



Archaetnos Culture & Cultural  
Resource Consultants  
BK 98 09854/23

---

**A REPORT ON A HERITAGE IMPACT ASSESSMENT FOR THE PROPOSED  
KLARINET PHASE 2 RESIDENTIAL DEVELOPMENT, CLOSE TO EMALAHLENI,  
MPUMALANGA PROVINCE**

For:

***Clean Stream Environmental Services***

P.O. Box 647  
Witbank  
1035

**REPORT NO.: AE01523V**

By:

***Dr. A.C. van Vollenhoven (L.AKAD.SA.)***

***Accredited member of ASAPA***

***Accredited member of SASCH***

***&***

***Zurethe Collins (BA), BA (Hons) Archaeology***

***May 2015***

Archaetnos  
P.O. Box 55  
GROENKLOOF  
0027

Tel: 083 291 6104

Fax: 086 520 4173

E-mail: [antonv@archaetnos.co.za](mailto:antonv@archaetnos.co.za)

Member: AC van Vollenhoven BA, BA (Hons), DTO, NDM, MA (Archaeology) [UP], MA (Culture History) [US], DPhil (Archaeology) [UP], Man Dip [TUT], D Phil (History) [US]

## **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.**

**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 are as such that it always is possible that hidden or subterranean sites could be overlooked during the study. 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.**

**©Copyright  
Archaetnos**

**The information contained in this report is the sole intellectual property of Archaetnos CC. It may only be used for the purposes it was commissioned for by the client.**

## SUMMARY

Archaetnos cc was requested by Clean Stream Environmental Services to conduct a heritage impact assessment for the proposed Klarinet Phase 2 residential development. This is in eMalahleni (Witbank) in the Mpumalanga Province.

A survey of the available literature was undertaken in order to obtain background information regarding the area. This was followed by the field survey which was conducted according to generally accepted HIA practices, aimed at locating all possible objects, sites and features of cultural significance in the area of the proposed development.

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

During the survey five sites of cultural heritage significance were located. Mitigation measures are proposed. After implementation of these the development may continue.

It should also be noted that the subterranean presence of archaeological and/or historical sites, features or artifacts is always a distinct possibility. Care should therefore be taken when the development commences further that if any of these are discovered, a qualified archaeologist be called in to investigate.

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
SUMMARY .....	3
CONTENTS .....	4
CURRICULUM VITAE OF SPECIALIST .....	5
DECLARATION OF INDEPENDENCE .....	7
1. INTRODUCTION.....	8
2. TERMS OF REFERENCE.....	11
3. CONDITIONS AND ASSUMPTIONS .....	11
4. LEGISLATIVE REQUIREMENTS .....	12
5. THE INTERNATIONAL FINANCE CORPORATIONS' PERFORMANCE STANDARDS FOR CULTURAL HERITAGE..	15
6. METHODOLOGY .....	16
7. DESCRIPTION OF THE ENVIRONMENT .....	18
8. HISTORICAL CONTEXT.....	27
9. DESCRIPTION OF SITES IDENTIFIED DURING THE SURVEY	29
10. CONCLUSIONS AND RECOMMENDATIONS.....	37
11. REFERENCES .....	39
APPENDIX A – DEFENITION OF TERMS.....	41
APPENDIX B – DEFINITION/ STATEMENT OF SIGNIFICANCE .....	42
APPENDIX C – SIGNIFICANCE AND FIELD RATING.....	43
APPENDIX D – PROTECTION OF HERITAGE RESOURCES .....	44
APPENDIX E – HERITAGE MANAGEMENT IMPACT ASSESSMENT PHASES .....	45

## CURRICULUM VITAE OF SPECIALIST: DR ANTON CARL VAN VOLLENHOVEN

### 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

- *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*: Part-time lecturer for the Honours degree in Museum Sciences in the Department of History and Heritage Studies at the University of Pretoria

### Other

- Published 75 articles in scientific and popular journals on archaeology and history.
- Author and co-author of over 580 unpublished reports on cultural resources surveys and archaeological work. A list of reports can be viewed on [www.archaetnos.co.za](http://www.archaetnos.co.za)
- Published a book on the Military Fortifications of Pretoria.
- Contributed to a book on Mapungubwe.
- Delivered more than 50 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.
- Accredited professional member of Association for South African Professional Archaeologists.
- Accredited professional member of the South African Society for Cultural History (Chairperson 2006-2008; 2012-2014).
- Has been editor for the SA Journal of Cultural History 2002-2004.
- Member of the Provincial Heritage Resources Agency, Gauteng's Council.
- Member of Provincial Heritage Resources Agency, Gauteng's HIA adjudication committee (Chairperson 2012-2015).

