

HERITAGE IMPACT ASSESSMENT

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

FO THE PROPOSED VENTERSDORP TOWNSHIP ESTABLISHMENT, NORTH WEST PROVINCE PROJECT

Type of development:

Township

Client:

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INDEMNITY AND CONDITIONS RELATING TO THIS REPORT

The findings, results, observations, conclusions and recommendations given in this report are based on the author's best scientific and professional knowledge as well as available information. The report is based on survey and assessment techniques which are limited by time and budgetary constraints relevant to the type and level of investigation undertaken and HCAC reserves the right to modify aspects of the report including the recommendations if and when new information becomes available from ongoing research or further work in this field, or pertaining to this investigation.

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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 the GNR 326 EIA Regulations 7 April 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 12
(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 alternative;	Section 8 and 9
(g) Identification of any areas to be avoided, including buffers	Section 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 and 10
(l) Conditions for inclusion in the environmental authorisation	Section 9 and 10
(m) Monitoring requirements for inclusion in the EMPr or environmental authorisation	Section 9 and 10
(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 10.2
(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 BA report
(q) Any other information requested by the competent authority	Section 10

Executive Summary

HCAC was appointed to conduct a Heritage Impact Assessment of the proposed Ventersdorp Township Development. The development footprint was assessed both on desktop level and by a field survey. The field survey was conducted as a non-intrusive pedestrian survey on the remainder of portion 205, remainder of 3/205 and the remainder of portion 206 of the farm Elandskuil 205 & 206 IP as development plans are not available at this stage. Identified heritage features or artefacts were recorded as sites using a handheld GPS and documented through written and photographic records.


No archaeological sites or material of significance was recorded during the survey and a palaeontological desktop study (Rossouw 2017) recommended exemption from further palaeontological work for the project. 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 older than 60 years occur within the study areas. In terms of Section 36 of the Act a single cemetery was recorded. This site must be fenced off with an access gate and a 30 meter bufferzone. If any other graves are located in future they should ideally be preserved *in-situ* or alternatively relocated according to existing legislation. The JB Marks Memorial site (Section 37) was recorded in the study area. This is a declared National Heritage Site and must also be preserved in-situ with a 30 meter buffer zone and included into the planning scheme as a open area.

The study area is surrounded by existing residential developments and the proposed development will not impact negatively on significant cultural landscapes or viewsapes. During the public participation process conducted for the project no heritage concerns was raised.

During the public participation process for the project no heritage concerns were raised. The cultural landscape in which the proposed development is located is characterised by residential developments and associated elements like road infrastructure. The proposed development is in line with the current residential landscape use of the surrounding area and will not have a severe negative impact on significant cultural landscapes or viewsapes.

The impacts on identified heritage resources in the study area resulting from this project can be mitigated to an acceptable level with the correct mitigation measures and management actions. Furthermore, the socio-economic benefits derived from this project outweigh the impact on heritage resources with the correct mitigation measures in place. It is therefore recommended the project is authorised from a heritage perspective on the condition that the recommendations as made in this report are implemented as part of the EMPr and based on approval from SAHRA. Below is a summary of the recorded finds, significance rating and proposed mitigation measures. Please refer to Section 10 for the detailed mitigation measures.

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	14/11/2017

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 the 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**) has been contracted by Methale Environmental Consultants to conduct a Heritage Impact Assessment of the proposed Ventersdorp Township development. The report forms part of the Basic Assessment Report (BAR) 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 a memorial, a cemetery and the remains of an farmstead 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 Regs section 40 (1) and (2), to be submitted to SAHRA. As such the Basic 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 towers.

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

Site Location and conditions	Ventersdorp
Size of farm and portions	202 and 83 ha respectively on the Remainders of the farms Elandskuil 205 & 206-IP
Magisterial District	JB Marks Municipal Area
1: 50 000 map sheet number	2626 BD
Central co-ordinate of the development	26° 19' 56.5772" S, 26° 47' 48.7021" E

Table 3: Infrastructure and project activities

Type of development	Township Development
Project size	Development footprint respectively 202 and 83 hectares
Project Components	Township development with associated infrastructure

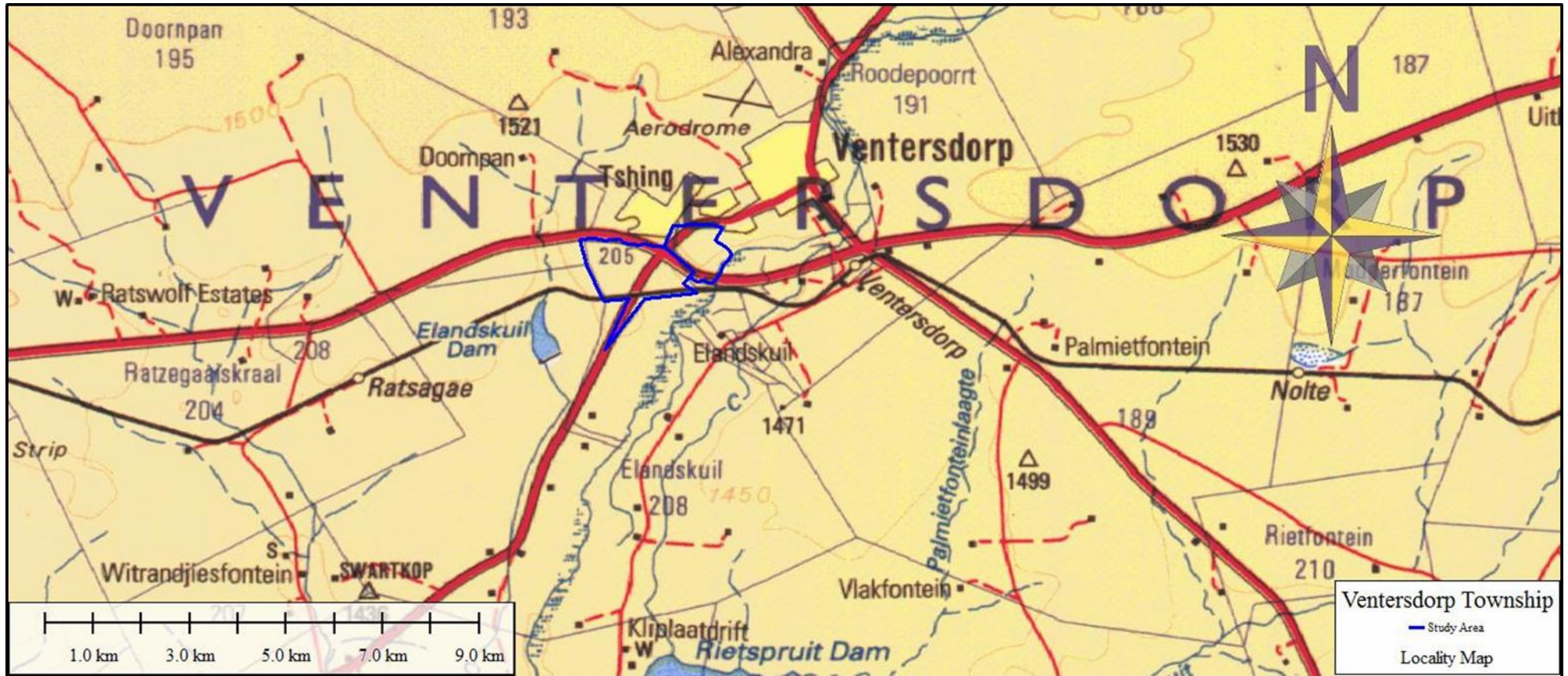


Figure 1. Provincial map (1: 250 000 topographical map)

