

**HERITAGE IMPACT ASSESSMENT FOR THE PLANNED  
DEVELOPMENT ON THE FARM DOORNKUIL 369IQ,  
VEREENIGING MUNICIPAL DISTRICT,  
GAUTENG PROVINCE**

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## EXECUTIVE SUMMARY

### HERITAGE IMPACT ASSESSMENT FOR THE PLANNED DEVELOPMENT ON THE FARM DOORNKUIL 369IQ, VEREENIGING MUNICIPAL DISTRICT, GAUTENG PROVINCE

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

According to current understanding of the project, this development would have a high impact on the identified heritage resources.

The sites that were identified can be categorised into two groups.

A number of houses occur. These are either farmsteads or the homesteads of farm labourers. In the former cases, one seems to be quite old and does not even register on the 1:50 000 map (1972). In the latter case, very little has remained of these features and they basically consists of the foundations and floors. In one case a substantial kitchen midden occur.

- It is recommended that the old sandstone farmstead is documented (mapped and photographed).
- It is recommended that at least one of the homestead sites is documented (mapped and photographed) and test excavated by an archaeologist.

A large informal cemetery occurs on the border of the study area. It is judged to have a high significance on a local level and it is recommended that

- This feature should be left in place and formalised by fencing it off, with suitable access in case descendents wants to visit the site. If they cannot be retained in place, the possibility exists to have them relocated, after following the correct procedure. This includes notification of intent to relocate the graves, consultation with descendents, obtaining of the relevant permits

Lastly, archaeological material, by its very nature, occurs below ground. The developer should therefore keep in mind that archaeological sites might be exposed during the development activities. It is therefore recommended that

- If anything is noticed, work in that area should be stopped and the occurrence should immediately be reported to a museum, preferably one at which an archaeologist is available. The archaeologist should then investigate and evaluate the finds.

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## GLOSSARY OF 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
Later 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 1000
Late Iron Age	AD 1000 - AD 1830

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

**Tuyere:** Clay pipe used in smelting of iron, to connect the bellows to the furnace.

## LIST OF ABBREVIATIONS

<b>ADRC</b>	Archaeological Data Recording Centre
<b>EIA</b>	Early Iron Age
<b>ESA</b>	Early Stone Age
<b>LIA</b>	Late Iron Age
<b>LSA</b>	Late Stone Age
<b>MSA</b>	Middle Stone Age
<b>NASA</b>	National Archives of South Africa
<b>NHRA</b>	National Heritage Resources Act
<b>PHRA</b>	Provincial Heritage Resources Agency
<b>SAHRA</b>	South African Heritage Resources Agency

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# HERITAGE IMPACT ASSESSMENT FOR THE PLANNED DEVELOPMENT ON THE FARM DOORNKUIL 369IQ, VEREENIGING MUNICIPAL DISTRICT, GAUTENG PROVINCE

## 1. INTRODUCTION

The National Cultural History Museum<sup>1</sup> was contracted by **Exigent Engineering Consultants** to survey an area in which it is proposed to develop a township. The aim of the survey was to determine the nature and potential of cultural heritage resources found within the boundaries of the area that is to be impacted by the developed.

**Cultural heritage resources** are broadly defined as all non-physical and physical human-made occurrences, as well as natural occurrences that are associated with human activity. These include all sites, structures and artefacts of importance, either individually or in groups, in the history, architecture and archaeology of human (cultural) development.

## 2. BACKGROUND AND BRIEF

The scope of work consisted of conducting a Phase 1 archaeological survey of the site in accordance with the requirements of Section 38(3) of the National Heritage Resources Act (Act 25 of 1999).

This include:

- Conducting a desk-top investigation of the area;
- A visit to the proposed development site.

The objectives were to

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

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<sup>1</sup> The National Cultural History Museum is affiliated to the Northern Flagship Institution, which act as parent body for a number of museums, all of which resorts under the Department of Arts and Culture.

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### 3. STUDY APPROACH

#### 3.1 Information base (sources)

Very little heritage work has been done in this area, resulting in the near absence of any published/unpublished information.

#### 3.2 Methodology

##### 3.2.1 *Preliminary investigation*

###### 3.2.1.1 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 reports, anthropological, archaeological and historical sources were consulted - see the list of references below.

###### 3.2.1.2 Data bases

The *Heritage Sites Database* and the *Environmental Potential Atlas* was consulted. The databases of the National Archives of South Africa (NASA) were also consulted. No information regarding the study area could be obtained from this.

