



**PHASE I ARCHAEOLOGICAL AND CULTURAL HERITAGE
IMPACT ASSESSMENT SPECIALIST REPORT FOR THE
PROPOSED AERORAND SOUTH TOWNSHIP ESTABLISHMENT
ON PORTION 341 OF REMAINDER OF PORTION 27 OF THE FARM
MIDDELBURG TOWN AND TOWNLANDS 287-JS WITHIN STEVE
TSHWETE LOCAL MUNICIPALITY OF NKANGALA DISTRICT
MUNICIPALITY IN MPUMALANGA PROVINCE.**

September, 2018

Reviewed by Ms. Balungile Mabele

©COPYRIGHT

This Phase 1 Archaeological Report contains intellectual information that is protected by copyright in favour of *Vhubvo Consultancy Cc*. Thus, it may not be reproduced or edited without prior written consent of *Vhubvo Archaeo-Heritage Consultant Cc*; it has been exclusively prepared for Steve Tshwete Local Municipality.



DECLARATION

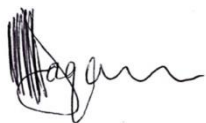
ABILITY TO CONDUCT THE PROJECT

Munyadziwa Magoma is a professional archaeologist, having obtained his BA degree in Archaeology and Anthropology at University of South Africa (UNISA), an Honours degree at the University of Venda (UNIVEN), and a Master's degree at the University of Pretoria (UP). He is an accredited Cultural Resource Management (CRM) member of the Association for Southern African Professional Archaeologists (ASAPA). Munyadziwa is further affiliated to the South African Archaeological Society (SAAS), the Society of Africanist Archaeologists (SAfA), The Historical Association of South Africa (HASA), the International Association of Impact Assessment (IAIASa) and the International Council of Archaeozoology (ICAZ). He is also the Assistant Research Article Editor: South African Archaeological Bulletin (SAAB), and has more than ten years' experience in heritage management, having worked for different CRM organisations and government heritage authorities. As a CRM specialist, Munyadziwa has completed well over one thousand Heritage and Archaeological Impact Assessments (H/AIA) for developmental projects situated in all provinces of the Republic of South Africa. The AIAs projects he has been involved with are diverse, and include the establishment of major substation, upgrade and establishment of roads, establishment and extension of mines. In addition, he has also conducted Heritage Impact Assessments (HIAs) for the alteration to heritage buildings and the relocation of graves. His detailed CV is available on request.

I, Mr. Munyadziwa Magoma, declare that this report has been prepared independently of any influence as may be specified by all relevant department, institution and organization.

AUTHOR AND CONTACT DETAILS:

Munyadziwa Magoma



Cell: 082 535 6855
Tel: 011 312 2878
Fax: 011 312 7824
E-mail: munyadziwa@vhubvo.co.za

CLIENT CONTACT DETAILS:

 Steve Tshwete Local Municipality

Meshack Mahamba,
Tel: 013 249 7178
E-mail: meshackm@stlm.gov.za

Acknowledgements

The author and the team of Vhubvo Consultancy Cc would like to acknowledge Steve Tshwete Local Municipality officials, NASA and Deeds Office officials as well as community members for their assistance in relation to the conduction of this project, also Google earth and Wikipedia.



EXECUTIVE SUMMARY

Vhubvo Consultancy Cc has been appointed by Steve Tshwete Local Municipality to conduct Cultural Heritage Impact Assessment for the proposed Aerorand South Township on Portion 341 of the Remainder of Portion 27 of the Farm Middelburg Town and Townlands 287 within the jurisdiction of Middleburg Area, in terms of the National Heritage Resources Act No. 25 of 1999 and in compliance with requirements of the Cultural Heritage Survey Guidelines and Assessment Tool for Protected Areas, 2017; SAHRA APM Guidelines: Minimum Standards for the Archaeological & Palaeontological Components of Impact Assessment Reports, 2012 as well as regulations relating to National Environmental Management Protected Areas, 2003.

The Town of Middelburg which is the area where the project is located, was first established by the Voortrekker on the farms of Klipfontein and Keerom on the banks of the Klein Olifants River in the late 1850s. Initially, it was called Nasareth (root from dry land). However, this was changed in 1872 to Middleburg. It is generally accepted that the name Middleburg derived from the geographical positioning of the town's area - central part of Pretoria (Transvaal capital) and Lydenburg (gold mining town). During the Second Anglo Boer War, Middelburg temporary served as the seat of the Transvaal Republic after the siege of Pretoria, and the British built a large concentration camp in the area. The Memorial Museum commemorating the Second Boer War was built next to 1381 graves of women and children who died in the concentration camp. Nevertheless, the history of the area at large began long before the arrival of the Voortrekker some million years ago. The area at large boost some of the well-known sites in South Africa. The most well-known Stone Age site in Mpumalanga is Bushman Rock Shelter near Ohrigstad. The oldest layers there date back to 40 000 years BP and the youngest to 27 000 years BP (Esterhuysen and Smith 2007). Evidence of Late Stone Age is widespread in Mpumalanga and includes four in eMalahleni, two in Lydenburg, 76 in White River and the southern Kruger National Park, 250 in Nelspruit, and eight in Ermelo (Smith and Zubieta 2007, Evers 1981, Whitelaw 1996). The most well-known Early Iron Age site is the Lydenburg head site which provided two occupation dates, namely AD 600 and AD 900 - AD 1100.

The main aim of the study was to entirely identify and document archaeological sites, cultural resources, sites associated with oral histories, graves, cultural landscapes, and any structure of historical significance that may be affected by the proposed township development and associated activities, as well as assess the significance of the cultural resources in terms of their archaeological, historical, scientific, social, religious, aesthetics and tourism value. These will in turn assist the developer in ensuring proper conservation measure in line with the National Heritage Resource Act, 1999 (Act 25 of 1999). The findings of this study have been informed by desktop study, oral interview and field survey. The desktop study was undertaken through SAHRIS for previous Cultural Heritage Impact Assessments conducted in the region of the proposed development, and also for researches that have been carried out in the wider area over the past years.



Background and Need of the Project

Steve Tshwete Local Municipality has succeeded in creating an enabling environment for rapid economic growth, job creation and broadening opportunities. Such has upgraded the municipality to be amongst the fastest growing in the Province, especially in terms of economic and infrastructural development. Of late, the Municipality has experienced a growth of population, partly due to the continued influx of people from other areas. This rapid population growth has by far outpaced the rate of housing delivery in the area; hence the Municipality occupies arguably the second position, after Emalahleni Local Municipality, in terms of housing backlog within Nkangala District Municipality (IDP 2015/2016). As a result, the municipality is having challenges of addressing housing backlog. This proposed project will address some of the key challenges that are being faced by the local municipality in relation to houses.

Receiving Environment

The proposed development is located on a private land whose topography is characterised by even plain, and is owned by the municipality and can be identified as Portion 341 of the Remainder of Portion 27 of the farm Middelburg Town and Townlands 287. This project is currently referred to as Aerorand South Township and is in the Steve Tshwete Local Municipality of Mpumalanga Province. The area is currently vacant of any activities and was previously used for the purpose of farming. The landscape of the nearby area proposed for development is semi-urban and is characterised of industrial landscape, and possesses amongst others infrastructure elements such as major roads and shopping complex. Although transformed, archaeological resources are not unexpected in this area, especially graves in area (s) where there may have been historical farm dwellings. Nevertheless, almost the entire proposed area has been disturbed by past agricultural activities. If any archaeological sites existed here in the past, it might have been completely destroyed during the time when the area was been established for farming purposes. The area is boarded by Dr. Mandela Dr on the northern section and the Shopping Mall on the eastern section. The south and western section are vacant space which are encroached by scrub grass indicating that the area was utilized for farming purposes and had been disturbed.

Impact statement

The development of the proposed Aerorand South Township will result in diminutive threats to archaeological and graves sites in the area, with impacts ranging from low to very low. Thus, impact of the development of Aerorand South Township on archaeological remains is rated as being low (see Table 2). Noteworthy that the nature of the project will cause intense impact to the ground. The presence of the proposed new houses will have no negative visual impact on heritage sites, since the closest heritage site is approximately 5km away (see Figure 13 and 14). This proposed project is synonymous with other infrastructures in the area.



Restrictions and Assumptions

Despite that the area had been extensively surveyed, it is possible that some materials could have been hidden underground and only exposed once construction resume, however, given the historical nature of what the site was used for (farming), such is very minimal. Nevertheless, this report has offered steps that must be taken in such an event. It is assumed that any sites, features and objects, including sites of intangible heritage potential has been disturbed/ lost value/ and or currently irrelevant as a result of decades of farming and other development in the area and surrounding enviro. Note that the visibility of the area proposed for development was high, leading to the successful conduction of this report.

Table 1: Possibility of Archaeological/ Heritage materials on the area around the proposed site

Landscape type	Description	Occurrence still possible	Likely occurrence
Archaeology	Early, Middle and Late Stone Age Early and Late Iron Age	No	Unlikely
		Yes	Unlikely
	Pre-colonial burials Graves of victims of conflict Graves older than 100 years Graves older than 60 years Graves younger than 60 years	Yes	Unlikely
Built Environment	Formal public spaces Historical structures Places associated with social identity/ displacement	Yes	Likely
	Historical farm yards Historical farm workers villages Irrigation furrows Historical routes Distinctive types of planting	Yes	Likely
Landscape usage	Sites associated with living heritage e.g., initiation school sites, Sites of political conflict Sites associated with a historic event/person	Yes	Unlikely
	Historic mission settlements	Yes	Likely

Survey Findings and Discussion

The main aim of the survey was to investigate potential heritage resources that occurs within the proposed area as well as to determine if there is any related negative issues that can prevent the proposed development from taking place. The Phase 1 Archaeological and Cultural Heritage Impact Assessment for the proposed Aerorand South Township documented two structures which are located on the southerst tip of the proposed area. These structures are the only tangible remnants of past land use, i.e., farming, and although they are of low heritage value (see Table 2), they are protected under the National Heritage Resource Act (25 of 1999), and cannot be demolished without a permit. Beside these structures, there are no other resources/ and or materials of cultural-heritage that have been noted in the proposed area.








Recommendations

The above mentioned structures are protected under Section 3 of the National Heritage Resource Act (25 of 1999), it is thus recommended that a permit for demolishing be applied with the Mpumalanga Provincial Heritage Resources Authority (MPHRA) before development of the above-mentioned project proceed. Due to the low heritage significance of these structures, and as sanctioned by grading systems in terms of the National Heritage Resources Act for structures of these significance, there is no detailed mapping and documentation required.

This report further reminds the developer that it is its responsibility to notify contractors and workers about archaeological material (e.g., pottery, stone tools, remnants of stone-walling, graves, etc) and fossils (prehistoric plant or animal embedded in rock and preserved in petrified form) that may be located underground. Thus, unavailability of archaeological material does not mean absence, archaeological material might be hidden underground, and only becomes visible once construction resumes. As such, the client is reminded to take precautions during construction.

Pre-construction education and awareness training

Prior to construction, contractors should be given training on how to identify and protect archaeological remains that may be discovered during the project. The pre-construction training should include some limited site recognition training for the types of archaeological sites that may occur in the construction areas. Below are some of the indicators of archaeological site (s) that may be found during construction:

-  Flaked stone tools, bone tools and loose pieces of flaked stone;
-  Ash and charcoal;
-  Bones and shell fragments;
-  Artefacts (e.g., beads or hearths);
-  Packed stones which might be uncounted underground, and might indicate a grave or collapse stone walling.

In the event that any of the above are unearthed, all construction activities within a radius of at least 10m of such indicator should cease and the area be demarcated by a danger tape. Accordingly, a professional archaeologist/ and or MPHRA officer, and a police officer (in case of bones) should be contacted immediately. In the meantime, it is the responsibility of the contractor to protect the site from publicity (i.e., media) until a site has been assessed by the professional. Noteworthy that any measures to cover up the suspected archaeological material or to collect any resources is illegal and punishable by law. In the same manner, no person may exhume or collect such remains, whether of recent origin or not, without the endorsement by SAHRA.

