

**Prepared for:**

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**AN UPDATED PHASE I HERITAGE IMPACT ASSESSMENT  
(HIA) STUDY FOR THE PROPOSED VALLEYVIEW  
RESIDENTIAL DEVELOPMENT IN EMALAHLENI (WITBANK) IN  
THE MPUMALANGA PROVINCE**

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## EXECUTIVE SUMMARY

A Phase I Heritage Impact Assessment (HIA) study was done for the proposed Valleyview residential development on Portion 22 of the farm Naauwpoort 335JS in Emalahleni in the Mpumalanga Province in December 2006. This report represents an updated version of the original Phase I HIA and was done in October 2013 in accordance with Section 38 of the National Heritage Resources Act (No 25 of 1999).

The aims with the Phase I HIA study were the following:

- To establish whether any of the types and ranges of heritage resources as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999) (see Box 1) do occur in the proposed Valleyview residential development and, if so, what the nature and the extent of these remains are.
- To outline the significance of these remains and to evaluate what appropriate mitigation measures should be taken if any of these types and ranges of heritage resources may be affected by the proposed Valleyview residential development.

The Phase I HIA study for the proposed new residential development revealed the following types and ranges of heritage resources (as outlined in Section 3 of the National Heritage Resources Act [No 25 of 1999]) in the Project Area:

- Remains which do not hold any cultural historical significance.

(A water buck pump which used to exist in the Project Area could not be located and was probably removed since the last survey was done in 2006).

### **Possible impact on remains from the last few decades**

It is highly likely that all the remains which date from the last few decades will be affected (destroyed) when either Alternative 01 or Alternative 02 for the proposed Valleyview residential development is implemented.

### **The significance of the remains from the last few decades**

The remains from the last few decades have no cultural or historical significance as these remains date from the recent past.

### **The significance of the impact on remains from the last few decades**

The significance of the impact on the remains from the recent past was determined using a ranking scale based on various criteria.

The significance of the impact on the remains from the past few decades is very low (Table 2).

### **Mitigation the impact on the remains from the last few decades**

No mitigation measures are needed for the remains from the last few decades.

### **Summary:**

The remains from the last few decades have no historical or cultural significance. There is consequently no reason from a heritage point of view why the implementation of either Alternative 01 or Alternative 02 for the proposed Valleyview residential development therefore cannot proceed.

### **General (Disclaimer)**

It is possible that this Phase I HIA study may have missed heritage resources in the Project Area as heritage sites may occur in clumps of vegetation or tall grass while others may lie below the surface of the earth and may only be exposed once development commences. Heritage resources may also be missed during surveys as a result of human failure to uncover and to detect all possible heritage resources in any given project area.

If any heritage resources of significance is exposed during the implementation of the proposed Valleyview residential development the South African Heritage Resources Authority (SAHRA) should be notified immediately, all development activities must be stopped and an archaeologist accredited with the Association for Southern African Professional Archaeologist (ASAPA) should be notify in order to determine appropriate mitigation measures for the discovered finds. This may include obtaining the necessary authorisation (permits) from SAHRA to conduct the mitigation measures.

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## **1 INTRODUCTION**

Before the Wind Investments proposes to implement the new Valleyview residential development on Portion 22 of the farm Naauwpoort 335JS in Emalahleni (Witbank) on the Eastern Highveld in the Mpumalanga Province. Previous heritage surveys which have been conducted on the Eastern Highveld have indicated that most of the types and ranges of heritage resources that qualify as part of South Africa's 'national estate' (outlined in Section 3 of the National Heritage Resources Act [No 25 of 1999]) do occur across the Mpumalanga Province (see Box 1, next page).