## **Curriculum Vitae of Assistant Archaeologist: Zurethe Collins**

### **Personal information**

- Born: 30 September 1988
- Address: PO Box 12433, Clubview, 0014
- Cell phone: 076 168 7833
- Nationality: RSA
- E-mail: [zcollins9@gmail.com](mailto:zcollins9@gmail.com)

### **Tertiary education**

- BSc 2010, University of Cape Town
- BA (HONS) Archaeology 2011, University of Pretoria
- MA Archaeology in progress, University of Pretoria

### **Employment history**

- September 2003 – December 2006: Secunda Theatre – Coffee Shop Manager
- January 2011: Dr. David Braun- Teacher's assistant, Excavator
- June 2011 – February 2013: Mariette Lubbe – Au Pair
- July 2011- July 2013: Dr. Alexander Antonites – Lab assistant
- January 2012: Dr. David Braun – Teacher's assistant, Excavator
- January-December 2012: University of Pretoria – Tutor
- January 2013: Dr. David Braun – Teacher's assistant, Excavator
- March-September 2013: Sonja Sharp – Au Pair
- 2014-current: Archaetnos – Assistant Archaeology

### **Other**

Has presented a poster at the ASAPA conference in 2011

## 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:

A rectangular image showing a handwritten signature in black ink on a light-colored background. The signature is cursive and appears to read 'Anton Carl van Vollenhoven'.

Date: 5 May 2015

## 1. INTRODUCTION

Archaetnos cc was requested by Clean Stream Environmental Services to conduct a heritage impact assessment for the proposed Klarinet Phase 2 residential development. This is in eMalahleni (Witbank) in the Mpumalanga Province (Figure 1-3).

The project entails the development of a new residential area and associated infrastructure on various portions of the farm Blesboklaagte 296 JS and a portion of erf 5017 Klarinet X 7. Some of the services will however extend onto adjacent properties of the farm Blesboklaagte 296 JS, Kromdraai 292 JS, Kalbasfontein 284 JS and Joubertsrus 310 JS.

The development will include the following:

- Low cost housing units
- Institutional housing units
- Bonded housing units
- Services including water, sewer, roads, electricity etc.

The client indicated the area to be surveyed. The field survey was confined to this area.



**Figure 1: Location of the town of eMalahleni and the site in the Mpumalanga Province. North reference is to the top of the map.**