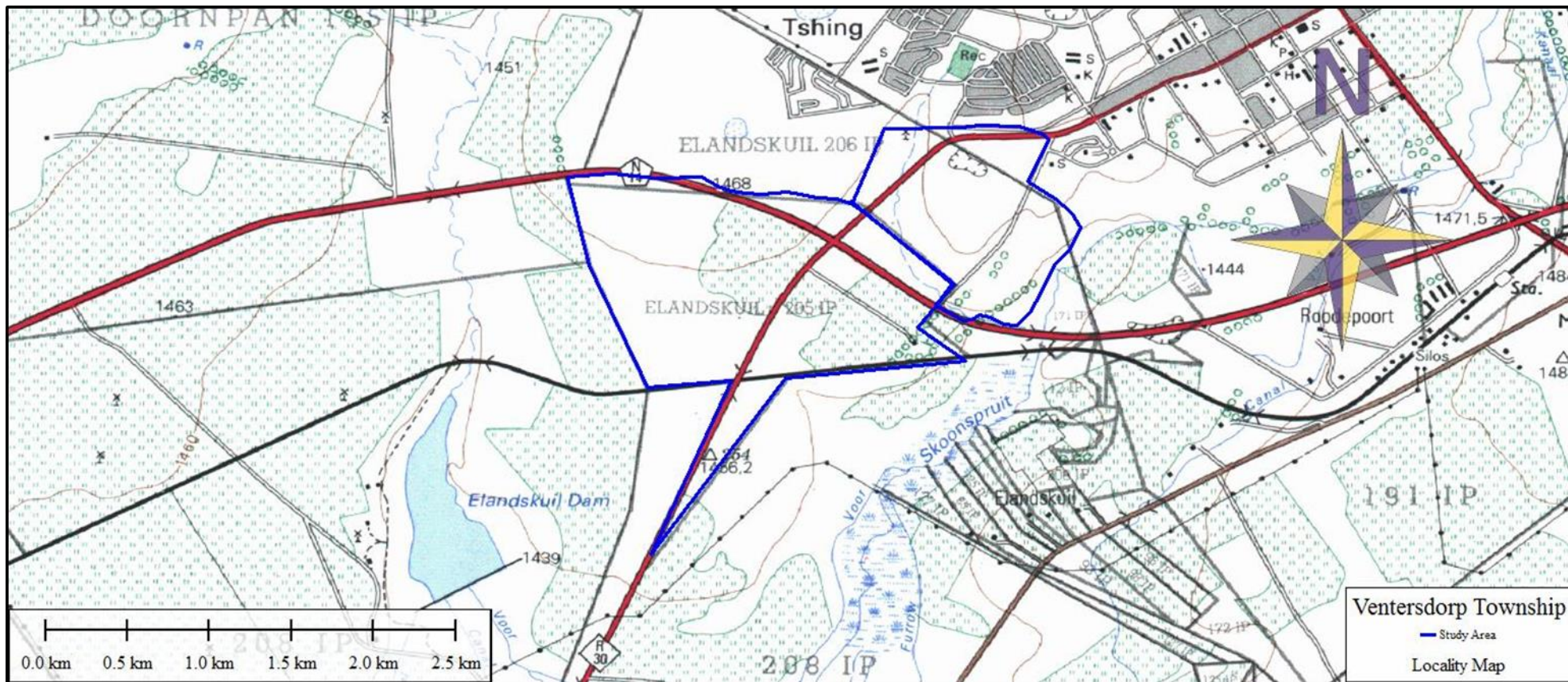


Figure 2. Regional map (1:50 000 topographical map).



Figure 3. Satellite image indicating the study area in blue and development footprint in blue (Google Earth).

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 the provide general heritage context into which the development would be set. This literature 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, land owner, village 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 a Basic Assessment Report (BAR).
- The compilation of a Comments and Response Report (CRR).

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.

Heritage features were located during the physical walkthrough for the project that occurred over a period of 1 day on 2 November 2017. All the recorded features were mapped and georeferenced on 1:50 000 maps or aerial imagery of the area. Site locations were recorded with a GPS Montana handheld device and coordinates were taken when an accuracy reading of less than 4 meters were obtained.

Table 4: Site Investigation Details

	Site Investigation
Date	2 November 2017
Season	Summer –vegetation is knee high having an impact on archaeological visibility. The impact area was however sufficiently covered (Figure 4) to adequately record the presence of heritage resources.



Figure 4: Track logs of the survey in black.

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 could not 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 the NW IDP 2017 – 2022 the Population of Ventersdorp is at 63923. The following information was also obtained from the 2016 – 2017 IDP: *“The Former Ventersdorp’s LED strategy indicated that Ventersdorp Municipality is driven mostly by the agriculture sector which contributes 49% to the total economy of Ventersdorp, followed by manufacturing at 20% and community services – including general government – at 14% as indicated on Census 2011. Agriculture is dominated by large scale commercial farming specializing in production of grains, cereals, beef and mutton. There are insignificant small-scale farming activities.*

The businesses in Ventersdorp are in fairly good condition with exception of a few buildings, but overall the CBD area does not look dilapidated as some of its neighboring towns. The parking within the CBD is still a problem and needs to be addressed”

5 Description of the Physical Environment:

The proposed development area measures approximately 320 hectares in size and will be situated adjacent and on the southern side of Ventersdorp town and the adjoining Tshing township. Ventersdorp is the seat of the local municipality and is also the economic and commercial hub of the region. The eastern boundary is bordered by the Skoonspruit and an extensive marshy area.

The southern boundary is defined by a railway line and farm land is situated to the west of the proposed site. This development will be an expansion to the south of the residential boundaries of the town and the township. The N14 and R30 arterial tar roads pass through the proposed development area.

The prevailing vegetation type and landscape features of the area form part of the Vaal-Vet Sandy Grassland. It is described as a plains-dominated landscape with some scattered, slightly undulating plains and hills. It is mainly occupied with low-tussock grasslands with an abundant karroid element. The dominance of *Themeda triandra* (red grass) is an important feature of this vegetation unit. The increase of other grass species is generally attributed to heavy grazing and/or erratic rainfall (Mucina & Rutherford, 2006). The proposed site still shows many features of the described grassland. The site slopes down south from Ventersdorp town to an unnamed stream just to the north of the N14. This stream crosses the site from west to east from the Tshing township and joins the Skoonspruit to the east of the proposed site. A small dam is situated within this stream and a municipal pump station is also situated next to it. Overall the whole site also slopes down gently to the east towards the Skoonspruit.

Several rocky outcrops were also encountered during the fieldwork phase. These were natural occurrences although some of them looked like mounds of rocks from cleared fields.



