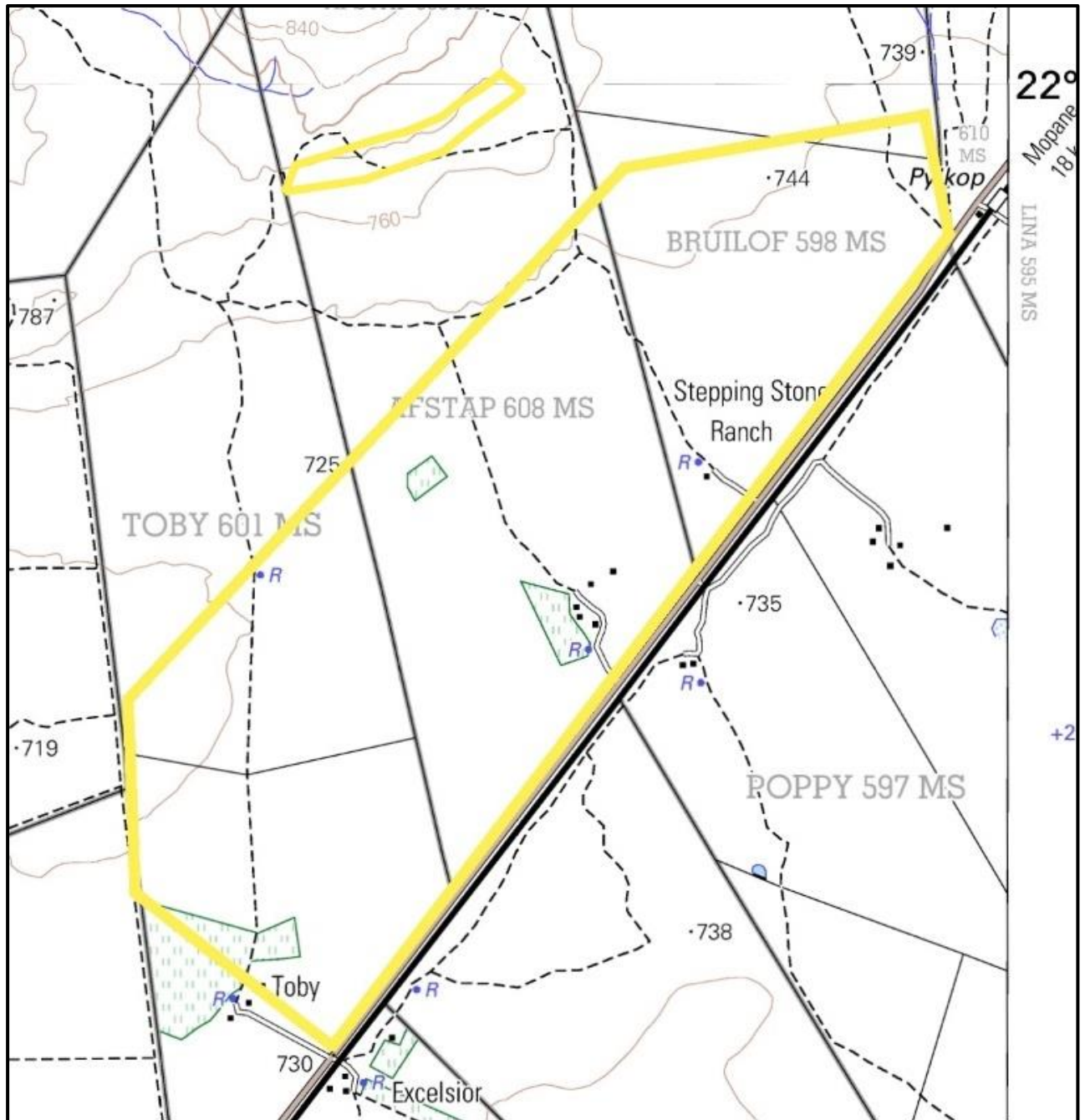


Figure 13. 1999 Topographical map of the area under investigation. The area of interest is indicated with yellow borders. A track / hiking trail went through the smaller, northern site under investigation. A railway line and secondary road ran alongside the eastern border of the larger site, and the Pykop Railway Station can still be seen. One can see a number of tracks / hiking trails on the larger site. It seems that the bush veld vegetation had been cleared, but three sections of cultivated lands are still visible. The water reservoir near the north western boundary of the property can still be seen. Five buildings are visible near a farm road, cultivated lands and a water reservoir on Afstap 608 MS. A farm road, a water reservoir and one building can be seen at "Stepping Stone Ranch" on Bruilof. (Topographical Map 1999)



Figure 14. 2018 Google Earth image showing the study area in relation to the R523, Makhado, Louis Trichardt and other sites. (Google Earth 2018)

8 Findings of the Survey

The study area measures approximately 700ha in size and is situated approximately 15km north-east of Waterpoort. The properties are situated to the west of the railway line from Waterpoort to Mussina as well as the gravel road from Waterpoort next to the railway line to Huntleigh.

All of the properties are fenced off with a high game fence. A power line is situated within this game fence along the gravel road and along the eastern boundary. Several tracks which services boreholes and serves as access roads also criss-cross the properties. A few boreholes and animal drinking/feeding points are also present.

Three natural pans were also identified during the investigations. As pans are a natural congregation place for animals and humans, these were investigated in detail. No heritage finds or features with heritage significance were identified with these pans. Two of these pans are being fed artificially with borehole water to serve as permanent watering holes for the game on the farms.