The identification, evaluation and assessment of heritage resources in South Africa are also regulated by the following legislation:

- National Environmental Management Act (NEMA) Act 107 of 1998
- National Heritage Resources Act (NHRA) Act 25 of 1999
- Minerals and Petroleum Resources Development Act (MPRDA) Act 28 of 2002
- Development Facilitation Act (DFA) Act 67 of 1995

**Box 1: Types and ranges of heritage resources (the national estate) as outlined in Section 3 of the National Heritage Resources Act, 1999 (No 25 of 1999).**

The National Heritage Resources Act (Act No 25 of 1999, Art 3) outlines the following types and ranges of heritage resources that qualify as part of the National Estate, namely:

- (a) places, buildings structures and equipment of cultural significance;
- (b) places to which oral traditions are attached or which are associated with living heritage;
- (c) historical settlements and townscapes;
- (d) landscapes and natural features of cultural significance;
- (e) geological sites of scientific or cultural importance;
- (f) archaeological and palaeontological sites;
- (g) graves and burial grounds including-
  - (i) ancestral graves;
  - (ii) royal graves and graves of traditional leaders;
  - (iii) graves of victims of conflict;(iv) graves of individuals designated by the Minister by notice in the Gazette;
  - (v) historical graves and cemeteries; and
  - (vi) other human remains which are not covered by in terms of the Human Tissues Act, 1983 (Act No 65 of 1983);
- (h) sites of significance relating to the history of slavery in South Africa;
- (i) movable objects, including -
  - (i) objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens;
  - (ii) objects to which oral traditions are attached or which are associated with living heritage;
  - (iii) ethnographic art and objects;
  - (iv) military objects;
  - (v) objects of decorative or fine art;
  - (vi) objects of scientific or technological interest; and
  - (vii) books, records, documents, photographs, positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1(xiv) of the National Archives of South Africa Act, 1996 (Act No 43 of 1996).

The National Heritage Resources Act (Act No 25 of 1999, Art 3) also distinguishes nine criteria for places and objects to qualify as 'part of the national estate if they have cultural significance or other special value ...'. These criteria are the following:

- (a) its importance in the community, or pattern of South Africa's history;
- (a) its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;
- (b) its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;
- (c) its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;
- (e) its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;
- (f) its importance in demonstrating a high degree of creative or technical achievement at a particular period;
- (g) its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons; (h)
- (h) its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa;
- (i) sites of significance relating to the history of slavery in South Africa

## 2 TERMS OF REFERENCE

The development of the proposed Valleyview residential development in Emalahleni may have an influence on any of the types and ranges of heritage resources which are listed in Section 3 of the National Heritage Resources Act [Act No 25 of 1999] (Box 1) and which may occur in the Project Area. Therefore, any activities relating to the development of the proposed new residential development may have an influence on any of the types and ranges of heritage resources as outlined in Section 3 of the National Heritage Resources Act (No. 25 of 1999). Consequently, Royal HaskoningDHV, the environmental consultant who is responsible for compiling the Environmental Impact Assessment report in terms of the National Environmental Management Act (Act 107 of 1998) for the new development, commissioned the author to undertake a Phase I HIA study for the proposed new residential development.

The aims with the Phase I HIA study were the following, namely:

- To establish whether any of the types and ranges of heritage resources as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999) (see Box 1) do occur in the proposed Valleyview residential development and, if so, what the nature and the extent of these remains are.
- To outline the significance of these remains and to evaluate what appropriate mitigation measures should be taken if any of these types and ranges of heritage resources may be affected by the proposed Valleyview residential development.



### **3 METHODOLOGY**

The original Phase I HIA study was conducted in December 2006. This study was updated by means of completing the following activities, namely:

#### **3.1 Desktop study**

Literature relating to the pre-historical and the historical unfolding of the Eastern Highveld was reviewed. This review focused primarily on the pre-history as well as the Historical Period on the Eastern Highveld. It also provided a broad outline of the coal mining history of the region as well as its indigenous architecture. The literature research contextualises the pre-historical and historical background of the Eastern Highveld which again contributes to a better understanding of the identity and meaning of heritage sites which occur in and near the Project Area.

The desktop study also involved consulting heritage data banks maintained at institutions such as the Mpumalanga Provincial Heritage Resources Agency in Barberton, the Archaeological Data Recording Centre at the National Flagship Institute (Museum Africa) in Pretoria and the national heritage resources register at the South African Heritage Resources Agency (SAHRIS) in Cape Town.

A number of heritage studies were done in close proximity of Emalahleni and Middelburg which outline the nature and heritage character of the area. These studies also provide some predictive evidence regarding the types and ranges of heritage resources to be expected in any new area to be surveyed, namely: (see 'Select Bibliography', Part 10).

