



Archaetnos Culture & Cultural  
Resource Consultants  
BK 98 09854/23

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**A REPORT ON A HERITAGE IMPACT ASSESSMENT FOR A PROPOSED  
GENERAL WASTE RESOURCE FACILITY, CITY OF TSHWANE, GAUTENG  
PROVINCE**

For:

***EcoPartners***

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On behalf of:

General Waste Resource Facility (GWRF)

**REPORT NO.: AE02439V**

By:

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**&**

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***31 July 2024***

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## **SUBMISSION OF REPORT**

**Please note that the South African Heritage Resources Agency (SAHRA) or one of its subsidiary bodies needs to comment on this report.**

**It is the client's responsibility to do the submission via the SAHRIS System on the SAHRA website. Arrangements can however be made if necessary.**

**Clients are advised not to proceed with any action before receiving the necessary comments from SAHRA.**

## **DISCLAIMER**

**Although all possible care is taken to identify all sites of cultural importance during the survey of study areas, the nature of archaeological and historical sites is as such that it always is possible that hidden or subterranean sites could be overlooked during the study. Access to certain areas is also sometimes limited. Archaetnos and its personnel will not be held liable for such oversights or for costs incurred as a result thereof. Any additional sites identified can be visited and assessed afterwards and the report amended, but only upon receiving an additional appointment.**

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## EXECUTIVE SUMMARY

Archaetnos cc was requested by EcoParterns to conduct a cultural heritage impact assessment for a proposed General Waste Resource Facility (GWRP). This is within the City of Tshwane in the Gauteng Province.

Surveys are done in accordance with the standard requirements for HIA's as per SAHRA standards. All sites, objects, features, and structures identified were documented according to the general minimum standards accepted by the archaeological profession. Coordinates of individual localities were determined using a Global Positioning System (GPS). The information was added to the description and photographs to facilitate the identification of each locality.

The survey was undertaken by doing a physical survey via off-road vehicle and on foot and covered as much as possible of the area to be studied. Certain factors, such as accessibility, density of vegetation, etc. may however influence the coverage.

During the survey, four sites of cultural heritage significance were identified within the immediate project area.

The following is recommended:

1. Site no. 1, 2, 3, and 4 are graves, regarded as a High cultural significance.
2. Site no. 1 and 4 is located outside the development area but within the surveyed area. No direct impact is foreseen at present. However, secondary impacts from adjacent construction activities are always a possibility. Therefore, Option 1 is recommended, which includes the creation of a site preservation management plan. The graves should also be demarcated and cordoned off to reduce secondary impact from the development. This can be achieved by maintaining a 30 m buffer zone and fencing off the site. Access for descendants will not be impacted, as the area is outside the proposed development zone.

However, if the 30 m buffer zone is entered during development, mitigation measures will be required to ensure there is no direct impact on the graves. In such a case, construction must cease, an archaeologist should be contacted, and Option 2 may need to be implemented before construction can resume.

3. For Site no. 2 and 3, no development is planned where the graves are located, but they are close to a mining road and cow pens. Thus, no direct impact is foreseen. Nevertheless, the proximity of the mining road and cow pens must be

addressed. There is always a potential for secondary impact due to adjacent construction activities. Therefore, Option 1 is recommended, including the creation of a site preservation management plan. The graves should also be demarcated and cordoned off to reduce secondary impact from the development. This can be achieved by maintaining a buffer zone which ideally should be 30 m. However, since the road is already 20 m from the site, a buffer of 20 m is proposed. The site should also be fenced. Access for descendants must not be impacted.

It should be noted that the northern border of the graves is about 10 m from a cow pen, and a mining road is about 20 m along the site's southwestern border. The current infrastructure and animal activities should however not interfere with the graves' state of preservation and a management plan will provide guidance in this regard.

Additionally, if the buffer zone is entered during development, further mitigation will be required to ensure there is no direct impact on the graves. In such a case, construction must cease, an archaeologist should be contacted, and Option 2 may need to be implemented before construction can resume.

4. The proposed project may continue, but only after receiving comments from SAHRA and implementing the mitigation measures indicated above.
5. It should be noted that the subterranean presence of archaeological and/or historical sites, features or artefacts is always a distinct possibility. Care should therefore be taken when development commences that if any of these are discovered, work on site cease immediately and a qualified archaeologist be called in to investigate the occurrence.
6. In this regard the following 'Chance find Procedure' should be followed:
  - *Upon finding any archaeological or historical material all work in the affected area must cease.*
  - *The area should be demarcated to prevent any further work there until an investigation has been completed.*
  - *An archaeologist should be contacted immediately to provide advice on the matter.*
  - *Should it be a minor issue, the archaeologist will decide on future action. Depending on the nature of the find, it may include a site visit.*
  - *SAHRA's APM Unit may also be notified.*
  - *If needed the necessary, permit will be applied for with SAHRA. This will be done in conjunction with the appointed archaeologist.*

- *The removal of such archaeological material will be done by the archaeologist in lieu of the approval given by SAHRA, including any conditions stipulated by the latter.*
- *Work on site will only continue after the archaeologist/ SAHRA has agreed to such a matter.*

It is also important to take cognizance that it is the client's responsibility to do the submission of this report via the SAHRIS System on the SAHRA website. No work on site may commence before receiving the necessary comments from SAHRA.

## CONTENTS

	Page
EXECUTIVE SUMMARY .....	3
CONTENTS .....	6
CURRICULUM VITAE OF SPECIALISTS .....	7
DECLARATION OF INDEPENDENCE .....	8
LIST OF ACRONYMS.....	8
1. INTRODUCTION.....	9
2. TERMS OF REFERENCE.....	11
3. CONDITIONS AND ASSUMPTIONS .....	11
4. LEGISLATIVE REQUIREMENTS.....	12
5. THE INTERNATIONAL FINANCE CORPORATIONS' PERFORMANCE STANDARD FOR CULTURAL HERITAGE .....	16
6. METHODOLOGY .....	17
7. DESCRIPTION OF THE ENVIRONMENT.....	19
8. HISTORICAL CONTEXT.....	22
9. DISCUSSION OF SITES IDENTIFIED DURING THE SURVEY.....	25
10.ARCHAEOLOGICAL AND CULTURAL HERITAGE THEME SENSITIVITY ENVIRONMENTAL SCREENING TOOL .....	39
11.CONCLUSION AND RECOMMENDATIONS .....	42
12.REFERENCES.....	43
APPENDIX A – DEFENITION OF TERMS.....	45
APPENDIX B – DEFINITION/ STATEMENT OF SIGNIFICANCE .....	46
APPENDIX C – SIGNIFICANCE AND FIELD RATING .....	47
APPENDIX D – PROTECTION OF HERITAGE RESOURCES.....	49
APPENDIX E – HERITAGE MANAGEMENT IMPACT ASSESSMENT PHASES.....	51

**CURRICULUM VITAE**  
**Prof. Anton Carl van Vollenhoven**

**PERSONAL INFORMATION**

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- Cell phone: 083 291 6104
- Nationality: RSA
- E-mail: antonv@archaetnos.co.za

**TERTIARY EDUCATION**

- BA 1986, University of Pretoria
- BA (HONS) Archaeology 1988 (cum laude), University of Pretoria
- MA Archaeology 1992, University of Pretoria
- Post-Graduate Diploma in Museology 1993 (cum laude), University of Pretoria
- Diploma Tertiary Education 1993, University of Pretoria
- DPhil Archaeology 2001, University of Pretoria.
- MA Cultural History 1998 (cum laude), University of Stellenbosch
- Management Diploma 2007 (cum laude), Tshwane University of Technology
- DPhil History 2010, University of Stellenbosch

**EMPLOYMENT HISTORY**

**Current:**

- *August 2007* – present – Managing Director for Archaetnos Archaeologists.
- *Since 2012*: Archaeologist and heritage official, Department of Environment and Agriculture, City of Tshwane
- *Since 2015*: Extraordinary Professor of History at the North-West University

**Previous:**

- *1988-1991*: Fort Klapperkop Military Museum - Researcher
- *1991-1999*: National Cultural History Museum. Work as Archaeologist, as well as Curator/Manager of Pioneer Museum (1994-1997)
- *1999-2002*: City Council of Pretoria. Work as Curator: Fort Klapperkop Heritage Site and Acting Deputy Manager Museums and Heritage.
- *2002-2007*: City of Tshwane Metropolitan Municipality. Work as Deputy Manager Museums and Heritage.
- *August 2007* – present – Managing Director for Archaetnos Archaeologists.
- *1988-2003*: Part-time lecturer in Archaeology at the University of Pretoria and a part-time lecturer on Cultural Resources Management in the Department of History at the University of Pretoria.
- *2014-2015*: Part-time lecturer for the Honours degree in Museum Sciences in the Department of History and Heritage Studies at the University of Pretoria
- *2020-2022*: Part-time lecturer in History at the North-West University

### **OTHER**

- NRF C2 Research rating.
- Has published 42 peer-reviewed and 56 popular articles.
- Has written 13 books/book contributions/conference proceedings.
- Has been the author and co-author of over 1 118 unpublished reports on cultural resources surveys and archaeological work.
- Has delivered more than 84 papers and lectures at national and international conferences.
- Member of SAHRA Council for 2003 – 2006.
- Member of the South African Academy for Science and Art.
- Member of Association for South African Professional Archaeologists. (Council member since 2022).
- Member of the South African Society for Cultural History (Chairperson 2006-2008; 2012-2014; 2018-2021).
- Has been editor for the SA Journal of Cultural History 2002-2004.
- Editorial member of various scientific journals.
- Member of the Provincial Heritage Resources Agency, Gauteng's Council.
- Member of Provincial Heritage Resources Agency, Gauteng's HIA adjudication committee (Chairperson 2012-2024).