Figure 5. General site conditions



Figure 6. General site conditions



Figure 7. General site conditions



Figure 8. Dumping in study area



Figure 9. General site conditions



Figure 10. General site conditions



Figure 11. General site conditions

Figure 12. Rocky outcrop in study area

6 Results of Public Consultation and Stakeholder Engagement:

Adjacent landowners and the public at large were informed of the proposed activity as part of the BA process. Site notices and advertisements notifying interested and affected parties were placed at strategic points and in local newspapers as part of the process. No heritage issues or concerns were raised during this process.

7 Literature / Background Study

The following studies were conducted in the surrounding area:

Author	Year	Project	Findings
Dreyer, C.	2006	The First phase cultural and archaeological heritage assessment of the proposed developments at the farms Bovenste Oog 63IQ, Sommerville 62 IQ, Preston Pans 59IQ and Drylands 64 IQ, Ventersdorp, North West Province.	Graves, a cemetery, ruins of stone built structures and historical structures.
Birkholtz, P.	2008	Phase 1 Heritage Impact Assessment Proposed Etruscan Diamonds (Pty) Ltd Development Situated on The Remaining Extent Of The Farm Nooitgedacht 131 IP, Zwartrand 145 IP And Hartbeeslaagte 146 IP, Magisterial District Of Ventersdorp, North West Province	Two historic farm dwelling, four cemetery sites and two Later Stone Age sites
Kusel, U.	2007	Cultural Heritage Resource Assessment of Portion 9 and 146 of the farm Klipplaatdrift 214 IP, Ventersdorp North West Province.	No sites were recorded.
Kusel, U.	2011	Cultural Heritage Resources Impact Assessment of The Farm Roodepoort 191 IP Ventersdorp North West Province	Remains of an old swimming pool that is older than 60 years were recorded.

7.1 Archaeology of the area

The history of the surrounding area will be briefly discussed. Sources for the history of the area surrounding the study area include secondary source material, maps, electronic sources, and archival documents.

South Africa has a long and complex Stone Age sequence of more than 2 million years. The broad sequence includes the Later Stone Age, the Middle Stone Age and the Earlier Stone Age. Each of these phases contain sub-phases or industrial complexes, and within these we can expect regional variation regarding characteristics and time ranges.

South Africa has a long and complex Stone Age sequence of more than 2 million years. The broad sequence includes the Later Stone Age, the Middle Stone Age and the Earlier Stone Age. 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 Iron Age as a whole represents the spread of Bantu speaking people and includes both the pre-Historic and Historic periods. It can be 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.

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. No Sites dating to the Early or Middle Iron Age have been recorded or is expected in the study area. A well-known Late Iron Age site is located south of Carletonville in the Gatsrand Mountain Range.

Some BaTswana groups settled in the Ventersdorp region in the mid-18th century, but fled the area in the early 19th century during an invasion by other groups. Most of them fled to the Free State. The baKwena ba Mogôpa is related to the bakwena ba Modimosana of Rustenburg, having split off from them in the past. While the largest settlement always remained in Rustenburg, there were also other settlements including Ventersdorp (Birkholtz 2008).

The town was established on the farm Roodepoort 22, owned by Mr JH Venter. It is believed that Venter allocated stands as early as 1860. With the development of a farming community in the area, more and more people bought property from Venter. The first church was built in 1889. This building was later used as the church hall, with the completion of a larger red brick church in 1912. More people settled in the town after the discovery of diamonds in the area. Gold was also discovered but turned out not to be worth mining.

7.2 Battles Close to the Study Area

During the South African Anglo Boer War, most of the men joined the Boer commandos. When the British introduced their scorched earth policy, an Irish soldier, G. Shaw, considered the tactic immoral. He joined the Boers and stayed with the Engelbrecht family at Ventersdorp. Shaw was eventually captured by the British. After his capture he was tried and executed. He was buried in a far corner of the cemetery, away from both British and Boer soldiers. The site is known as The Grave with Eternal Flowers. The grave is under a tree which stays in bloom for months (<http://www.boerenbrit.com/archives/4030>).

7.3 Memorial of JB Marks

John Beaver (JB) Marks was born on 21 March 1903 in Ventersdorp. His father was a staunch supporter of the African National Congress (ANC). Marks obtained a teaching diploma from Kilnerton Teachers College, but was also expelled due to participating in a student strike against the conditions at the school. He joined the African National Congress (ANC) and later became the President of the Transvaal Branch (www.sahistory.org.za). J. B. Marks subsequently joined the Communist Party of South Africa (CPSA) in 1928. He narrowly escaped assassination in 1929 when a fascist opened fire on the platform he was speaking from. He was elected to the Central Committee of the Communist Party in 1932 and eventually became Chairman of the SACP. In 1942, he was elected to the presidency of the Transvaal Council of non-European trade unions and became the President of the African Mine Workers Union, which grew to a membership of over 50,000. As a leader of the 1952 Defiance Campaign, Marks was banned under the Suppression of Communism Act. He still took part in the Defiance Campaign and served a prison sentence for breaking a banning order (www.sahistory.org.za). After being banned, Marks continued to be active. Marks left South Africa in 1963 when the ANC's National Executive Committee (NEC) asked him to leave. He went to Tanzania through Botswana (www.sahistory.com)

Marks was struck down by an illness in 1971 while on active duty as Treasurer-General at the headquarters of the ANC External Mission in Tanzania. He was sent to Russia for medical treatment. He suffered a fatal heart attack and died on 1 August 1972 in Moscow, Russia. In 1999, the South African Government conferred the Order for Meritorious Service, Class I: Gold, posthumously, on Marks. Following negotiations, the Russian government repatriated JB Marks' remains to South Africa on 1 March 2015 (www.sahistory.org.za)

7.4 Cultural landscape

The site under investigation includes a large area that is situated just to the south of Tshing and Ventersdorp in North West Province. The study area is rural in character and was partly cultivated prior to 1954 (Figure 13). Although the area was previously ploughed and planted, it was not intensively cultivated. Some railway and road developments can also be seen on the 1954 map (Figure 13).

