

**Heritage impact assessment for the  
PROPOSED RIETFontein Township Development,  
Ekurhuleni District Municipality,  
Gauteng Province**

**HERITAGE IMPACT ASSESSMENT FOR THE PROPOSED RIETFontein  
TOWNSHIP DEVELOPMENT, EKURHULENI DISTRICT MUNICIPALITY,  
GAUTENG PROVINCE**

**Report No:** 2010/JvS/048  
**Status:** Final  
**Revision No:** 0  
**Date:** June 2010

**Prepared for:**

ENVIROLUTION CONSULTING

Representative: Ms. Nkhensani Khandhela

Postal Address: Unit 25, Sunninghill Office Park, 4 Peltier Road, Sunninghill, 2157  
Tel: 086 144 4499  
E-mail: nkhensani@envirolution.co.za

**Prepared by:**

J van Schalkwyk (D Litt et Phil), Heritage Consultant


ASAPA Registration No.: 168

Principal Investigator: Iron Age, Colonial Period, Industrial Heritage

Postal Address: 62 Coetzer Avenue, Monument Park, 0181  
Mobile: 076 790 6777  
Fax: 086 611 3902  
E-mail: jvschalkwyk@mweb.co.za

**Declaration:**

I, J.A. van Schalkwyk, declare that I do not have any financial or personal interest in the proposed development, nor its developers or any of their subsidiaries, apart from the provision of heritage assessment and management services.



J A van Schalkwyk (D Litt et Phil)  
Heritage Consultant  
June 2010

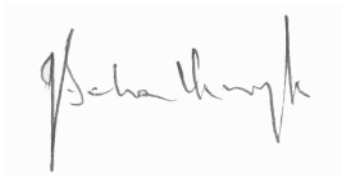
## EXECUTIVE SUMMARY

### **HERITAGE IMPACT ASSESSMENT FOR THE PROPOSED RIETFontein TOWNSHIP DEVELOPMENT, EKURHULENI DISTRICT MUNICIPALITY, GAUTENG PROVINCE**

It is proposed to expand a township on an open section of land to the east of Wattville. In accordance with Section 38 of the NHRA, an independent heritage consultant was appointed by **Envirolution Consulting** to conduct a Heritage Impact Assessment (HIA) to determine if any sites, features or objects of cultural heritage significance occur within the boundaries of the area where it is planned to develop the project.

- As no heritage sites occur in the study area, there would be no impact resulting from the proposed development.

Therefore, from a heritage point of view we recommend that the proposed development can continue. However, we request that if archaeological sites or graves are exposed during construction work, it should immediately be reported to a heritage practitioner so that an investigation and evaluation of the finds can be made.



J A van Schalkwyk  
Heritage Consultant  
June 2010

**TECHNICAL SUMMARY**

<b>Property details</b>	
Province	Gauteng
Magisterial district	Benoni
Topo-cadastral map	2628AB
Closest town	Benoni
Farm name	Rietfontein 115IR
Portions/Holdings	
Coordinates	Polygon (Approximate)
1. S26.22111 E28.31582	
2. S26.22342 E28.31626	
3. S26.22346 E28.31432	
4. S26.22554 E28.31238	
5. S26.22280 E28.32149	
6. S26.22538 E28.32225	
7. S26.22108 E28.31385	

<b>Development criteria in terms of Section 38(1) of the NHR Act</b>	Yes/No
Construction of road, wall, power line, pipeline, canal or other linear form of development or barrier exceeding 300m in length	No
Construction of bridge or similar structure exceeding 50m in length	No
Development exceeding 5000 sq m	Yes
Development involving three or more existing erven or subdivisions	No
Development involving three or more erven or divisions that have been consolidated within past five years	No
Rezoning of site exceeding 10 000 sq m	No
Any other development category, public open space, squares, parks, recreation grounds	No

<b>Development</b>	
Description	Development of a township
Project name	

<b>Land use</b>	
Previous land use	Farming
Current land use	Vacant

<b>Heritage sites assessment</b>		
<i>Site type</i>	<i>Site significance</i>	<i>Site grading (Section 7 of NHRA)</i>
None		
<b>Impact assessment</b>		
<i>Impact</i>	<i>Mitigation</i>	<i>Permits required</i>
None		