A list of reports can be viewed on [www.archaetnos.co.za](http://www.archaetnos.co.za).

### **DECLARATION OF INDEPENDENCE**

I, Anton Carl van Vollenhoven from Archaetnos, hereby declare that I am an independent specialist within the field of heritage management.



Signed:

Date: 31 July 2024

### **LIST OF ACRONYMS:**

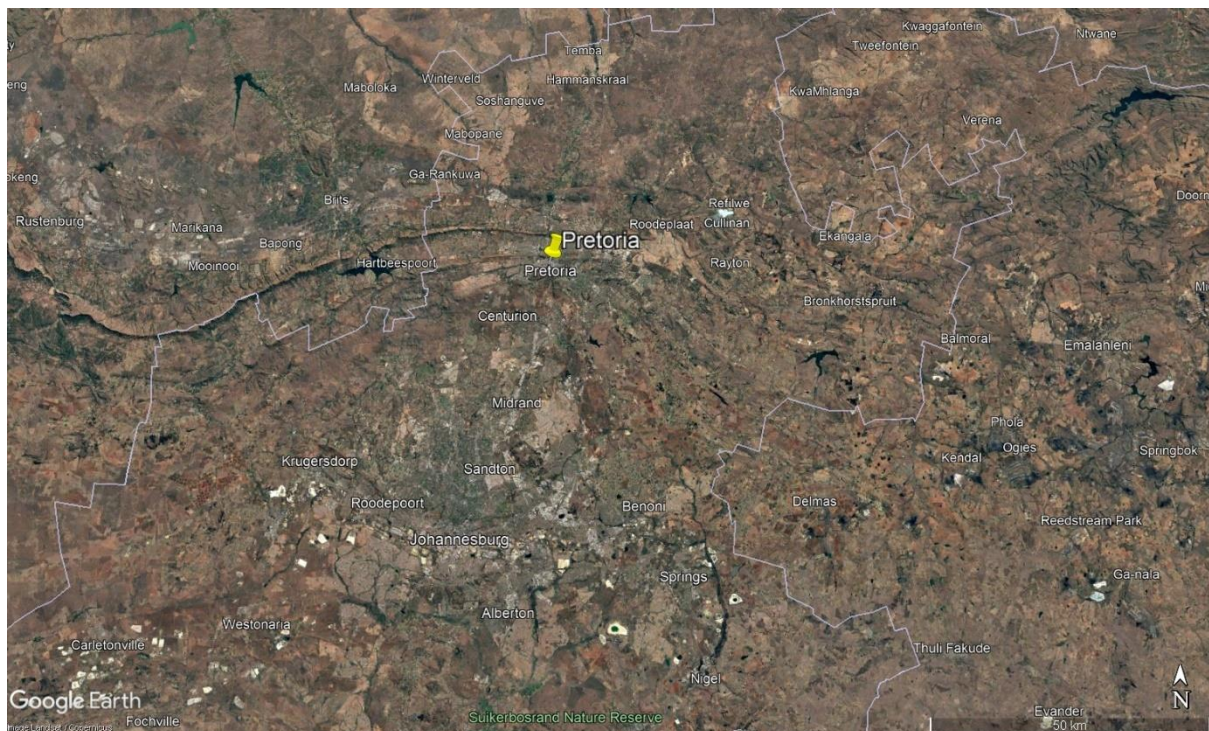
AIA – Archaeological Impact Assessment  
CMP – Cultural Management Plan  
EAP – Environmental Assessment Practitioner  
EIA – Environmental Impact Assessment  
HIA – Heritage Impact Assessment  
PIA – Palaeontological Impact Assessment  
SAHRA – South African Heritage Resources Agency

## 1. INTRODUCTION

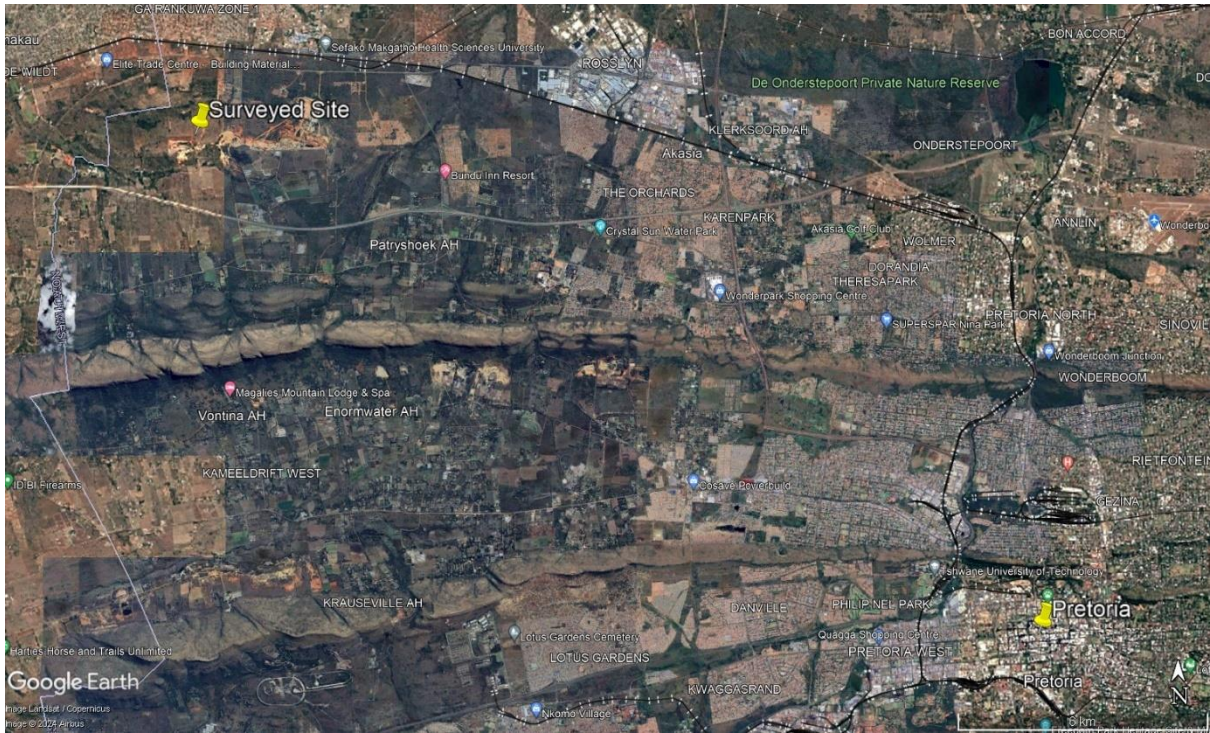
Archaetnos cc was requested by EcoParterns to conduct a cultural heritage impact assessment for a proposed General Waste Resource Facility (GWRF). This is within the City of Tshwane in the Gauteng Province (Figure 1-2).

Middelwater Resource Facility (Pty) Ltd intends to develop a General Waste Resource Facility (GWRF) on the Multisand mine site near Tshwane, Gauteng Province. The selected site will form part of the rehabilitation strategy for the currently operational sand mine. This will in effect convert the mining land use to an industrial land use, ensuring an approved sustainable end state for the mining site. Only mined-out areas will be converted to engineering-designed landfill areas and the GWRF will be restricted to the northern portion of the mine site covering 98,5 ha (Figure 3).