Conclusions



Proposed Aerorand South Township

A thorough background study and survey of the proposed development was conducted and findings were recorded in line with SAHRA guidelines. As per the recommendations above, there are no major heritage reasons why the proposed development could not be allowed to proceed. Thus, it is recommended that the proposed development proceed on condition that the recommendation indicated in this report are adhered to.



TABLE OF CONTENTS

EXECUTIVE SUMMARY	5
ACRONYMS AND ABBREVIATIONS.....	11
GLOSSARY OF TERMS	12
1. Introduction	16
1.1 Nature of the Proposed Project.....	16
1.2 Need of the Project.....	17
2. Sites Location and Description	18
3. Purpose of the Cultural Heritage Study.....	21
4. Methodology and Approach	22
4.1 Background study introduction	22
4.1.1 Literature Review	22
4.1.2 Oral interview	23
4.1.3 Physical survey.....	23
4.1.4 Documentation	23
4.1.5 Restrictions and Assumptions	23
5. Applicable Heritage Legislation	23
6. Discussion of (Pre-) History of South Africa.....	25
7. Discussion of (Pre-) History of the Area	30
8. Degree of Significance	32
9. Historical Area	39
10. Findings and Discussions.....	41
10.1 Impact Assessment	44
11. Recommendations.....	44
12. Conclusions.....	46
Data bases	47
References.....	47
APPENDIX 1: SITE SIGNIFICANCE.....	51
APPENDIX II: LEGAL BACKGROUND AND PRINCIPLES OF HERITAGE RESOURCES MANAGEMENT IN SOUTH AFRICA.....	52



ACRONYMS AND ABBREVIATIONS

AIA	Archaeological Impact Assessment
EMP	Environmental Management Plan
HIA	Heritage Impact Assessment
LIA	Late Iron Age
MIA	Middle Iron Age
EIA	Early Iron Age
HMP	Heritage Management Plan
LSA	Late Stone Age
MSA	Middle Stone Age
ESA	Early Stone Age
NASA	National Archives of South Africa
NHRA	National Heritage Resources Act
MPHRA	Mpumalanga Provincial Heritage Resources Authority
SAHRA	South African Heritage Resources Agency

GLOSSARY OF TERMS

The following terms used in this Archaeology are defined in the National Heritage Resources Act [NHRA], Act Nr. 25 of 1999, South African Heritage Resources Agency [SAHRA] Policies as well as the Australia ICOMOS Charter (*Burra Charter*):

Archaeological Material: remains resulting from human activities, which are in a state of disuse and are in, or on, land and which are older than 100 years, including artifacts, human and hominid remains, and artificial features and structures.

Artefact: Any movable object that has been used modified or manufactured by humans.

Conservation: All the processes of looking after a site/heritage place or landscape including maintenance, preservation, restoration, reconstruction and adaptation.

Cultural Heritage Resources: refers to physical cultural properties such as archaeological sites, palaeontological sites, historic and prehistorical places, buildings, structures and material remains, cultural sites such as places of rituals, burial sites or graves and their associated materials, geological or natural features of cultural importance or scientific significance. This include intangible resources such religion practices, ritual ceremonies, oral histories, memories indigenous knowledge.

Cultural landscape: “the combined works of nature and man” and demonstrate “the evolution of human society and settlement over time, under the influence of the physical constraints and/or opportunities presented by their natural environment and of successive social, economic and cultural forces, both internal and external”.

Cultural Resources Management (CRM): the conservation of cultural heritage resources, management, and sustainable utilization and present for present and for the future generations

Cultural Significance: is the aesthetic, historical, scientific and social value for past, present and future generations.

Chance Finds: means Archaeological artefacts, features, structures or historical cultural remains such as human burials that are found accidentally in context previously not identified during



cultural heritage scoping, screening and assessment studies. Such finds are usually found during earth moving activities such as water pipeline trench excavations.

Compatible use: means a use, which respects the cultural significance of a place. Such a use involves no, or minimal, impact on cultural significance.

Conservation means all the processes of looking after a place so as to retain its cultural significance.

Expansion: means the modification, extension, alteration or upgrading of a facility, structure or infrastructure at which an activity takes place in such a manner that the capacity of the facility or the footprint of the activity is increased.

Grave: A place of interment (variably referred to as burial), including the contents, headstone or other marker of such a place, and any other structure on or associated with such place.

Heritage impact assessment (HIA): Refers to the process of identifying, predicting and assessing the potential positive and negative cultural, social, economic and biophysical impacts of any proposed project, plan, programme or policy which requires authorisation of permission by law and which may significantly affect the cultural and natural heritage resources. The HIA includes recommendations for appropriate mitigation measures for minimising or avoiding negative impacts, measures enhancing the positive aspects of the proposal and heritage management and monitoring measures.

Historic Material: remains resulting from human activities, which are younger than 100 years, but no longer in use, including artifacts, human remains and artificial features and structures.

Impact: the positive or negative effects on human well-being and / or on the environment.

In situ material: means material culture and surrounding deposits in their original location and context, for instance archaeological remains that have not been disturbed.



Interested and affected parties Individuals: communities or groups, other than the proponent or the authorities, whose interests may be positively or negatively affected by the proposal or activity and/ or who are concerned with a proposal or activity and its consequences.

Interpretation: means all the ways of presenting the cultural significance of a place.

Late Iron Age: this period is associated with the development of complex societies and state systems in southern Africa.

Material culture means buildings, structure, features, tools and other artefacts that constitute the remains from past societies.

Mitigate: The implementation of practical measures to reduce adverse impacts or enhance beneficial impacts of an action.

Place: means site, area, land, landscape, building or other work, group of buildings or other works, and may include components, contents, spaces and views.

Protected area: means those protected areas contemplated in section 9 of the NEMPAA and the core area of a biosphere reserve and shall include their buffers.

Public participation process: A process of involving the public in order to identify issues and concerns, and obtain feedback on options and impacts associated with a proposed project, programme or development. Public Participation Process in terms of NEMA refers to: a process in which potential interested and affected parties are given an opportunity to comment on, or raise issues relevant to specific matters.

Setting: means the area around a place, which may include the visual catchment.

Significance: can be differentiated into impact magnitude and impact significance. Impact magnitude is the measurable change (i.e. intensity, duration and likelihood). Impact significance is the value placed on the change by different affected parties (i.e. level of significance and acceptability). It is an anthropocentric concept, which makes use of value judgments and science-based criteria (i.e. biophysical, physical cultural, social and economic).

Site: a spatial cluster of artefacts, structures, and organic and environmental remains, as residues of past human activity.

1. Introduction

At the request of Steve Tshwete Local Municipality, Vhubvo Consultancy Cc conducted a Phase I Archaeological and Cultural Heritage Assessment Study for the proposed Aerorand South Township on Portion 341 of the Remainder of Portion 27 of the Farm Middelburg Town and Townlands 287 within the jurisdiction of Steve Tshwete Local Municipality in the Nkangala District of Mpumalanga Province. The proposed project entails the establishment of a Township referred to as Aerorand South Township and associated infrastructures. The survey was conducted in accordance with the SAHRA Minimum Standards for the Archaeology and Palaeontology, 2012. The minimum standards clearly specify the required contents of the report of this nature. The study aims to identify and document archaeological sites, cultural resources, sites associated with oral histories, graves, cultural landscapes, and any structure of historical significance that may be affected by the proposed development, these will in turn assist the developer in ensuring proper conservation measures in line with the National Heritage Resource Act, 1999 (Act 25 of 1999). The findings of this cultural study have been informed by desktop study and field survey. The desktop study was undertaken through SAHRIS for previous Cultural Heritage Impact Assessments conducted in the region of the proposed development, and also for researches that have been carried out in the area over the past years

1.1 Nature of the Proposed Project

Steve Tshwete Local Municipality is proposing to establish a township on Portion 341 of the Remainder of Portion 27 of the farm Middelburg Town and Townlands 287. The proposed Township is known as Aerorand South Township (See Figure 1), and is situated on a 101, 0596 hectares piece of land. The development will comprises the following:

- Residential 1 = 608 Stands;
- Residential 2 = 2 Stands;
- Residential 3 = 2 Stands;
- Institution = 4 Stands;
- Municipal = 2 Stands; and
- Public Open Space = 6 Stands

Total = 624 Stands (See Figure 1).



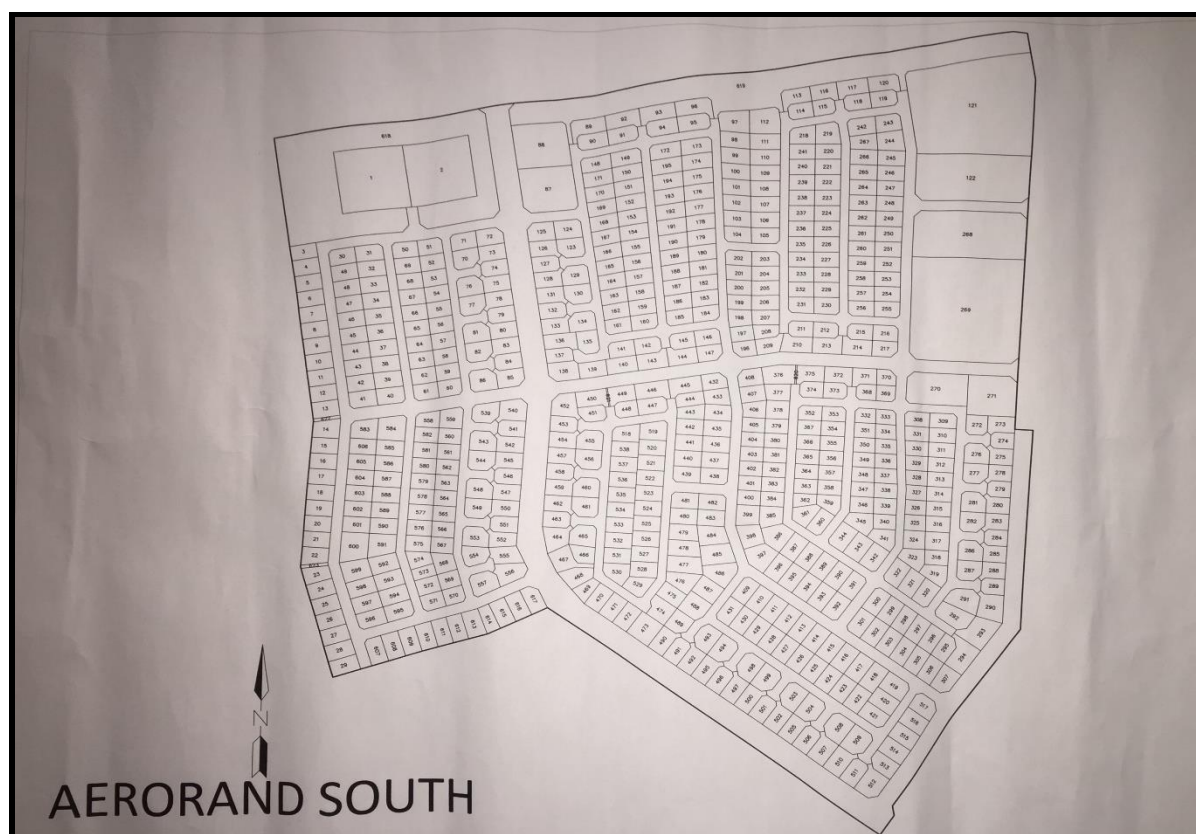


Figure 1: Layout plan of the proposed development.