- EMPR. 2006 (a). Addendum Landau Colliery Project Specific EMPR Addendum for the Emalahleni Water Reclamation Project. Unpublished report by Golder Associates.
- EMPR. 2006 (b). Addendum Greenside Colliery Project Specific EMPR Addendum for the Emalahleni Water Reclamation Project. Unpublished report by Golder Associates.

- Pelser, A.J. 2010. A report on the archaeological investigation of graves on the farm Nooitgedacht 300 JS, impacted on by the Landau colliery mining operations, near Witbank (Emalahleni), Mpumalanga Province. Unpublished Report Archaetnos AE1079. For Anglo-Coal (Landau Colliery).
- Pelser, A.J. & A.C. van Vollenhoven. 2010. A report on a heritage impact assessment for the expansion of opencast coal mining operations, Landau colliery, on the farm Nooitgedacht 300 JS near Witbank, Mpumalanga. Unpublished Report Archaetnos AE1028. For Anglo-Coal (Landau Colliery).
- Pistorius, J.C.C. 2006. A scoping report for a Phase I Heritage Impact Assessment study for the proposed new Emalahleni Water Reclamation Project near Witbank in the Mpumalanga Province of South Africa. Unpublished report for Anglo Coal and Ingwe Colliers.
- Pistorius, J.C.C. 2006. A Phase I Heritage Impact Assessment (HIA) study for the proposed new Emalahleni Water Reclamation Project near Witbank in the Mpumalanga Province of South Africa. Unpublished report for Anglo Coal and Ingwe Colliers.
- Pistorius, J.C.C. 2006. *A Phase I Heritage Impact Assessment study for Portion 22 of the farm Naauwpoort 477JS in Emalahleni in the Mpumalanga Province of South Africa.* Unpublished report prepared for Clean Stream Environmental Services.
- Pistorius, J.C.C. 2010. A Phase I Heritage Impact Assessment (HIA) Study for the proposed Landau Expansion Project near Emalahleni (Witbank) in the Mpumalanga Province of South Africa. Unpublished report prepared for Clean Stream Environmental Services.
- Pistorius, J.C.C. 2011. A Phase I Heritage Impact Assessment (HIA) Study for the proposed new Schoongezicht Coal Mine near Emalahleni (Witbank) in the Mpumalanga Province of South Africa. Unpublished report prepared for Clean Stream Environmental Services.

In addition, the Project Area was also studied by means of maps on which it appears (Emalahleni 2529CC, 1: 50 000 topographical map; 2528 Pretoria, 1: 250 000 map and Google imagery).

### 3.2 Fieldwork and research

The proposed new Valleyview residential development was surveyed with a vehicle whilst a pedestrian survey was conducted across the Project Area in December 2006. The aim with the survey was to geo-reference, describe and photograph any heritage resources which may exist in the proposed new residential area. The proposed Project Area was revisited in October 2013 and a GPS track log was recorded.

Photographs also illuminate the characteristic features of the Project Area (see Part 6.1 'Fieldwork survey', Figures 3 –9).



**Figure 01- A track path was recorded during October 2013 when the Project Area was revisited. The initial survey for the Project Area was undertaken in December 2006 and comprised of a pedestrian survey of the proposed residential development on Portion 22 of the farm Naauwpoort 477JS in Emalahleni. Note the heritage resources that were mapped (above).**

### 3.3 Terminology

Terms that may be used in this report are briefly outlined below:

- Conservation: The act of maintaining all or part of a resource (whether renewable or non-renewable) in its present condition in order to provide for its continued or future use. Conservation includes sustainable use, protection, maintenance, rehabilitation, restoration and enhancement of the natural and cultural environment.
- Conservation (*in-situ*): The conservation and maintenance of ecosystems, natural habitats and cultural resources in their natural and original surroundings.
- Cultural (heritage) resources: A broad, generic term covering any physical, natural and spiritual properties and features adapted, used and created by humans in the past and present. Cultural resources are the result of continuing human cultural activity and embody a range of community values and meanings. These resources are non-renewable and finite. Cultural resources include traditional systems of cultural practice, belief or social interaction. They can be, but are not necessarily identified with defined locations.
- Cultural (heritage) resource management: A process that consists of a range of interventions and provides a framework for informed and value-based decision-making. It integrates professional, technical and administrative functions and interventions that impact on cultural resources. Activities include planning, policy development, monitoring and assessment, auditing, implementation, maintenance, communication, and many others. All these activities are (or will be) based on sound research.
- Heritage resources: The various natural and cultural assets that collectively form the heritage. These assets are also known as cultural and natural resources. Heritage (cultural) resources include all human-made phenomena and intangible products that are the result of the human mind. Natural, technological or industrial features may also be part of heritage resources, as places that have made an outstanding contribution to the cultures, traditions and lifestyles of the people or groups of people of South Africa.