The proposed site is predominantly flat, with a monotonous layer of vegetation and basically featureless except for three pans of which 2 are artificially fed from borehole water from the nearby farmsteads. The area is covered with a layer of red sandveld and no specific drainage lines or streams were identified.

The study found no features, sites or artefacts of cultural significance possibly a result of the flat topography, without significant landscape features such as rocky hills and outcrops, streams or drainage lines, made the locality unsuitable for pre-historic settlement. The floodplains of the Sand River further to the east would most probably yield more evidence of pre-historic occupation than the monotonous, featureless landscape on the sides of its course.

In terms of the national estate as defined by the NHRA no sites of significance were found during the survey as described below.

8.1 Built Environment (Section 34 of the NHRA)

Two farmsteads with their associated buildings and structures were identified during the investigations. According to the archival maps these structures are not older than 60 years and therefore do not have any heritage value or significance. Some previous cultivation is evident next to the one farmstead. The cleared fields and the recent pioneer plant growth are recognised near the farmstead. Both Structures' potential to contribute to aesthetic, historic, scientific and social aspects are very low and are therefore of no heritage significance. No further actions are recommended based on approval from SAHRA.



Figure 15. Buildings in the study area



Figure 16. Buildings in the study area

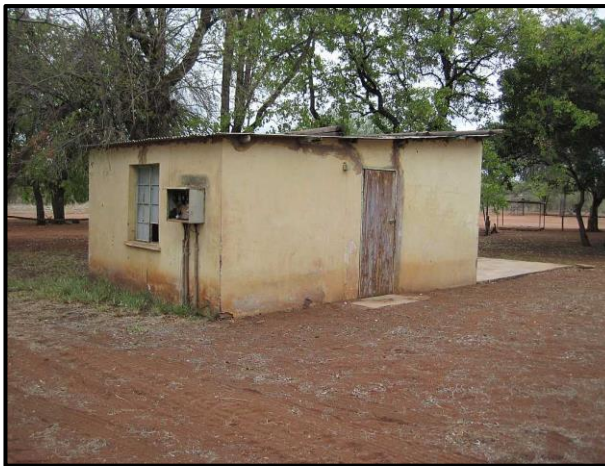


Figure 17. Buildings in the study area



Figure 18. Buildings in the study area



Figure 19. Structures in the study area.