**TABLE OF CONTENTS**

	Page
EXECUTIVE SUMMARY .....	II
TECHNICAL SUMMARY .....	III
TABLE OF CONTENTS.....	IV
LIST OF FIGURES.....	IV
GLOSSARY OF TERMS AND ABBREVIATIONS.....	V
1. INTRODUCTION.....	6
2. TERMS OF REFERENCE .....	6
3. HERITAGE RESOURCES.....	6
4. STUDY APPROACH AND METHODOLOGY .....	7
5. DESCRIPTION OF THE AFFECTED ENVIRONMENT .....	8
6. SITE SIGNIFICANCE AND ASSESSMENT .....	10
7. CONCLUSIONS.....	11
8. REFERENCES.....	12
APPENDIX 1: CONVENTIONS USED TO ASSESS THE IMPACT OF PROJECTS ON HERITAGE RESOURCES.....	13
APPENDIX 2. RELEVANT LEGISLATION .....	15
APPENDIX 3: SURVEY RESULTS .....	16
APPENDIX 4: ILLUSTRATIONS .....	17

**LIST OF FIGURES**

	Page
Fig. 1. Location of the study area in regional context. ....	9
Fig. 2. The study area (green polygon).....	16
Fig. 3. Layout of the proposed development. ....	17
Fig. 4. The 1939 edition of the 1:50 000 topocadastral map, showing the absence of built features in the study area. ....	18
Fig. 5. Aerial photograph of the study area.....	19
Fig. 6. The study area looking west. ....	19

## **GLOSSARY OF TERMS AND ABBREVIATIONS**

### **TERMS**

**Study area:** Refers to the entire study area as indicated by the client in the accompanying Fig. 1 and 2.

**Stone Age:** The first and longest part of human history is the Stone Age, which began with the appearance of early humans between 3-2 million years ago. Stone Age people were hunters, gatherers and scavengers who did not live in permanently settled communities. Their stone tools preserve well and are found in most places in South Africa and elsewhere.

Early Stone Age	2 000 000 - 150 000 Before Present
Middle Stone Age	150 000 - 30 000 BP
Late Stone Age	30 000 - until c. AD 200

**Iron Age:** Period covering the last 1800 years, when new people brought a new way of life to southern Africa. They established settled villages, cultivated domestic crops such as sorghum, millet and beans, and they herded cattle as well as sheep and goats. These people, according to archaeological evidence, spoke early variations of the Bantu Language. Because they produced their own iron tools, archaeologists call this the Iron Age.

Early Iron Age	AD 200 - AD 900
Middle Iron Age	AD 900 - AD 1300
Late Iron Age	AD 1300 - AD 1830

**Historical Period:** Since the arrival of the white settlers - c. AD 1840 - in this part of the country

### **ABBREVIATIONS**

ADRC	Archaeological Data Recording Centre
ASAPA	Association of Southern African Professional Archaeologists
CS-G	Chief Surveyor-General
EIA	Early Iron Age
ESA	Early Stone Age
LIA	Late Iron Age
LSA	Later Stone Age
HIA	Heritage Impact Assessment
MSA	Middle Stone Age
NASA	National Archives of South Africa
NHRA	National Heritage Resources Act
PHRA	Provincial Heritage Resources Agency
SAHRA	South African Heritage Resources Agency

# HERITAGE IMPACT ASSESSMENT FOR THE PROPOSED RIETFontein TOWNSHIP DEVELOPMENT, EKURHULENI DISTRICT MUNICIPALITY, GAUTENG PROVINCE

## 1. INTRODUCTION

It is proposed to expand a township on an open section of land to the east of Wattville. South Africa's heritage resources, also described as the 'national estate', comprise a wide range of sites, features, objects and beliefs. However, according to Section 27(18) of the National Heritage Resources Act (NHRA), Act 25 of 1999, no person may destroy, damage, deface, excavate, alter, remove from its original position, subdivide or change the planning status of any heritage site without a permit issued by the heritage resources authority responsible for the protection of such site.

In accordance with Section 38 of the NHRA, an independent heritage consultant was appointed by **Envirolution Consulting** to conduct a Heritage Impact Assessment (HIA) to determine if any sites, features or objects of cultural heritage significance occur within the boundaries of the area where it is planned to develop the project.

## 2. TERMS OF REFERENCE

The scope of work for this study consisted of:

- Conducting of a desk-top investigation of the area, in which all available literature, reports, databases and maps were studied;
- A visit to the proposed development area.

The objectives were to

- Identify possible archaeological, cultural and historic sites within the proposed development area;
- Evaluate the potential impacts of construction, operation and maintenance of the proposed development on archaeological, cultural and historical resources;
- Recommend mitigation measures to ameliorate any negative impacts on areas of archaeological, cultural or historical importance.