- Stone Age: Refers to the prehistoric past, although Late Stone Age peoples lived in South Africa well into the Historical Period. The Stone Age is divided into an Earlier Stone Age (3 million years to 150 000 thousand years ago) the Middle Stone Age (150 000 years to 40 000 years ago) and the Late Stone Age (40 000 years to 300 years ago).
- Iron Age: Refers to the last two millennia and 'Early Iron Age' to the first thousand years AD. 'Late Iron Age' refers to the period between the 16<sup>th</sup> century and the 19<sup>th</sup> century and can therefore include the Historical Period.
- Historical period: Refers to the first appearance or use of 'modern' Western writing in a particular area or region of the world.
- Pre-historical: Refers to the time before any historical documents were written or any written language developed in a particular area or region of the world.
- Recent past: Refers to the 20<sup>th</sup> century. Remains from this period are not necessarily older than sixty years and therefore may not qualify as archaeological or historical remains. Some of these remains, however, may be close to sixty years of age and may, in the near future, qualify as heritage resources.
- Maintenance: Keeping something in good health or repair.
- Preservation: Conservation activities that consolidate and maintain the existing form, material and integrity of a cultural resource.
- Protected area: A geographically defined area designated and managed to achieve specific conservation objectives. Protected areas are dedicated primarily to the protection and enjoyment of natural or cultural heritage, to the maintenance of biodiversity, and to the maintenance of life-support systems.
- Reconstruction: Re-erecting a structure on its original site using original components.
- Replication: The act or process of reproducing by new construction the exact form and detail of a vanished building, structure, object, or a part thereof, as it appeared at a specific period.
- Restoration: Returning the existing fabric of a place to a known earlier state by removing additions or by reassembling existing components.

- Sustainability: The ability of an activity to continue indefinitely, at current and projected levels, without depleting social, financial, physical and other resources required to produce the expected benefits.
- Translocation: Dismantling a structure and re-erecting it on a new site using original components.
- Project Area: refers to the area (footprint) where the developer wants to focus its development activities (refer to plan).
- Phase I studies refer to surveys using various sources of data in order to establish the presence of all possible types and ranges of heritage resources in any given Project Area.
- Phase II studies include in-depth cultural heritage studies such as archaeological mapping, excavating and sometimes laboratory work. Phase II work may include the documenting of rock art, engraving or historical sites and dwellings; the sampling of archaeological sites or shipwrecks; extended excavations of archaeological sites; the exhumation of human remains and the relocation of graveyards, etc. Phase II work involve permitting processes, require the input of different specialists and the co-operation and approval of SAHRA.

### **3.4 Assumptions and limitations**

It is possible that this Phase I HIA study may have missed heritage resources in the Project Area as heritage sites may occur in clumps of vegetation or tall grass while others may lie below the surface of the earth and may only be exposed once development commences. Heritage resources may also be missed during surveys as a result of human failure to uncover and to detect all possible heritage resources in any given project area.