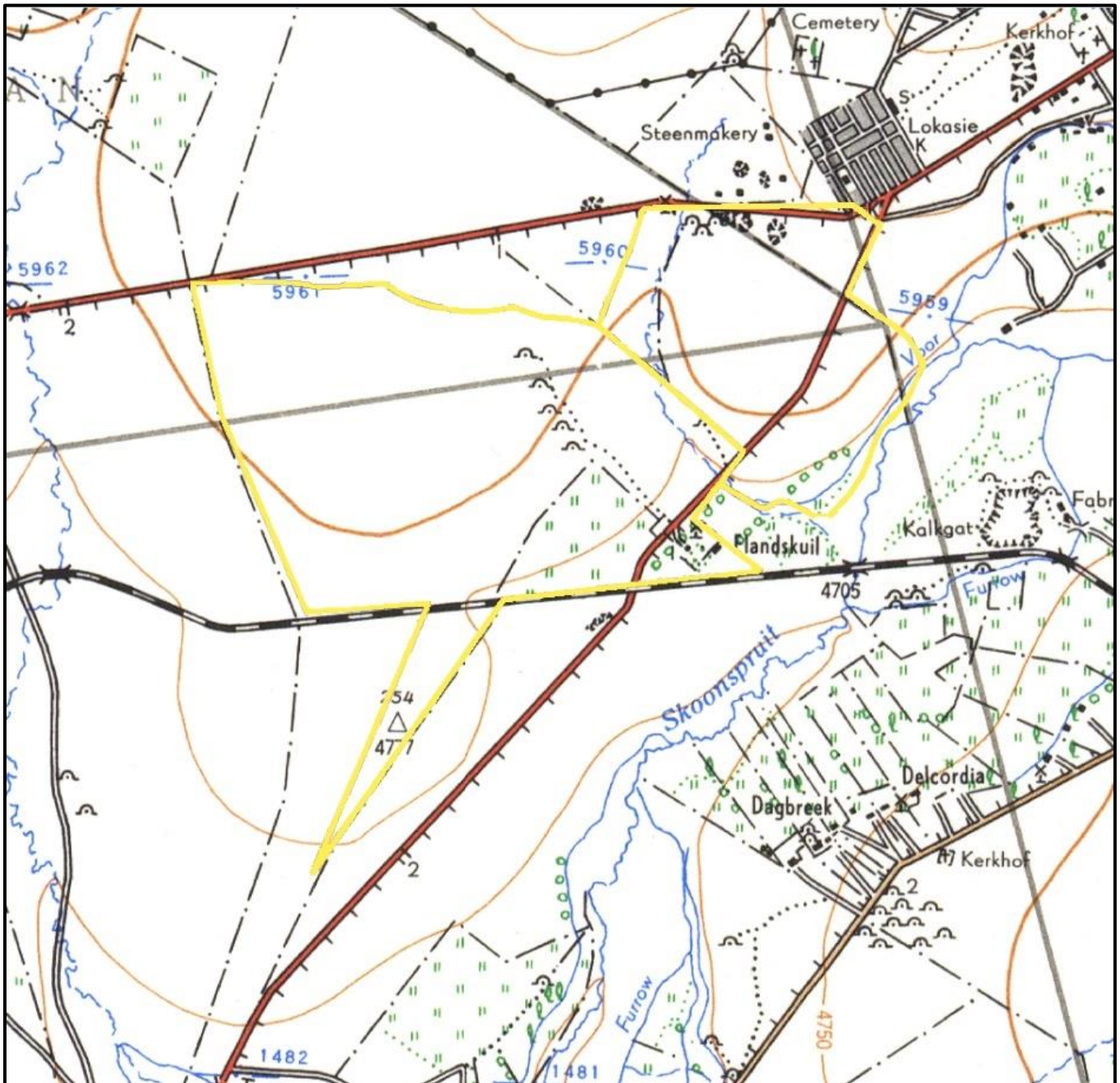


Figure 13. 1954 Topographical map of the site under investigation. The approximate study area is indicated with a yellow border. One can see a main road running along the northern border of the study area, and another main road went through the eastern part of the site. A railway line went through the southern part of the property. In the north eastern part of the study area, one can see three traditional huts / kraals, a wind mill and small excavations near a main road. To the south west, five more huts can be seen near a trail / footpath, and a section of cultivated land directly to the south thereof. To the east of the cultivated field, on the other side of the main road, one can see a wind mill, two buildings and a small orchard. A trigonometric station can be seen in the southern part of the property. A brick factory, a township / location and two cemeteries can be seen to the north of the study area, and Elandskuil, Kalkgat, Dagbreek and Delcordia are visible to the east. (Topographical Map 1954)

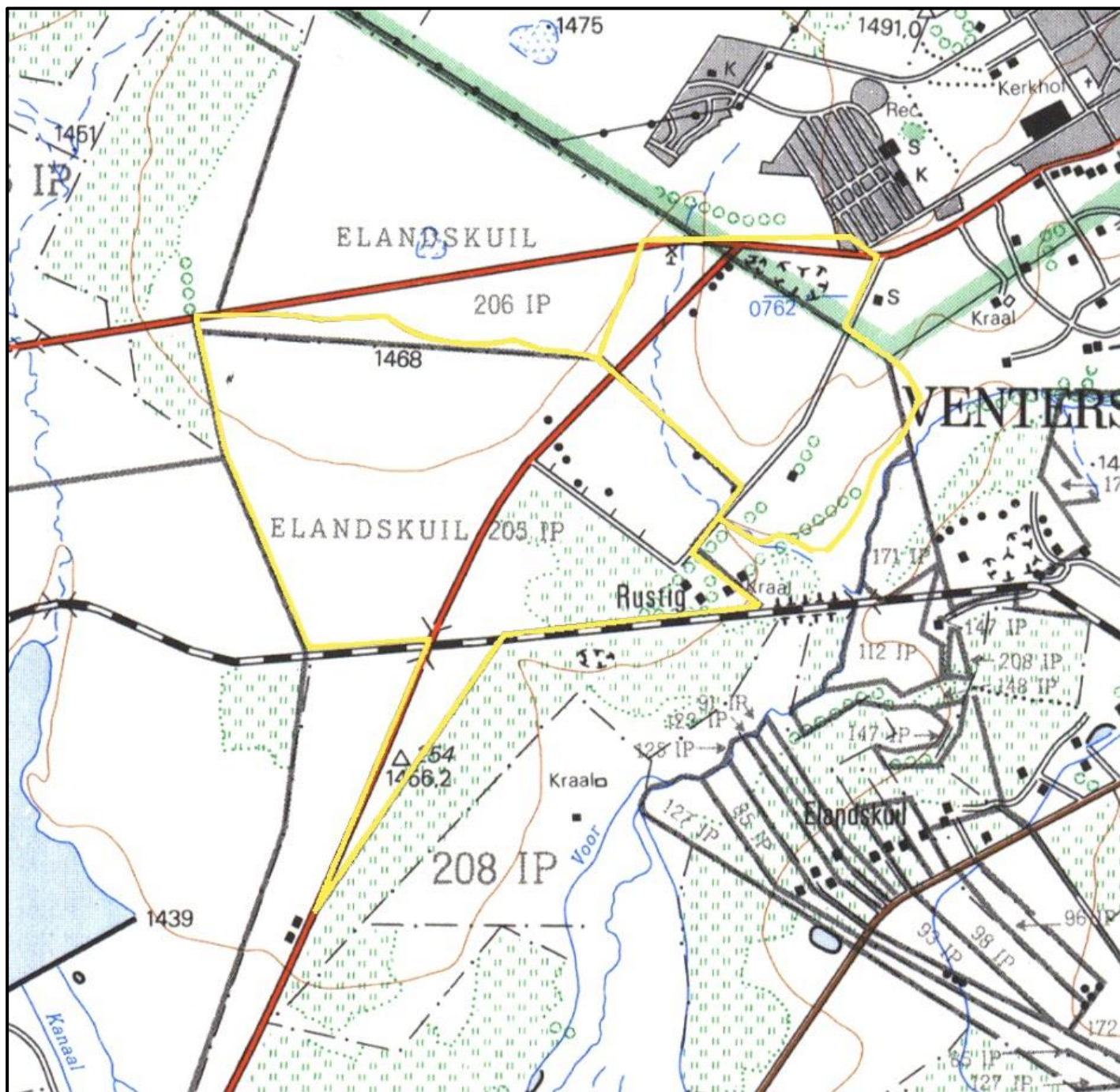


Figure 14. 1972 Topographical map of the site under investigation. The approximate study area is indicated with a yellow border. One can see a main road running along the northern border of the study area, and another main road cut through the central part of the site. Two farm roads also went through the study area, and railway line went through the southern part of the property. Four traditional huts / kraals can be seen along the main road in the north eastern corner of the study area, and an excavation site is visible just to the east thereof. Four more buildings and five huts can be seen to the south, east of a main road. A section of land to the east of the road was under cultivation, and just to the east thereof one can see "Rustig" (probably the given name of a farmstead). Only one hut and no other developments can be seen to the west of the main road that runs through the property. A trigonometric station can be seen in the southern part of the study area. (Topographical Map 1972)