###### 3.2.1.3 Other sources

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

##### 3.2.2 *Field survey*

The area was divided into blocks by using natural (e.g. streams) as well as manmade (e.g. roads, fences) boundaries, and each block was surveyed by walking and driving a number of transects across it. Fences and rivers obviously necessitated a deviation from this strategy.

##### 3.2.3 *Documentation*

Sites, objects and structures that are identified are documented according to the general minimum standards accepted by the archaeological profession. Coordinates of individual localities were

determined by means of the *Global Positioning System (GPS)*<sup>2</sup> and plotted on a map. This information is added to the description in order to facilitate the identification of each locality.

Map datum used: Hartebeeshoek 94 (WGS84).

### 3.4 Limitations

The exact layout of the proposed development is not known.

## 4. STUDY AREA

### 4.1 Description of the study area

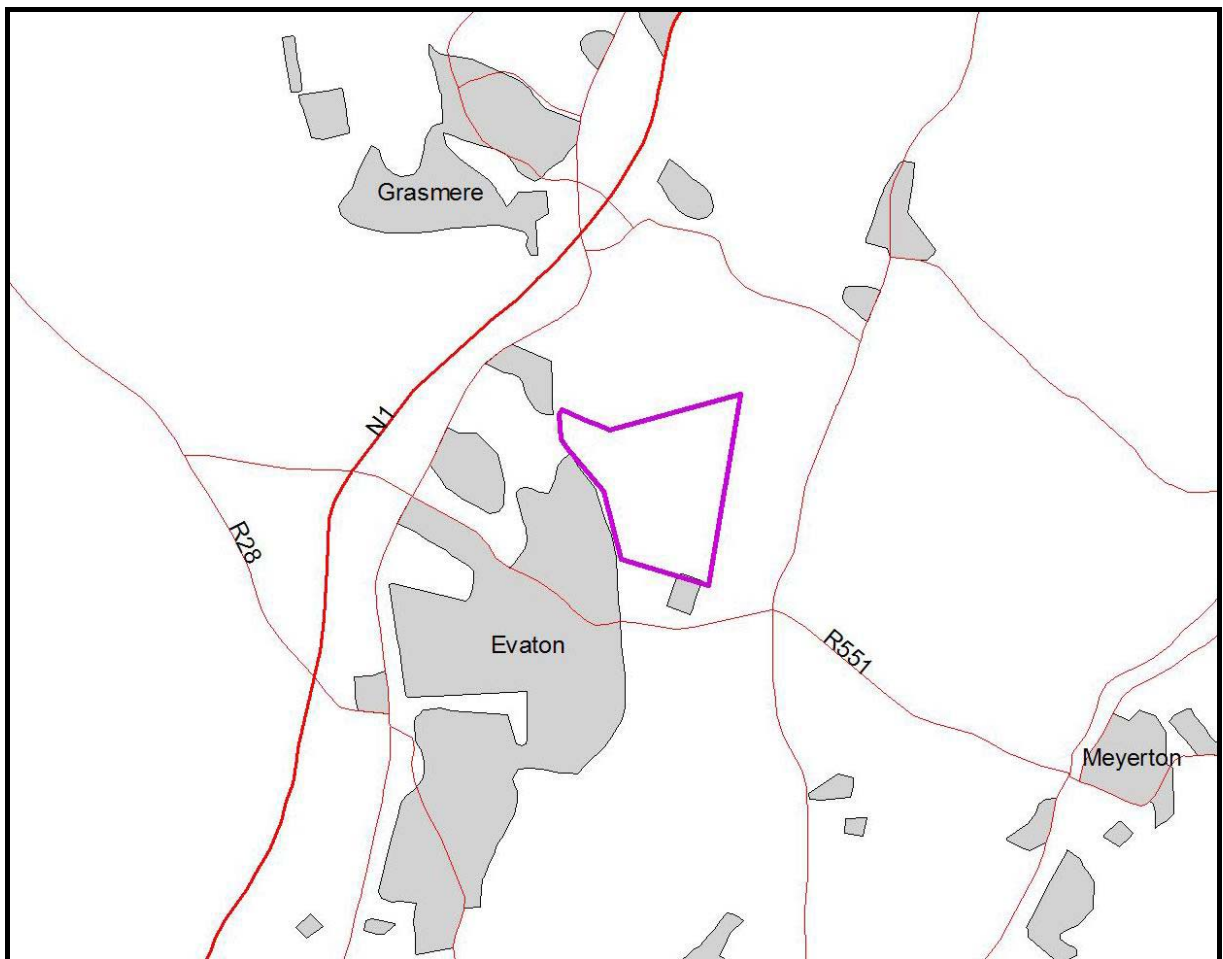


Figure 1. Location of the study area (outlined in purple) in regional context.