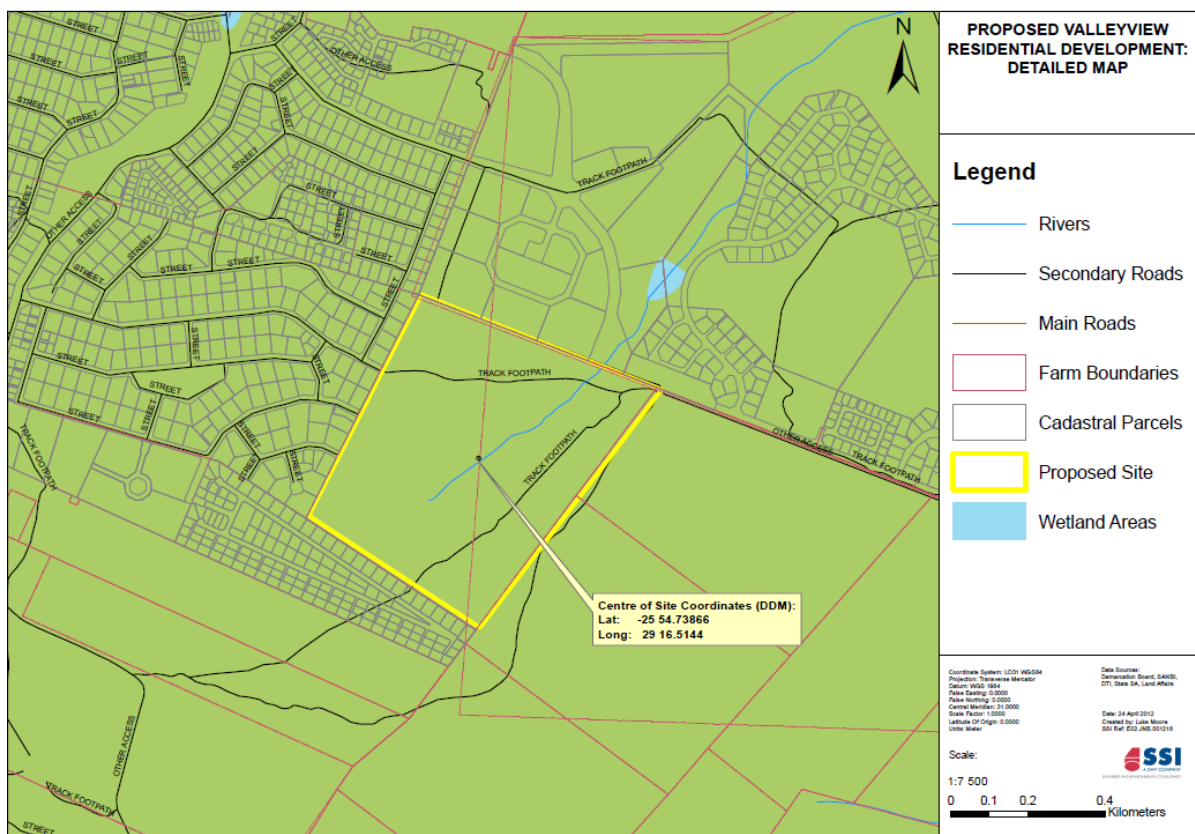
If any heritage resources of significance is exposed during the construction of the proposed clean water pipeline the South African Heritage Resources Authority (SAHRA) should be notified immediately, all development activities must be stopped and an archaeologist accredited with the Association for Southern African Professional Archaeologist (ASAPA) should be notify in order to determine

appropriate mitigation measures for the discovered finds. This may include obtaining the necessary authorisation (permits) from SAHRA to conduct the mitigation measures.

## 4 THE PROJECT AREA

### 4.1 Location

The proposed Valleyview residential development (Project Area) covers Portion 22 of the farm Naauwpoort 335JS in the Emalahleni Local Municipality in the Mpumalanga Province of South Africa (2529CD Witbank, 1:50 000 topographical map). The Project Area encompasses 42 hectares of land on the south-eastern corner of the town of Emalahleni and abuts in the north, west and the south against existing, developed residential areas whilst the Bankeveld Golf Estate borders on the north-eastern corner of the proposed new residential development (Figure 1).



**Figure 1- The proposed Valleyview residential development is situated on the farm Naauwpoort 335JS along the south-eastern corner of Emalahleni on the Eastern Highveld in the Mpumalanga Province (above).**



## 4.2 The proposed Valleyview residential development

The proposed residential site (Project Area) is currently vacant and was previously utilized for grazing purposes as it fell outside the part of Emalahlalani which was developed. The Project Area is a near square piece of land which slopes from the higher southern part northwards into a gentle, shallow drainage line which bisects the site into a northern and a southern part before rising towards a higher rocky area near the site's northern boundary. The drainage line extends north-eastwards and runs through the Bankeveld Golf Estate towards the low-lying Witbank Dam towards which the proposed residential development has a magnificent view (Figures 2 & 3).