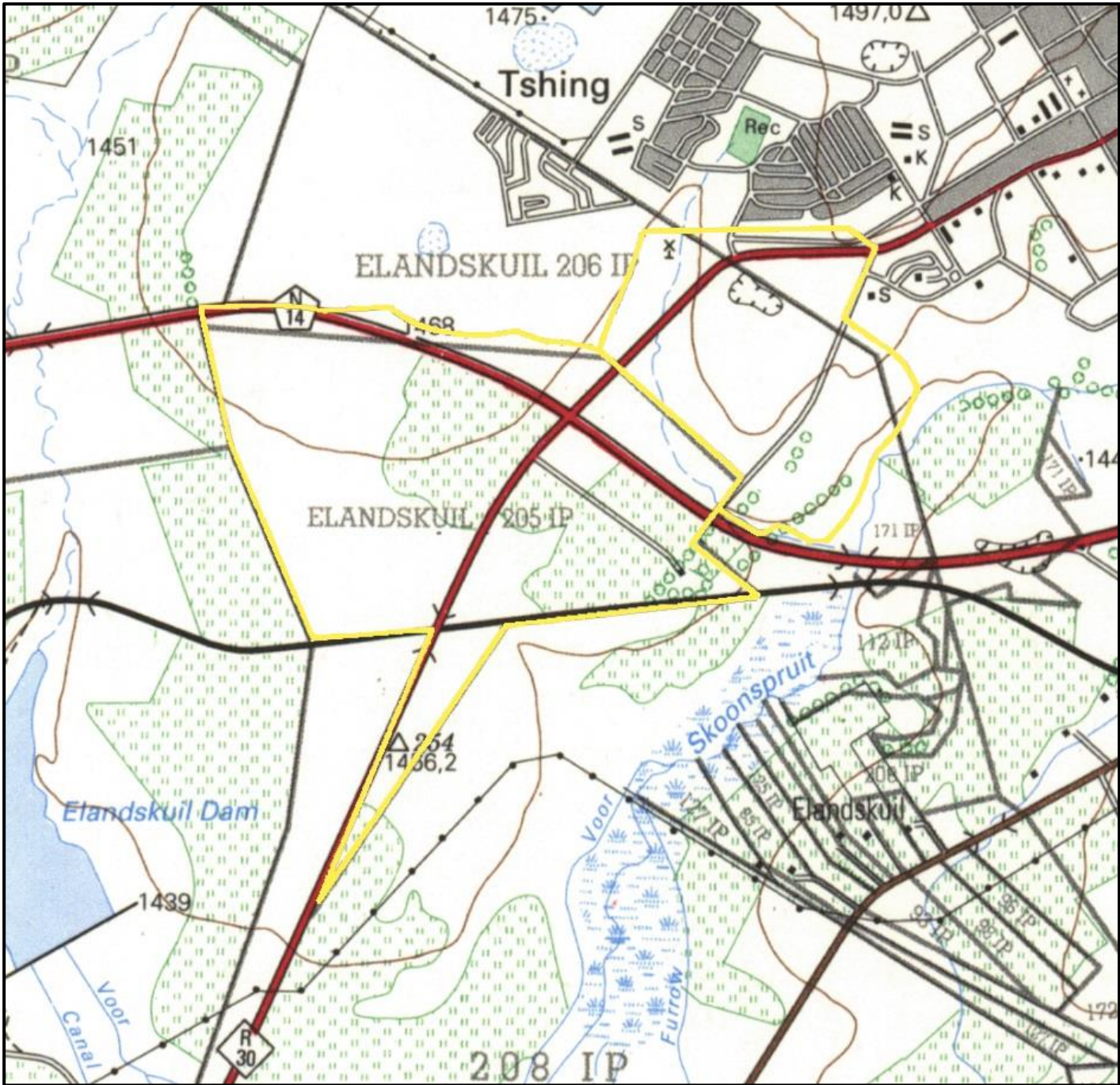


Figure 15. 1992 Topographical map of the site under investigation. The approximate study area is indicated with a yellow border. By this time the N14 National Road had been constructed, and went through the area under investigation, intersecting the R30 Main Road and thus dividing the study area into four sections. A wind mill can be seen in the northern section, and in the eastern section developments include an excavation site and a farm road. In the southern section one can see a farm branching from the R30 and possibly leading to a small building, as well as cultivated fields. More cultivated lands are visible in the western section of the property. A trigonometric station can be seen in the southern part of the study area. (Topographical Map 1992)