<sup>2</sup> According to the manufacturer a certain deviation may be expected for each reading. Care was, however, taken to obtain as accurate a reading as possible, and then to correlate it with reference to the physical environment before plotting it on the map.

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The location and extent of the study area can be determined from the map in Figure 1 and 2. It is located on the north-eastern side of Evaton, south of Johannesburg (Fig. 1). The centre point of the area is c.: S 26.48708, E 27.89748. It consists of sections of the farm Doornkuil 369IQ in the Vereeniging municipal district of Gauteng.

The geology is made up of quartzite and the original vegetation is classified as Rocky Highveld Grassland. The Rietspruit crosses the site on the western border and in this area as well as the southern side, some rocky outcrops occur. Almost all of the study area has been used as agricultural fields in the past. It is only the sections closest to the river and the outcrops that have not been ploughed over.

#### **4.2 Regional overview**

Stone Age occupation seems to have taken place all over, especially during the Middle Stone Age. Open sites occur on rocky outcrops close to the river. The area was also populated during the Later Stone Age, as a small number of rock art sites are known to occur sporadically in the area.

Occupation of the larger region took place during the Late Iron Age, with sites occurring to the north in the Klipriviersberg area, as well as to the south-east in the Suikerbosrand area.

Occupation during historic times goes back to the 1840s, when white settlers started to take up farms in the area. No significant events are known to have taken place in the region during the Anglo-Boer War.

#### **4.3 Description of affected environment**

A number of sites were identified and must be considered during development work (See Appendix 3). These are contextualized in chronological order below.

##### **4.3.1 Stone Age**

A few flakes and cores dating to the Middle Stone Age were identified at the foot of the various outcrops. As all of these were surface finds, they are viewed as having a low significance.

##### **4.3.2 Iron Age**

No sites, features or objects relating to the Iron Age were identified in the study area.



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### 4.3.3 Historic period

Two categories of sites dating to the historic period were identified. A number of farmsteads/farm labourer homesteads were identified. The second category consists of a large informal cemetery. All these features probably relate to the period of intensive farming in the area.

## 5. SITE SIGNIFICANCE AND ASSESSMENT

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

The **significance** of a heritage site and artefacts is determined by its historical, social, aesthetic, technological and scientific 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.

Sites regarded as having low significance are viewed as being recorded in full after identification and would require no further mitigation. Impact from the development would therefore be judged to be low. Sites with a medium to high significance would therefore require mitigation. Mitigation, in most cases the excavation of a site, is in essence destructive and therefore the impact can be viewed as high and as permanent.

The identified sites are, in terms of Section 7 of the Heritage Act (see Appendix 2 below), viewed to be of Grade III significance and are rated as follows:

- The various farmsteads and farm labourer homesteads are viewed to have a medium significance on a regional level.
- The graves have a high significance on a local level.

## 6. IDENTIFICATION OF RISK RESOURCES

An Environmental Impact Assessment is focused on two phases of a proposed development: **the construction and operation phases**. However, from a cultural heritage perspective, this distinction does not apply. Heritage sites are fixed features in the environment, occurring within specific spatial confines. Any impact upon them is permanent and non-reversible. Those resources that cannot be

avoided and that are directly impacted by the development can be excavated/recorded and a management plan can be developed for future action. Those sites that are not impacted, can be written into the management plan, whence they can be avoided or cared for in the future.

**Construction phase:**

Possible Risks	Source of the risk
Actually identified risks	
- damage to sites	Construction work
Anticipated risks	
- looting of sites	Curios workers

**Operation phase:**

Possible Risks	Source of the risk
Actually identified risks	
- damage to sites	Not keeping to management plans
Anticipated risks	
- damage to sites	Unscheduled construction/developments
- looting of sites	Visitors removing objects as keepsakes

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## 7. CONCLUSION

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

According to current understanding of the project, this development would have a high impact on the identified heritage resources.

The sites that were identified can be categorised into two groups.

A number of houses occur. These are either farmsteads or the homesteads of farm labourers. In the former cases, one seems to be quite old and does not even register on the 1:50 000 map (1972). In the latter case, very little has remained of these features and they basically consists of the foundations and floors. In one case a substantial kitchen midden occur.