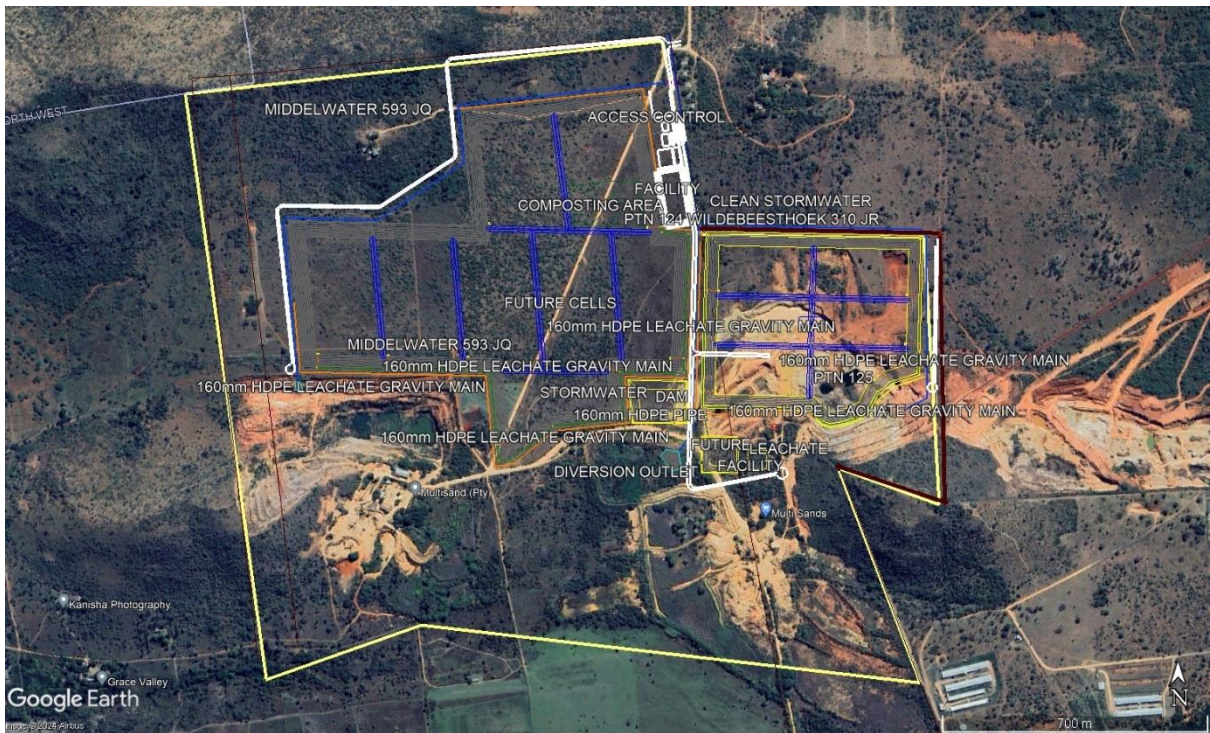
The GWRF will comprise of three main waste management areas, namely a Materials Recovery Area, a Composting Facility, and a Landfilling Area. Development of the GWRF will be done concurrently with the current mining operation. The nature of the proposed landfill facility will be a general waste Class B lined sanitary recovery, recycling, treatment and finally disposal facility. At a disposal rate of 500t/day, it would take approximately 10 years to fill. The total Phase 1 could take 26 years before Phase 2 needs to be commenced with.



**FIGURE 1: LOCATION OF PRETORIA IN GAUTENG PROVINCE**



**FIGURE 2: LOCATION OF THE PROJECT AREA, NORTHWEST OF PRETORIA CENTRAL, WITHIN THE CITY OF TSHWANE**



**FIGURE 3: DETAILED VIEW OF THE PROJECT AREA**

Key infrastructure for the GWRF include:

- a) Access control facilities;
- b) Access roads and link roads;
- c) Administration building;
- d) Materials recovery facility;
- e) Composting facility;
- f) General waste landfill;
- g) Weighbridge with control room; and
- h) A public drop-off area.

The client indicated they are to be surveyed. It was done via foot and an off-road vehicle.

## **2. TERMS OF REFERENCE**

The Terms of Reference for the survey were to:

1. Identify objects, sites, occurrences, and structures of an archaeological or historical nature (cultural heritage sites) located in the surveyed area (see Appendix A).
2. Study background information on the area to be developed.
3. Assess the significance of the cultural resources in terms of their archaeological, historical, scientific, social, religious, aesthetic and tourism value (see Appendix B).
4. Describe the possible impact of the proposed development on these cultural remains, according to a standard set of conventions.
5. Recommend suitable mitigation measures to minimise possible negative impacts on the cultural resources by the proposed development.
6. Review applicable legislative requirements.

## **3. CONDITIONS & ASSUMPTIONS**

The following conditions and assumptions have a direct bearing on the survey and the resulting report:

1. Cultural Resources are all non-physical and physical man-made occurrences, as well as natural occurrences associated with human activity (Appendix A). These include all sites, structures, and artefacts of importance, either individually or in groups, in the history, architecture and archaeology of human (cultural) development. Graves and cemeteries are included in this.
2. The significance of the sites, structures and artefacts is determined by means of their historical, social, aesthetic, technological and scientific value in relation to their uniqueness, condition of preservation and research potential. These aspects as a collective refers to the character of a site. The various aspects are not mutually exclusive, and the evaluation of any site is done with reference to any number of these aspects.
3. Cultural significance is site-specific and relates to the content and context of the site. Sites regarded as having low cultural significance have already been recorded in full and require no further mitigation. Sites with medium cultural significance may or may not require mitigation depending on other factors such as the significance of impact on the site. Sites with a high cultural significance require further mitigation (see Appendix C).
4. The latitude and longitude of any archaeological or historical site or feature, is to be treated as sensitive information by the developer and should not be disclosed to members of the public.
5. All recommendations are made with full cognisance of the relevant legislation.
6. It must be mentioned that it is almost impossible to locate all the cultural resources in a given area. Developers should however note that the report should make it clear how to manage any other finds that might occur.
7. In this particular case the vegetation cover in certain areas was quite dense, having a negative effect on archaeological visibility. However, a large part of the surveyed area has already been disturbed by mining activities and therefore it was easier to survey.

#### **4. LEGISLATIVE REQUIREMENTS**

Aspects concerning the conservation of cultural resources are dealt with, in two acts. These are the National Heritage Resources Act (Act 25 of 1999) and the National Environmental Management Act (Act 107 of 1998).

#### **4.1 The National Heritage Resources Act**

According to the above-mentioned act, the following are protected as cultural heritage resources:

- a. Archaeological artefacts, structures, and sites older than 100 years
- b. Ethnographic art objects (e.g. prehistoric rock art) and ethnography
- c. Objects of decorative and visual arts
- d. Military objects, structures, and sites older than 75 years
- e. Historical objects, structures, and sites older than 60 years
- f. Proclaimed heritage sites
- g. Graveyards and graves older than 60 years
- h. Meteorites and fossils
- i. Objects, structures, and sites of scientific or technological value.

The national estate (see Appendix D) includes the following:

- 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 features of cultural significance
- e. Geological sites of scientific or cultural importance
- f. Archaeological and paleontological importance
- g. Graves and burial grounds
- h. Sites of significance relating to the history of slavery
- i. Movable objects (e.g. archaeological, paleontological, meteorites, geological specimens, military, ethnographic, books etc.)

A Heritage Impact Assessment (HIA) is the process to be followed in order to determine whether any heritage resources are located within the area to be developed as well as the possible impact of the proposed development thereon. An Archaeological Impact Assessment (AIA) only looks at archaeological resources. The different phases during the HIA process are described in Appendix E.

An HIA must be done under the following circumstances:

- a. The construction of a linear development (road, wall, power line canal etc.) exceeding 300m in length
- b. The construction of a bridge or similar structure exceeding 50m in length

- c. Any development or other activity that will change the character of a site and exceed 5 000m<sup>2</sup> or involve three or more existing erven or subdivisions thereof
- d. Re-zoning of a site exceeding 10 000 m<sup>2</sup>
- e. Any other category provided for in the regulations of SAHRA or a provincial heritage authority

### **Structures**

Section 34 (1) of the mentioned act states that no person may demolish any structure or part thereof which is older than 60 years without a permit issued by the relevant provincial heritage resources authority.

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.

Alter means any action affecting the structure, appearance or physical properties of a place or object, whether by way of structural or other works, by painting, plastering or the decoration or any other means.

### **Archaeology, palaeontology, and meteorites**

Section 35(4) of this act deals with archaeology, palaeontology, and meteorites. The act states that no person may, without a permit issued by the responsible heritage resources authority (national or provincial):

- a. destroy, damage, excavate, alter, deface, or otherwise disturb any archaeological or paleontological site or any meteorite;
- b. destroy, damage, excavate, remove from its original position, collect, or own any archaeological or paleontological 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 paleontological material or object, or any meteorite;
- d. bring onto or use at an archaeological or paleontological site any excavation equipment or any equipment that assists in the detection or recovery of metals or archaeological and paleontological material or objects, or use such equipment for the recovery of meteorites, or
- e. alter or demolish any structure or part of a structure which is older than 60 years as protected.