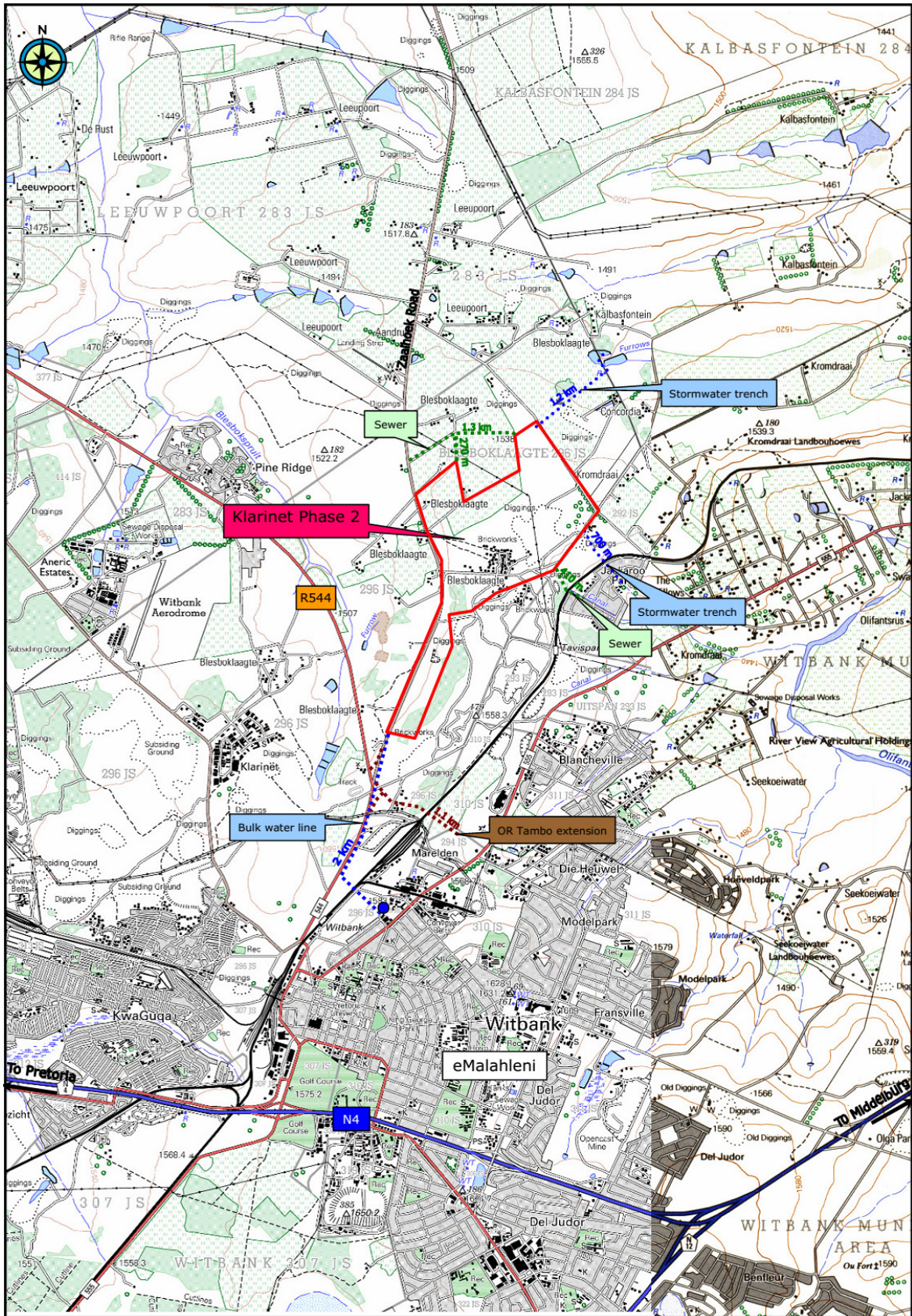
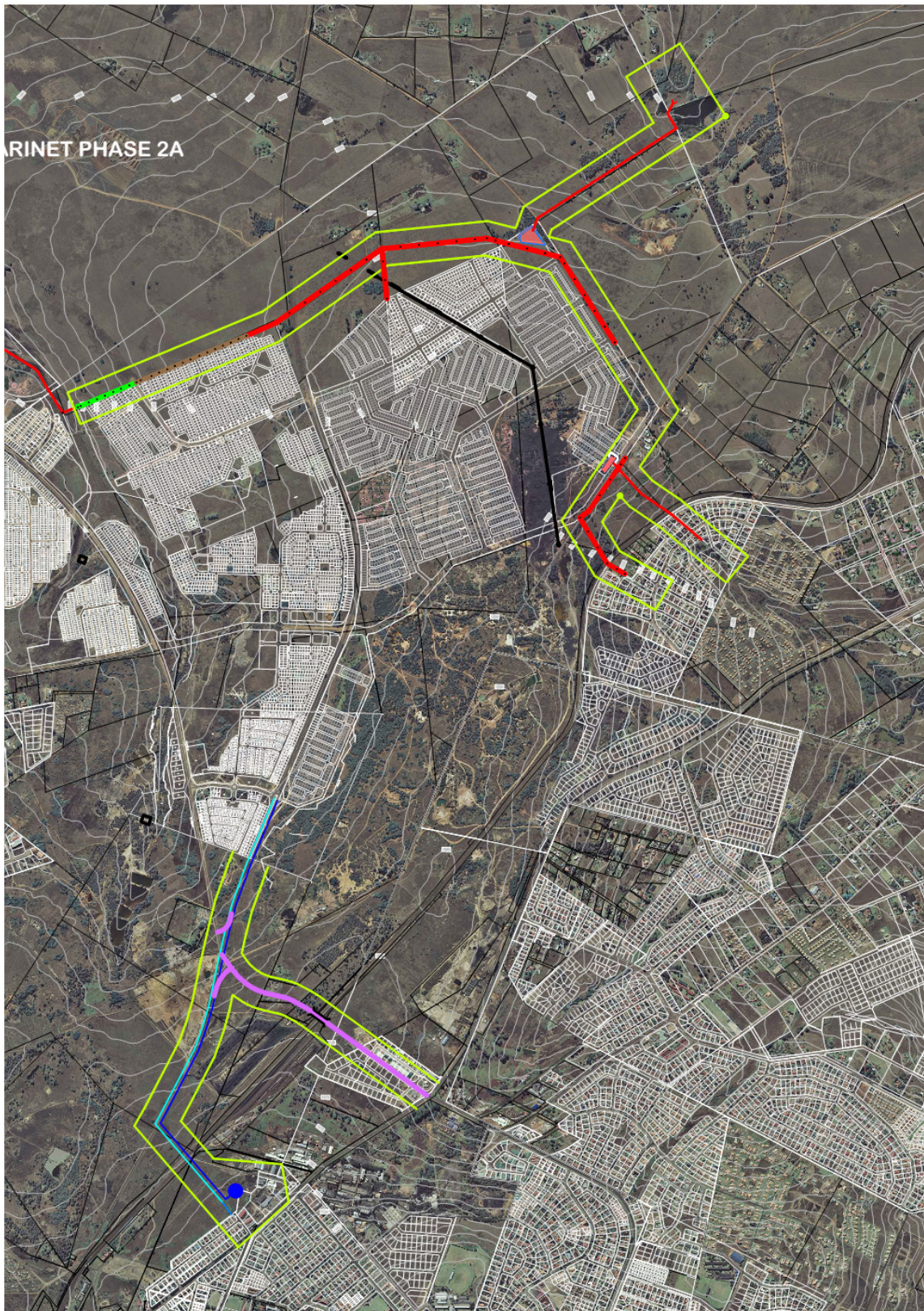


Figure 2: Location of the site in relation to eMalahleni. Also note the proposed services indicated.





**Figure 3: Map indicating the services at the Klarinet development.**



## **2. TERMS OF REFERENCE**

The Terms of Reference for the survey were to:

1. Identify as much as possible objects, sites, occurrences and structures of an archaeological or historical nature (cultural heritage sites) located on the property (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 minimize 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, structure and artifacts 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 artifacts is determined by means of their historical, social, aesthetic, technological and scientific value in relation to their uniqueness, condition of preservation and research potential. 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 cognizance of the relevant legislation.
6. It has to be mentioned that it is almost impossible to locate all the cultural resources in a given area, as it will be very time consuming. Developers should however note that the report should make it clear how to handle any other finds that might occur.
7. In this instance the vegetation cover was extremely dense in certain sections of the surveyed area and the plant growth high in certain sections, therefore having a negative effect on both the horizontal and vertical archaeological visibility.