**Figures 2 & 3- The proposed Valleyview residential development with view on the Witbank Dam when surveyed in December 2006 (above) and when the site was revisited in October 2006 (below).**

The proposed Valleyview residential development will involve the development of an upper class residential area in Emalahleni. Two alternatives (Alternatives 01 and Alternative 02) are proposed for the new residential development (Figures 4 & 5).



**Figures 4 & 5- Alternative 01 (above) and Alternative 02 (below) for the proposed Valleyview residential development in the Emalahleni Local Municipality.**



## **5 CONTEXTUALISING THE PROJECT AREA**

The following overview of pre-historical, historical and cultural evidence indicates the wide range of heritage resources which do occur across the larger Project Area and the Mpumalanga Province.

### **5.1 Stone Age and rock art sites**

Stone Age sites are marked by stone artefacts that are found scattered on the surface of the earth or as parts of deposits in caves and rock shelters. The Stone Age is divided into the Early Stone Age (ESA) (covers the period from 2.5 million years ago to 250 000 years ago), the Middle Stone Age (MSA) (refers to the period from 250 000 years ago to 22 000 years ago) and the Late Stone Age (LSA) (the period from 22 000 years ago to 200 years ago).

Dongas and eroded areas at Maleoskop near Groblersdal is one of only a few places in Mpumalanga where ESA Olduwan and Acheulian artefacts have been recorded.

Evidence for the MSA has been excavated at the Bushman Rock Shelter near Ohrigstad. This cave was repeatedly visited over a prolonged period. The oldest layers date back to 40 000 years BP and the youngest to 27 000BP (Esterhuysen & Smith 2007).

LSA occupation of the Mpumalanga Province also has been researched at Bushman Rock Shelter where it dates back 12 000BP to 9 000BP and at Höningnestkrans near Badfontein where a LSA site dates back to 4 870BP to 200BP (Esterhuysen & Smith 2007).

The LSA is also associated with rock paintings and engravings which were done by San hunter-gatherers, Khoi Khoi herders and EIA farmers (Maggs 1983, 2008). Approximately 400 rock art sites are distributed throughout Mpumalanga, notably in the northern and eastern regions at places such as Emalahleni (Witbank) (4), Lydenburg (2), White River and the southern Kruger National Park (76), Nelspruit and the Nsikazi District (250). The Ermelo area holds eight rock paintings (Smith & Zubieta 2007).

The rock art of the Mpumalanga Province can be divided into San rock art which is the most wide spread, herder or Khoe Khoe paintings (thin scattering from the Limpopo Valley) through the Lydenburg district into the Nelspruit area) and localised late white farmer paintings. Farmer paintings can be divided into Sotho-Tswana finger paintings and Nguni engravings (Only 20 engravings occur at Boomplaats, north-west of Lydenburg). Farmer paintings are more localised than San or herder paintings and were mainly used by the painters for instructional purposes (Smith & Zubieta 2007).

During the LSA and Historical Period, San people called the Batwa lived in sandstones caves and rock shelters near Lake Chrissie in the Ermelo area. The Batwa are descendants of the San, the majority of which intermarried with Bantu-Negroid people such as the Nhlapo from Swazi-descend and Sotho-Tswana clans such as the Pai and Pulana. Significant intermarriages and cultural exchanges occurred between these groups. The Batwa were hunter-gatherers who lived from food which they collected from the veldt as well as from the pans and swamps in the area. During times of unrest, such as the *difaqane* in the early nineteenth century, the San would converge on Lake Chrissie for food and sanctuary. The caves, lakes, water pans and swamps provided relatively security and camouflage. Here, some of the San lived on the surfaces of the water bodies by establishing platforms with reeds. With the arrival of the first colonists in the nineteenth century many of the local Batwa family groups were employed as farm labourers. Descendants of the Batwa people still live in the larger Project Area (Schapera 1927, Potgieter 1955, Schoonraad & Schoonraad 1975).