The above-mentioned may only be disturbed or moved by an archaeologist, after receiving a permit from the South African Heritage Resources Agency (SAHRA). In order to demolish such a site or structure, a destruction permit from SAHRA will also be needed.

### **Human remains**

Graves and burial grounds are divided into the following:

- a. ancestral graves
- b. royal graves and graves of traditional leaders
- c. graves of victims of conflict
- d. graves designated by the Minister
- e. historical graves and cemeteries
- f. human remains

In terms of Section 36(3) of the National Heritage Resources Act, no person may, without a permit issued by the relevant 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, or 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, or any equipment which assists in the detection or recovery of metals.

Unidentified/unknown graves are also handled as older than 60 until proven otherwise. Human remains that are less than 60 years old are subject to provisions of the **National Health Act (Act 61 of 2003)** and to local regulations. Exhumation of graves must conform to the standards set out in the **Ordinance on Exhumations (Ordinance no. 12 of 1980)** (replacing the old Transvaal Ordinance no. 7 of 1925).

Permission must also be gained from the descendants (where known), the National Department of Health, Provincial Department of Health, Premier of the Province, and local police. Furthermore, permission must also be gained from the various landowners (i.e. where the graves are located and where they are to be relocated) before exhumation can take place. Human remains can only be handled by a

registered undertaker, or an institution declared under the **National Health Act (Act 61 of 2003)**).

#### **4.2 The National Environmental Management Act**

This act (Act 107 of 1998) states that a survey and evaluation of cultural resources must be done in areas where development projects that will change the face of the environment will be undertaken. The impact of the development on these resources should be determined and proposals for the mitigation thereof are made.

Environmental management should also take the cultural and social needs of people into account. Any disturbance of landscapes and sites that constitute the nation's cultural heritage should be avoided as far as possible and where this is not possible the disturbance should be minimised and remedied.

### **5. THE INTERNATIONAL FINANCE CORPORATIONS' PERFORMANCE STANDARD FOR CULTURAL HERITAGE**

This standard recognises the importance of cultural heritage for current and future generations. It aims to ensure that clients protect the cultural heritage in the course of their project activities. This is done by clients abiding by the law and having heritage surveys done in order to identify and protect cultural heritage resources via field studies and the documentation of such resources. These need to be done by competent professionals (e.g. archaeologists and cultural historians). Possible chance finds, encountered during the project development, also need to be managed by not disturbing it and by having it assessed by professionals.

Impacts on the cultural heritage should be minimised. This includes the possible maintenance of such sites in situ, or when impossible, the restoration of the functionality of the cultural heritage in a different location. When cultural historical and archaeological artefacts and structures need to be removed it should be done by professionals and by abiding by the applicable legislation. The removal of cultural heritage resources may however only be considered if there are not technically or financially feasible alternatives. In considering the removal of cultural resources, it should be outweighed by the benefits of the overall project to the effected communities. Again, professionals should conduct the work and adhere to the best available techniques.

Consultation with affected communities should be engaged in. This means that access to such communities should be granted to their cultural heritage if this is applicable.

Compensation for the loss of cultural heritage should only be given in extraordinary circumstances.

Critical cultural heritage may not be impacted on. Professionals should be used to advise on the assessment and protection thereof. Utilisation of cultural heritage resources should always be done in consultation with the affected communities in order to be consistent with their customs and traditions and to come to agreements with relation to possible equitable sharing of benefits from commercialisation.

## **6. METHODOLOGY**

### **6.1 Survey of Literature**

A survey of literature was undertaken to obtain background information regarding the area. This includes reports identified on the SAHRIS Database. Sources consulted in this regard are indicated in the bibliography. One report was done on this site before (SAHRIS database; Archaetnos database).

### **6.2 Field Survey**

The survey was conducted according to generally accepted HIA practices and was aimed at locating all objects, sites, and features of cultural significance in the area of proposed development. One regularly looks a bit wider than the demarcated area, as the surrounding context needs to be taken into consideration.

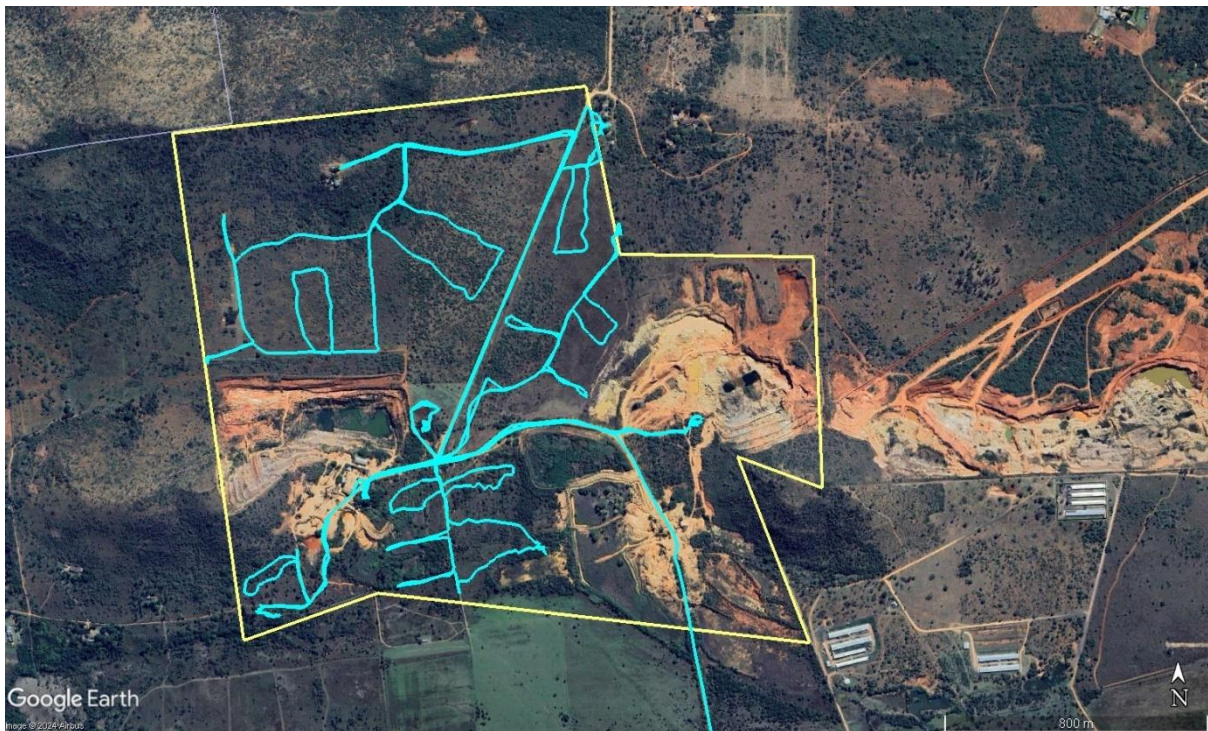
If required, the location/position of any site was determined using a Global Positioning System (GPS)<sup>1</sup>, while photographs were also taken where needed. The survey was undertaken by doing a physical survey via off-road vehicle and on foot and covered as much as possible of the area to be studied (Figure 4).

Certain factors, such as accessibility and density of vegetation, may influence the coverage. In this instance, the area was disturbed due to recent human activity, including farming activities and mining. Therefore, these areas have a lower likelihood of containing any sites of cultural heritage significance. The vegetation coverage was mostly open, with medium to high growth and an open underfoot. Consequently, the horizontal and vertical archaeological visibility for the area was positively influenced by the vegetation cover.

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<sup>1</sup> A Etrex 20 with an accuracy factor of a few meters.

The surveyed area is approximately 250 hectares in size and the survey took three hours to complete.



**FIGURE 4: TRACK ROUTE OF THE SURVEY IN BLUE**

### **6.3 Documentation**

All sites, objects, features, and structures identified were documented according to the general minimum standards accepted by the archaeological profession. Co-ordinates of individual localities were determined by employing a Global Positioning System (GPS). The information was added to the description in order to facilitate the identification of each locality.

### **6.4 Evaluation of Heritage Sites**

The evaluation of heritage sites is done by giving a field rating of each (see Appendix C) using the following criteria:

- The unique nature of a site
- The integrity of the archaeological deposit
- The wider historical, archaeological, and geographic context of the site
- The location of the site in relation to other related sites or features
- The depth of the archaeological deposit (when it can be determined or is known)
- The preservation condition of the site

- Uniqueness of the site and
- Potential to answer present research questions.

## **7. DESCRIPTION OF THE PHYSICAL ENVIRONMENT**

The proposed development area that was investigated has mostly been disturbed by recent human interventions. It currently is a sand mine and therefore a large portion has been quarried (Figure 5-6). A large part of the remainder has also been disturbed by farming activities and shows old fields (Figure 7) and pioneer plant species such as grass, weeds and sickle bush (Figure 8-9).