## 3. HERITAGE RESOURCES

### 3.1 The National Estate

The NHRA (No. 25 of 1999) defines the heritage resources of South Africa which are of cultural significance or other special value for the present community and for future generations that must be considered part of the national estate to include:

- places, buildings, structures and equipment of cultural significance;
- places to which oral traditions are attached or which are associated with living heritage;
- historical settlements and townscapes;
- landscapes and natural features of cultural significance;
- geological sites of scientific or cultural importance;
- archaeological and palaeontological sites;
- graves and burial grounds, including-
  - ancestral graves;

- royal graves and graves of traditional leaders;
- graves of victims of conflict;
- graves of individuals designated by the Minister by notice in the Gazette;
- historical graves and cemeteries; and
- other human remains which are not covered in terms of the Human Tissue Act, 1983 (Act No. 65 of 1983);
- sites of significance relating to the history of slavery in South Africa;
- movable objects, including-
  - objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens;
  - objects to which oral traditions are attached or which are associated with living heritage;
  - ethnographic art and objects;
  - military objects;
  - objects of decorative or fine art;
  - objects of scientific or technological interest; and
  - 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(xiv) of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996).

### 3.2 Cultural significance

In the NHRA, Section 2 (vi), it is stated that “cultural significance” means aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance. This is determined in relation to a site or feature’s uniqueness, condition of preservation and research potential.

According to Section 3(3) of the NHRA, a place or object is to be considered part of the national estate if it has cultural significance or other special value because of

- its importance in 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; and
- sites of significance relating to the history of slavery in South Africa.

## 4. STUDY APPROACH AND METHODOLOGY

### 4.1 Extent of the Study

This survey and impact assessment covers the area as presented in Section 5 and as illustrated in Figures 1 and 2.



## 4.2 Methodology

### 4.2.1 Preliminary investigation

#### 4.2.1.1 Survey of the literature

A survey of the relevant literature was conducted with the aim of reviewing the previous research done and determining the potential of the area. In this regard, various anthropological, archaeological and historical sources were consulted.

- Publications dealing with the larger region were identified (Praagh 1906, Huffman 2006/7). Some information was obtained from previous heritage impact assessment studies done in the region (Van Schalkwyk 2005).

#### 4.2.1.2 Data bases

The *Heritage Atlas Database*, the *Environmental Potential Atlas*, the *Chief Surveyor General (CS-G)* and the *National Archives of South Africa (NASA)* were consulted.

- Database surveys produced a number of sites located in the larger region of the proposed development.
- The original Title Deed of the farm was not located.

#### 4.2.1.3 Other sources

Aerial photographs and topocadastral and other maps were also studied - see the list of references below.

- Information of a very general nature were obtained from these sources

### 4.2.2 Field survey

The area that had to be investigated, was identified by **Envirovolution Consulting** by means of maps. The site was surveyed by walking a number of transects across the site.

## 4.2 Limitations

None at present.

## 5. DESCRIPTION OF THE AFFECTED ENVIRONMENT

### 5.1 Site location and description

The study area is irregular in shape and is located west of the R23, north of the suburb of Leachville and east of Wattville, south of Benoni (Fig. 1). For more information, please see the Technical Summary presented above.

The geology is made up of shale and the original vegetation of the area is classified as Moist Cool Highveld Grassland. The area borders on the northern side of a large pan, called Leeuwpan, which holds water for the most part of the year. In recent years, an informal settlement was established on the western edges of the pan.