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

Aspects concerning the conservation of cultural resources are dealt with mainly 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 is protected as cultural heritage resources:

- a. Archaeological artifacts, 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. Grave yards 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 only looks at archaeological resources. The different phases during the HIA/ AIA 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; or

- 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.
- 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 Human Tissue Act (Act 65 of 1983) and to local regulations. Exhumation of graves must conform to the standards set out in the **Ordinance on Excavations (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 obtained 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 **Human Tissues Act (Act 65 of 1983 as amended)**.

#### **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 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 minimized and remedied.

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

This standard recognizes the importance of cultural heritage for current and future generations. It aims to ensure that clients protect cultural heritage in the course of their project activities.

This is done by clients abiding to 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 needs to be managed by not disturbing it and by having it assessed by professionals.

Impacts on the cultural heritage should be minimized. 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 artifacts and structures need to be removed it should be done by professionals and by abiding to the applicable legislation. The removal of cultural heritage resources may however only be considered if there are no 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 affected communities. Again professionals should carry out the work and adhere to the best available techniques.

It is necessary to engage in consultation with affected communities. This entails 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 extra-ordinary circumstances.

Critical cultural heritage may not be impacted on. Professionals should be used to advise on the assessment and protection thereof. Utilization 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 commercialization.

## **6. METHODOLOGY**

### **6.1 Survey of literature**

A survey of literature was undertaken in order to obtain background information regarding the area. Sources consulted in this regard are indicated in the bibliography.

### **6.2 Field survey**

The survey was conducted according to generally accepted HIA practices and was aimed at locating all possible 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 by means of 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, density of vegetation, etc. may however influence the coverage.

The size of the area that was surveyed is 275 Ha and the length of services surveyed approximately 5 km. The survey took eight hours to complete. The survey was done during May 2015, but heritage matters are not influenced by seasons.

### **6.3 Oral histories**

People from local communities are interviewed in order to obtain information relating to the surveyed area. It needs to be stated that this is not applicable under all circumstances. When applicable, the information is included in the text and referred to in the bibliography.

Three grave sites were identified by Interested and Affected parties. These are however outside of the area to be developed (Figure 5).

### **6.4 Documentation**

All sites, objects, features and structures identified were documented according to the general minimum standards accepted by the archaeological profession. Co-

---

<sup>1</sup> A Garmin Oregon 550 with an accuracy factor of a few meters.

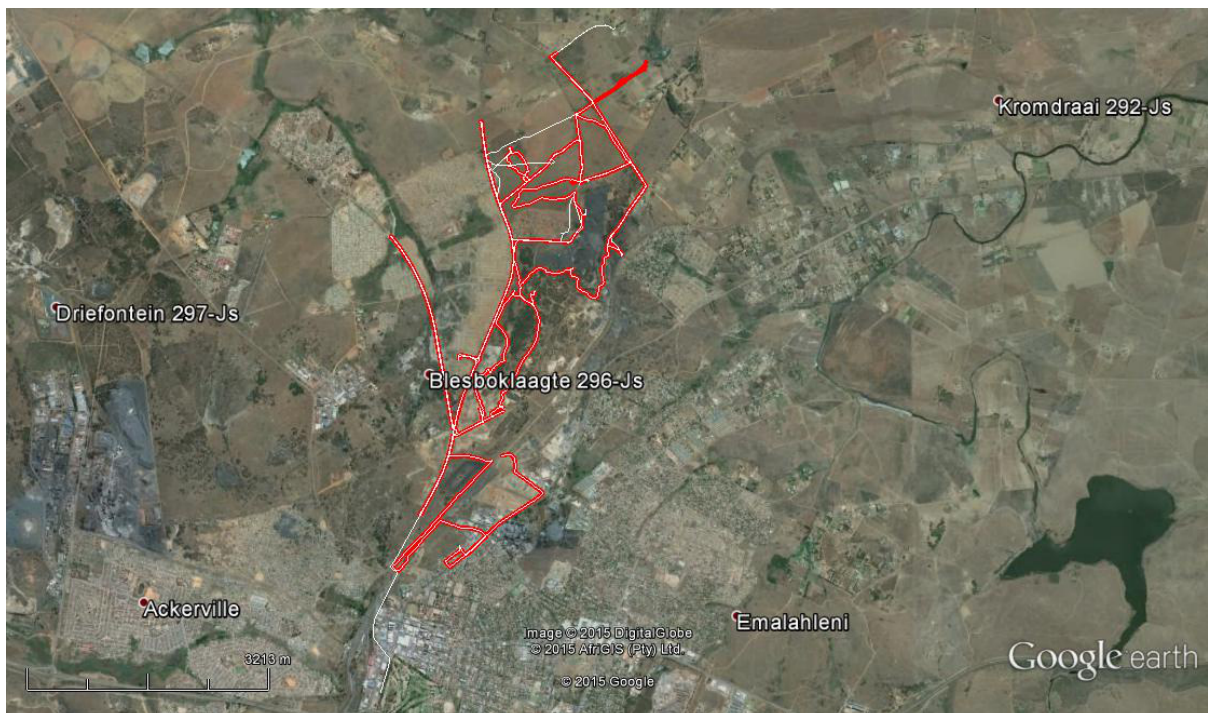


ordinates of individual localities were determined by means of the Global Positioning System (GPS). The information was added to the description in order to facilitate the identification of each locality.