- It is recommended that the old sandstone farmstead is documented (mapped and photographed).
- It is recommended that at least one of the homestead sites is documented (mapped and photographed) and test excavated by an archaeologist.

A large informal cemetery occurs on the border of the study area. It is judged to have a high significance on a local level and it is recommended that

- This feature should be left in place and formalised by fencing it off, with suitable access in case descendents wants to visit the site. If they cannot be retained in place, the possibility exists to have them relocated, after following the correct procedure. This includes notification of intent to relocate the graves, consultation with descendents, obtaining of the relevant permits

Lastly, archaeological material, by its very nature, occurs below ground. The developer should therefore keep in mind that archaeological sites might be exposed during the development activities. It is therefore recommended that

- If anything is noticed, work in that area should be stopped and the occurrence should immediately be reported to a museum, preferably one at which an archaeologist is available. The archaeologist should then investigate and evaluate the finds.

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## 8. REFERENCES

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

Holm, S.E. 1966. *Bibliography of South African Pre- and Protohistoric archaeology*. Pretoria: J.L. van Schaik.

Mason, R.J. 1962. *Prehistory of the Transvaal*. Johannesburg: Witwatersrand University Press.

Richardson, D. 2001. *Historic sites of South Africa*. Cape Town: Struik Publishers.

### National Archives

No documents pertaining to this farm could be found in the various databases.

### Topo-cadastral map

2627BD, 2627DB

## 9. PROJECT TEAM

J van Schalkwyk: principal investigator

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

### Significance

The *significance* of the sites and artefacts are determined by means of their historical, social, aesthetic, technological and scientific value in relation to their 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 = formalise cemetery or, alternatively, relocate graves if need be

**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.

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## 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.

The National Heritage Resources Act (Act no 25 of 1999) 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, and which prescribes heritage resources assessment criteria, consistent with the criteria set out in section 3(3), which must be used by a heritage resources authority or a local authority to assess the intrinsic, comparative and contextual significance of a heritage resource and the relative benefits and costs of its protection, so that the appropriate level of grading of the resource and the consequent responsibility for its management may be allocated in terms of section 8.

Presenting archaeological sites as part of tourism attraction requires, in terms 44 of the Act, a Conservation Management Plan as well as a permit from SAHRA.

(1) Heritage resources authorities and local authorities must, wherever appropriate, co-ordinate and promote the presentation and use of places of cultural significance and heritage resources which form part of the national estate and for which they are responsible in terms of section 5 for public enjoyment, education, research and tourism, including-

- (a) the erection of explanatory plaques and interpretive facilities, including interpretive centres and visitor facilities;
- (b) the training and provision of guides;
- (c) the mounting of exhibitions;
- (d) the erection of memorials; and
- (e) any other means necessary for the effective presentation of the national estate.

(2) Where a heritage resource which is formally protected in terms of Part I of this Chapter is to be presented, the person wishing to undertake such presentation must, at least 60 days prior to the institution of interpretive measures or manufacture of associated material, consult with the heritage resources authority which is responsible for the protection of such heritage resource regarding the contents of interpretive material or programmes.

(3) A person may only erect a plaque or other permanent display or structure associated with such presentation in the vicinity of a place protected in terms of this Act in consultation with the heritage resources authority responsible for the protection of the place.



### APPENDIX 3. LIST OF IDENTIFIED SITES

Map datum used: Hartebeeshoek 94 (WGS84).