The grass cover is quite short in most of these areas, but there are some areas with longer grass and clumps of trees (Figure 10). In the latter, the archaeological visibility is therefore less good. A marshland also runs through the area (Figure 11).

The topography runs from a hill in the northwest down towards the mentioned marshland. Two hills, partially being excavated by the mining activities are also found, one in the southwest and one in the southeast.



**FIGURE 5: GENERAL VIEW OF ONE OF THE QUARRIES**



**FIGURE 6: GENERAL VIEW OF THE SURVEYED AREA**



**FIGURE 7: OLD FIELDS IN THE SURVEYED AREA**



**FIGURE 8: LONGER GRASS IN AN AREA WHICH USED TO BE AGRICULTURAL FIELDS**



**FIGURE 9: VIEW OF AREA COVERED IN PIONEER VEGETATION IN THE SURVEYED AREA**



**FIGURE 10: ANOTHER VIEW OF THE VEGETATION IN THE SURVEYED AREA**



**FIGURE 11: MARSHLAND IN THE SURVEYED AREA**

## **8. HISTORICAL CONTEXT**

Four sites of cultural heritage significance were located during the survey. Background information is provided to place the surveyed area in a broad historical and geographical context and to contextualise possible finds that could be unearthed during construction activities.

## 8.1 Stone Age

The Stone Age is the period in human history when lithic material was mainly used to produce tools (Coertze & Coertze 1996: 293). In South Africa, the Stone Age can be divided into three periods. It is however important to note that dates are relative and only provide a broad framework for interpretation. The division for the Stone Age according to Korsman & Meyer (1999: 93-94) is as follows:

Early Stone Age (ESA) 2 million – 150 000 years ago  
Middle Stone Age (MSA) 150 000 – 30 000 years ago  
Late Stone Age (LSA) 40 000 years ago – 1850 - A.D.

It is important to note that some of the oldest humanoid fossils have been found close to Pretoria, namely at Kromdraai, Sterkfontein, Swartkrans, Gladysvale and Drimolen (in the Krugersdorp area). These hominids include *Australopithecus Africanus*, *Australopithecus Robustus* and *Homo Habilis* and can be as old as 3 million years. These early people were the first to make stone tools (Van Vollenhoven 2000: 146). These sites are also associated with Early Stone Age artefacts.

Middle Stone Age material was identified at Erasmusrand and the Groenkloof Nature Reserve (Van Vollenhoven 2006: 183). Middle Stone Age artefacts were found at the Tswaing meteor crater in Soshanguve to the northeast of the surveyed area (Van Vollenhoven 2000: 40).

At the Erasmusrand cave, some Late Stone Age tools were also identified as well as at Groenkloof (Van Vollenhoven 2006: 184). LSA material was also found at Zwartkops and Hennops River (Bergh 1999: 4). Again, some LSA lithic tools were identified at the Tswaing meteor crater (Van Vollenhoven 2000: 40). This last phase of the Stone Age is associated with the San people.

One may therefore expect to find stone tools in the surveyed area. It is especially the areas close to the hills which may reveal such artefacts.

## 8.2 Iron Age

The Iron Age is the name given to the period of human history when metal was used to produce metal artefacts (Coertze & Coertze 1996: 346). In South Africa it can be divided into two separate phases according to Van der Ryst & Meyer (1999: 96-98), namely:

Early Iron Age (EIA) 200 – 1000 A.D.  
Late Iron Age (LIA) 1000 – 1850 A.D.

Huffman (2007: xiii) however indicates that a Middle Iron Age should be included. His dates, which now are widely accepted in archaeological circles, are:

Early Iron Age (EIA) 250 – 900 A.D.

Middle Iron Age (MIA) 900 – 1300 A.D.

Late Iron Age (LIA) 1300 – 1840 A.D.

Early and Late Iron Age sites have been identified in and around the City of Tshwane. Moloko pottery (1200 A.D.) was found at Tswaing (Van Vollenhoven 2000: 42). Bergh (1999: 7) indicates that 125 sites are known in the Pretoria area, but this is under-estimation. In Soshanguve, a LSA site was identified (Van Vollenhoven 2000: 42). According to Delius (1983: 12) and Horn (1996: 23) LIA people moved into the Pretoria area since 1600 A.D.

No Iron Age sites and features were however identified during the survey. It is expected that such sites may exist higher up against the slopes, but the development will not have an effect here.

### **8.3 Historical Age**

The Historical Age started with the first historical sources which can be used to learn more about people of the past. In South Africa, it can be divided into two phases. The first includes oral histories as well as the recorded oral histories of past societies. The latter were usually written by people who contact with such a community for a short time. This is followed by the second phase which includes the moving into the area of people that were able to read and write (Van Vollenhoven 2006: 189).

Early travellers moved through the area that later became known as Pretoria as early as 1829. This was when the first white people visited the area, namely Robert Schoon and William McLuckie. During the same year, the well-known missionary Dr Robert Moffat also visited the area (Rasmussen 1978: 69). In October 1829 the missionary James Archbell and the trader David Hume travelled through this part of the country (Changuion 1999: 119).

The first Bantu language speakers in the area were the so-called Transvaal Ndebele, specifically the southern group. Their history goes back to Chief Msi (Musi) and the genealogy of the Manala (Mahbena) clan, the Ndzungza (Mapoch) clan, the Mathombeni (Kekana) clan and the Hwanda clan. Chief Msi lived in the Pretoria area somewhere between 1600 and 1700 A.D. His sons divided the tribe in three groups, namely the Hwaduba, Manala and Ndzungza (Horn 1996: 23).

The largest group of Bantu-speaking people in the Tshwane area is the Northern Sotho, but Southern Sotho's and Tswanas are also present. These groups have a typical building tradition consisting of large building complexes and round huts with conical roofs (Bergh 1999: 106).

It seems as if all these groups fled from the area during the Difaquane when Mzilikazi came here in 1827. He killed the men, burned down their villages, confiscated the livestock and took the women to marry members of his impi (Van Vollenhoven 2000: 156).

The missionary Jean-Pierre Pellissier even visited Mzilikazi in March 1932. In June/July of that year, he was attacked by the impi of Dingane, the Zulu chief. As a result, he left the area during that year (Bergh 1999: 112). This left an area described as being deserted by the missionary Robert Moffat. Sotho groups however started moving back into the area after Mzilikazi left (Junod 1955: 68).

The first white people also came to the Pretoria area during this time (Coetzee 1992: 11). In 1839 JGS Bronkhorst settled on the farm Elandspoort. He was the first permanent white settler in the area (Van Vollenhoven 2005: 17-45). This however is much further to the south although still within the City of Tshwane.

One may therefore expect to find historical buildings associated with early white farmers in the area. Graves are also sometimes found in association with these sites.

## **9. DISCUSSION OF SITES IDENTIFIED DURING THE SURVEY**

### **9.1 Site 1 – Graves**

This is a site containing approximately 41 graves (Figure 12). Different types of grave dressing are found namely granite, cement or stone borders and headstones.

Some of the surnames identified are Msisinya, Khoza and Nkwamba. The dates of death vary between 1938 and 1996. Approximately 35 of the graves have no date of death indicated. It means that all three of the categories of graves are present, being those older than 60 years (called heritage graves), younger than 60 years and those of an unknown date (to be handled as heritage graves).

**GPS:** 25°38'45.87"S 27°58'52.28"E



**FIGURE 12: VIEW OF THE GRAVES AT SITE 1**

**Cultural significance Table: Site 1**

A place is considered to be part of the national estate if it has cultural significance because of -	Applicable or not	Rating: 1 - Negligible/ 2 -Low/ 3 - Low-Medium/ 4 - Medium/ 5 -Medium-High/ 6 - High/ 7 - Very High
Its importance in the community or pattern of South Africa's history	Y	High
Its possession of uncommon, rare, or endangered aspects of South Africa's natural or cultural history	N	-
Its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage	Y	High
Its importance in demonstrating the principal characteristics of	N	-

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	<b>N</b>	-
Its importance in demonstrating a high degree of creative or technical achievement at a particular period	<b>N</b>	-
Its strong or special association with a particular community or cultural group for social, cultural, or spiritual reasons	<b>Y</b>	<b>High</b>
Its strong or special association with the life or work of a person, group, or organization of importance in the history of South Africa	<b>N</b>	-
Sites of significance relating to the history of slavery in South Africa	<b>N</b>	-
<b>Reasoned assessment of significance using appropriate indicators outlined above:</b>		<b>6-High</b>

**Integrity scale:**

- 1 – Bad state of preservation, but no contextual information
- 2 – Bad state of preservation and includes contextual information
- 3 – Reasonable state of preservation, but no contextual information
- 4 – Reasonable state of preservation and includes contextual information
- 5 – Good state of preservation, but no contextual information
- 6 - Good state of preservation and includes contextual information
- 7 – Excellent state of preservation, but no contextual information
- 8 – Excellent state of preservation and includes contextual information

**Field-rating = Cultural significance x Integrity**

= 6 (High) x 5

= 30

The field rating therefore is Local Grade IIIB. It may be mitigated and should be included in the heritage register. Two possibilities exist. The first is to manage the graves *in situ* and the second is to have the graves exhumed:

1. The first option entails demarcating the graves, implementing a buffer, and compiling a management plan for the sustainable preservation thereof. This should be written by a heritage expert. This usually is done when the graves are in no danger of being damaged, but where there will be a secondary impact due to the activities of the development.
2. The second option is to exhume the mortal remains and then to have it relocated. This usually is done when the graves are in the area to be directly affected by the development activities. For this, a specific procedure should be followed which includes social consultation. For graves younger than 60 years only, an undertaker is needed. For those older than 60 years and unknown graves, an undertaker and archaeologist is needed. Permits should be obtained from the Burial Grounds and Graves unit of SAHRA. This procedure is quite lengthy and involves social consultation.