Figure 20. Buildings in the study area

8.2 Archaeological and palaeontological resources (Section 35 of the NHRA)

During the survey, no archaeological sites were recorded. In terms of paleontological resources Dr Lloyd Rossouw determined that based on the 1: 1 million scale geological map of South Africa as well as the 1 : 250 000 scale geological map 2228 Alldays, the study area lies within the outcrop area of the Early Jurassic Lebombo Group lavas considered to be of low palaeontological sensitivity/vulnerability. There is currently no record of Quaternary vertebrate fossils or sites in the area and likelihood of finding Quaternary vertebrate fossils within the study area is considered very low.

The palaeontological significance of the affected areas was evaluated through a desktop study by Dr Lloyd Rossouw and carried out on the basis of existing field data, database information and published literature. The assessment provided within this report is based upon a desktop study without the benefit of a site visit. As such, the presentation of geological units present within the study area is derived from 1:1 000000 scale and 1:250 000 scale geological maps that may vary in their accuracy. It is also assumed, for the sake of prudence, that fossil remains are always uniformly distributed in fossil-bearing rock units, although in reality their distribution may vary significantly.

The desktop investigation indicates that the proposed study area is underlain by basalts of Early Jurassic Letaba Formation (Lebombo Group). The Lebombo Group sequence is associated with the Early Jurassic global mass extinction event, but is, because of its volcanic nature, considered to be of low palaeontological sensitivity/vulnerability even though fossils might possibly occur within thin, but rare interbedded sandstones. There is currently no record of Quaternary vertebrate fossils or sites in the area. Aerial photos suggest that the affected area is capped by superficial (Quaternary) deposits considered to be of low to very low palaeontological sensitivity, the latter being that the impact area is not situated within or near pan sediments, well-developed alluvium or spring deposits (considered to be potentially fossiliferous in the region).