1.2 Need of the Project

Steve Tshwete Local Municipality has succeeded in creating an enabling environment for rapid economic growth, job creation and broadening opportunities. Such has upgraded the municipality to be amongst the fastest growing in the Province, especially in terms of economic and infrastructural development. Of late, the Municipality has experienced a growth of population, partly due to the continued influx of people from other areas. This rapid population growth has by far outpaced the rate of housing delivery in the area; hence the Municipality occupies arguably the second position, after Emalahleni Local Municipality, in terms of housing backlog within Nkangala District Municipality (IDP 2015/2016). As a result, the municipality is having challenges of addressing housing backlog. This proposed project will address some of the key challenges that are being faced by the local municipality in relation to houses. It is against this background that the Municipality has established a fully-fledged Human Settlement Sub- Directorate whose function involves the following:

- ✚ Creation of an enabling environment for the delivery of housing opportunities;
- ✚ Involve the facilitation of development finance;
- ✚ Development of housing institutions where necessary; and

✚ Community empowerment programs and facilitation of social compact agreement.

In compliance with the national housing goals as well in line with the national government policies, the Municipality is in a process of making a shift from providing houses through a traditional housing function of merely providing a shelter to an integrated human settlement programme. Through this programme, the Municipality, wants to make sure that within housing projects, it also provides other opportunities for instance, education, sports etc. The Integrated Human Settlement Strategy is based on Section 1 (VI) of the National Housing Act. This Act stipulates that the implementers of national housing policy must ensure the “establishment and maintenance of habitable, stable and sustainable public and private residential environments to ensure viable households and communities, areas allowing convenient access to economic opportunities and to health, educational and social amenities.

2. Sites Location and Description

The proposed development is located south and about 4km from the Town of Middleburg on a private land whose topography is characterised by even plain. This portion of land is owned by the municipality and is identified as Portion 341 of the Remainder of Portion 27 of the farm Middleburg Town and Townlands 287. This proposed housing development is currently known as Aerorand South Township and is located in the Local Municipality of Steve Tshwete - Mpumalanga Province. The area is currently vacant of any activities and was previously used for the purpose of farming (see Figure 8). The landscape of the nearby area proposed for development is semi-urban and is characterised of industrial landscape, and possesses amongst others infrastructure elements such as major roads, residential area and shopping complex (see Figure 2). Although transformed, archaeological resources are not unexpected in this area, especially graves in area (s) where there are houses or historical farm dwellings. Nevertheless, almost the entire proposed area has been disturbed by agricultural activities. If any archaeological sites existed here in the past, it might have been completely destroyed during the time when the area was been established for farming or related activities. The proposed area is boarded by Dr. Mandela Dr on the northern section and the Shopping Mall on the eastern section. The south and western section are vacant space which are encroached by low grass. Within the proposed area, there is also an existing electricity substation.

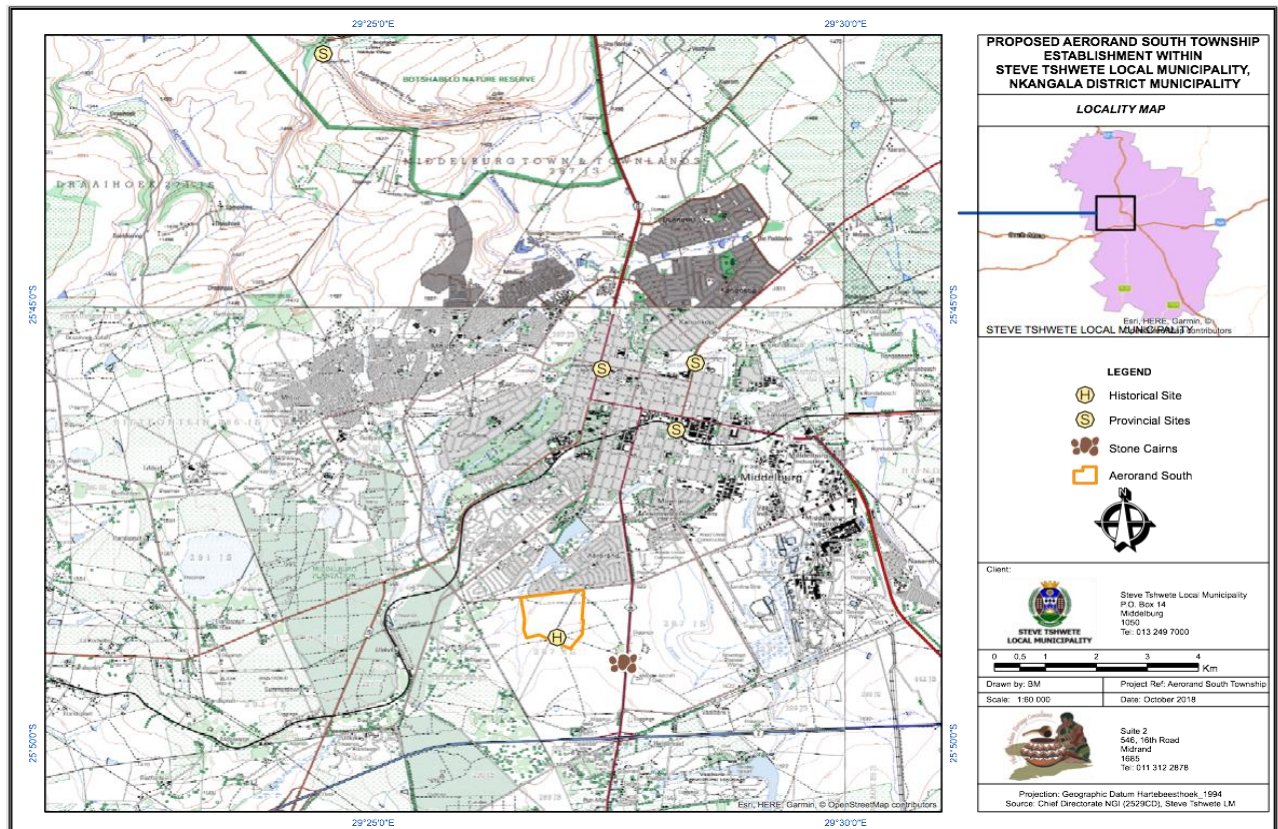


Figure 2: An overview of the topographical map of the proposed area (Courtesy Vhubvo).

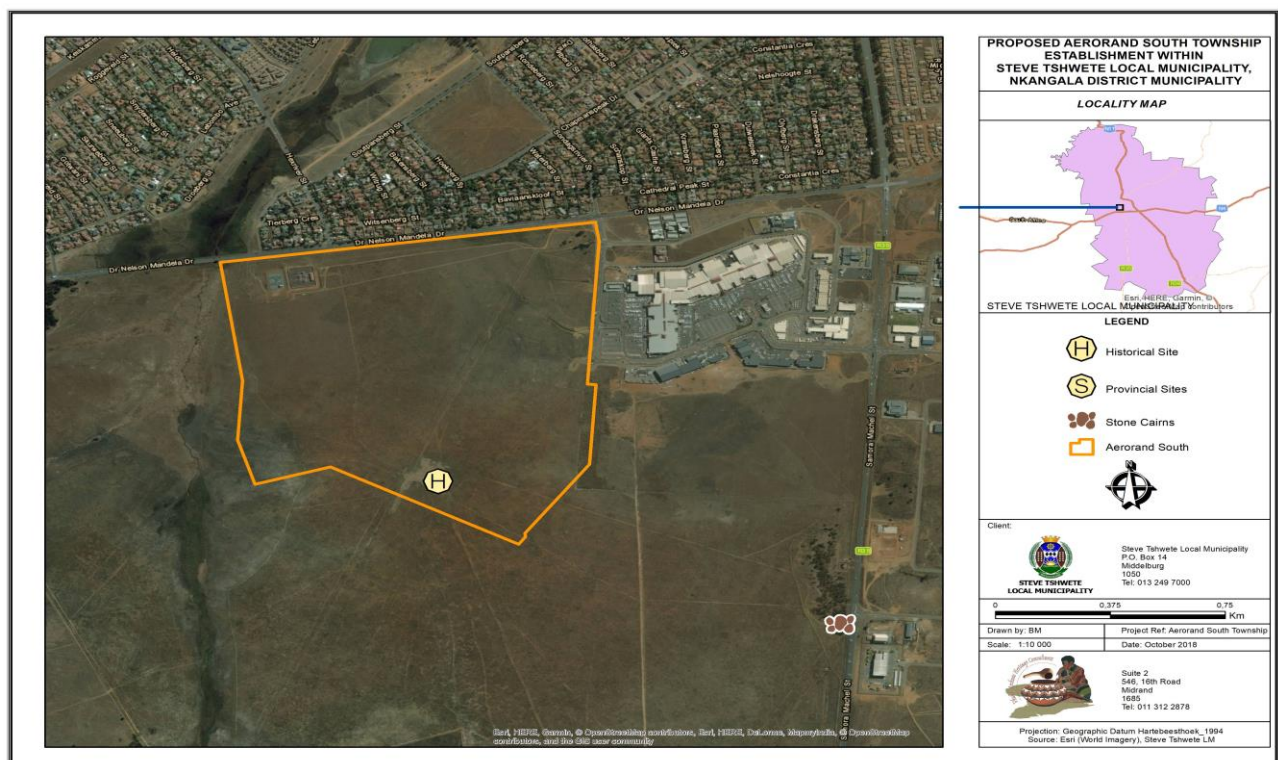


Figure 3: An overview of Google map of the proposed area and location of provincial sites.





Figure 4: View of the south-eastern section of the area proposed for development.



Figure 5: An overview of northern section of the proposed site, overlooking nearby locations.



Figure 6: View of signs of past agricultural practices in the western section of the proposed area.



Figure 7: An overview of the Mall on the left side, and some of the access roads noted in the proposed area - on the right picture.

3. Purpose of the Cultural Heritage Study

Steve Tshwete Local Municipality has succeeded in creating an enabling environment for rapid economic growth, job creation and broadening opportunities. Such has upgraded the municipality to be amongst the fastest growing in the Province, especially in terms of economic and infrastructural development. Of late, the Municipality has experienced a growth of population, partly due to the continued influx of people from other areas. This rapid population growth has

by far outpaced the rate of housing delivery in the area; hence the Municipality occupies arguably the second position, after Emalahleni Local Municipality, in terms of housing backlog within Nkangala District Municipality (IDP 2015/2016). As a result, the municipality is having challenges of addressing housing backlog. This proposed project will address some of the key challenges that are being faced by the local municipality in relation to houses. Purpose of the Cultural Heritage Study

The purpose of this Archaeological and Cultural Heritage study was to entirely identify and document archaeological sites, cultural resources, sites associated with oral histories, graves, cultural landscapes, and any structure of historical significance that may be affected by the proposed Aerorand South Township, these will in turn assist the developer in ensuring proper conservation measure in line with the National Heritage Resource Act, 1999 (Act 25 of 1999). Impact assessments highlight many issues facing sites in terms of their management, conservation, monitoring and maintenance, and the environment in and around the site. Therefore, this study involves the following:

- Identification and recording of heritage resources that maybe affected by the proposed Aerorand South Township,
- Providing recommendations on how best to appropriately safeguard identified heritage sites. Mitigation is an important aspect of any development on areas where heritage sites have been identified.

4. Methodology and Approach

4.1 Background study introduction

The methodological approach is informed by the 2012 SAHRA Policy Guidelines for impact assessment. As part of this study, the following tasks were conducted:

- 1) Literature review;
- 2) Consultations with the developer and appointed consultants;
- 3) Completion of a field survey;
- 4) Analysis of the acquired data, leading to the production of this report; and
- 5) Restrictions and Assumptions

4.1.1 Literature Review

The desktop study was undertaken through SAHRIS for previous Cultural Heritage Impact Assessments conducted in the region of the proposed development, and also for researches that have been carried out in the area over the past years, as well as historical aerial maps located in the



Deeds Office. These literatures were used to screen the proposed area and to understand the baseline of heritage sensitivities.