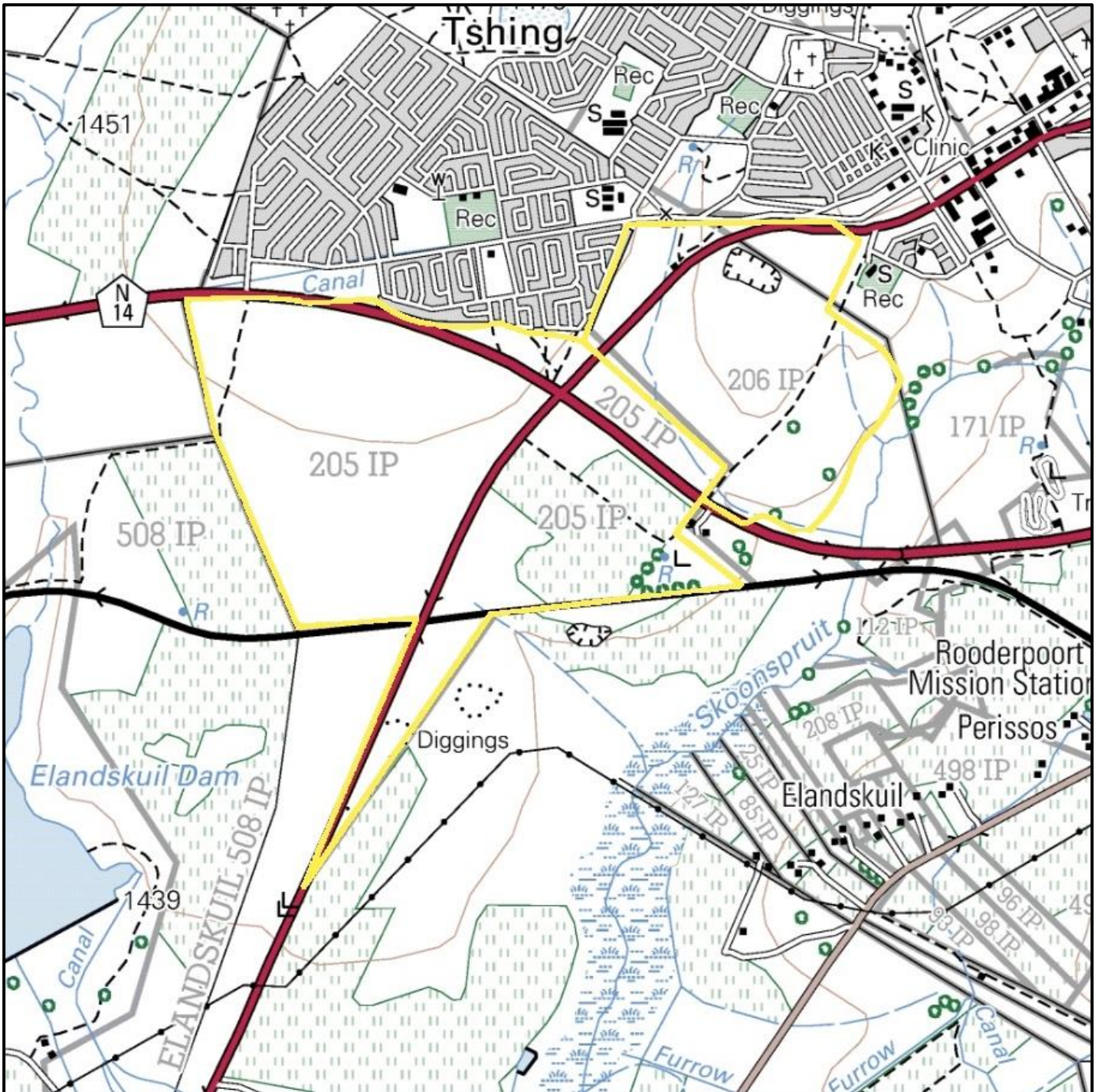


Figure 16. 2006 Topographical map of the site under investigation. The approximate study area is indicated with a yellow border. Developments to the north of the N14 and R30 include a building, a number of tracks / footpaths, and possibly a wind mill. In the section to the east of the roads, one can see an excavation site and a track / footpath. Cultivated fields, a track / footpath, a small reservoir and a ruin can be seen in the area to the south of the intersection. Further to the south, a diggings site is also visible. Developments in the western section include only a track / footpath near the north western corner of the study area. (Topographical Map 2006)



Figure 17. 2016 Google Earth image of the area under investigation. (Google Earth 2016)



Figure 18. 2017 Google Earth image showing the study area in relation to Ventersdorp, the N14 National Road, the R30 Main Road and other sites. (Google Earth 2017)

8 Findings of the Survey

The development of the N14 and R30 roads which dissect the proposed site would have caused some disturbances to the area along those roads. A few power lines are also situated within the proposed site. These power lines mostly follow the arterial N14 and R30 roads to service the local communities. An informal settlement is situated at the eastern extreme of the study area close to the Skoonspruit. This area was not entered or surveyed due to safety concerns. Based on the lack of significant sites in the study area this small section is unlikely to contain sites of significance.

A fuel station and its associated shops are situated along the N14 next to the eastern boundary of the site. The J B Marks Memorial site is situated in the extreme north-eastern corner of the proposed site, but according to the developer will not be affected by the development. J B Marks' remains were repatriated from Russia and were reburied here in 2015. This memorial was unveiled in February 2017.

It seems as if most of the property was previously used for the grazing of live-stock and to a lesser extend for commercial cultivation. Large sections of the proposed site had damaged fences or was not fenced off at all. This leads to the illegal dumping of rubbish and other materials on some parts of the study area. The extreme southern parts of the Farm Elandskuil 205 IP were exposed to earth moving activities. This area was quarried most probably during the construction of the N14 and/or R30 roads.

The security guard at the J B Marks Memorial, Mr. Piet Schoeman, was interviewed during the investigation. He stated that he worked on the indicated properties for many years for a farmer, Mr. Gawie Yssel. Mr. Schoeman pointed out a cemetery situated near the north-western corner of the proposed site and mentioned that he did not know of any other sites of heritage value except for the memorial and grave he was guarding every day. Neither the memorial nor the grave will be impacted on by the development.

9 Description of Identified Heritage Resources:

Table 5: Recorded features and coordinates

Feature Number	Type Site	Longitude	Latitude	Significance
ELK 1	Cemetery	26.7859460413	-26.3272410259	High social significance
ELK 2	Monument	26.8095255923	-26.3241046853	High significance
ELK 3	Ruin	26.8030509911	-26.3350109663	No significance

9.1 Site Distribution Map

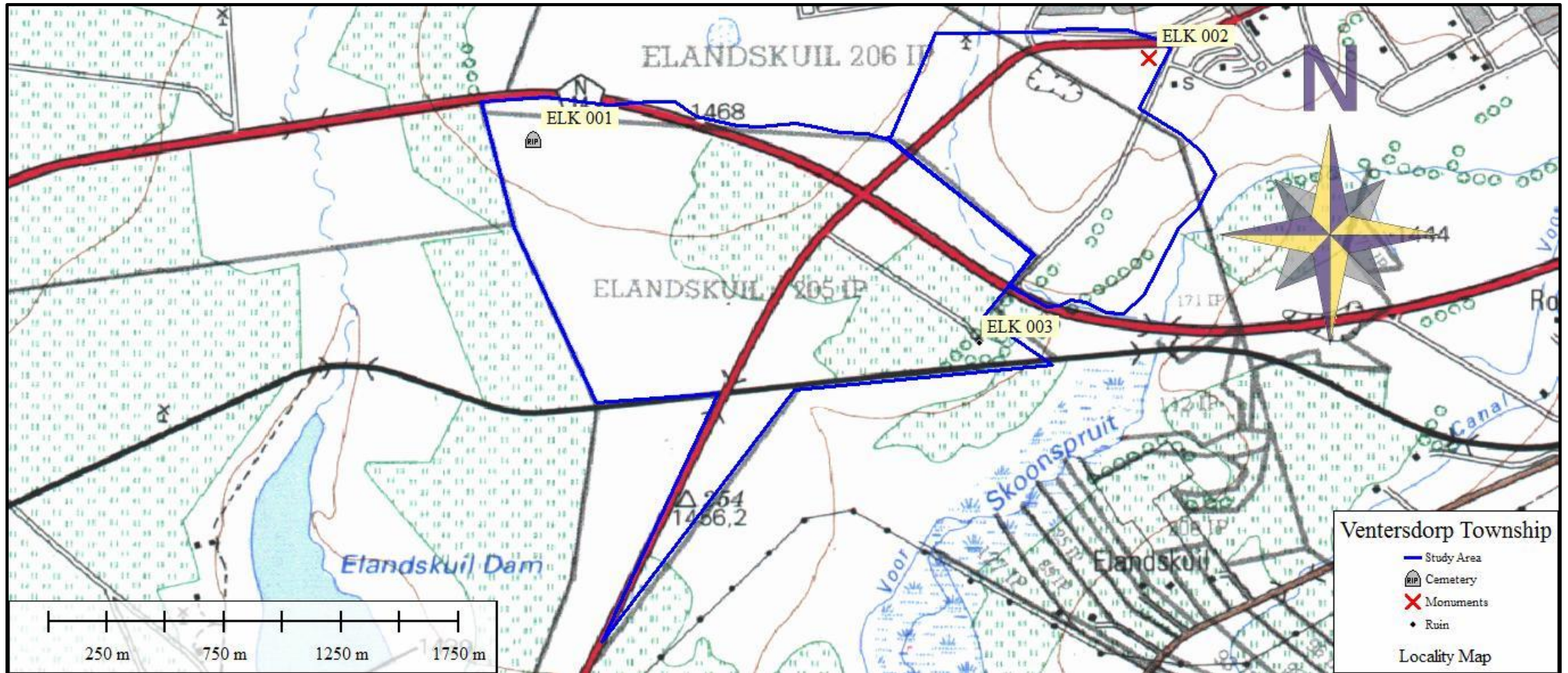


Figure 19. Recorded sites in the study area.