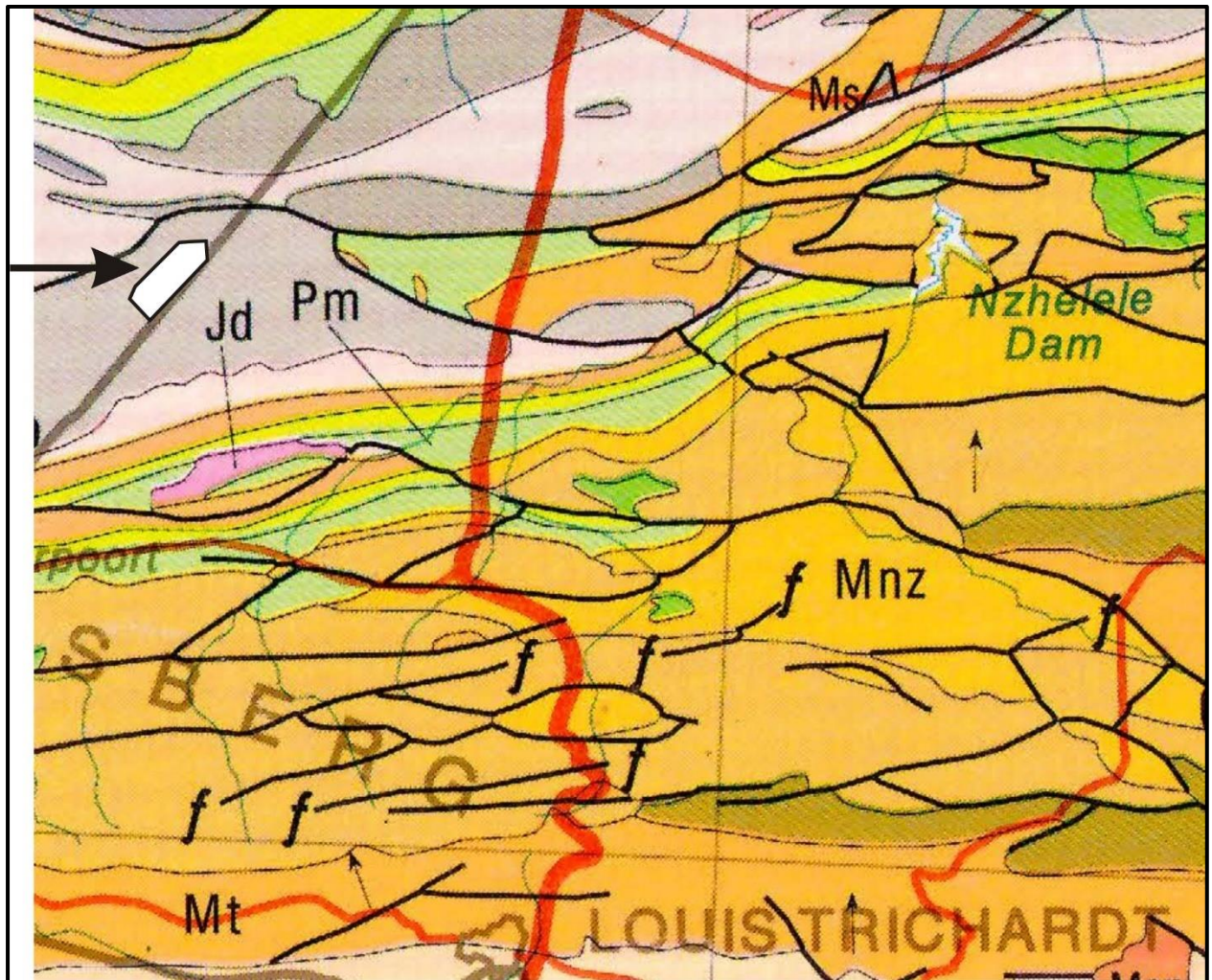


Figure 21. Geological Map of the area under investigation

8.3 Burial Grounds and Graves (Section 36 of the NHRA)

In terms of Section 36 of the Act no burial sites were recorded.

8.4 Cultural Landscapes, Intangible and Living Heritage.

Long term impact on the cultural landscape is considered to be negligible as the parts of the study area has been cultivated before and the proposed development conforms to the agricultural character of the area. Visual impacts to scenic routes and sense of place are also considered to be low due to the previous developments in the area and the lack of significant sites.

8.5 Battlefields and Concentration Camps

There are no battlefields or concentration camp sites in the study area.

8.6 Potential Impact

The chances of impacting unknown archaeological sites in the study area is considered to be negligible. Any direct impacts that might occur would be during the construction phase only and would be of very low significance. Cumulative impacts occur from the combination of effects of various impacts on heritage resources. The importance of identifying and assessing cumulative impacts is that the whole is greater than the sum of its parts. In the case of the development, it will, with the recommended mitigation measures and management actions, not impact any heritage resources directly. However, this and other projects in the area could have an indirect impact on the larger heritage landscape. The lack of any heritage resources in the immediate area and the existing agricultural developments surrounding the study area minimises additional impact on the landscape.

8.6.1 Pre-Construction phase:

It is assumed that the pre-construction phase involves the removal of topsoil and vegetation as well as the establishment of infrastructure needed for the construction phase. These activities can have a negative and irreversible impact on heritage sites. Impacts include destruction or partial destruction of non-renewable heritage resources.

8.6.2 Construction Phase

During this phase, the impacts and effects are similar in nature but more extensive than the pre-construction phase. These activities can have a negative and irreversible impact on heritage sites. Impacts include destruction or partial destruction of non-renewable heritage resources.

8.6.3 Operation Phase:

No impact is envisaged for the recorded heritage resources during this phase.

Table 5. Impact Assessment table.