4.1.2 Oral interview

Oral interview was conducted with local people who currently reside in nearby Townships.

4.1.3 Physical survey

The field survey was undertaken on the 27th and 28th of September 2018. Two archaeologists from Vhubvo conducted the survey.

4.1.4 Documentation

The general project area was documented. This documentation included taking photographs using cameras a 10.1 mega-pixel Sony Cybershort Digital Camera. Plotting of finds was done by a Garmin etrex Venture HC.

4.1.5 Restrictions and Assumptions

Despite that the area was extensively surveyed, it is possible that some materials could have been hidden underground and only exposed once construction resume, however, given the historical nature of what the site was used for (farming), such is very minimal. Nevertheless, this report has offered steps that must be taken in such an event. It is assumed that any sites, features and objects, including sites of intangible heritage potential has been disturbed/ lost value/ and or currently irrelevant as a result of decades of farming in the area. Note that the visibility of the area proposed for development was high, leading to the successfully conduction of this report.

5. Applicable Heritage Legislation

Several legislations provide the legal basis for the protection and preservation of both cultural and natural resources. These include the National Environment Management Act (No. 107 of 1998); Mineral Amendment Act (No 103 of 1993); Tourism Act (No. 72 of 1993); Cultural Institution Act (No. 119 of 1998), and the National Heritage Resources Act (Act 25 of 1999). Section 38 (1) of the National Heritage Resources Act requires that where relevant, an Impact Assessment is undertaken in case where a listed activity is triggered. Such activities include:

- (a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;*
- (b) the construction of a bridge or similar structure exceeding 50 m in length; and*
- (c) any development or other activity which will change the character of an area of land, or water -*
 - (i) exceeding 5 000 m² in extent;*
 - (ii) involving three or more existing erven or subdivisions thereof; or*



- (iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or*
- (iv) the costs of which will exceed a sum set in terms of regulations by SAHRA or a Provincial Heritage Resources Authority;*
- (d) the re-zoning of a site exceeding 10 000 m² in extent; or*
- (e) any other category of development provided for in regulations by SAHRA or a Provincial Heritage Resources Authority, must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.*

Section 3 of the National Heritage Resources Act (25 of 1999) lists a wide range of national resources protected under the act as they are deemed to be national estate. When conducting a Heritage Impact Assessment (HIA) the following heritage resources have to be identified:

- (a) Places, buildings structures and equipment of cultural significance*
- (b) Places to which oral traditions are attached or which are associated with living heritage*
- (c) Historical settlements and townscapes*
- (d) Landscapes and natural features of cultural significance*
- (e) Geological sites of scientific or cultural importance*
- (f) Archaeological and paleontological sites*
- (g) Graves and burial grounds including-*
 - (i) ancestral graves*
 - (ii) royal graves and graves of traditional leaders*
 - (iii) graves of victims of conflict*
 - (iv) graves of individuals designated by the Minister by notice in the Gazette*
 - (v) historical graves and cemeteries; and*
 - (vi) other human remains which are not covered by in terms of the Human Tissue Act, 1983 (Act No. 65 of 1983)*
- (h) Sites of significance relating to the history of slavery in South Africa*
- (i) moveable objects, including -*
 - (i) objects recovered from the soil or waters of South Africa, including archaeological and paleontological objects and material, meteorites and rare geological specimens*
 - (ii) objects to which oral traditions are attached or which are associated with living heritage*
 - (iii) ethnographic art and objects*
 - (iv) military objects*
 - (v) objects of decorative or fine art*



(vi) objects of scientific or technological interest; and

(vii) books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1 of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996).

Other sections of the Act with a direct relevance to the AIA are the following:

Section 34(1) *No person may alter or demolish any structure or part of a structure, which is older than 60 years without a permit issued by the relevant provincial heritage resources authority.*

Section 35(4) *No person may, without a permit issued by the responsible heritage resources authority:*

- *destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite*

Section 36 (3) *No person may, without a permit issued by SAHRA or a provincial heritage resources authority:*

- *destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside formal cemetery administered by a local authority; or*
- *bring onto or use at a burial ground or grave any excavation equipment, or any equipment which assists in detection or recovery of metals.*

6. Discussion of (Pre-) History of South Africa

Introduction

South Africa has one of the longest sequences of human development in the world. The prehistory and history of South Africa span the entire known life span of human on earth. It is thus difficult to determine exactly where to begin, a possible choice could be the development of genus Homo millions of years ago. South African scientists have been actively involved in the study of human origins since 1925 when Raymond Dart identified the Taung child as an infant halfway between apes and humans. Dart called the remains *Australopithecus africanus*, southern ape-man, and his work ultimately changed the focus of human evolution from Europe and Asia to Africa, and it is now widely accepted that humankind originated in Africa (Robbins et al. 1998). In many ways this discovery marked the birth of palaeoanthropology as a discipline. Nonetheless, the earliest form of culture known in South Africa is the Stone Age. This prehistoric period during which humans widely used stone for tool-making. These stone tools were made from a variety of different sorts



of stone. For example, flint and chert were shaped for use as cutting tools and weapons, while basalt and sandstone were used for ground stone. Stone Age can be divided into Early, Middle and Late, it is argued that there are two transitional period. Noteworthy that the time frame used for Stone Age period is an approximate and differ from researcher to researcher (see Korsman and Meyer 1999, Mitchell 2002, Robbins et al. 1998).

Early Stone Age (ESA)

Although a long history of research on Early Stone Age period of southern Africa has been conducted (Mason 1962, Sampson 1974, Klein 2000, Chazan 2003), it still remains a period where little is known. This may be due to many factors which includes, though not limited to retrieval techniques used, reliance on secondary, at times unknown sources, and the fact that few fauna from this period has been analysed thus far (Chazan 2003). According to Robbins et al. (1998), the Stone Age is the period in human history when stone was mainly used to produce tools. This period began approximately 2.5 million years ago and ended around 200 000 years ago. During this period human beings became the creators of culture and was basically hunters and gatherers, this era is identified by large stone artefacts.

Middle Stone Age (MSA)

The Middle Stone Age overlap with the Early Stone Age and possibly began around 100 000 to about 200 000 years ago and extends up to around 35 000 years ago. This period is marked by smaller tools than in ESA. Many MSA sites have evidence for control of fire, prior to this, rock shelters and caves would have been dangerous for human habitation due to predators. MSA people made a wide range of stone tools from both coarse – and fine-grained rock types. Sometimes the rocks used for tools were transported from considerable distances, presumably in bags or other containers. As such, tool assemblages from some MSA sites tend to lack some of the preliminary cores and contain predominantly finished products like flakes and retouched pieces.

Later Stone Age. (LSA)

Microlithic Later Stone Age began around 35 000 and extend to the later 1800 AD. According to Deacon (1984), LSA is a period when human being refined small blade tools, conversely abandoning the prepared-core technique. Thus, refined artefacts such as convex-edge scrapers, borers and segments are associated with this period. Moreover, large quantity of art and ornaments were made during this period. This period overlap with the Early Iron Age which will be discussed below.

Iron Age

The Iron Age is the name given to the period of human history when metal was mainly used to produce artefacts. Recently, they have been a debate about the use of the name. Other

archaeologist have argued that the word “Iron Age” is problematic and does not precisely explain the event of what was happening in southern Africa, as such, the word farming communities has been proposed (Segobye 1998). Nonetheless, in South Africa this period can be divided into two phases. Early (200 - 1000 A.D) and Late Iron Age (1000 - 1850 A.D). Huffman (2007) has indicated that a Middle Iron Age (900 - 1300 A.D) should be included. According to Huffman (2007:361), until the 1960s and 1970s most archaeologists had not yet recognised a Middle Iron Age. Instead they began the Late Iron Age at AD 1000. The Middle Iron Age (AD 900–1300) is characterised by extensive trade between the Limpopo Confluence and the East Coast of Africa. This has been debated, with other researchers, arguing that the period should be restricted to Shashe-Limpopo Confluence. The characters of Iron Age groups include settled village life, metallurgy and manufacture of pottery. Their use of fire to clear agriculture land and felling of hardwood trees led to forests being replaced by secondary grassland. The Iron using peoples practiced agriculture and kept domestic animals such as dogs, cattle, goats, sheep and chicken. There is however evidence that sheep spread across southern Africa a few centuries before the arrival of Early Iron Age farmers (Sadr 2004). According to Huffman (2007) there were two streams of Early Iron Age (EIA) expansion in southern Africa, one referred to as the Urewe-Kwale Tradition (or the eastern stream) and another called the Kalundu Tradition (or western stream).

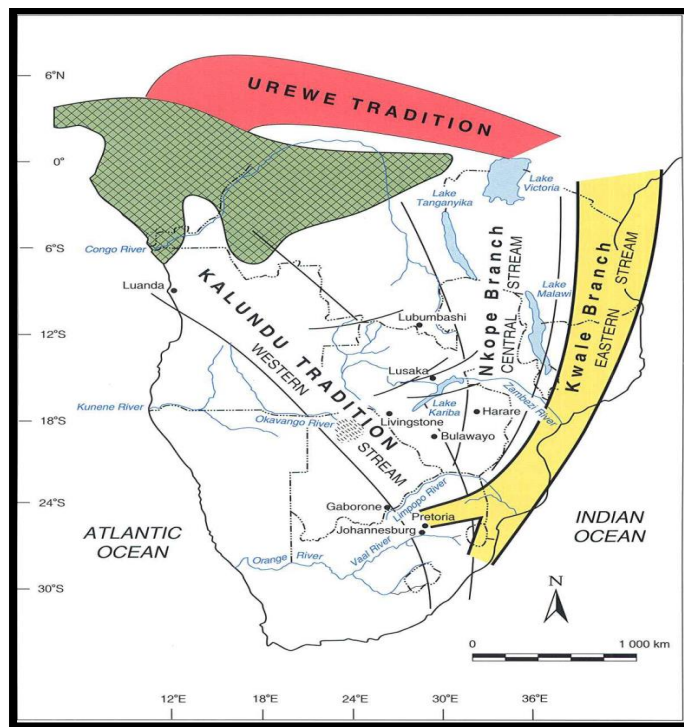


Figure 8: View of the spread of the Early Iron Age movements, namely Urewe-Kwale and Kalundu traditions in southern Africa (From Huffman 2007:122).



Early Iron Age (EIA)

Early Iron Age dwelling were built in low lying areas, such as river valleys and the coastal plain, where forests and savannas facilitated shifting (slash and burn), they also cultivate grains such as cow peas, ground beans, sorghum and millets, unlike the broad and flat surface grinding stones of Late Iron Age, the Early Iron Age grinding stones is deeper and more lenticular grooves.

Late Iron Age (LIA)

Greater degree of economic specialization is attributed to Late Iron Age, as such each village was no longer a self-sufficient unit, iron slag no-longer appear in every site instead there are centre's that specializes in mining and production of iron. Also Later Iron Age settlement were no longer located in rivers valleys, but were built on higher ground where homestead which in most instances where made of stone for building purposes would benefit from cooling breezes and good views most probably for strategic purposes, pottery styles also underwent significant changes, maize was also introduced during this period.

Historical Period

Since the arrival of the white settlers - c. AD 1840 - in this part of the country. The white population arrived on South African land long after the Iron Age settlement, Bartolomeu Dias, was the first European to sail around the southern point of Africa in 1486, he named it "The Cape of Good Hope", nine years later it was Vasco da Gama, however, these Portuguese seafarer were not seriously interested in southern Africa. Nevertheless, the history of southeast part will change forever on the 6th of April 1652. This is when the Dutch seafarer Jan van Riebeeck arrived in Table Bay with his three ships. His mission was not to establish a full-fledged colony at the Cape but to establish supply station on behalf of the Dutch East India Company (DEIC), however it committed itself when it grant nine Company servants freedom in 1657 to establish private farms in the Rondebosch area below the eastern slopes of Table Mountain, one of the reasons why the Dutch settled at the Cape was to access the herds of cattle kept by the Khoi-Khoi, this was first achieved by friendly trade, however it was not long before disputes over land commenced after Free Burghers began to encroach on traditional communal grazing lands, by the early 1700's the Dutch colonists have prevailed.