## 6.5 Evaluation of Heritage sites

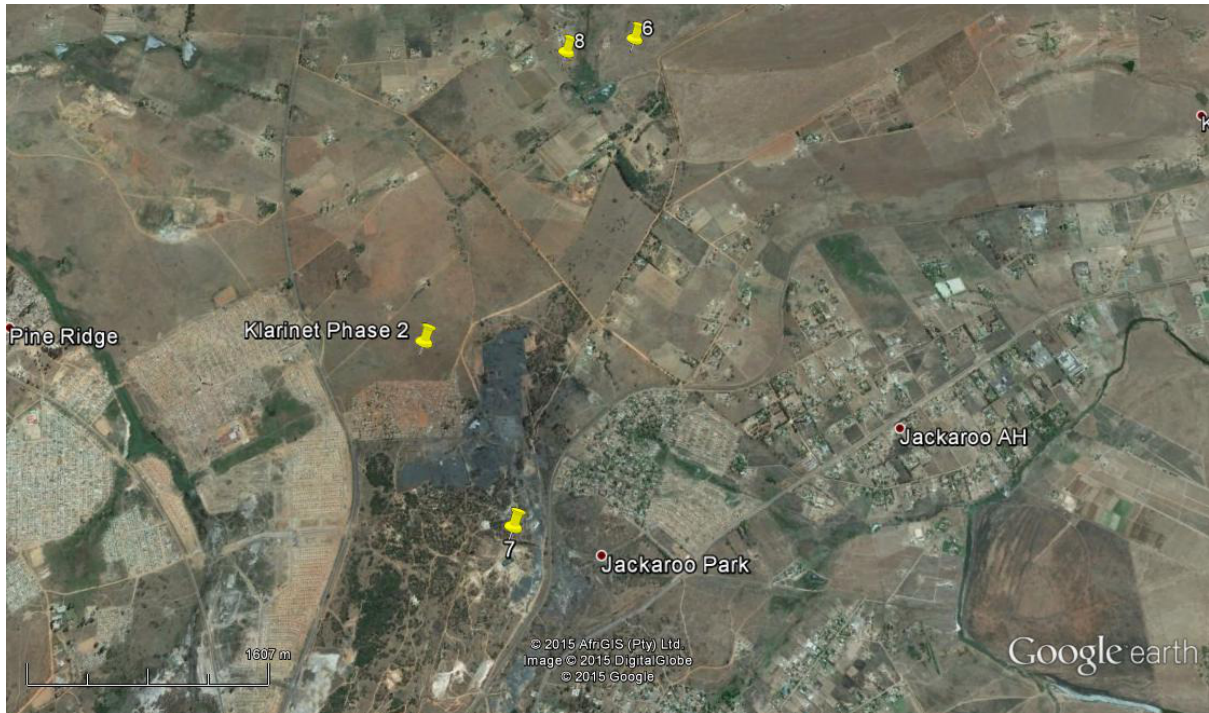
The evaluation of heritage sites is done by giving a field rating of each (see Appendix C) using the following criteria:

- The unique nature of a site
- The integrity of the archaeological deposit
- The wider historic, archaeological and geographic context of the site
- The location of the site in relation to other similar sites or features
- The depth of the archaeological deposit (when it can be determined or is known)
- The preservation condition of the site
- Uniqueness of the site and
- Potential to answer present research questions.



**Figure 4: GPS track<sup>2</sup> of the surveyed area (red and white lines). North reference is to the top.**

<sup>2</sup> Two GPS instruments were used.



**Figure 5: Google image indicating the graves identified by Interested and Affected parties. North reference is to the top.**

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

The environment in the surveyed area is mostly disturbed by recent human interventions. However, there is a small section to the north of the development that may still be in a reasonably natural state. This natural vegetation consists mainly of grassland with a few trees – a typical Highveld environment. It mainly seems to be used for grazing.

The vegetation cover throughout the surveyed area varies from areas with open patches to areas with dense plant growth, therefore having a negative effect on the horizontal archaeological visibility. The length of the grass varies between low, medium and high with the resulting positive to negative effect on the vertical archaeological visibility (Figure 6-8). This also includes a wattle plantation and pioneer species such as grass and weeds, indicating former disturbance (Figure 9-11).

Signs of disturbance were seen. This includes illegal dumping in the area, some old fields, a railway track as well as roads and footpaths (Figure 12-15). A large section has also been disturbed by former and current mining operations, including a coal mine in the central section and sand mining/ brickworks in the south (Figure 16-20). An informal settlement is also located in the surveyed area (Figure 21).

The topography of the area is reasonably flat with no distinctive features. Water courses seem to be located towards the east of the surveyed area and include a dam in the direction of one of the proposed storm water trenches (Figure 21).