## **5.2 Iron Age remains**

The Iron Age is associated with the first agro-pastoralists or farming communities who lived in semi-permanent villages and who practised metal working during the last two millennia. The Iron Age is usually divided into the Early Iron Age (EIA) (covers the 1<sup>st</sup> millennium AD) and the Later Iron Age (LIA) (covers the first 880 years of the 2<sup>nd</sup> millennium AD).

Evidence for the first farming communities in the Mpumalanga Province is derived from a few EIA potsherds which occur in association with the LSA occupation of the

Höningnest Shelter near Badfontein. The co-existence of EIA potsherds and LSA stone tools suggest some form of 'symbiotic relationship' between the Stone Age hunter-gatherers who lived in the cave and EIA farmers in the area (also note Batwa and Swazi/Sotho Tswana relationship) (Esterhuysen & Smith 2007).

The Welgelegen Shelter on the banks of the Vaal River near Ermelo also reflects some relationship between EIA farmers who lived in this shelter and hunter-gatherers who manufactured stone tools and who occupied a less favourable overhang nearby during AD1200 (Schoonraad & Beaumont 1971).

EIA sites were also investigated at Sterkspruit near Lydenburg (AD720) and in Nelspruit where the provincial governmental offices were constructed. The most infamous EIA site in South Africa is the Lydenburg head site which provided two occupation dates, namely during AD600 and from AD900 to AD1100. At this site the Lydenburg terracotta heads were brought to light. Doornkop, located south of Lydenburg, dates from AD740 and AD810 (Evers 1981, Whitelaw 1996).

The Late Iron Age is well represented in Mpumalanga and stretches from AD1500 well into the nineteenth century and the Historical Period. Several spheres of influence, mostly associated with stone walled sites, can be distinguished in the region. Some of the historically well-known spheres of influence include the following:

- Early arrivals in the Mpumalanga Province such as Bakone clans who lived between Lydenburg, Badfontein and Machadodorp and Eastern Sotho clans such as the Pai, Pulana and Kutswe who established themselves in the eastern parts of the province (Collett 1979, 1983;. Delius 2007; Makhura 2007; Delius & Schoeman,2008).
- Swazi expansion into the Highveld and Lowveld of the Mpumalanga Province occurred during the reign of Sobhuza (AD1815 to 1836/39) and Mswati (AD1845 to 1868) while Shangaan clans entered the province across the Lembombo Mountains in the east during the second half of the nineteenth century (Delius 2007, Makhura 2007.).
- The Bakgatla (Pedi) chiefdom in the Steelpoort Valley rose to prominence under Thulare during the early 1800's and was later ruled by Sekwati and Sekhukune

from the village of Tsjate in the Leolo Mountains. The Pedi maintained an extended sphere of influence across the Limpopo and Mpumalanga Provinces during the nineteenth century (Mönnig 1978, Delius 1984).

- The Ndzundza-Ndebele established settlements at the foot of the Bothasberge (Kwa Maza and Esikhunjini) in the 1700's and lived at Erholweni from AD1839 to AD1883 where the Ndzundza-Ndebele's sphere of influence known as KoNomthjarhelo stretched across the Steenkampsberge.
- The Bakopa lived at Maleoskop (1840 to 1864) where they were massacred by the Swazi while the Bantwane live in the greater Groblersdal and Marble Hall areas.
- Corbelled stone huts which are associated with ancestors of the Sotho on Tafelkop near Davel which date from the AD1700's into the nineteenth century (Hoernle 1930).
- Stone walled settlements spread out along the eastern edge of the Groot Dwarsriver Valley served as the early abode for smaller clans such as the Choma and Phetla communities which date from the nineteenth century.

### **5.3 The Historical Period**

Historical towns closest to the Project Area include Witbank and Middelburg.

Witbank came into being as the railway line between Pretoria and Lourenço Marques which was built in 1894 passed close to where Witbank is located today. The first Europeans who came to the area observed the abundance of coal, which was evident on the surface or in the beds of streams. A stage post for wagons close to a large outcrop of whitish stones (a 'white ridge') gave the town its name. Witbank was established in 1903 on a farm known as Swartbos which belonged to Jacob Taljaard.