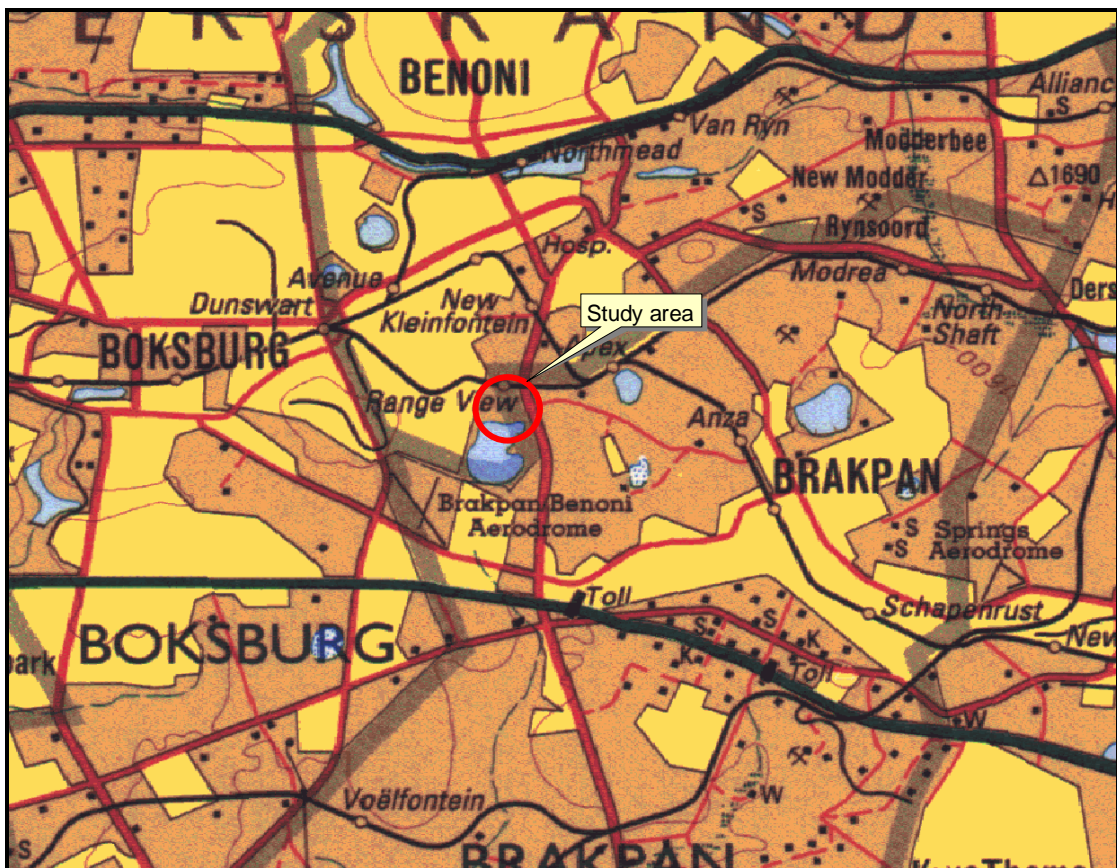


Fig. 1. Location of the study area in regional context.

## 5.2 Overview of the region

### 5.3.1 Stone Age

Records indicate that stone tools dating to the Early and Middle Stone Age occurred all over, for example in the Primrose Ridge area in adjacent Germiston, as well as to the south at Henly-On-Klip. Tools dating to this period are mostly found in the vicinity of watercourses, and no sealed, stratified sites (i.e. rock shelter or cave) are known from the region.

### 5.3.2 Iron Age

Iron Age people started to settle in southern Africa c. AD 300, with one of the oldest known sites at Broederstroom south of Hartebeespoort Dam dating to AD 470. Having only had cereals (sorghum, millet) that need summer rainfall, Early Iron Age (EIA) people did not move outside this rainfall zone, and neither did they occupy the central interior highveld area.

The occupation of the larger geographical area (including the study area) did not start much before the 1500s. By the 16th century things changed, with the climate becoming warmer and wetter, creating condition that allowed Late Iron Age (LIA) farmers to occupy areas previously unsuitable, for example the Witwatersrand in the region of Klipriviersberg. Here, a large

number of settlements dating to the Later Iron Age occur and, according to Huffman et al (2006/2007) these sites can be related to the Bafokeng people.

### 5.3.3 Historic period

White settlers moved into the area during the first half of the 19<sup>th</sup> century. They were largely self-sufficient, basing their survival on cattle/sheep farming and hunting. Few towns were established and it remained an undeveloped area until the discovery of gold and later of coal. From early days this region was subjected to intense gold mining activities (Praagh 1906). The result is that most sites and features of heritage significance in the larger region derive from this development.

The town of Boksburg was started in August 1887 with the sale of the first stands, but was created as municipality only in 1903. During the early years, the principal mining property was the East Rand Proprietary Mines, Ltd., while other mines were the Witwatersrand Deep, Ltd., Ginsberg, Driefontein Deep, Balmoral, Anglo Deep, Cinderella Deep, Boksburg Global Mines, and East Rand Extensions (Praagh 1906:371-372).

## 5.3 Identified sites

### 5.3.1 Stone Age

No sites, features or objects of cultural significance dating to the Stone Age were identified in the study area.

### 5.3.2 Iron Age

No sites, features or objects of cultural significance dating to the Iron Age were identified in the study area.

### 5.3.3 Historic period

No sites, features or objects of cultural significance dating to the historic period were identified in the study area.

## 6. SITE SIGNIFICANCE AND ASSESSMENT

### 6.1 Heritage assessment criteria and grading

The NHRA stipulates the assessment criteria and grading of archaeological sites. The following categories are distinguished in Section 7 of the Act:

- **Grade I:** Heritage resources with qualities so exceptional that they are of special national significance;
- **Grade II:** Heritage resources which, although forming part of the national estate, can be considered to have special qualities which make them significant within the context of a province or a region; and
- **Grade III:** Other heritage resources worthy of conservation, on a local authority level.