**Figure 6: View of short dense vegetation in the surveyed area.**



**Figure 7: Medium high dense vegetation in the surveyed area.**



**Figure 8: View of long dense vegetation in the surveyed area.**



**Figure 9: Remains of a wattle plantation as well as pioneer plant species in the surveyed area.**





**Figure 10: Pioneer plant species, an indication of former disturbance, in the surveyed area.**



**Figure 11: View of vegetation along the proposed extension of OR Tambo Road.**



**Figure 12: Signs of illegal dumping in the surveyed area.**



**Figure 13: Intersection at OR Tambo Road where the proposed extension will start.**



**Figure 14: View along the road where bulk water line is proposed.**



**Figure 15: General view of the landscape in the vicinity of the railway track where the proposed sewer and storm water trenches are located.**





**Figure 16: Old mine dump in the surveyed area.**



**Figure 17: Former mining activities and a wattle plantation in the surveyed area.**





**Figure 18: Indication of sand mining within the wattle plantation.**



**Figure 19: Coal mining activities in the surveyed area.**



**Figure 20: Brick work activities in the surveyed area.**



**Figure 21: Informal settlement in the surveyed area.**



**Figure 22: Dam where one of the proposed storm water trenches end.**

## **8. HISTORICAL CONTEXT**

Five sites of cultural heritage significance were located in the surveyed area. In order to enable the reader to better understand these and possible sites that may be identified later as well as the context of the historical environment, it is necessary to give a background regarding the different phases of human history.

It also needs to be indicated that in this area no declared heritage sites are indicated on the SAHRA database. Many heritage reports were done in the surrounding area. The information is included below.

### **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 in 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.

No Stone Age sites are indicated on a map contained in a historical atlas of this area (Bergh 1999: 4). The closest known Stone Age occurrence is that of rock art close to the Olifants River to the south of eMalahleni (Witbank) (Bergh 1999: 5). This

however should rather be seen as a lack of research in the area and not as an indication that such features do not occur.

However, no natural shelters were seen during the survey and therefore it is possible that these people did not stay here for long times. The closeness to the river would have created ample grazing for wild animals and would have lured these to the area. It may therefore have been a prime spot for hunting and obtaining water. Therefore one may assume that Stone Age people probably would have moved through the area. Although no Stone Age material was found during the survey, one will have to be on the lookout for these during construction.

## **8.2 Iron Age**

The Iron Age is the name given to the period of human history when metal was mainly used to produce metal artifacts (Coertze & Coertze 1996: 346). In South Africa it can be divided in 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 seem to be 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.

A few Iron Age sites have been identified towards the south of Witbank and close to Middelburg during past surveys (Archaetnos database). This may indicate that the few sites known are an indication of a lack of research in the area. The good grazing and access to water in the area would have provided a good environment for Iron Age people although building material seems to be reasonably scarce. No Iron Age occurrences were identified during the survey.

## **8.3 Historical Age**

The historical age started with the first recorded oral histories in the area. It includes the moving into the area of people that were able to read and write. This era is sometimes called the Colonial era or the recent past.

Due to factors such as population growth and a decrease in mortality rates, more people inhabited the country during the recent historical past. Therefore and because less time has passed, much more cultural heritage resources from this era have been left on the landscape. It is important to note that all cultural resources older than 60 years are potentially regarded as part of the heritage and that detailed studies are needed in order to determine whether these indeed have cultural significance. Factors to be considered include aesthetic, scientific, cultural and religious value of such resources.



At the beginning of the 19<sup>th</sup> century the Phuthing, a South Sotho group, stayed in the vicinity of modern day Bethal. During the Difaquane they fled to the south (Bergh 1999: 10-11; 109).

The first white traveler to visit these surroundings was Robert Scoon in 1836 (Bergh 1999: 13). White farmers only settled here after 1850 (Bergh 1999: 16).

One may therefore expect to find farm buildings, structures and objects from this period in time in the area. Many graveyards from this period have indeed been identified in surrounding areas during past surveys (Archaetnos database). One should therefore be on the lookout for indications of these during construction activities.

## **9. DESCRIPTION OF HERITAGE SITES FOUND DURING THE SURVEY**

As indicated five sites of cultural heritage importance were located during the survey. These are discussed below.

### **9.1 Site 1 – Building foundations**

This is the remains of the foundation of a building made from stone (Figure 23). It is overgrown with weeds and grass and therefore no clear picture thereof could be formed. It is in a bad condition and most likely is older than 60 years of age.

GPS: 25°49'15.8"S  
29°14'08.5"E



**Figure 23: Remains of a building at site no. 1.**

It has low heritage significance. The field rating given for the site is General protection C (IV C). This means that this report is seen as ample recording and the site may be destroyed if needed. Since it is likely older than 60 years, a permit for this is needed from the Mpumalanga Provincial Heritage Resources Agency (PHRA).

## 9.2 Site 2 – Possible grave

The site consists of a stone structure that may indicate a grave (Figure 24). No headstone or indication of date of death is found.

Graves are divided into three categories, being unknown, heritage (older than 60 years) and younger than 60 years. If this is a grave it would fall into the unknown category which should be handled similar to heritage graves (older than 60 years) until more information become available.

GPS: 25°49'09.1"S  
29°13'29.4"E



**Figure 24: Possible grave numbered as site no. 2.**

Graves are always regarded as having a high cultural significance. The field rating is Local Grade IIIB. It may be mitigated, and should be included in the heritage register.

Two possibilities exist. The first option would be to fence<sup>3</sup> the graves in and have a management plan drafted 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<sup>4</sup> due to the activities of the development.

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 are needed. Permits should be obtained from the Burial Grounds and Graves unit of SAHRA. This procedure is quite lengthy and involves social consultation.

In this case, it is recommended that the location be tested by excavation to determine whether it is a grave. Should it be confirmed, it should be relocated as it falls within the development area. Should site 5 be retained, this grave can be relocated there. Should site 5 be relocated, site 1 can form part of the same process. If it is found not to be a grave, the proposed development can just continue.