9.2 Built Environment (Section 34 of the NHRA)

No standing structures older than 60 years occur in the study area. The ruins of a farmstead were recorded at ELK 3. The site is indicated on the 1972 historical map but not on the 2006 map, where the area is marked as a ruin. The site is not indicated on the 1954 map and is therefore assumed not to be older than 60 years.

The structure has been totally destroyed and is of no heritage value. It should be kept in mind that sites like these are often associated with unmarked graves and it is recommended that the site should be monitored during construction.



Figure 20. General site conditions ELK3



Figure 21. General view ELK3



Figure 22. General site conditions ELK3



Figure 23. General site conditions ELK3

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

No archaeological sites or material of significance was recorded during the survey and a palaeontological desktop study (Rossouw 2017) recommended exemption from further palaeontological work for the project. No further mitigation prior to construction is recommended in terms of Section 35 for the proposed development to proceed.

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

A small informal cemetery was identified as ELK 1. The cemetery is not fenced off and is situated approximately 150m south of the N14 tar road in the north-western corner of the proposed development site. The cemetery has 36 graves. The graves were placed in three unequal lines next to each other and all of them are orientated from west to east.

Three of the graves have formal granite dressings and headstones. All three of the headstones were inscribed. The inscriptions indicated that the graves date from between 1947 and 1979. Two of these headstones were damaged and have fallen over. One other grave has a cement frame and a cement headstone without an inscription. The rest of the graves have informal mounds of packed rocks as dressings and do not have any headstones. The graves are overgrown with grass and other vegetation and were not maintained recently.

The developer indicated that the graves will not be disturbed during the development as they planned to leave them in a public open space for the families still to have access to them.

Site size: Approximately 50m x 20m.

If any additional graves are located in future they should ideally be preserved *in-situ* or alternatively relocated according to existing legislation.



Figure 24. General site conditions – Cemetery



Figure 25. General site conditions – Cemetery



Figure 26. Grave in the cemetery



Figure 27. Grave in cemetery



Figure 28. Grave in cemetery



Figure 29. Grave in Cemetery

9.5 Cultural Landscapes, Intangible and Living Heritage.

The site under investigation includes a large area that is situated just to the south of Tshing and Ventersdorp. The study area is rural in character and was partly cultivated prior to 1954. Although the area was previously ploughed and planted, it was not intensively cultivated. Some railway and road developments can also be seen from the 1954 map (Figure 13). The proposed development is in line with the current residential landscape use of the surrounding area and will not have a severe negative impact on significant cultural landscapes or views. Visual impacts to scenic routes and sense of place are also considered to be low due to the extensive developments in the area.

9.6 Memorials and Monuments

Site ELK 002:

The JB Marks Memorial site was identified at this location. It is situated on the southern fringes of Ventersdorp town and on the southern side of the R30 road as it is entering the town. The site is fenced off and a security guard controls access to the site. The fenced off site measures approximately 50m x 50m in size.

The site consists of a memorial plaque, the formal grave of JB Marks (Liberation struggle hero) and a large statue of him. JB Marks was born in Ventersdorp, but passed away in Moscow in Russia in 1972. His remains were repatriated from Russia and were reburied at this location. President Jacob Zuma unveiled the Memorial in 2015. The site was declared a National Heritage Site and is protected under the National Heritage Act 25 of 1999.

Site size: Approximately 50m x 50m.



Figure 30. Memorial site – general conditions



Figure 31. General view of memorial site.



Figure 32. Memorial site



Figure 33. Memorial site



Figure 34. Memorial plaque



Figure 35. Memorial plaque

9.7 Battlefields and Concentration Camps

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

9.8 Potential Impact

Neither the cemetery nor the memorial site will be impacted on by the development and a 30-meter buffer zone will be incorporated for both sites (Annexure A). The farmstead has been destroyed to such an extent that it has no heritage value and based on historical map it is deduced that it is not older than 60 years and was destroyed prior to 2006.

9.8.1 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 all of the recorded heritage sites. Impacts include destruction or partial destruction of non-renewable heritage resources.

9.8.2 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 all of the recorded heritage sites. Impacts include destruction or partial destruction of non-renewable heritage resources by earthworks and a influx of people into the area.

9.8.3 Operation Phase:

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

Table 6. Impact of project – ELK 1 and 2

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 and paleontological material or objects.		
	Without mitigation	With mitigation (Preservation/ excavation of site)
Extent	Local (3)	Local (3)
Duration	Permanent (5)	Permanent (5)
Magnitude	High (8)	High (8)
Probability	Not Probable (2)	Not Probable (2)
Significance	32 (Low)	32 (Low)
Status (positive or negative)	Negative	Negative
Reversibility	Not reversible	Not reversible
Irreplaceable loss of resources?	Yes	No
Can impacts be mitigated?	Yes	Yes
Mitigation:		

As per the current lay the sites can be retained *in situ*. It is recommended that the site should be fenced with an access gate and a 30 m bufferzone. A Site management plan is recommended to ensure the sites area protected for future generations.

Residual Impacts:

If sites are destroyed this results in the depletion of archaeological record of the area. However, if sites are recorded/mitigated or preserved this adds to the record of the area and can be seen as a positive impact.

Table 7. Impact Assessment - Feature ELK 3

	Without mitigation	With mitigation (Preservation/ excavation of site)
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 and paleontological material or objects.		
Extent	Local (3)	Local (3)
Duration	Permanent (5)	Permanent (5)
Magnitude	Low (2)	Low (2)
Probability	Probable (3)	Probable (3)
Significance	30 (Low)	30 (Low)
Status (positive or negative)	Negative	Negative
Reversibility	Not reversible	Not reversible
Irreplaceable loss of resources?	Yes	No
Can impacts be mitigated?	No	Yes
Mitigation:	No mitigation is required pre construction but the site should be monitored during construction as sites like these are known to contain unmarked graves, therefor a chance find procedure is recommend as part of the EMPr.	
Residual Impacts:	If sites are destroyed this results in the depletion of archaeological record of the area. However, if sites are recorded/mitigated or preserved this adds to the record of the area and can be seen as a positive impact.	

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 Ventersdorp development the project will, with the recommended mitigation measures and management actions, be mitigated to an acceptable level. However, this and other projects in the area could have an indirect impact on the heritage landscape. It should also be noted that projects such as these allow for the recording and identification of otherwise unknown heritage resources and through successful and responsible mitigation the archaeological record of the area will be added onto.