The occurrence of sites with a Grade I significance will demand that the development activities be drastically altered in order to retain these sites in their original state. For Grade II

and Grade III sites, the applicable of mitigation measures would allow the development activities to continue.

## **6.2 Statement of significance**

In terms of Section 7 of the NHRA, all the sites currently known or which are expected to occur in the study area are evaluated to have Grade III significance.

## **6.3 Impact assessment**

Impact analysis of cultural heritage resources under threat of the proposed development, are based on the present understanding of the development.

- As no heritage sites occur in the study area, there would be no impact resulting from the proposed development of the combined business and commercial site.

## **7. CONCLUSIONS**

The aim of the survey was to locate, identify, evaluate and document sites, objects and structures of cultural significance found within the area in which it is proposed to develop a township.

- As no heritage sites occur in the study area, there would be no impact resulting from the proposed development.

Therefore, from a heritage point of view we recommend that the proposed development can continue. However, we request that if archaeological sites or graves are exposed during construction work, it should immediately be reported to a heritage practitioner so that an investigation and evaluation of the finds can be made.

## 8. REFERENCES

### 8.1 Data bases

Chief Surveyor General

Environmental Potential Atlas, Department of Environmental Affairs and Tourism.

Heritage Atlas Database, Pretoria.

National Archives of South Africa

### 8.2 Literature

Acocks, J.P.H. 1975. *Veld Types of South Africa*. Memoirs of the Botanical Survey of South Africa, No. 40. Pretoria: Botanical Research Institute.

Huffman, T.N. et al. 2006/7. Stone walling in the Klipriviersberg: archaeological mitigation for the Aspen Hills development project. *Southern African Field Archaeology* 15 & 16:42-56.

Mason, R.J. 1969. *Prehistory of the Transvaal*. Johannesburg: Witwatersrand University Press.

Praagh, L.V. (ed.) 1906. *The Transvaal and its mines*. London: Praagh & Lloyd.

Van Schalkwyk, J.A. 2005. *Heritage impact assessment: Leeupan*. Unpublished report 2005KH035. Pretoria: National Cultural History Museum.

### 8.3 Maps and aerial photographs

1: 50 000 Topocadastral maps: 2628AB

Google Earth

## APPENDIX 1: CONVENTIONS USED TO ASSESS THE IMPACT OF PROJECTS ON HERITAGE RESOURCES

### Significance

According to the NHRA, Section 2(vi) the **significance** of heritage sites and artefacts is determined by its aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technical value in relation to the uniqueness, condition of preservation and research potential. 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.

Matrix used for assessing the significance of each identified site/feature

<b>1. Historic value</b>			
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 organisation of importance in history			
Does it have significance relating to the history of slavery			
<b>2. Aesthetic value</b>			
It is important in exhibiting particular aesthetic characteristics valued by a community or cultural group			
<b>3. Scientific value</b>			
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			
<b>4. Social value</b>			
Does it have strong or special association with a particular community or cultural group for social, cultural or spiritual reasons			
<b>5. Rarity</b>			
Does it possess uncommon, rare or endangered aspects of natural or cultural heritage			
<b>6. Representivity</b>			
Is it important in demonstrating the principal characteristics of a particular class of natural or cultural places or objects			
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			
Importance 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.			
<b>7. Sphere of Significance</b>			
	High	Medium	Low
International			
National			
Provincial			
Regional			
Local			
Specific community			
<b>8. Significance rating of feature</b>			
1.	Low		
2.	Medium		
3.	High		

**Significance of impact:**

- low where the impact will not have an influence on or require to be significantly accommodated in the project design
- medium where the impact could have an influence which will require modification of the project design or alternative mitigation
- high where it would have a “no-go” implication on the project regardless of any mitigation

**Certainty of prediction:**

- Definite: More than 90% sure of a particular fact. Substantial supportive data to verify assessment
- Probable: More than 70% sure of a particular fact, or of the likelihood of that impact occurring
- Possible: Only more than 40% sure of a particular fact, or of the likelihood of an impact occurring
- Unsure: Less than 40% sure of a particular fact, or the likelihood of an impact occurring

**Recommended management action:**

For each impact, the recommended practically attainable mitigation actions which would result in a measurable reduction of the impact, must be identified. This is expressed according to the following:

- 1 = no further investigation/action necessary
- 2 = controlled sampling and/or mapping of the site necessary
- 3 = preserve site if possible, otherwise extensive salvage excavation and/or mapping necessary
- 4 = preserve site at all costs
- 5 = retain graves

**Legal requirements:**

Identify and list the specific legislation and permit requirements which potentially could be infringed upon by the proposed project, if mitigation is necessary.