### 9.3 Site 3 – grave yard

The site consists of four stone packed graves (Figure 25). None of the graves have any information associated therewith, although they all have stone headstones.

Graves are divided into three categories, being unknown, heritage (older than 60 years) and younger than 60 years. Since no date of death could be identified these graves are all unknown and should therefore be handled as heritage graves until such time as information becomes available.

GPS: 25°49'11.9"S  
29°13'39.2"E

Graves are always regarded as having a high cultural significance. The field rating is Local Grade IIIB. It may be mitigated, and should be included in the heritage register.

Two possibilities exist. The first option would be to fence<sup>5</sup> the graves in and have a management plan drafted for the sustainable preservation thereof. This should be written by a heritage expert. This usually is done when the graves are in no danger

---

<sup>3</sup> It is standard protocol to fence in sites in order to clearly demarcate it and assist with the management and preservation thereof.

<sup>4</sup> Secondary impact refers to any mining activity that may impact on the graves indirectly. It is impossible to give a full list, but it will include issues like dust pollution, blasting impacts and the limitation of access to descendants to the graves.

<sup>5</sup> It is standard protocol to fence in sites in order to clearly demarcate it and assist with the management and preservation thereof.



of being damaged, but where there will be a secondary impact<sup>6</sup> due to the activities of the development.

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 mining 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.

These graves will be impacted directly by the development. Therefore Option 2 is recommended. Should site 5 be retained, these graves can be relocated there. Should site 5 be relocated, site 1 can form part of the same process



**Figure 25: The graves at site no. 3.**

#### **9.4 Site 4 – single grave**

This is a single grave only indicated by a cement headstone (Figure 26). No grave dressing or associated information is found.

Graves are divided into three categories, being unknown, heritage (older than 60 years) and younger than 60 years. Since no date of death could be identified these

---

<sup>6</sup> Secondary impact refers to any mining activity that may impact on the graves indirectly. It is impossible to give a full list, but it will include issues like dust pollution, blasting impacts and the limitation of access to descendants to the graves



graves are all unknown and should therefore be handled as heritage graves until such time as information becomes available.

GPS: 25°49'15.1"S  
29°13'38.0"E



**Figure 26: The grave at site no. 4.**

Graves are always regarded as having a high cultural significance. The field rating is Local Grade IIIB. It may be mitigated, and should be included in the heritage register.

Two possibilities exist. The first option would be to fence<sup>7</sup> the graves in and have a management plan drafted for the sustainable preservation thereof. This should be written by a heritage expert. This usually is done when the graves are in no danger

---

<sup>7</sup> It is standard protocol to fence in sites in order to clearly demarcate it and assist with the management and preservation thereof.

of being damaged, but where there will be a secondary impact<sup>8</sup> due to the activities of the development.

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 mining 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 grave will be impacted directly by the development. Therefore Option 2 is recommended. Should site 5 be retained, this grave can be relocated there. Should site 5 be relocated, site 1 can form part of the same process.

### 9.5 Site 5 – grave yard

This is a large grave yard containing at least 84 graves (Figure 27). Grave dressings and headstones vary and include stone, brick, cement and granite.

Surnames identified include Maseko, Masando, Sindane and Thabethe. The oldest date of death indicated is 1937 and the youngest 1962. Most of the graves however have no date of death indicated.

Graves are divided into three categories, being unknown, heritage (older than 60 years) and younger than 60 years. In this case all three categories were identified. Unknown graves are handled as heritage graves until such time as more information becomes available.

GPS: 25°49'29.1"S  
29°14'07.3"E

Graves are always regarded as having a high cultural significance. The field rating is Local Grade IIIB. It may be mitigated, and should be included in the heritage register.

Two possibilities exist. The first option would be to fence<sup>9</sup> the graves in and have a management plan drafted 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<sup>10</sup> due to the activities of the development.

---

<sup>8</sup> Secondary impact refers to any mining activity that may impact on the graves indirectly. It is impossible to give a full list, but it will include issues like dust pollution, blasting impacts and the limitation of access to descendants to the graves

<sup>9</sup> It is standard protocol to fence in sites in order to clearly demarcate it and assist with the management and preservation thereof.

<sup>10</sup> Secondary impact refers to any mining activity that may impact on the graves indirectly. It is impossible to give a full list, but it will include issues like dust pollution, blasting impacts and the limitation of access to descendants to the graves

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 mining 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 will be impacted directly by the development. Therefore Option 2 is recommended. It also needs to be indicated that the graves were already damaged due to them being extremely close to current mining activities. It does however seem as if the graves are located in a green zone within the development. One may therefore rehabilitate the site, fence it in and rather follow Option 1.



**Figure 27: Some of the graves at site no. 5**

#### **9.6 Site 6-8 – graves identified by Interested and Affected Parties**

These graves are outside of the area to be developed, but are included as it shows the possibility of nearby sites. It needs to be indicated that site 8 is reasonably close to the development.

Site 6:

Two graves. The first is caved in and the second is that of Johanna S van Zyl – Born in Dec 1860 and died Jan 1951 (Figure 28).

GPS: 25°48'11.1"S  
29°14'52.6"E





**Figure 28: Graves at site no. 6.**

Site 7:

Twelve graves including the grave of Johanna N Mabena (Figure 29). Many of these have caved in.