Nature: During the construction phase activities resulting in disturbance of surfaces and/or sub-surfaces may destroy, damage, alter, or remove from its original position archaeological material or objects.		
	Without mitigation	With mitigation (Preservation/ excavation of site)
Extent	Local (1)	Local (1)
Duration	Permanent (5)	Permanent (5)
Magnitude	Low (2)	Low (2)
Probability	Not probable (2)	Not probable (2)
Significance	16 (Low)	16 (Low)
Status (positive or negative)	Negative	Negative
Reversibility	Not reversible	Not reversible
Irreplaceable loss of resources?	No resources were recorded	No resources were recorded.
Can impacts be mitigated?	Yes, a chance find procedure should be implemented.	Yes
Mitigation: Due to the lack of apparent significant heritage resources no further mitigation is required prior to construction. A Chance Find Procedure should be implemented for the project should any sites be identified during the construction process.		

9 Conclusion and recommendations

HCAC was appointed to conduct a Heritage Impact Assessment as part of the environmental impact assessment process for the project. The proposed site is predominantly flat, with a monotonous layer of vegetation and basically featureless except for three pans of which two are artificially fed from borehole water from the nearby farmsteads. The area is characterised by a quaternary sand deposit and no specific drainage lines or streams were identified. Within the study area no features, sites or artefacts of cultural significance were recorded, this is in direct contrast to the south at the Soutpansberg and to the east along the Sand River where numerous Stone Age and Iron Age sites are on record (Pistorius 2007 and Silidi & Matenga 2013 a, b and c). The lack of sites in the study area can be attributed to the local geology as no raw material suitable for knapping or building material for the construction of stone walled sites is available. The study area is characterised by a flat topography, without significant landscape features such as rocky hills and outcrops, streams or drainage lines, that would have been focal points for human settlements in antiquity. The floodplains of the Sand River further to the east would most probably yield more evidence of pre-historic occupation than the monotonous, featureless landscape on the sides of its course.

In terms of the palaeontology of the study area there is currently no record of Quaternary vertebrate fossils or sites in the area. The affected area is capped by superficial (Quaternary) deposits considered to be of low to very low palaeontological sensitivity, the latter being that the impact area is not situated within or near pan sediments, well-developed alluvium or spring deposits (considered to be potentially fossiliferous in the region). No further mitigation prior to construction is recommended in terms of Section 35 for the proposed development to proceed.

In terms of the built environment of the area (Section 34), two residential farmsteads occur. The structures are not older than 60 years and based on the aesthetic, historic, scientific and social aspects of the structures, it is of no heritage significance. In terms of Section 36 of the Act no burial sites were recorded. If any graves are located in future they should ideally be preserved *in-situ* or alternatively relocated according to existing legislation. No public monuments are located within or close to the study area. The proposed development will not impact negatively on significant cultural landscapes or views as parts of the study area has been cultivated before. During the public participation process conducted for the project no heritage concerns were raised.

Due to the lack of significant heritage resources in the study area the impact of the proposed project on heritage resources is considered low and it is recommended that the proposed project can commence on the condition that the following recommendations are implemented as part of the EMP and based on approval from SAHRA:

- Implementation of a chance finds procedure as detailed in Section 9.1.
- As far as palaeontological heritage is concerned, the proposed development can proceed without further palaeontological investigation provided that deforestation activities are restricted to the geologically recent soil overburden (the layer of loose, heterogeneous superficial deposits covering the solid rock).

9.1. Chance Find Procedure

The possibility of the occurrence of subsurface finds cannot be excluded. Therefore, if during construction any possible finds such as stone tool scatters, artefacts or bone and fossil remains are made, the operations must be stopped and a qualified archaeologist must be contacted for an assessment of the find and therefore chance find procedures should be put in place as part of the EMP. A short summary of chance find procedures is discussed below.

This procedure applies to the developer's permanent employees, its subsidiaries, contractors and subcontractors, and service providers. The aim of this procedure is to establish monitoring and reporting procedures to ensure compliance with this policy and its associated procedures. Construction crews must be properly inducted to ensure they are fully aware of the procedures regarding chance finds as discussed below.