## APPENDIX 2. RELEVANT LEGISLATION

All archaeological and palaeontological sites, and meteorites are protected by the National Heritage Resources Act (Act no 25 of 1999) as stated in Section 35:

(1) Subject to the provisions of section 8, the protection of archaeological and palaeontological sites and material and meteorites is the responsibility of a provincial heritage resources authority: Provided that the protection of any wreck in the territorial waters and the maritime cultural zone shall be the responsibility of SAHRA.

(2) Subject to the provisions of subsection (8)(a), all archaeological objects, palaeontological material and meteorites are the property of the State. The responsible heritage authority must, on behalf of the State, at its discretion ensure that such objects are lodged with a museum or other public institution that has a collection policy acceptable to the heritage resources authority and may in so doing establish such terms and conditions as it sees fit for the conservation of such objects.

(3) Any person who discovers archaeological or palaeontological objects or material or a meteorite in the course of development or agricultural activity must immediately report the find to the responsible heritage resources authority, or to the nearest local authority offices or museum, which must immediately notify such heritage resources authority.

(4) No person may, without a permit issued by the responsible heritage resources authority-

- (a) destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;
- (b) destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;
- (c) trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or palaeontological material or object, or any meteorite; or
- (d) bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment which assist in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.

In terms of cemeteries and graves the following (Section 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) 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.



**APPENDIX 3: SURVEY RESULTS**

See Appendix 1 for an explanation of the conventions used in assessing the significance of the cultural remains.

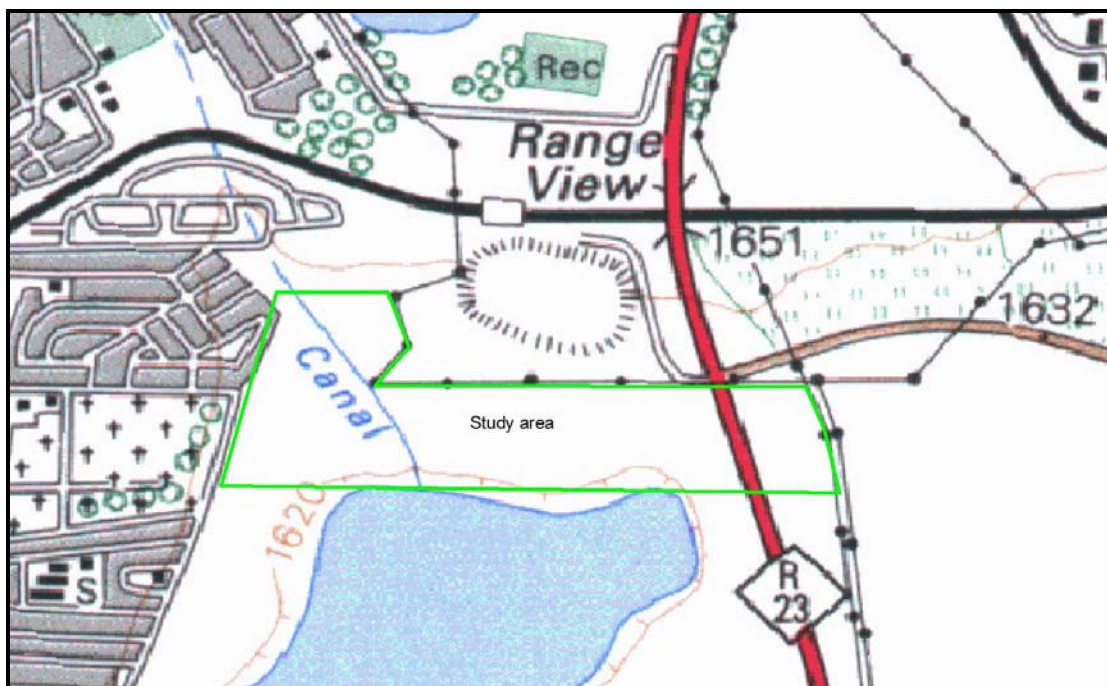


Fig. 2. The study area (green polygon).  
(Map 2628AB: Chief Surveyor-General)  
(Please keep in mind that the existing map does not reflect recent developments in the area)