**Figure 29: Grave of Johanne Mabene at site no. 7.**

GPS: 25°50'06.5"S  
29°14'09.7"E

Site 8:

Single grave with no legible information (Figure 30).



**Figure 30: Grave at site no. 8.**

GPS: 25°48'12.9"S  
29°14'33.7"E

## **10. CONCLUSION AND RECOMMENDATIONS**

The survey of the indicated area was completed successfully. As indicated five sites of cultural heritage significance were found (Figure 30).





**Figure 30: Google image indicating the sites identified inside of the surveyed area.**

The following is recommended:

- Site 1 (building foundation) has low heritage significance. This report is seen as ample recording and the site may be destroyed if needed. Since it is likely older than 60 years, a permit for this is needed from the Mpumalanga Provincial Heritage Resources Agency (PHRA).
- Site no. 2 is a possible grave. It is recommended that the location be tested by excavation to determine whether it is a grave. Should it be confirmed, it should be relocated as it falls within the development area. Should site 5 be retained, this grave can be relocated there. Should site 5 be relocated, site 1 can form part of the same process. If it is found not to be a grave, the proposed development can just continue.
- Sites number 3, 4 and 5 are grave sites. Two possibilities exist when dealing with graves.
  - The first option would be to fence the graves in and have a management plan drafted 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.
  - 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 mining 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.

- Sites 3 and 4 will be impacted directly by the development. Therefore Option 2 is recommended. Should site 5 be retained, these graves can be relocated there. Should site 5 be relocated, site 1 can form part of the same process.
- Site 5 will also be impacted directly by the development. Therefore Option 2 is recommended. It also needs to be indicated that the graves were already damaged due to them being extremely close to current mining activities. It does however seem as if the graves are located in a green zone within the development. One may therefore rehabilitate the site, fence it in and rather follow Option 1.
- Sites 6-8 are grave sites identified by Interested and Affected parties outside of the area to be developed. The developer needs to ensure that these are not impacted on.
- After completion of the mitigation, the proposed development may continue.
- No heritage sites were identified along any of the service routes. These are the OR Tambo extension (Figure 11 and 13), the storm water (Figure 15 and 22), water (Figure 14) and sewer routes (Figure 15).
- It should be noted that the subterranean presence of archaeological and/or historical sites, features or artifacts is always a distinct possibility. Care should therefore be taken when development commences that if any of these are discovered, a qualified archaeologist be called in to investigate the occurrence and amend this report.

## 11. REFERENCES

Archaetnos database.

Bergh, J.S. (red.). 1999. **Geskiedenisatlas van Suid-Afrika. Die vier noordelike provinsies.** Pretoria: J.L. van Schaik.

Coertze, P.J. & Coertze, R.D. 1996. **Verklarende vakwoordeboek vir Antropologie en Argeologie.** Pretoria: R.D. Coertze.

Huffman, T.N. 2007. **Handbook to the Iron Age: The Archaeology of Pre-Colonial Farming Societies in Southern Africa.** Scottsville: University of KwaZulu-Natal Press.

International Finance Corporation. 2012. **Overview of performance standards on Environmental and Social Sustainability. Performance Standard 8, Cultural Heritage.** World Bank Group.

- Knudson, S.J. 1978. **Culture in retrospect.** Chicago: Rand McNally College Publishing Company.
- Korsman, S.A. & Meyer, A. 1999. Die Steentydperk en rotskuns. Bergh, J.S. (red.). **Geskiedenisatlas van Suid-Afrika. Die vier noordelike provinsies.** Pretoria: J.L. van Schaik.
- Republic of South Africa. 1980. Ordinance on Excavations (**Ordinance no. 12 of 1980**). **The Government Printer: Pretoria.**
- Republic of South Africa. 1983. **Human Tissue Act** (Act 65 of 1983). The Government Printer: Pretoria.
- Republic of South Africa. 1999. **National Heritage Resources Act** (No 25 of 1999). Pretoria: the Government Printer.
- Republic of South Africa. 1998. **National Environmental Management Act** (no 107 of 1998). Pretoria: The Government Printer.
- SAHRA's SAHRIS database.
- Van der Ryst, M.M. & Meyer, A. 1999. Die Ystertydperk. Bergh, J.S. (red.). **Geskiedenisatlas van Suid-Afrika. Die vier noordelike provinsies.** Pretoria: J.L. van Schaik.



## **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 artifacts, 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:

- Low A cultural object being found out of context, not being part of a site or without any related feature/structure in its surroundings.
- 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.
- High Any site, structure or feature regarded as important because of its age or uniqueness. Graves are always categorized as of a high importance. Also any important object found within a specific context.

#### 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:

- i. National Grade I significance should be managed as part of the national estate
- ii. Provincial Grade II significance should be managed as part of the provincial estate
- iii. Local Grade IIIA should be included in the heritage register and not be mitigated (high significance)
- iv. Local Grade IIIB should be included in the heritage register and may be mitigated (high/ medium significance)
- v. General protection A (IV A) site should be mitigated before destruction (high/ medium significance)
- vi. General protection B (IV B) site should be recorded before destruction (medium significance)
- vii. General protection C (IV C) phase 1 is seen as sufficient recording and it may be demolished (low significance)

## **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.