The graves are located outside the development area but within the surveyed area. No direct impact is foreseen at present. However, secondary impacts from adjacent construction activities are always a possibility. Therefore, Option 1 is recommended, which includes the creation of a site preservation management plan. The graves should also be demarcated and cordoned off to reduce secondary impact from the development. This can be achieved by maintaining a 30 m buffer zone and fencing off the site. Access for descendants will not be impacted, as the area is outside the proposed development zone.

However, if the 30 m buffer zone is entered during development, mitigation measures will be required to ensure there is no direct impact on the graves. In such a case, construction must cease, an archaeologist should be contacted, and Option 2 may need to be implemented before construction can resume.

## **9.2 Site 2 – Graves**

This is a site containing approximately 51 graves (Figure 13). Different types of grave dressing are found, being granite, cement or stone borders and headstones. The

grave site is transected by a fence (Figure 14). The area where these graves are located is very overgrown and therefore it is possible that there may be even more.

Some of the surnames identified are Masthe, Molerale, and Hlongwane. The dates of death vary between 1954 and 1969. Approximately 47 of the graves have no date of death indicated. It means that all three of the categories of graves are present, being those older than 60 years (called heritage graves), younger than 60 years and those of an unknown date (to be handled as heritage graves).

**GPS: 25°38'27.12"S 27°59'10.06"E**



**FIGURE 13: VIEW OF THE GRAVES AT SITE 2**



**FIGURE 14: VIEW OF FENCE DIVIDING THE GRAVES AT SITE 2**

**Cultural significance Table: Site 2**

A place is considered to be part of the national estate if it has cultural significance because of -	Applicable or not	Rating: 1 - Negligible/ 2 -Low/ 3 - Low-Medium/ 4 - Medium/ 5 -Medium-High/ 6 - High/ 7 - Very High
Its importance in the community or pattern of South Africa's history	Y	High
Its possession of uncommon, rare, or endangered aspects of South Africa's natural or cultural history	N	-
Its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage	Y	High
Its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects	N	-
Its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group	N	-
Its importance in demonstrating a high degree of creative or technical achievement at a particular period	N	-
Its strong or special association with a	Y	High

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 organization of importance in the history of South Africa	<b>N</b>	-
Sites of significance relating to the history of slavery in South Africa	<b>N</b>	-
<b>Reasoned assessment of significance using appropriate indicators outlined above:</b>		<b>6-High</b>

#### **Integrity scale:**

- 1 – Bad state of preservation, but no contextual information
- 2 – Bad state of preservation and includes contextual information
- 3 – Reasonable state of preservation, but no contextual information
- 4 – Reasonable state of preservation and includes contextual information
- 5 – Good state of preservation, but no contextual information
- 6 - Good state of preservation and includes contextual information
- 7 – Excellent state of preservation, but no contextual information
- 8 – Excellent state of preservation and includes contextual information

#### **Field-rating = Cultural significance x Integrity**

= 6 (High) x 5

= 30

The field rating therefore is Local Grade IIIB. It may be mitigated and should be included in the heritage register. Two possibilities exist. The first is to manage the graves *in situ* and the second is to have the graves exhumed:

1. The first option entails demarcating the graves, implementing a buffer, and compiling a management plan for the sustainable preservation thereof. This should be written by a heritage expert. This usually is done when the graves are in no danger of being damaged, but where there will be a secondary impact due to the activities of the development.
2. The second option is to exhume the mortal remains and then to have it relocated. This usually is done when the graves are in the area to be directly

affected by the development activities. For this, a specific procedure should be followed which includes social consultation. For graves younger than 60 years only, an undertaker is needed. For those older than 60 years and unknown graves, an undertaker and archaeologist is needed. Permits should be obtained from the Burial Grounds and Graves unit of SAHRA. This procedure is quite lengthy and involves social consultation.

No development is planned where the graves are located, but they are close to a mining road and cow pens. Thus, no direct impact is foreseen. Nevertheless, the proximity of the mining road and cow pens must be addressed. There is always a potential for secondary impact due to adjacent construction activities. Therefore, Option 1 is recommended, including the creation of a site preservation management plan. The graves should also be demarcated and cordoned off to reduce secondary impact from the development. This can be achieved by maintaining a buffer zone which ideally should be 30 m. However, since the road is already 20 m from the site, a buffer of 20 m is proposed. The site should also be fenced. Access for descendants must not be impacted.

It should be noted that the northern border of the graves is about 10 m from a cow pen, and a mining road is about 20 m along the site's southwestern border. The current infrastructure and animal activities should however not interfere with the graves' state of preservation and a management plan will provide guidance in this regard.

Additionally, if the buffer zone is entered during development, further mitigation will be required to ensure there is no direct impact on the graves. In such a case, construction must cease, an archaeologist should be contacted, and Option 2 may need to be implemented before construction can resume.

### **9.3 Site 3 – Graves**

This is a site containing approximately 10 graves (Figure 15). All of the grave dressing and headstones are made of packed stone borders. The graves are located next to a mining road, with no fencing and the area is overgrown.

All ten of the graves have no date of death indicated. This means that these graves with unknown dates are to be handled as heritage graves.

**GPS:** 25°38'26.82"S 27°59'39.49"E



**FIGURE 15: VIEW OF THE GRAVES AT SITE 3**

**Cultural significance Table: Site 3**

<b>A place is considered to be part of the national estate if it has cultural significance because of -</b>	<b>Applicable or not</b>	<b>Rating: 1 - Negligible/ 2 -Low/ 3 - Low-Medium/ 4 - Medium/ 5 -Medium-High/ 6 - High/ 7 - Very High</b>
Its importance in the community or pattern of South Africa's history	<b>Y</b>	<b>High</b>
Its possession of uncommon, rare, or endangered aspects of South Africa's natural or cultural history	<b>N</b>	-
Its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage	<b>Y</b>	<b>High</b>
Its importance in demonstrating the principal characteristics of	<b>N</b>	-

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	<b>N</b>	-
Its importance in demonstrating a high degree of creative or technical achievement at a particular period	<b>N</b>	-
Its strong or special association with a particular community or cultural group for social, cultural, or spiritual reasons	<b>Y</b>	<b>High</b>
Its strong or special association with the life or work of a person, group, or organization of importance in the history of South Africa	<b>N</b>	-
Sites of significance relating to the history of slavery in South Africa	<b>N</b>	-
<b>Reasoned assessment of significance using appropriate indicators outlined above:</b>		<b>6-High</b>

**Integrity scale:**

- 1 – Bad state of preservation, but no contextual information
- 2 – Bad state of preservation and includes contextual information
- 3 – Reasonable state of preservation, but no contextual information
- 4 – Reasonable state of preservation and includes contextual information
- 5 – Good state of preservation, but no contextual information
- 6 - Good state of preservation and includes contextual information
- 7 – Excellent state of preservation, but no contextual information
- 8 – Excellent state of preservation and includes contextual information

**Field-rating = Cultural significance x Integrity**

= 6 (High) x 5

= 30

The field rating therefore is Local Grade IIIB. It may be mitigated and should be included in the heritage register. Two possibilities exist. The first is to manage the graves *in situ* and the second is to have the graves exhumed:

1. The first option entails demarcating the graves, implementing a buffer, and compiling a management plan for the sustainable preservation thereof. This should be written by a heritage expert. This usually is done when the graves are in no danger of being damaged, but where there will be a secondary impact due to the activities of the development.
2. The second option is to exhume the mortal remains and then to have it relocated. This usually is done when the graves are in the area to be directly affected by the development activities. For this, a specific procedure should be followed which includes social consultation. For graves younger than 60 years only, an undertaker is needed. For those older than 60 years and unknown graves, an undertaker and archaeologist is needed. Permits should be obtained from the Burial Grounds and Graves unit of SAHRA. This procedure is quite lengthy and involves social consultation.