These new white settlers will influence the context and content of South African's culture forever, starting with development of Cape Town into an urban centre, however it took many years for it to equal the size of Mapungubwe Kingdom which was attained five centuries earlier (it is also argued that Mapungubwe was during its time more developed than other areas in Europe). These newcomers also introduce new style of houses consisting of flat roofs and ornate pediments, slaves



were also imported from other parts of Africa, i.e., Madagascar, India and East Asia, these slave who were used as labourer were skilled carpenters and bricklayers as such their skills played an invaluable role in speeding up the progress and development of the Cape. It is important to note that the intermingling between the slaves, Africans and the European population marked the beginning of the coloured community. The DEIC continue to control the economy but in practice corruption was a dominant force.

One of the most significant historical occurrences in the early history of South Africa was the Mfecane/ Difaqane, the great Zulu and Sotho tribes fought each other for space and domination throughout southern Africa, killing and displacing hundreds of thousands of people across the sub-continent, a key figure in this all-out battle among the African tribes was the great Zulu King Shaka. Over a time span of three years starting in 1835, some 12,000 Voortrekkers (pioneers) left the Cape Colony and trekked into the interior by ox wagon. In time, these Voortrekkers who were escaping British policies started to build a unique identity and started calling themselves Afrikaners, they also developed a hybrid language, Afrikaans, which stemmed from high Dutch but incorporated strong French, Malay, German and Black influences. The Afrikaans - speaking descendants of these people would later simply be called “Boere” (boers or farmers).

From the 1820s European missionaries worked tirelessly to Christianize indigenous communities and to in-culture them in a European way of life, whatever intention these missionaries have undermine African and contributed in displacing African tradition across South Africa. By the 1860s, African states began to weaken as Europeans were eager to exploit Africans as a source of labour and to acquire the fertile area, during this era most African leader died, e.g.: Makapane (1854); Soshangane (1858); Sekwate (1861); Mswati (1865); Mzilikazi (1868); Moshoeshoe (1870); Mpande (1872); Sekhukhune (1882) and Makhado (1895).

With the discovery of diamonds and gold in the 19th century, urbanisation started in South Africa. People came from all over the world to claim their stake in the diamond fields, these discoveries also make the British to realise that there was great wealth for the taking outside the Cape Colony, and with these discovery South African black's view of life were further changed. Nevertheless, the 1902 Peace treaty in Vereeniging marked the end of Anglo/Boers war, this gave South African black people peace treaty as they hope for better opportunity after all the suppression and domination by the minority, unfortunately it turned out differently as it made no provisions as far



as human rights for black people were concerned, actually the process of segregation increased in South Africa.

7. Discussion of (Pre-) History of the Area

One municipality, Steve Tshwete Local Municipality will be affected as a result of this proposed development. However, this municipality do not exist in vacuum, and to have a better understanding of the entire area where the municipality is located, it is necessary to understand the wider zone of the proposed development - Mpumalanga province. According to SAHRA database, there is approximately 56 provincial heritage sites across the province of Mpumalanga, of these, six (See Figure 3) are located around Middleburg region, and includes Botshabelo (9/2/242/0001), Fort Merensky (9/2/242/0002), Mapoch's Caves (9/2/242/0003), Meyer Bridge (9/2/242/0010), Dutch Reformed Gedenkerk (9/2/242/0011) and NZASM Station (9/2/242/0015). There is also other heritage/ and archaeological sites of regional and local importance in the area at large. Majority of these were recorded by scholars and consultants (see reports by for example Bergh 1999, Fourie 2015, Huffman 2007, Magoma 2014, Pelser 2012, Van Vollenhoven 2012, Van Warmelo 1935, Van Wyk Rowe 2013 and Van Zyl 2011). These sites and their contexts are discussed below:

Stone Age

The area around Middleburg has not yielded any site dating to the Early Stone Age. This is irrespective of that many archaeologists argue that the area is better positioned for occupation by Early Stone Age people. Nevertheless, the reason of this remain unknown, and subject to on-going debate, i.e., lack of detail research in the area had been named amongst other reasons. All the Stone Age resources that had been found dates to the Middle and Late Stone Age. As such, several tools, flakes and cores, have been recorded in the wider area of the Municipality. However, most of these are surface finds and are viewed as of low significance. Several shelters containing rock art associated with the Khoi-San are known to exist in the region. None of these are located close to the proposed area of Aerorand South Township. The closest known Stone Age occurrence is that of rock art located close to the Olifants River - south of the Town of Witbank.

Iron Age

Before the arrival of Europeans, the area was home to African people such as the Nguni. During the Late Iron Age, farming was of significance in the region. These farming communities built numerous stone walled settlements throughout the Province of Mpumalanga. The area in question have been inhabited by the descendant of the Swazi and later on during the 19th century there was a wave of Lowveld Northern Sotho such as the Kone, Pulana and Pai in the region. The closest



known Iron Age occurrences to the surveyed area are Late Iron Age sites that have been identified to the west of Bronkhorstspuit and in the vicinity of Bethal (Bergh 1999: 7-8). However there are a fairly large number of Late Iron Age stone walled sites in the bigger geographical area that includes Lydenburg, Dullstroom, Machadodorp, Badplaas and Belfast. Some of the sites might be related to the so-called Marateng facies of the Urewe pottery tradition of the LIA, dating to between AD1650 and 1840.

Historical Period

Mpumalanga meaning “a place of rising sun”, and previously Eastern Transvaal was the name given to the area in 1993. The province includes the old Transvaal, KaNgwane, as well as part of Gazankulu and Leboa. The province forms a very imperative part of South Africa’s heritage which is inclusive of both the natural and the cultural heritage. The natural heritage consist of the Bourke’s Luck pothole as well as the Sodwala caves together with the San rock paintings, Ndebele wall paintings and Pilgrim’s Rest are amongst the cultural heritage. The proposed developmebt is located in Middleburg. This Town was initially called Nazareth and was changed to Middleburg in 1872. A Dutch Reformed Church was built in 1890 and became a focal point in the area. During the Second Anglo Boer War, Middleburg temporary served as the seat of the Transvaal Republic after the siege of Pretoria. During the Second Boer War, the British built a large concentration camp in the area. The Memorial Museum commemorating the Second Boer War was built next to the 1381 graves of women and children that died in the concentration camp.

The first white people to move through this area were part of the traveler, Robert Scoon who passed through during 1836. Although the Voortrekkers moved across the Vaal River during the 1830’s, it seems as if white people only settled here after 1850. The first Trekkers to settle in the area were the followers of A. H. Potgieter, who relocated from Mooi River., and they will later be joined by other Trekkers led by J. J. Burger. Tensions between the two groups soon surfaced and the difficulties facing the community were compounded by malaria, which decimated the population, and stock disease, which ravaged their herds.

In 1848, partly to escape this disease and conflict-ridden community, Potgieter and his followers moved north and founded the town of Schoemansdal. Most of those who remained behind moved to higher-lying lands to the south, and the town of Lydenburg became the new centre of the community and white settlers slowly established themselves in the wider region. According to Van Warmelo (1935), African people who inhabited the area around Middleburg include the Ndebele, and various groups of the Ba-Sotho (BaKôpa and BaPedi).



- Certain sites, or features may be exceptionally important, but do not warrant leaving entirely alone. In such cases, detailed mapping of the site and all its features is imperative, as is the collection of diagnostic artefactual material on the surface of the site. Extensive excavations must be done to retrieve as much information as possible before destruction. Such excavations might cover more than half the site and would be mandatory; it would also be advisable to negotiate with the client to see what mutual agreement in writing could be reached, whereby part of the site is left for future research.

Medium

- Sites of medium significance require detailed mapping of all the features and the collection of diagnostic artefactual material from the surface of the site. A series of test trenches and test pits should be excavated to retrieve basic information before destruction.

Low

- These sites require minimum or no mitigation. Minimum mitigation recommended could be a collection of all surface materials and/ or detailed site mapping and documentation. No excavations would be considered to be necessary.

In all the above scenarios, permits will be required from the South African Heritage Resources Agency (SAHRA) or the appropriate PHRA as per the legislation (the National Heritage Resources Act, no. 25 of 1999). Destruction of any heritage site may only take place when the appropriate heritage authority has issued a permit. The following table is used to determine rating system on the receiving environment.

Table 3: Rating and evaluating criteria of impact assessment

NATURE		
Including a brief description of the impact of the heritage parameter being assessed in the context of the project. This criterion includes a brief written statement of the heritage aspect being impacted upon by a particular action or activity.		
TOPOGRAPHICAL EXTENT		
This is defined as the area over which the impact will be expressed. Typically, the severity and significance of an impact have different scales and as such bracketing ranges are often required. This is often useful during the detailed assessment of a project in terms of further defining the determined.		
1	Site	The impact will only affect site.



2	Local/district	Will affect the local area or district.
3	Province/region	Will affect the entire province or region.
4	International and National	Will affect the entire country.
PROBABILITY		
This describes the chance of occurrence of an impact		
2	Unlikely	The chance of the impact occurring is extremely low (Less than 25% chance of occurrence).
4	Possible	The impact may occur (Between a 25% to 50% chance of occurrence).
6	Probable	The impact will likely occur (Between 50% to 75% chance of occurrence).
8	Definite	Impact will certainly occur (Greater than 75% chance of occurrence).
REVERSIBILITY		
This describes the degree to which an impact on a heritage parameter can be successfully reversed upon completion of the proposed activity.		
1	Completely reversible	The impact is reversible with implementation of minor mitigation measures.
2	Partly reversible	The impact is partly reversible but more intense mitigation measures are required.
3	Barely reversible	The impact is unlikely to be reversed even with intense mitigation measures.
4	Irreversible	The impact is irreversible and mitigation measures exist.
IRREPLACEABLE LOSS OF RESOURCES		



This describes the degree to which heritage resources will be irreplaceably lost as a result of proposed activity		
1	No loss of resource	The impact will not result in the loss of any resources.
2	Marginal loss of resource	The impact will result in marginal loss of resources.
3	Significant loss of resource	The impact will result insignificant loss of resources.
4	Complete loss of resource	The impact is result in a complete loss of all resources.
DURATION		
This describes the duration of the impact on the heritage parameter. Duration indicates the lifetime of a result of the proposed activity.		
1	Short term	The impact and its effects will either disappear with mitigation or will be mitigated through natural process in span shorter than the construction phase (0-1 years), or the impact and its effects will last for the period of a relatively short construction period and a limited recovery time after construction, thereafter it will be entirely negated (0-2 years).
2	Medium term	The impact and its effects will continue or last for some time after the construction phase but will be mitigated by direct human action or by natural processes thereafter (2-10 years).



3	Long term	The impact and its effects will continue or last for entire operational life of the development, but will be mitigated by direct human action or by natural processes thereafter (10-50 years).
4	Permanent	The only class of the impact that will non-transitory. Mitigation either by man or natural process will not occur in such a way or such a time span that the impact can be considered transient (Indefinite).

CUMULATIVE EFFECT

This describes the cumulative effect of the impacts on the heritage parameter. A cumulative effect/impact is an effect, which in itself may not be significant but may become significant if added to other existing or potential impacts emanating from similar or diverse activities as a result of the project activity in question.

1	Negligible Cumulative Impact	The impact would result in negligible to no cumulative effects.
2	Low Cumulative Impact	The impact would result in insignificant cumulative effects
3	Medium Cumulative Impact	The impact would result in minor cumulative effects
4	High Cumulative Impact	The impact would result in significant cumulative effects.

MAGNITUDE

Describes the severity of an impact.