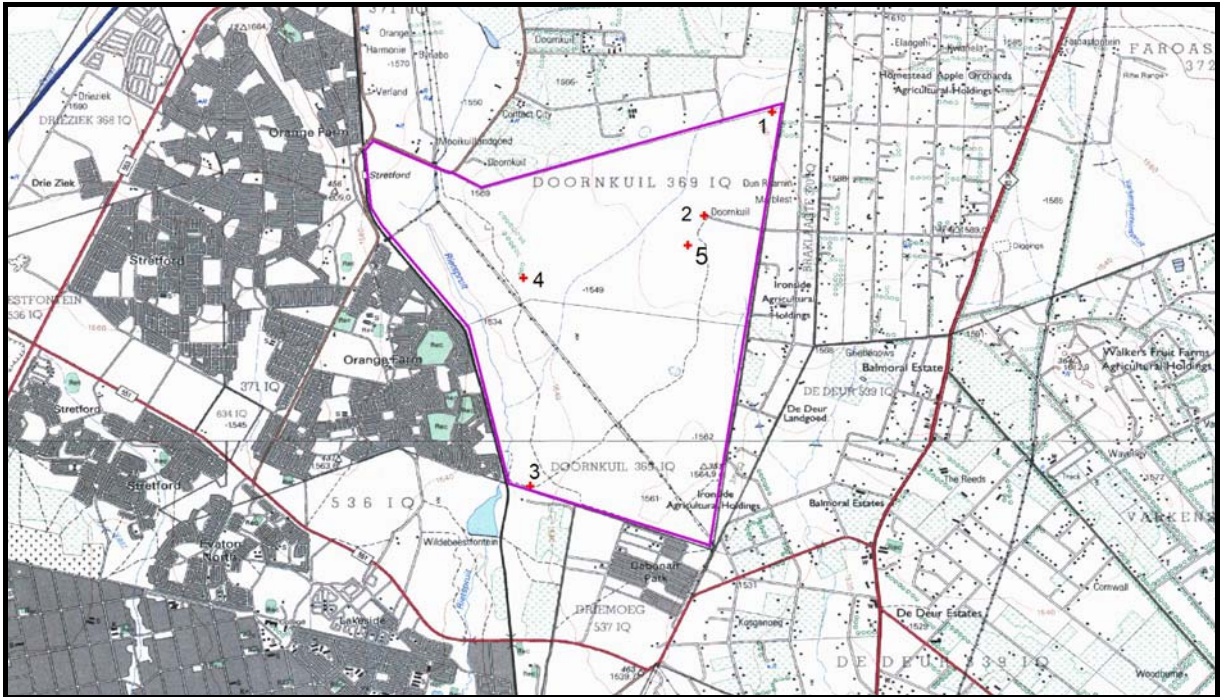


Fig. 3. The study area, showing the location of the identified sites. (Map, Government Printer)

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1. Location: Doornkuil 369IQ: S 26.46446; E 27.91560

Description: Cemetery with c. 25 graves, half of which have headstones with inscriptions. A few, according to the date of death, are older than 60 years.

Discussion: As this site is located on the edge of the development area, it would make good sense to retain it. In that case, it should be fenced off, with suitable access and the vegetation should be controlled annually.

Evaluation of significance: High on a local level

Significance of impact: High

Certainty of prediction: Probable

Recommended management action:

Legal requirements: Notification, consultation, permits, SAHRA permit



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2. Location: Doornkuil 369IQ: S 26.47583; E 27.90813

Description: House, the core section which is of bricks and cement, and other sections that are that are of asbestos sheeting. The garden is not very well developed and no outbuildings occur.

Discussion: The house does not show any interesting or unique features.

Evaluation of significance: Low on a regional level

Significance of impact: High

Certainty of prediction: Probable

Recommended management action: 1 = no further investigation/action necessary

Legal requirements: None



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3. Location: Doornkuil 369IQ: S 25.50544; E 27.88911

Description: Ruins of an old farmstead, build from sandstone and other types of rocks. Some outbuildings also occur, but as they are in a ruined state, it is difficult to determine their original function. Some big blue-gum trees indicate the probable date for the feature.

Discussion: Although it is in ruins now, this was a well-built structure and probably represents one of the older farmsteads in the area.

Evaluation of significance: Medium on a regional level

Significance of impact: High

Certainty of prediction: Probable

Recommended management action: 2 = controlled sampling and/or mapping of the site necessary

Legal requirements: SAHRA permit



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4. Location: Doornkuil 369IQ: S 26.48264; E 27.88831

Description: Small circles of packed stone. It probably served as threshing floors when the area was still planted with crops.

Discussion: These features are very ephemeral and are viewed to be recorded in full after adding them to the regional database.

Evaluation of significance: Low on a local level

Significance of impact: High

Certainty of prediction: Probable

Recommended management action: 1 = no further investigation/action necessary

Legal requirements: None

5. Location: Doornkuil 369IQ: S 26.47905; E 27.90633

Description: The ruins of a number of farm labourer homesteads occur in this area. One of them are quite extensive and also has substantial kitchen midden associated with it. It is in all probability older than 60 years.

Discussion: It would not make sense to try and document all of these sites – there are probably as many as ten spread out over the area. We recommend that one (referring to the above coordinates) is test excavated and documented as representative of all.

Evaluation of significance: High on a regional level

Significance of impact: High

Certainty of prediction: Probably

Recommended management action: 2 = controlled sampling and/or mapping of the site necessary

Legal requirements: SAHRA permit