**Sites identified in the study area: Nil**

APPENDIX 4: ILLUSTRATIONS

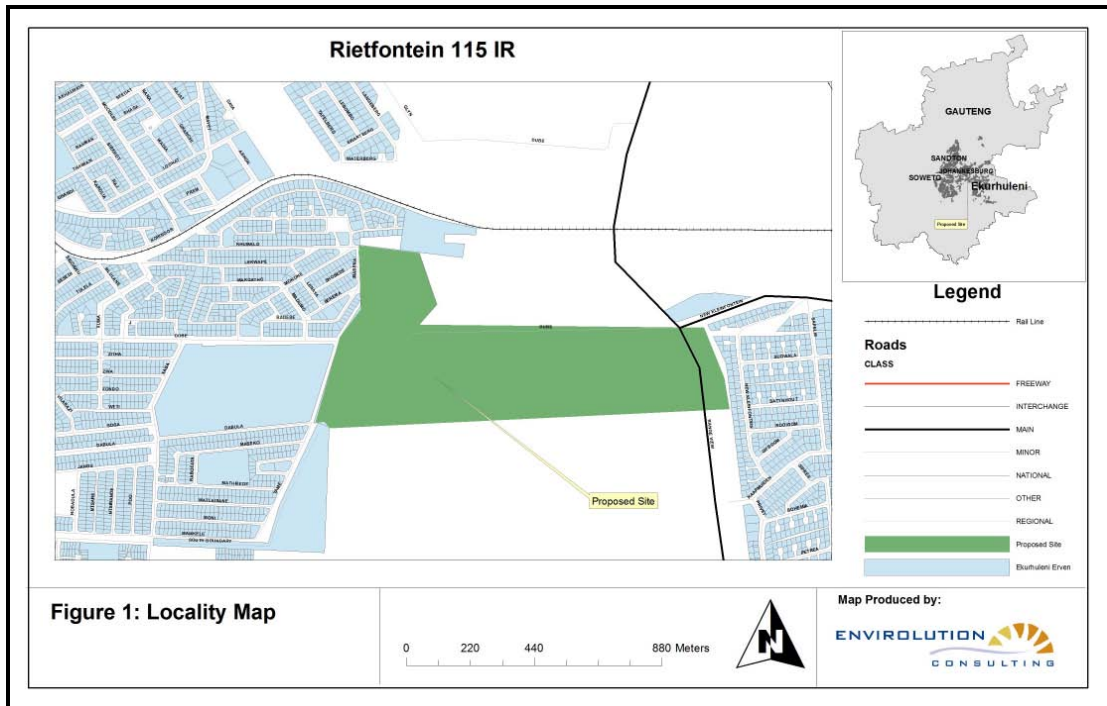


Fig. 3. Layout of the proposed development.