1	Low	Impact affects the quality, use and integrity of the system/component in a way that is barely perceptible.
---	-----	--

2	Medium	Impact alters the quality, use and integrity of the system/component but system/component still continues to function in a moderately modified way and maintains general integrity (some impact on integrity).
3	High	Impact affects the continued viability of the system/component and the quality, use, integrity and functionality of the system or component is severely impaired and may temporarily cease. High costs of rehabilitation and remediation.
4	Very High	Impact affects the continued viability of the system/component and the quality, use, integrity and functionality of the system or component permanently ceases and is irreversibly impaired (system collapsed). Rehabilitation and remediation often impossible. If possible rehabilitation and remediation often unfeasible due to extremely high costs of rehabilitation and remediation.
SIGNIFICANCE		
<p>It provides an indication of the importance of the impact in terms of both tangible and intangible characteristics. (S) is formulated by adding the sum of numbers assigned to Extent (E), Duration (D), and Intensity (I) and multiplying the sum by the Probability.</p> $S = (E + D + I) P$		
<30	Low	Mitigation of impacts is easily achieved where this impact would not have a direct



		influence on the decision to develop in the area.
30-60	Medium	Mitigation of impact is both feasible and fairly easy. The impact could influence the decision to develop in the area unless it is effectively mitigated.
>60	High	Significant impacts where there is difficult. The impact must have an influence on the decision process to develop in the area.

Rating based on desktop study and survey

In addition to wide range of national resources protected under the National Heritage Resources Act (No. 25 of 1999), Section 3 of the National Heritage Resources Act (No. 25 of 1999) also 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 discussed below in light of the site:

Table 4: Rating of sites and events known in the proposed area.

No	Criteria	Commentary
1	Its importance in the community, or pattern of South Africa's history	A low in significance site was noted
2	Its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage	The site is common in the area
3	Its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage	A historical animal pond was noted in the proposed area
4	Its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects	N/A



5	Its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group	The entire area is cleared
6	Its importance in demonstrating a high degree of creative or technical achievement at particular period	Memo
7	Its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons	The site can be associated with activities of that happen at a particular period
8	Its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa; and	The last uses of the area was farming as depicted by remnants of farming strictures
9	Sites of significance relating to the history of slavery in South Africa.	Irrelevant.

9. Historical Area

Below is the historical map of the proposed area and surrounding environment dating from the 1950s up to current era. The purpose of these maps is to demonstrate life history of the area, and its historical uses.

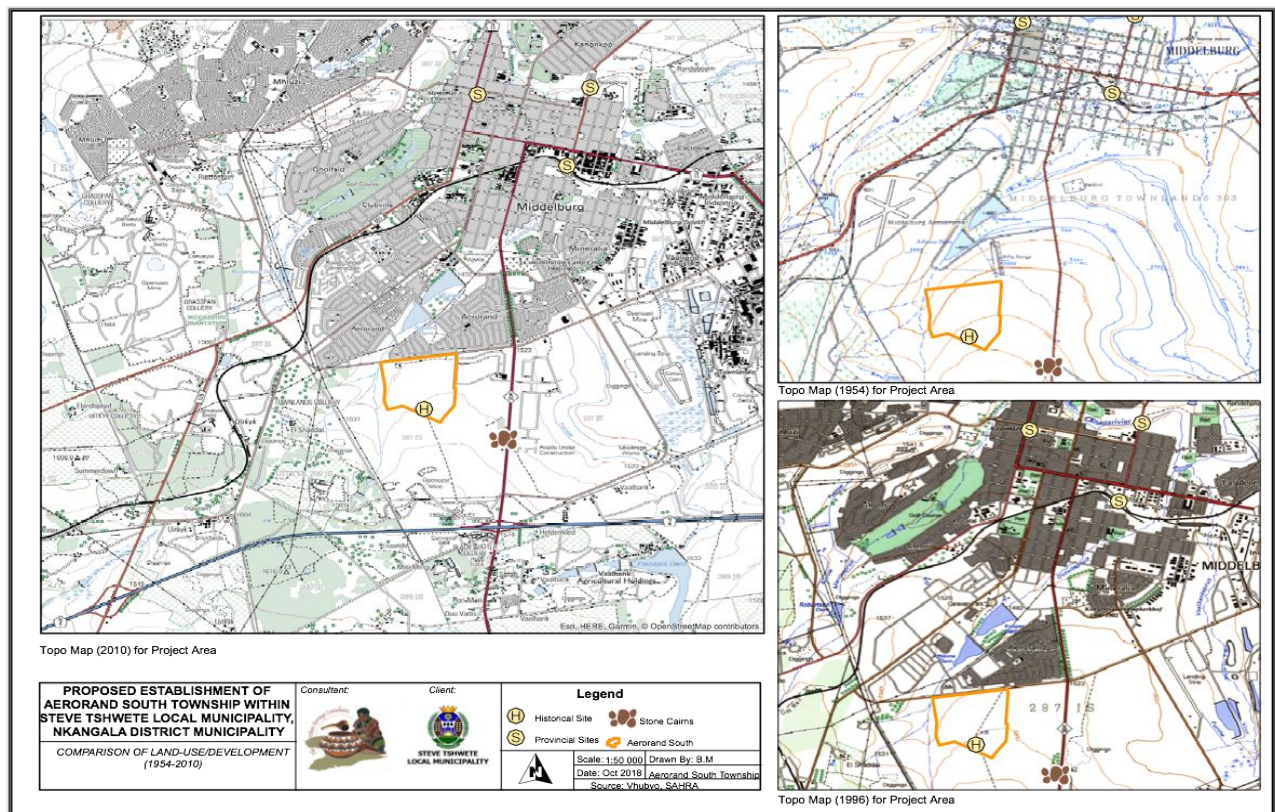


Figure 9: View of topographical map of 1954 and 1996 in comparison to that of 2010.

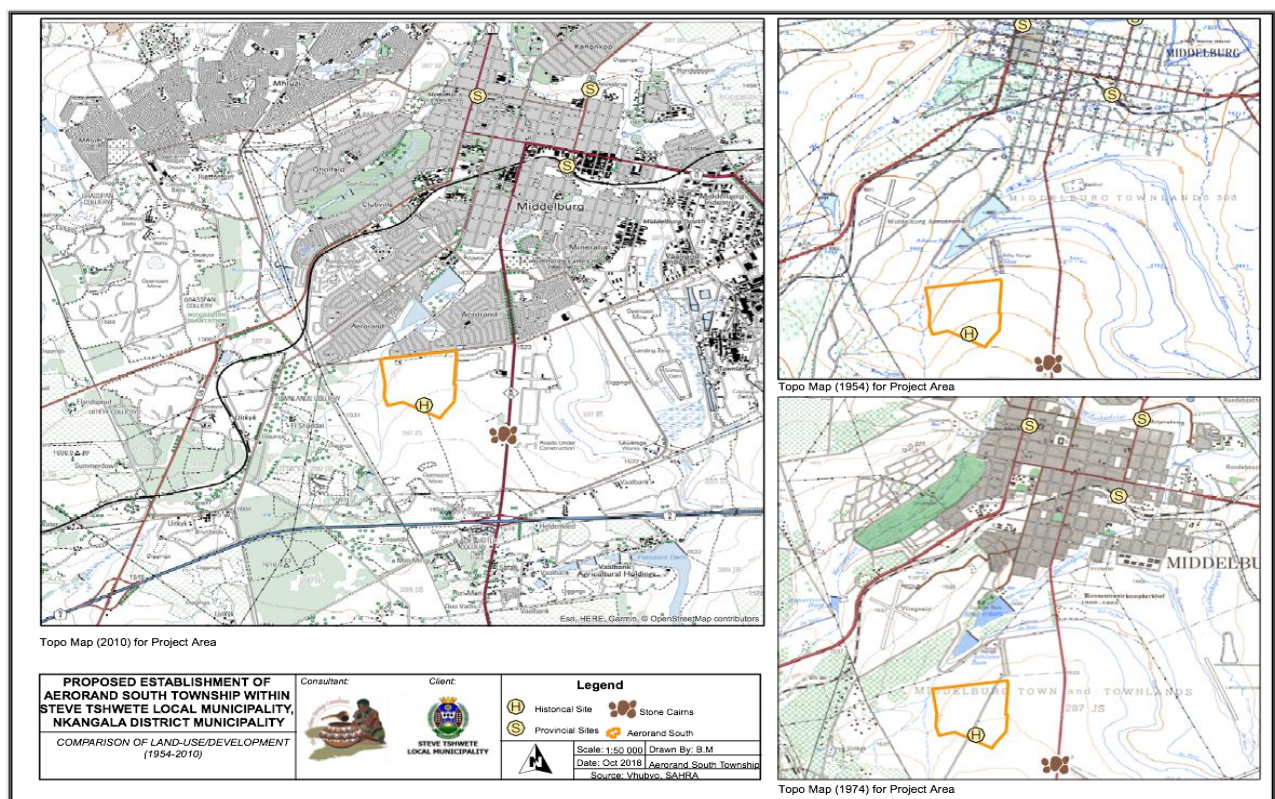


Figure 10: View of topographical map of 1954 and 1974 in comparison to that of 2010.

10. Findings and Discussions

The main aim of the survey was to investigate potential heritage resources that occurs within the proposed area as well as to determine if there is any related negative issues that can prevent the proposed development from taking place. Archaeological and Historical sites are known to occur in the wider area of study as highlighted above.

The Phase 1 Archaeological and Cultural Heritage Impact Assessment for the proposed Aerorand South Township revealed a historical site with two structures dating to the era when the site was used for farming purposes. A structure means any building, works, device or other facility made by people and which is fixed to land, and includes any fixtures, fittings and equipment associated therewith. Despite that one of these structures is merely a foundation, and the other is a livestock pond, these are protected by Section 3 of the National Heritage Resource Act, 1999 (Act 25 of 1999) and cannot be demolished further or altered without a permit from MPHRA. Although these structures are of low heritage significance, they are still considered as an imperative heritage situate in the life-history of the proposed area due to their historical value. Noteworthy that no major cultural-heritage flaws which can hamper the success of this project were noted in the study area. As a result, the proposed project can proceed on noting the recommendation mentioned below.

Table 5: Information of sites noted in the proposed area

Site	Coordinates	Description	Significance	Mitigation
Aer01	s25 48' 48.0" e29 26' 56.7"	Remnant of a historical roundavel structure in conjunction with animal pond had been noted about on the southeast tip of the area proposed for development. It appears this structure dates to the era when the site was used for farming purposes (See Figure 8).	Medium- Low	Demolition (Subject to permit from MPHRA)



Figure 11: An overview of the roundavel structure noted north of the proposed development.



Figure 12: View of an animal pond documented in conjunction to the roundavel structure on Figure 11 above.