10 Recommendations and conclusion

HCAC was appointed to conduct a Heritage Impact Assessment of the proposed Ventersdorp Township Development. The development footprint was assessed both on desktop level and by a field survey. The development footprint was assessed both on desktop level and by a field survey. The field survey was conducted as a non-intrusive pedestrian survey on the remainder of portion 205, remainder of 3/205 and the remainder of portion 206 of the farm Elandskuil 205 & 206 IP as development plans are not available at this stage. The proposed development area is situated adjacent and on the southern side of Ventersdorp town and the adjoining Tshing township. It seems as if most of the property was previously used for the grazing of live-stock and to a lesser extend for commercial cultivation.

No archaeological sites or material of significance was recorded during the survey and a palaeontological desktop study (Rossouw 2017) recommended exemption from further palaeontological work for the project. 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 older than 60 years occur within the study areas. However, a single demolished ruin of a farm house was recorded. Sites like these are often associated with unmarked graves and it is recommended than a chance find procedure is implemented for the project. In terms of Section 36 of the Act a single cemetery was recorded. This site must be fenced off with an access gate and a 30-meter buffer zone. If any other graves are located in future they should ideally be preserved *in-situ* or alternatively relocated according to existing legislation. The JB Marks Memorial site (Section 37) with his grave was recorded in the study area. This is a declared National Heritage Site and must also be preserved *in-situ* with a 30-meter buffer zone and included into the town planning scheme as an open area.

During the public participation process for the project no heritage concerns were raised. The cultural landscape in which the proposed development is located is characterised by residential developments and associated elements like road infrastructure. The proposed development is in line with the current residential landscape use of the surrounding area and will not have a severe negative impact on significant cultural landscapes or viewsapes.

The impacts on identified heritage resources in the study area resulting from this project can be mitigated to an acceptable level with the correct mitigation measures and management actions. Furthermore, the socio-economic benefits also outweigh the negative impacts of the development (if the correct mitigation measures are employed) as the development will provide accommodation in the area and support job creation. It is therefore recommended the project is authorised from a heritage perspective on the condition that the recommendations as made in this report are implemented as part of the EMPr and based on approval from SAHRA.

General Recommendations

- The identified features should be mapped and indicated on development plans.
- A Heritage Management Plan should be implemented for the project.
- 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 therefor 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 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 relating to heritage resources.

10.1 Chance Find Procedures

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 therefor 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.

10.2 Reasoned Opinion

From a heritage perspective, the proposed project can continue as the impacts of this project can be mitigated to an acceptable level. The socio-economic benefits also outweigh the negative impacts of the development if the correct mitigation measures are employed as the development will provide accommodation in the area and support job creation.

If during the pre-construction phase or during construction, any archaeological finds are made (e.g. graves, stone tools, and skeletal material), the operations must be stopped, and the archaeologist must be contacted for an assessment of the finds. Due to the subsurface nature of archaeological material and graves the possibility of the occurrence of unmarked or informal graves and subsurface finds cannot be excluded, but can be easily mitigated by preserving the sites *in-situ* within the development.

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MAPS

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Annexure A

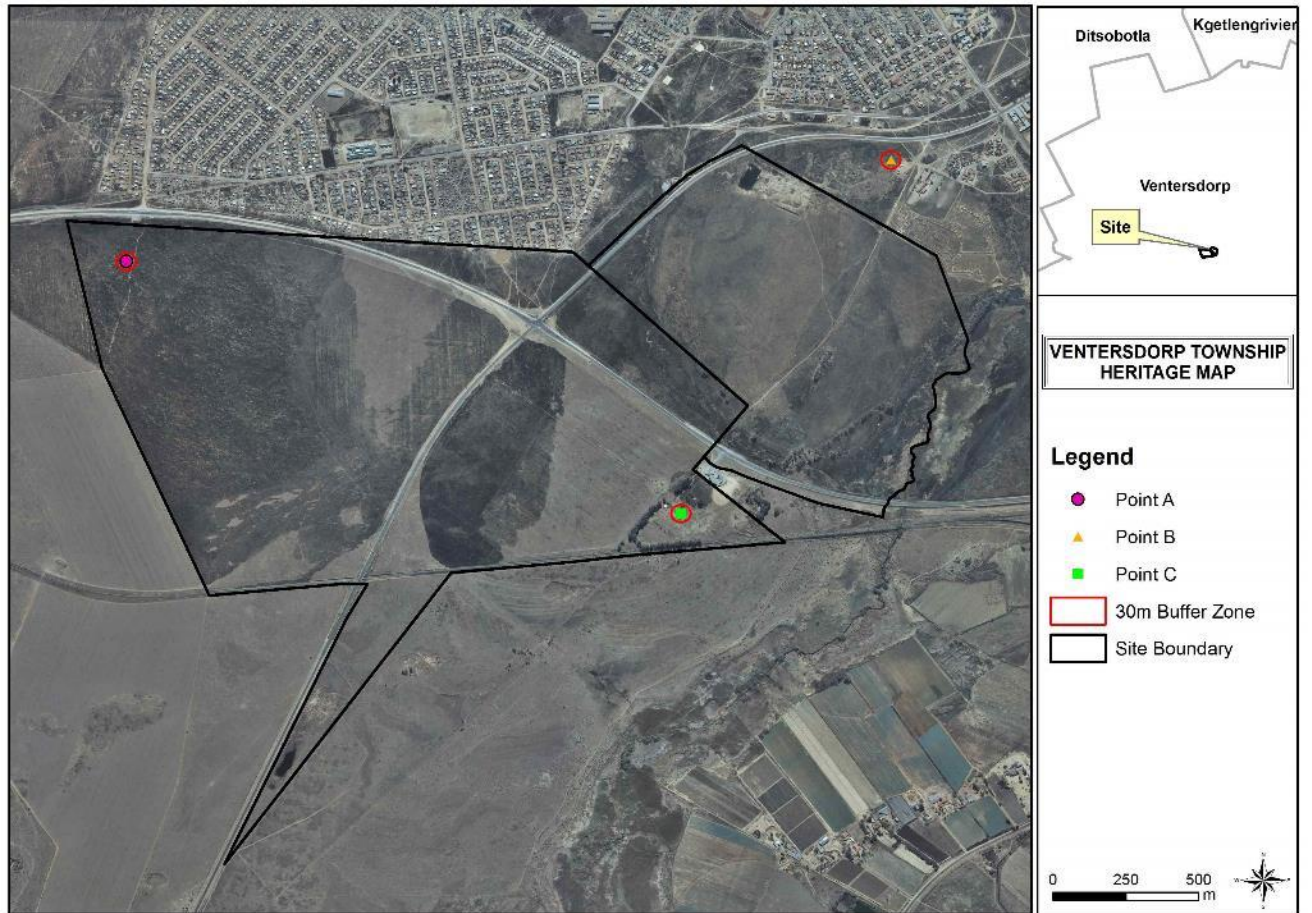


Figure 36. Map indicating sites and buffer zones.

Curriculum Vitae of Specialist

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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 Chlookop 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
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 - 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:

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