No development is planned where the graves are located, but they are close to a mining road and cow pens. Thus, no direct impact is foreseen. Nevertheless, the proximity of the mining road and cow pens must be addressed. There is always a potential for secondary impact due to adjacent construction activities. Therefore, Option 1 is recommended, including the creation of a site preservation management plan. The graves should also be demarcated and cordoned off to reduce secondary impact from the development. This can be achieved by maintaining a buffer zone which ideally should be 30 m. However, since the road is already 20 m from the site, a buffer of 20 m is proposed. The site should also be fenced. Access for descendants must not be impacted.

It should be noted that the northern border of the graves is about 10 m from a cow pen, and a mining road is about 20 m along the site's southwestern border. The current infrastructure and animal activities should however not interfere with the graves' state of preservation and a management plan will provide guidance in this regard.

Additionally, if the buffer zone is entered during development, further mitigation will be required to ensure there is no direct impact on the graves. In such a case, construction

must cease, an archaeologist should be contacted, and Option 2 may need to be implemented before construction can resume.

#### **9.4 Site 4 – Graves**

This is a site containing approximately 18 graves (Figure 16). Different types of grave dressing are found, namely granite, cement or stone borders and headstones.

Only one surname was identified, and it is Banda. The only date of death that was available is 1993. The remaining 17 graves have no date of death indicated. It means that two of the three categories of graves are present, being a grave younger than 60 years and those of unknown date (to be handled as heritage graves).

**GPS:** 25°38'8.08"S 27°59'31.30"E



**FIGURE 16: VIEW OF THE GRAVES AT SITE 4**

**Cultural significance Table: Site 4**

<p><b>A place is considered to be part of the national estate if it has cultural significance because of -</b></p>	<p><b>Applicable or not</b></p>	<p><b>Rating: 1 - Negligible/ 2 -Low/ 3 - Low-Medium/ 4 - Medium/ 5 -Medium-High/ 6 - High/ 7 - Very High</b></p>
<p>Its importance in the community or pattern of South Africa's history</p>	<p><b>Y</b></p>	<p><b>High</b></p>
<p>Its possession of uncommon, rare, or endangered aspects of South Africa's natural or cultural history</p>	<p><b>N</b></p>	<p>-</p>
<p>Its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage</p>	<p><b>Y</b></p>	<p><b>High</b></p>
<p>Its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects</p>	<p><b>N</b></p>	<p>-</p>
<p>Its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group</p>	<p><b>N</b></p>	<p>-</p>
<p>Its importance in demonstrating a high degree of creative or technical achievement at a particular period</p>	<p><b>N</b></p>	<p>-</p>
<p>Its strong or special association with a particular community or cultural group for social,</p>	<p><b>Y</b></p>	<p><b>High</b></p>

cultural, or spiritual reasons		
Its strong or special association with the life or work of a person, group, or organization of importance in the history of South Africa	<b>N</b>	-
Sites of significance relating to the history of slavery in South Africa	<b>N</b>	-
<b>Reasoned assessment of significance using appropriate indicators outlined above:</b>		<b>6-High</b>

**Integrity scale:**

- 1 – Bad state of preservation, but no contextual information
- 2 – Bad state of preservation and includes contextual information
- 3 – Reasonable state of preservation, but no contextual information
- 4 – Reasonable state of preservation and includes contextual information
- 5 – Good state of preservation, but no contextual information
- 6 - Good state of preservation and includes contextual information
- 7 – Excellent state of preservation, but no contextual information
- 8 – Excellent state of preservation and includes contextual information

**Field-rating = Cultural significance x Integrity**

= 6 (High) x 5  
= 30

The field rating therefore is Local Grade IIIB. It may be mitigated and should be included in the heritage register. Two possibilities exist. The first is to manage the graves *in situ* and the second is to have the graves exhumed:

1. The first option entails demarcating the graves, implementing a buffer, and compiling a management plan for the sustainable preservation thereof. This should be written by a heritage expert. This usually is done when the graves are in no danger of being damaged, but where there will be a secondary impact due to the activities of the development.
2. The second option is to exhume the mortal remains and then to have it relocated. This usually is done when the graves are in the area to be directly affected by the development activities. For this, a specific procedure should be followed which includes social consultation. For graves younger than 60 years

only, an undertaker is needed. For those older than 60 years and unknown graves, an undertaker and archaeologist is needed. Permits should be obtained from the Burial Grounds and Graves unit of SAHRA. This procedure is quite lengthy and involves social consultation.

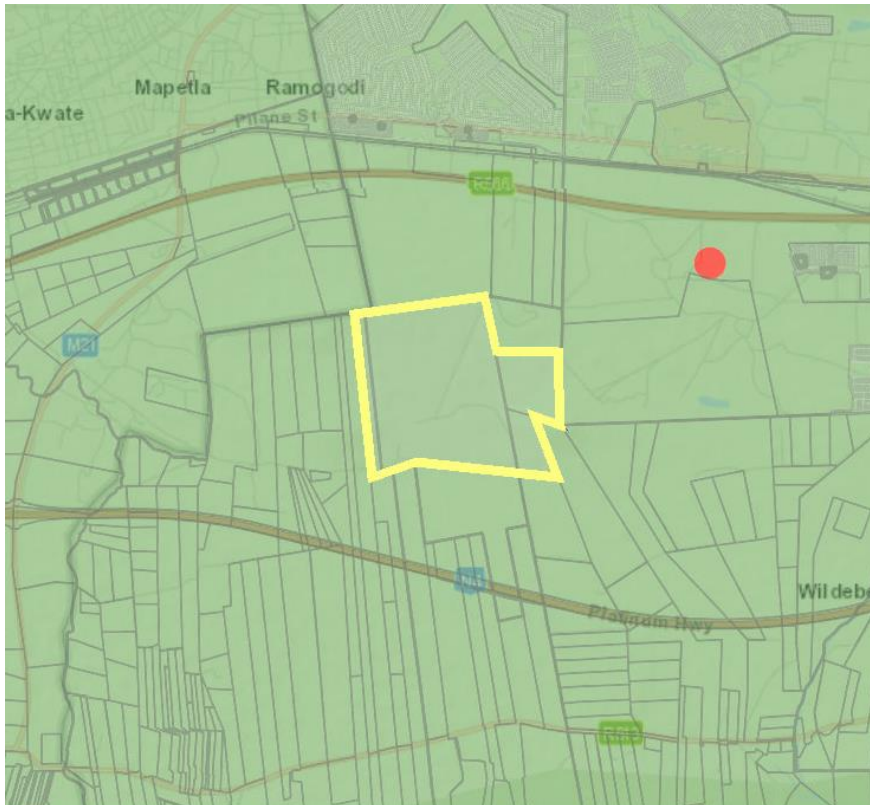
The graves are outside the development area; thus, no direct impact is foreseen. However, there is always a potential for secondary impact due to adjacent construction activities. Therefore, Option 1 is recommended, which includes writing a site preservation management plan. The graves should also be demarcated and cordoned off to reduce the secondary impact of the development. This can be achieved by maintaining a 30 m buffer zone and fencing off the site. Access for descendants will not be impacted, as the area falls outside the proposed development zone.

If the 30 m buffer zone is entered during the development, mitigation will be required to ensure that there is no direct impact on the graves. In such a case, construction must cease, an archaeologist should be contacted, and Option 2 may need to be implemented before construction can resume.

## **10. ARCHAEOLOGICAL AND CULTURAL HERITAGE THEME SENSITIVITY ENVIRONMENTAL SCREENING TOOL**

The screening tool indicates that the heritage sensitivity is mostly low (Figure 17). The screening tool is mostly correct except for the heritage sites that were previously unknown and thus not included in the screening (Figure 18). Thus, the screening tool is disputed. Incorporating these sites into the screening alters the heritage sensitivity of the proposed area.

Sites 1,2, 3 and 4 are graves and are located within the proposed development area. They have a heritage rating of high, thus altering the original screening assessment.