- If during the pre-construction phase, construction, operations or closure phases of this project, any person employed by the developer, one of its subsidiaries, contractors and subcontractors, or service provider, finds any artefact of cultural significance or heritage site, this person must cease work at the site of the find and report this find to their immediate supervisor, and through their supervisor to the senior on-site manager.
- It is the responsibility of the senior on-site Manager to make an initial assessment of the extent of the find, and confirm the extent of the work stoppage in that area.
- The senior on-site Manager will inform the ECO of the chance find and its immediate impact on operations. The ECO will then contact a professional archaeologist for an assessment of the finds who will notify the SAHRA.

9.2 Reasoned Opinion

From a heritage perspective, the proposed project is acceptable. If the above recommendations are adhered to and based on approval from SAHRA, HCAC is of the opinion that the development can continue as the development will not impact negatively on the archaeological record of the area.

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- SAHRIS South African Heritage Resource Information System (viewed November 2017)
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- Sumner, T.A. 2013. A refitting study of late Early to Middle Stone Age lithic assemblages from the site of Kudu Koppie, Limpopo Province, South Africa. *Journal of African Archaeology* 11: 133–153.
- Wits Archaeological Database

11. Appendices:**Curriculum Vitae of Specialist**

Jaco van der Walt
Archaeologist

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Education:

Particulars of degrees/diplomas and/or other qualifications:

Name of University or Institution: University of Pretoria
Degree obtained : BA Heritage Tourism & Archaeology
Year of graduation : 2001

Name of University or Institution: University of the Witwatersrand
Degree obtained : BA Hons Archaeology
Year of graduation : 2002

Name of University or Institution : University of the Witwatersrand
Degree Obtained : MA (Archaeology)
Year of Graduation : 2012

Name of University or Institution : University of Johannesburg
Degree : PhD
Year : Currently Enrolled

EMPLOYMENT HISTORY:

2011 – Present: **Owner – HCAC (Heritage Contracts and Archaeological Consulting CC).**
2007 – 2010 : **CRM Archaeologist**, Managed the Heritage Contracts Unit at the University of the Witwatersrand.
2005 - 2007: **CRM Archaeologist**, Director of Matakoma Heritage Consultants
2004: **Technical Assistant**, Department of Anatomy University of Pretoria
2003: **Archaeologist**, Mapungubwe World Heritage Site
2001 - 2002: **CRM Archaeologists**, For R & R Cultural Resource Consultants, Polokwane
2000: **Museum Assistant**, Fort Klapperkop.

Countries of work experience include:

Republic of South Africa, Botswana, Zimbabwe, Mozambique, Tanzania, The Democratic Republic of the Congo, Lesotho and Zambia.

SELECTED PROJECTS INCLUDE:

Archaeological Impact Assessments (Phase 1)

Heritage Impact Assessment Proposed Discharge Of Treated Mine Water Via The Wonderfontein Spruit Receiving Water Body Specialist as part of team conducting an Archaeological Assessment for the Mmamabula mining project and power supply, Botswana

Archaeological Impact Assessment Mmamethlake Landfill

Archaeological Impact Assessment Libangeni Landfill

Linear Developments

Archaeological Impact Assessment Link Northern Waterline Project At The Suikerbosrand Nature Reserve

Archaeological Impact Assessment Medupi – Spitskop Power Line,

Archaeological Impact Assessment Nelspruit Road Development

Renewable Energy developments

Archaeological Impact Assessment Karoshoek Solar Project

Grave Relocation Projects

Relocation of graves and site monitoring at Chloorkop as well as permit application and liaison with local authorities and social processes with local stakeholders, Gauteng Province.

Relocation of the grave of Rifle Man Maritz as well as permit application and liaison with local authorities and social processes with local stakeholders, Ndumo, Kwa Zulu Natal.

Relocation of the Magolwane graves for the office of the premier, Kwa Zulu Natal

Relocation of the OSuthu Royal Graves office of the premier, Kwa Zulu Natal

Phase 2 Mitigation Projects

Field Director for the Archaeological Mitigation For Booyensdal Platinum Mine, Steelpoort, Limpopo Province. Principle investigator Prof. T. Huffman

Monitoring of heritage sites affected by the ARUP Transnet Multipurpose Pipeline under directorship of Gavin Anderson.