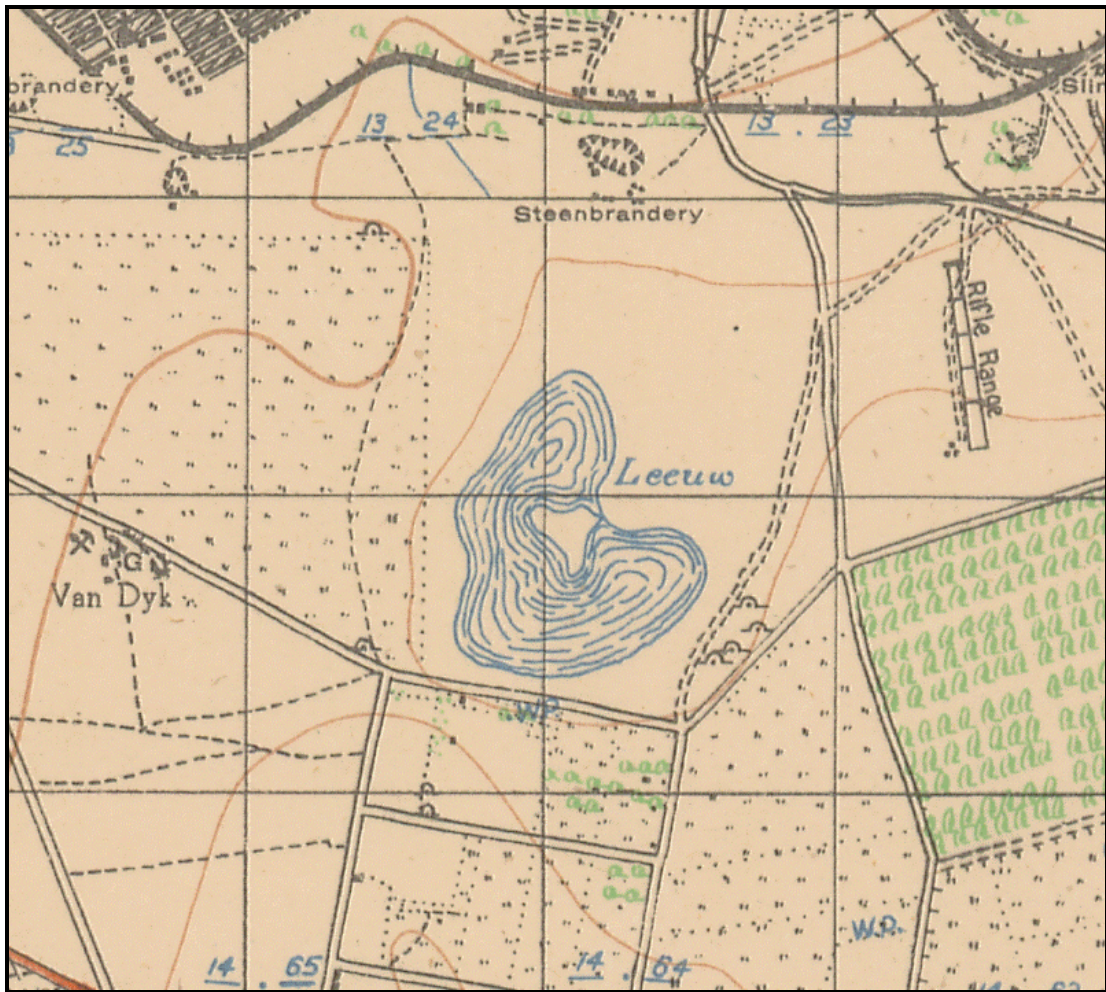


Fig. 4. The 1939 edition of the 1:50 000 topocadastral map, showing the absence of built features in the study area.  
(Map: Chief Surveyor-General)

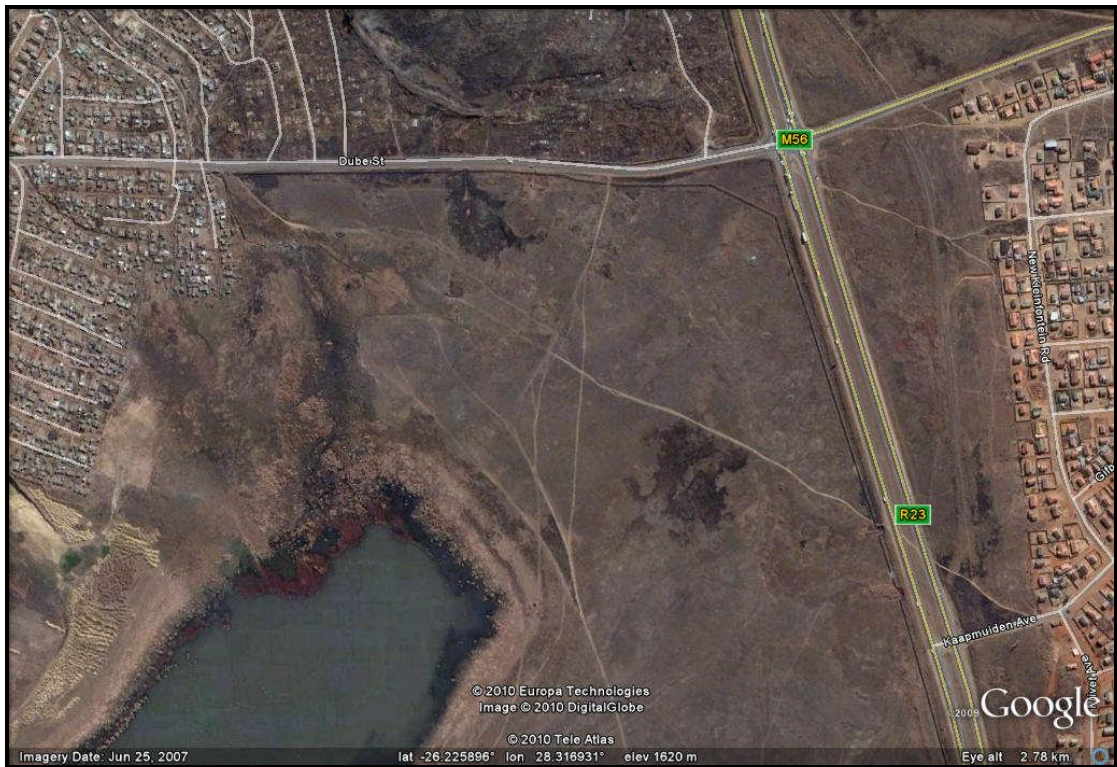


Fig. 5. Aerial photograph of the study area.  
(Photo: Google Earth)



Fig. 6. The study area looking west.