**FIGURE 17: MAP FROM ENVIRONMENTAL SCREENING TOOL INDICATING HERITAGE SENSITIVITY IN THE AREA OF THE GENERAL WASTE RESOURCE FACILITY [KEY: Green – Low Risk, Red – High Risk]**



**FIGURE 18: SITES LOCATED DURING THE SURVEY**

**Heritage Table: General Waste Resource Facility Development**

<b>Sensitivity Theme</b>	<b>Screening Tool Site Sensitivity</b>	<b>Specialist Site Sensitivity AFTER MITIGATION</b>	<b>Reasons why the Screening Tool Sensitivity is disputed/confirmed</b>
Archaeological and Cultural Heritage Theme	LOW No heritage sites.	HIGH	<p>The entire project area is rated as having a LOW rating, but due to unknown heritage sites that were identified during the survey, this rating is changed to High.</p> <p>Sites 1,2,3 and 4 are graves and is located outside (sites 1 and 4) and inside (sites 2 and 3) of the proposed development area.</p> <p>Site-specific mitigation measures have been provided to protect these sites from disturbance and/or destruction. These measures include:</p> <ul style="list-style-type: none"> <li>• The buffer zones for each site need to be maintained.</li> <li>• The writing of a site preservation management plan for sites no. 1, 2, 3 and 4, and the grave sites must be fenced off and maintained.</li> <li>• If there is any impact on the graves, then corrective measures should be implemented.</li> </ul> <p>With the implementation of the proposed mitigation measures that focus on avoidance, the final sensitivity can be rated as LOW.</p>

## 11. CONCLUSION AND RECOMMENDATIONS

The survey of the indicated areas was completed successfully. As indicated, four sites of cultural heritage significance were identified.

The following is recommended:

7. Site no. 1, 2, 3, and 4 are graves, regarded as a High cultural significance.
8. Site no. 1 and 4 is located outside the development area but within the surveyed area. No direct impact is foreseen at present. However, secondary impacts from adjacent construction activities are always a possibility. Therefore, Option 1 is recommended, which includes the creation of a site preservation management plan. The graves should also be demarcated and cordoned off to reduce secondary impact from the development. This can be achieved by maintaining a 30 m buffer zone and fencing off the site. Access for descendants will not be impacted, as the area is outside the proposed development zone.

However, if the 30 m buffer zone is entered during development, mitigation measures will be required to ensure there is no direct impact on the graves. In such a case, construction must cease, an archaeologist should be contacted, and Option 2 may need to be implemented before construction can resume.

9. For Site no. 2 and 3, no development is planned where the graves are located, but they are close to a mining road and cow pens. Thus, no direct impact is foreseen. Nevertheless, the proximity of the mining road and cow pens must be addressed. There is always a potential for secondary impact due to adjacent construction activities. Therefore, Option 1 is recommended, including the creation of a site preservation management plan. The graves should also be demarcated and cordoned off to reduce secondary impact from the development. This can be achieved by maintaining a buffer zone which ideally should be 30 m. However, since the road is already 20 m from the site, a buffer of 20 m is proposed. The site should also be fenced. Access for descendants must not be impacted.

It should be noted that the northern border of the graves is about 10 m from a cow pen, and a mining road is about 20 m along the site's southwestern border. The current infrastructure and animal activities should however not interfere with the graves' state of preservation and a management plan will provide guidance in this regard.

Additionally, if the buffer zone is entered during development, further mitigation will be required to ensure there is no direct impact on the graves. In such a case, construction must cease, an archaeologist should be contacted, and Option 2 may need to be implemented before construction can resume.

10. The proposed project may continue, but only after receiving comments from SAHRA and implementing the mitigation measures indicated above.

11. It should be noted that the subterranean presence of archaeological and/or historical sites, features or artefacts is always a distinct possibility. Care should therefore be taken when development commences that if any of these are discovered, work on site cease immediately and a qualified archaeologist be called in to investigate the occurrence.

12. In this regard the following 'Chance find Procedure' should be followed:

- *Upon finding any archaeological or historical material all work in the affected area must cease.*
- *The area should be demarcated to prevent any further work there until an investigation has been completed.*
- *An archaeologist should be contacted immediately to provide advice on the matter.*
- *Should it be a minor issue, the archaeologist will decide on future action. Depending on the nature of the find, it may include a site visit.*
- *SAHRA's APM Unit may also be notified.*
- *If needed the necessary, permit will be applied for with SAHRA. This will be done in conjunction with the appointed archaeologist.*
- *The removal of such archaeological material will be done by the archaeologist in lieu of the approval given by SAHRA, including any conditions stipulated by the latter.*
- *Work on site will only continue after the archaeologist/ SAHRA has agreed to such a matter.*

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## **APPENDIX A**

### **DEFINITION OF TERMS:**

Site: A large place with extensive structures and related cultural objects. It can also be a large assemblage of cultural artefacts, found on a single location.

Structure: A permanent building found in isolation, or which forms a site in conjunction with other structures.

Feature: A coincidental find of movable cultural objects.

Object: Artifact (cultural object).

(Also see Knudson 1978: 20).

## APPENDIX B

### DEFINITION/ STATEMENT OF HERITAGE SIGNIFICANCE:

- Historic value: Important in the community or pattern of history or has an association with the life or work of a person, group, or organization of importance in history.
- Aesthetic value: Important in exhibiting particular aesthetic characteristics valued by a community or cultural group.
- Scientific value: Potential to yield information that will contribute to an understanding of natural or cultural history or is important in demonstrating a high degree of creative or technical achievement of a particular period
- Social value: Have a strong or special association with a particular community or cultural group for social, cultural, or spiritual reasons.
- Rarity: Does it possess uncommon, rare, or endangered aspects of natural or cultural heritage.
- Representivity: Important in demonstrating the principal characteristics of a particular class of natural or cultural places or object or a range of landscapes or environments characteristic of its class or 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 C**

### **SIGNIFICANCE AND FIELD RATING:**

#### **Cultural significance:**

- Negligible – The site has no heritage significance, although it may be older than 60 years.
- Low - A cultural object being found out of context, not being part of a site or without any related feature/structure in its surroundings. A site with minimal importance which is decreased by its bad state of decay.
- Low-Medium - A site of lesser importance, which is increased by a good state of preservation and contextual importance (e.g. a specific community).
- Medium - Any site, structure or feature being regarded less important due to a number of factors, such as date and frequency. Also, any important object found out of context.
- Medium-High - A site that has high importance due to its age or uniqueness, but which decreases due to its bad state of decay.
- High - Any site, structure or feature regarded as important because of its age or uniqueness. Also, any important object found within a specific context.
- Very High - A site of exceptional importance due to its age, uniqueness, and good state of preservation.

#### **Heritage significance:**

- Grade I     Heritage resources with exceptional qualities to the extent that they are of national significance
- Grade II    Heritage resources with qualities giving it provincial or regional importance although it may form part of the national estate
- Grade III    Other heritage resources of local importance and therefore worthy of conservation

**Field ratings:**

National Grade I significance: The site should be managed as part of the national estate, should be nominated as Grad I site, should be maintained in situ with a protected buffer zone and a CMP must be recommended. Score above 50.

Provincial Grade II significance: The site should be managed as part of the provincial estate, should be nominated as Grade II site, should be maintained in situ with a protected buffer zone and a CMP must be recommended. Score between 40 and 50.

Local Grade IIIA: The site should be included in the heritage register and not be mitigated (high significance), should be maintained in situ with a protected buffer zone and a CMP must be recommended. Score between 37 and 40.

Local Grade IIIB: The site should be included in the heritage register and may be mitigated (high/ medium significance). Mitigation is subject to a permit application lodged with the relevant heritage authority. Score between 6 and 36.

Local Grade IIIC: The description in the phase 1 heritage report is seen as sufficient recording (low significance) and it may be granted destruction at the discretion of the relevant heritage authority without a formal permit application, subjected to the granting of Environmental Authorisation. Score below 5.

## **APPENDIX D**

### **PROTECTION OF HERITAGE RESOURCES:**

#### **Formal protection:**

National heritage sites and Provincial heritage sites – grade I and II

Protected areas - an area surrounding a heritage site

Provisional protection – for a maximum period of two years

Heritage registers – listing grades II and III

Heritage areas – areas with more than one heritage site included

Heritage objects – e.g. archaeological, palaeontological, meteorites, geological specimens, visual art, military, numismatic, books, etc.

#### **General protection:**

Objects protected by the laws of foreign states

Structures – older than 60 years

Archaeology, palaeontology, and meteorites

Burial grounds and graves

Public monuments and memorials

## **APPENDIX E**

### **HERITAGE IMPACT ASSESSMENT PHASES**

1. Pre-assessment or scoping phase – establishment of the scope of the project and terms of reference.
2. Baseline assessment – establishment of a broad framework of the potential heritage of an area.
3. Phase I impact assessment – identifying sites, assess their significance, make comments on the impact of the development, and makes recommendations for mitigation or conservation.
4. Letter of recommendation for exemption – if there is no likelihood that any sites will be impacted.
5. Phase II mitigation or rescue – planning for the protection of significant sites or sampling through excavation or collection (after receiving a permit) of sites that may be lost.
6. Phase III management plan – for rare cases where sites are so important that development cannot be allowed.