Field Director for the Phase 2 mapping of a late Iron Age site located on the farm Kameelbult, Zeerust, North West Province. Under directorship of Prof T. Huffman.

Field Director for the Phase 2 surface sampling of Stone Age sites effected by the Medupi – Spitskop Power Line, Limpopo Province

Heritage management projects

Platreef Mitigation project – mitigation of heritage sites and compilation of conservation management plan.

MEMBERSHIP OF PROFESSIONAL ASSOCIATIONS:

- Association of Southern African Professional Archaeologists. Member number 159
Accreditation:
 - Field Director Iron Age Archaeology
 - Field Supervisor Colonial Period Archaeology, Stone Age
Archaeology and Grave Relocation
- Accredited CRM Archaeologist with SAHRA
- Accredited CRM Archaeologist with AMAFA
- Co-opted council member for the CRM Section of the Association of Southern African Association Professional Archaeologists (2011 – 2012)

PUBLICATIONS AND PRESENTATIONS

- A Culture Historical Interpretation, Aimed at Site Visitors, of the Exposed Eastern Profile of K8 on the Southern terrace at Mapungubwe.
 - J van der Walt, A Meyer, WC Nienaber
 - Poster presented at Faculty day, Faculty of Medicine University of Pretoria 2003
- 'n Reddingsondersoek na Anglo-Boereoorlog-ammunisie, gevind by Ifafi, Noordwes-Provinsie. South-African Journal for Cultural History 16(1) June 2002, with A. van Vollenhoven as co-writer.
- Fieldwork Report: Mapungubwe Stabilization Project.
 - WC Nienaber, M Hutten, S Gaigher, J van der Walt
 - Paper read at the Southern African Association of Archaeologists Biennial Conference 2004
- A War Uncovered: Human Remains from Thabantšho Hill (South Africa), 10 May 1864.
 - M. Steyn, WS Boshoff, WC Nienaber, J van der Walt
 - Paper read at the 12th Congress of the Pan-African Archaeological Association for Prehistory and Related Studies 2005
- Field Report on the mitigation measures conducted on the farm Bokfontein, Brits, North West Province .
 - J van der Walt, P Birkholtz, W. Fourie
 - Paper read at the Southern African Association of Archaeologists Biennial Conference 2007
- Field report on the mitigation measures employed at Early Farmer sites threatened by development in the Greater Sekhukhune area, Limpopo Province. J van der Walt
 - Paper read at the Southern African Association of Archaeologists Biennial Conference 2008
- Ceramic analysis of an Early Iron Age Site with vitrified dung, Limpopo Province South Africa.
 - J van der Walt. Poster presented at SAFA, Frankfurt Germany 2008

- Bantu Speaker Rock Engravings in the Schoemanskloof Valley, Lydenburg District, Mpumalanga (*In Prep*)
 - J van der Walt and J.P Celliers
- Sterkspruit: Micro-layout of late Iron Age stone walling, Lydenburg, Mpumalanga. W. Fourie and J van der Walt. A Poster presented at the Southern African Association of Archaeologists Biennial Conference 2011
- Detailed mapping of LIA stone-walled settlements' in Lydenburg, Mpumalanga. J van der Walt and J.P Celliers
 - Paper read at the Southern African Association of Archaeologists Biennial Conference 2011
- Bantu-Speaker Rock engravings in the Schoemanskloof Valley, Lydenburg District, Mpumalanga. J.P Celliers and J van der Walt
 - Paper read at the Southern African Association of Archaeologists Biennial Conference 2011
- Pleistocene hominin land use on the western trans-Vaal Highveld ecoregion, South Africa, Jaco van der Walt.
 - J van der Walt. Poster presented at SAFA, Toulouse, France. Biennial Conference 2016

REFERENCES:

1. Prof Marlize Lombard Senior Lecturer, University of Johannesburg, South Africa
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