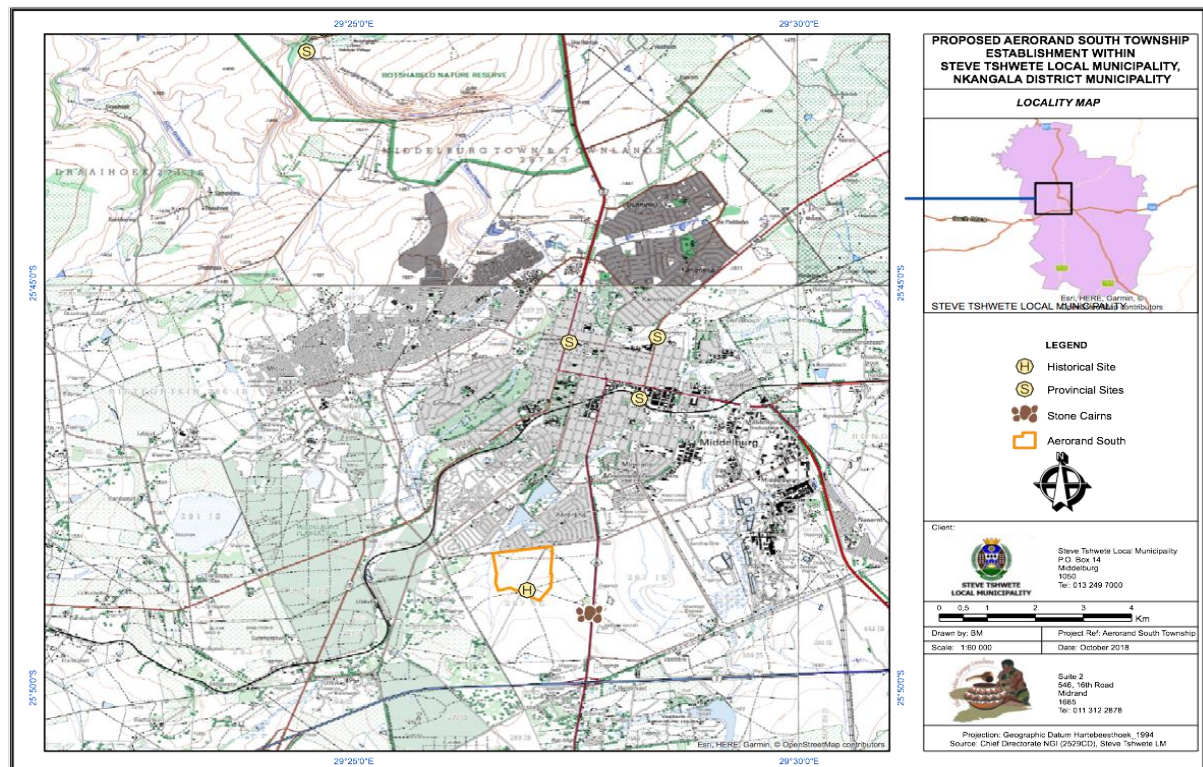


Figure 13: View of topographical map depicting the findings in and around the proposed area.

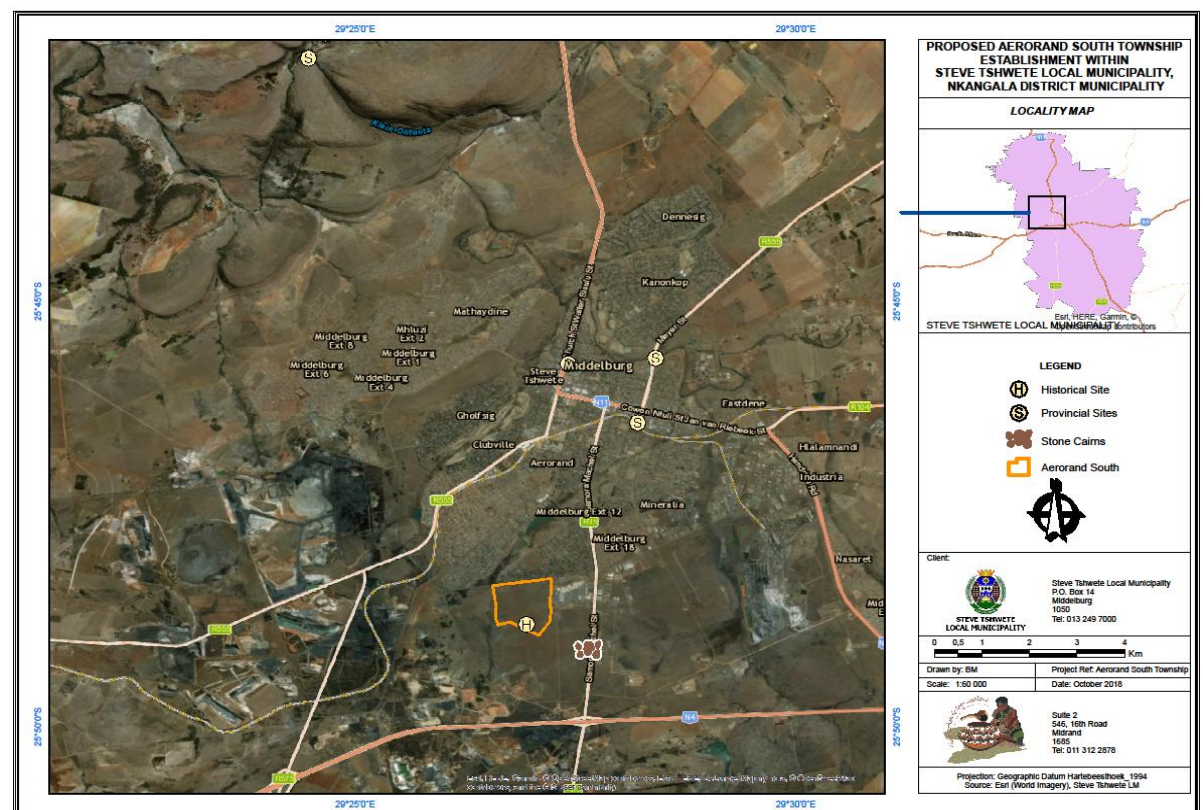


Figure 14: View of Google map showing the findings in and around the proposed site.

10.1 Impact Assessment

Below is a description of the related impact ratings. These ratings are for Provincial and regional sites known to exist in the proposed area at large. Note that these impacts are assessed as per Table 3 above. The proposed development will have a low to very low impact to ecotourism ventures, with visual impact varying from low to very low. Thus, it will be low for travelers travelling at 4 – 6 km away (low impact). Current impacts such as nearby residential sites, shopping mall, roads, fences, telephone and power lines and substations have a related impact. The proposed development will thus have a related impacts to current condition. Reference is made to Table 3, and the anticipated rating is given in Table 6 below:

Table 6: Anticipated impact rating.

Alternatives Corridor 1	Ratings
Impact	Loss of any materials on site
Nature	Negative
Topographical Extent	The impact will only affect site
Duration	Long term
Magnitude	Medium
Probability	Possible
Significance	Low
Reversibility	Irreversible
Irreplaceable Loss	The impact can result in significant loss

11. Recommendations

The main objective of managing archaeological resources is the preservation of the material *in situ* and declares such a sites as a “no-go” area during construction. However, where the costs outweigh such an option, the site should be mitigated. The above mentioned structures are protected under Section 3 of the National Heritage Resource Act (25 of 1999). Two options are given from which the noted structures can be mitigated:



- The first one and commended is that a permit for demolishing of these structures must be applied with the Mpumalanga Provincial Heritage Resources Authority (MPHRA) before development of the above-mentioned project began. Due to the low heritage significance of these structures, and as sanctioned by grading systems in terms of the National Heritage Resources Act for structures of these significance, there is no detailed mapping and documentation required; or
- The developer can modify the layout plan and ensure that the proposed stands (see Figure 1) do not impact on these structures. On that note, the area must be demarcated and declare a “No go” area for the duration of the project. Furthermore, the Project Environmental Control Officer (ECO) must ensure that no stone robbing or removal of any material from these sites happen. Any disturbance or alteration on these sites would be illegal and punishable by law, under section 34 (1) of the National Heritage Resources Act (Act 25 of 1999). Additionally, the developer should maintain a reasonable buffer zone around the identified sites (approximately 10 metres). No dumping of construction material is allowed within this buffer zone and no alteration or damage on this site may occur.

Despite that no archaeological objects were observed during the survey, and that the area is disturbed due to previous farming activities, the client is reminded that unavailability of archaeological material does not mean absentee, archaeological material might be hidden underground. It is thus the responsibility of the developer to notify contractors and workers about archaeological material (e.g., pottery, stone tools, remnants of stone-walling, graves, etc) and fossils that may be located underground. Furthermore, the client is reminded to take precautions during construction.

Pre-construction education and awareness training

Prior to construction, contractors should be given training on how to identify and protect archaeological remains that may be discovered during the project. The pre-construction training should include some limited site recognition training for the types of archaeological sites that may occur in the construction areas. Below are some of the indicators of archaeological site that may be found during construction:

- ✚ Flaked stone tools, bone tools and loose pieces of flaked stone;
- ✚ Ash and charcoal;
- ✚ Bones and shell fragments;
- ✚ Artefacts (e.g., beads or hearths);



- ✚ Packed stones which might be uncounted underground, and might indicate a grave or collapse stone walling.

In the event that any of the above are unearthed, all construction within a radius of at least 10m of such indicator should cease and the area be demarcated by a danger tape. Accordingly, a professional archaeologist or SAHRA officer should be contacted immediately. In the meantime, it is the responsibility of the contractor to protect the site from publicity (i.e., media) until a mutual agreement is reached. Noteworthy that any measures to cover up the suspected archaeological material or to collect any resources is illegal and punishable by law. In the same manner, no person may exhume or collect such remains, whether of recent origin or not, without the endorsement by SAHRA.

12. Conclusions

A thorough background study and survey of the proposed development was conducted and findings were recorded in line with SAHRA guidelines. It is recommended that the project proceed on condition that the recommendation mentioned above are adhered to.

Data bases

Chief Surveyor General

Environmental Potential Atlas, Department of Environmental Affairs and Tourism. Heritage Atlas Database, Pretoria.

National Archives of South Africa

References

Barham, Lawrence; Mitchell, Peter (2008). The First Africans: African Archaeology from the Earliest Toolmakers to Most Recent Foragers. Cambridge: Cambridge University Press. pp. 344–345, 360–361.

Bergh, J.S. (red.). 1999. Geskiedenisatlas van Suid-Afrika. Die viernoordelikeproinsies. Pretoria: J.L. van Schaik.

Burke, H., and Smith, C. 2004. The archaeologist field handbook. Allen and Unwin: Singapore.

Callaway. E (2017) Oldest Homo sapiens fossil claim rewrites our species' history. Nature International weekly journal of Science.

Celliers, J.P. 2009. Phase 1 Archaeological Impact Assessment on RE/3 portions 5, 101, 147, 235 and 236 of the farm Cairn 306 JT, in the Mbombela Local Municipal area, Mpumalanga Province.

Connah, G. 2004. An Introduction to its Archaeology. Routledge: USA and Canada.

Deacon, J. 1997. Report: Workshop on Standards for the Assessment of Significance and Research Priorities for Contract Archaeology. In: Newsletter No. 49, Sept.1998. South African Association of Archaeology.

Dunn, E. J. 1931. The Bushman. London: Griffin

Ehret, C. 2002. The Civilization of Africa: A History to 1800. London: Currey

Evers, T.M. In Voight, E.A. 1981. Guide to Archaeological Sites in the Northern and Eastern



Transvaal. Transvaal Museum, Pretoria.

Hall, M. 1987. *The Changing Past: farmers, kings and traders in southern Africa. 200-1860.* Cape Town: David Phillip.

Hampson, J; Blundell, G; Challis, W. 2002. The Rock Art of Bongani Mountain Lodge and its environs, Mpumalanga Province, South Africa: An Introduction to Problems of Southern African Rock-Art Regions. *South African Archaeological Bulletin*, 57 (175): 13-30.

Huffman, T. N. 2007. *A handbook to the Iron Age: The archaeology of Pre-colonial Farming societies in southern Africa.* University of KwaZulu-Natal Press: Pietermaritzburg.

Huffman, T.N; Calabrese, J.A; Esterhuysen, A.B., and Hall, S. 1997. *Salvage Excavation at the Riverside Development, Nelspruit.* Mpumalanga.

King, T. F. 1978. *The Archaeological Survey: Methods and Uses.* U.S. Department of the Interior: Washington.

Kusel, U. S. 2010. *Cultural heritage resources impact assessment for the proposed new substations on hilltop 458jt and the rest 454jt as well as the proposed new power line from hilltop to the rest Nelspruit Mpumalanga.* Pretoria: African heritage consultants Cc.

Maggs, T.M. 1976. *Iron Age Communities of the Southern Highveld.* Natal Museum, Pietermaritzburg.

Magoma, M. 2016. *Cultural Heritage Impact Assessment (HIA) Study for the proposed residential development of Sakhelwe Settlement for Erven 1, 2 and 764 Sakhelwe JT within Emakhazeni Local Municipality of Nkangala District Municipality, Mpumalanga Province.* Unpublished report: Midrand.

Magoma, M. 2015. *The Phase 1 Cultural Heritage Impact Assessment for the Proposed Township Development Is On Erven 521 And 522 Somaphepha Village Within The Jurisdiction Of Steve Tshwete Local Municipality Of Nkangala District, Mpumalanga Province.* Unpublished report: Midrand.



Magoma, M. 2015. Heritage Impact Assessment (HIA) Study for the proposed road upgrade at Presidentrus within Steve Tshwete Local Municipality of Nkangala District Municipality, Mpumalanga Province. Unpublished report: Midrand.

Magoma, M. 2014. Phase I archaeological and cultural heritage impact assessment specialist report for the proposed mining of coal at Middleburg on portions 4 to 27 of the farms Klipbank 467 JS and portions 1 and 2 of the farm Sterkwater 317 within Steve Tshwete local municipality of Nkangala district in the Mpumalanga province. Unpublished report: Midrand.

McBrearty, Sally; Brooks, Alison (2000). The revolution that wasn't: a new interpretation of the origin of modern human behavior. *Journal of Human Evolution*. 39: 453–563.

Mitchell, P. J. 2002. *The archaeology of Southern Africa*. Cambridge: Cambridge University.

Radford, A.M, and Van Vollenhoven, A.C. 2012. Cultural heritage impact assessment for the proposed extension

Pelser A.J. (2012) A report on a Heritage assessment for the proposed Arnot-Gumeni 400kV powerline project, in the Middelburg/Belfast area, Mpumalanga Province. Unpublished report.

Friedenheim Office Complex in the city of Nelspruit - Mpumalanga Province. Segoboye A. 1998. Early Farming Communities. In Lane, P, Reid, A and Segoboye A. 1998. (ed), Pula Press and Botswana Society, pp 101-114.

Van Schalkwyk, J.A. 2002. Archaeological survey of a section of the Secunda-Mozambique gas pipeline, Barberton

Van Schalkwyk, J.A. 2005. Heritage impact assessment, Portion 40, Malelane Estate. Mpumalanga.

Van Schalkwyk, J.A. 2007. Heritage survey report for the Boulders-Malelane 132kV powerline, Mpumalanga.

Van Schalkwyk, J.A. 2009. Archaeological Impact Survey Report For The Proposed Tenboschestate Development, Barberton Magisterial District, Mpumalanga Province.



Van Schalkwyk, J. 2010. Heritage Impact Assessment For The Proposed Hotel Development, Malelane Gate, Kruger National Park, Mpumalanga Province.

Van Schalkwyk, J. 2012. Heritage Impact Scoping Assessment For The Proposed P166-1/2 Road Development, Mbombela, Mpumalanga Province.

Van Schalkwyk, J. 2013. Cultural heritage impact assessment for the proposed Mpumalanga university, Nelspruit region, Mpumalanga province.

Van Vollenhoven A.C. (2012). A report on a Cultural Heritage assessment for the proposed Middelburg Eastern Bypass Route (as revised), Middelburg, Mpumalanga Province, Unpublished report.

Van Warmelo N.J. Grouping and Ethnic History, in Schapera I., The Bantu-Speaking Tribes of South Africa. An Ethnographical survey.

Van Wyk Rowe C. (2013) Phase 1 Archaeological/ Heritage Impact Assessment for the proposed Township establishment on portion 27 of the farm, Middelburg Town and Townlands 287 JS, Middelburg. Unpublished report

Van Zyl M. (2011). Specialist study: Heritage Impact assessment revision 2 in connection with amendments to the Middelburg water reclamation project, Steve Tshwete Local Municipality, Mpumalanga. Unpublished report

Van Wyk Rowe, C. 2009. Phase I Heritage Impact Assessment Portion 64 of the Farm The Rest 454 JT Nelspruit Mpumalanga Province.

National Heritage Resources Act (Act No 25 of 1999).

http://sagns.dac.gov.za/local_authorities.asp

<http://www.voortrekkermon.org.za/> <http://www.sahistory.org.za/topic/community-histories-nelspruit?page=1> <http://en.wikipedia.org/wiki/Nelspruit>



APPENDIX 1: SITE SIGNIFICANCE

The following guidelines for determining site *significance* were developed by SAHRA in 2003. It must be kept in mind that the various aspects are not mutually exclusive, and that the evaluation of any site is done with reference to any number of these.

(a) Historic value

- Is it important in the community, or pattern of history?
- Does it have strong or special association with the life or work of a person, group or organization of importance in history?
- Does it have significance relating to the history of slavery?

(b) Aesthetic value

- Is it important in exhibiting particular aesthetic characteristics valued by a community or cultural group?

(c) Scientific value

- Does it have potential to yield information that will contribute to an understanding of natural or cultural heritage?
- Is it important in demonstrating a high degree of creative or technical achievement at a particular period?

(d) Social value

- Does it have strong or special association with a particular community or cultural group for social, cultural or spiritual reasons?

(e) Rarity

- Does it possess uncommon, rare or endangered aspects of natural or cultural heritage?

(f) Representivity

- Is it important in demonstrating the principal characteristics of a particular class of natural or cultural places or objects?
- What is the importance in demonstrating the principal characteristics of a range of landscapes or environments, the attributes of which identify it as being characteristic of its class?
- Is it important in demonstrating the principal characteristics of human activities (including way of life, philosophy, custom, process, land-use, function, design or technique) in the environment of the nation, province, region or locality?



APPENDIX II: LEGAL BACKGROUND AND PRINCIPLES OF HERITAGE RESOURCES MANAGEMENT IN SOUTH AFRICA

Extracts relevant to this report from the National Heritage Resources Act No. 25 of 1999, (Sections 5, 36 and 47):

General principles for heritage resources management

5. (1) All authorities, bodies and persons performing functions and exercising powers in terms of this Act for the management of heritage resources must recognise the following principles:

(a) Heritage resources have lasting value in their own right and provide evidence of the origins of South African society and as they are valuable, finite, non-renewable and irreplaceable they must be carefully managed to ensure their survival;

(b) every generation has a moral responsibility to act as trustee of the national heritage for succeeding generations and the State has an obligation to manage heritage resources in the interests of all South Africans;

(c) heritage resources have the capacity to promote reconciliation, understanding and respect, and contribute to the development of a unifying South African identity; and

(d) heritage resources management must guard against the use of heritage for sectarian purposes or political gain.

(2) To ensure that heritage resources are effectively managed—

(a) the skills and capacities of persons and communities involved in heritage resources management must be developed; and

(b) provision must be made for the ongoing education and training of existing and new heritage resources management workers.

(3) Laws, procedures and administrative practices must—

(a) be clear and generally available to those affected thereby;

(b) in addition to serving as regulatory measures, also provide guidance and information to those affected thereby; and

(c) give further content to the fundamental rights set out in the Constitution.

(4) Heritage resources form an important part of the history and beliefs of communities and must be managed in a way that acknowledges the right of affected communities to be consulted and to participate in their management.



- (5) Heritage resources contribute significantly to research, education and tourism and they must be developed and presented for these purposes in a way that ensures dignity and respect for cultural values.
- (6) Policy, administrative practice and legislation must promote the integration of heritage resources conservation in urban and rural planning and social and economic development.
- (7) The identification, assessment and management of the heritage resources of South Africa must—
 - (a) take account of all relevant cultural values and indigenous knowledge systems;
 - (b) take account of material or cultural heritage value and involve the least possible alteration or loss of it;
 - (c) promote the use and enjoyment of and access to heritage resources, in a way consistent with their cultural significance and conservation needs;
 - (d) contribute to social and economic development;
 - (e) safeguard the options of present and future generations; and
 - (f) be fully researched, documented and recorded.

Burial grounds and graves

36. (1) Where it is not the responsibility of any other authority, SAHRA must conserve and generally care for burial grounds and graves protected in terms of this section, and it may make such arrangements for their conservation as it sees fit.
- (2) SAHRA must identify and record the graves of victims of conflict and any other graves which it deems to be of cultural significance and may erect memorials associated with the grave referred to in subsection (1), and must maintain such memorials.
- (3) (a) No person may, without a permit issued by SAHRA or a provincial heritage resources authority—
 - (a) destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;
 - (b) destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or
 - (c) bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation equipment, or any equipment which assists in the detection or recovery of metals.
- (4) SAHRA or a provincial heritage resources authority may not issue a permit for the destruction or damage of any burial ground or grave referred to in subsection (3)(a) unless it is satisfied that



the applicant has made satisfactory arrangements for the exhumation and re-interment of the contents of such graves, at the cost of the applicant and in accordance with any regulations made by the responsible heritage resources authority.

(5) SAHRA or a provincial heritage resources authority may not issue a permit for any activity under subsection (3)(b) unless it is satisfied that the applicant has, in accordance with regulations made by the responsible heritage resources authority—

(a) made a concerted effort to contact and consult communities and individuals who by tradition have an interest in such grave or burial ground; and

(b) reached agreements with such communities and individuals regarding the future of such grave or burial ground.

(6) Subject to the provision of any other law, any person who in the course of development or any other activity discovers the location of a grave, the existence of which was previously unknown, must immediately cease such activity and report the discovery to the responsible heritage resources authority which must, in co-operation with the South African Police Service and in accordance with regulations of the responsible heritage resources authority—

(a) carry out an investigation for the purpose of obtaining information on whether or not such grave is protected in terms of this Act or is of significance to any community; and

(b) if such grave is protected or is of significance, assist any person who or community which is a direct descendant to make arrangements for the exhumation and re-interment of the contents of such grave or, in the absence of such person or community, make any such arrangements as it deems fit.

(7) (a) SAHRA must, over a period of five years from the commencement of this Act, submit to the Minister for his or her approval lists of graves and burial grounds of persons connected with the liberation struggle and who died in exile or as a result of the action of State security forces or agents provocateur and which, after a process of public consultation, it believes should be included among those protected under this section.

(b) The Minister must publish such lists as he or she approves in the Gazette.

(8) Subject to section 56(2), SAHRA has the power, with respect to the graves of victims of conflict outside the Republic, to perform any function of a provincial heritage resources authority in terms of this section.

(9) SAHRA must assist other State Departments in identifying graves in a foreign country of victims of conflict connected with the liberation struggle and, following negotiations with the next of kin, or relevant authorities, it may re-inter the remains of that person in a prominent place in the capital of the Republic.



General policy

47. (1) SAHRA and a provincial heritage resources authority—

(a) must, within three years after the commencement of this Act, adopt statements of general policy for the management of all heritage resources owned or controlled by it or vested in it; and
(b) may from time to time amend such statements so that they are adapted to changing circumstances or in accordance with increased knowledge; and

(c) must review any such statement within 10 years after its adoption.

(2) Each heritage resources authority must adopt for any place which is protected in terms of this Act and is owned or controlled by it or vested in it, a plan for the management of such place in accordance with the best environmental, heritage conservation, scientific and educational principles that can reasonably be applied taking into account the location, size and nature of the place and the resources of the authority concerned, and may from time to time review any such plan.

(3) A conservation management plan may at the discretion of the heritage resources authority concerned and for a period not exceeding 10 years, be operated either solely by the heritage resources authority or in conjunction with an environmental or tourism authority or under contractual arrangements, on such terms and conditions as the heritage resources authority may determine.

(4) Regulations by the heritage resources authority concerned must provide for a process whereby, prior to the adoption or amendment of any statement of general policy or any conservation management plan, the public and interested organisations are notified of the availability of a draft statement or plan for inspection, and comment is invited and considered by the heritage resources authority concerned.

(5) A heritage resources authority may not act in any manner inconsistent with any statement of general policy or conservation management plan.

(6) All current statements of general policy and conservation management plans adopted by a heritage resources authority must be available for public inspection on request.