Middelburg is one of the oldest towns that were established by the Voortrekkers in the previous Transvaal. The town was established on the farms of Klipfontein and Keerom on the banks of the Klein Olifants River in 1859. It is generally accepted that

Middelburg's name is derived from the fact that the Transvaal Republic established the town midway between Pretoria and Lydenburg.

The choice for Middelburg's location was not well accepted by the inhabitants and it was moved to the farm Sterkfontein. Here, a town was established and named Nasaret (Nazareth). However, the name did not appeal to the local community and its original name was reinstated. Middelburg temporary served as the seat of the Transvaal Republic after the siege of Pretoria during the Second Anglo Boer War.

Today Middelburg and Witbank are important centres where coal is mined and transported to Richards Bay from where it is exported all over the world. The 20<sup>th</sup> century also saw the introduction of large-scale irrigation and dry land farming on the Eastern Highveld. Today the economic activities of the area include diamond and coal mining, light and heavy industries as well as steel and vanadium operations.

#### **5.4 A coal mining heritage**

Coal mining on the Eastern Highveld is now older than one century and has become the most important coal mining region in South Africa. Whilst millions of tons of high-grade coal are annually exported overseas more than 80% of the country's electricity is generated on low-grade coal in Eskom's power stations such as Duvha, Matla and Arnot situated near coalmines on the Eastern Highveld.

The earliest use of coal (charcoal) in South Africa was during the Iron Age (300-1880AD) when metal workers used charcoal, iron and copper ores and fluxes (quartzite stone and bone) to smelt iron and copper in clay furnaces.

Colonists are said to have discovered coal in the French Hoek Valley near Stellenbosch in the Cape Province in 1699. The first reported discovery of coal in the interior of South Africa was in the mid-1830 when coal was mined in Kwa Zulu/Natal.

The first exploitation for coal was probably in Kwa Zulu/Natal as documentary evidence refers to a wagon load of coal brought to Pietermaritzburg to be sold in 1842. In 1860 the coal trade started in Dundee when a certain Pieter Smith charged ten shillings for a

load of coal dug by the buyer from a coal outcrop in a stream. In 1864 a coal mine was opened in Molteno. The explorer, Thomas Baines mentioned that farmers worked coal deposits in the neighbourhood of Bethal (Transvaal) in 1868. Until the discovery of diamonds in 1867 and gold on the Witwatersrand in 1886, coal mining only satisfied a very small domestic demand.

With the discovery of gold in the Southern Transvaal and the development of the gold mining industry around Johannesburg came the exploitation of the Boksburg-Spring coal fields, which is now largely worked out. By 1899, at least four collieries were operating in the Middelburg-Witbank district, also supplying the gold mining industry. At this time coal mining also has started in Vereeniging. The Natal Collieries importance was boosted by the need to find an alternative for imported Welsh anthracite used by the Natal Government Railways.

By 1920 the output of all operating colliers in South Africa attained an annual figure of 9,5million tonnes. Total in-situ reserves were estimated to be 23 billion tonnes in Witbank-Springs, Natal and Vereeniging. The total in situ reserves today are calculated to be 121 billion tonnes. The largest consumers of coal are Sasol, Iscor and Eskom.

## **5.5 A vernacular stone architectural heritage**

A unique stone architectural heritage was established in the Eastern Highveld from the second half of the 19<sup>th</sup> century well into the early 20<sup>th</sup> century. During this time period stone was used to build farmsteads and dwellings, both in urban and in rural areas. Although a contemporary stone architecture also existed in the Karoo and in the Eastern Free State Province of South Africa a wider variety of stone types were used in the Eastern Highveld. These included sandstone, ferricrete ('ouklip'), dolerite ('blouklip'), granite, shale and slate.

The origins of a vernacular stone architecture in the Eastern Highveld may be ascribed to various reasons of which the ecological characteristics of the region may be the most important. Whilst this region is generally devoid of any natural trees which could be used as timber in the construction of farmsteads, outbuildings, cattle enclosures and other structures, the scarcity of fire wood also prevented the manufacture of baked clay



bricks. Consequently stone served as the most important building material in the Eastern Highveld (Naude 1993, 2000). One of these historical structures were excavated and described after a heritage mitigation project was conducted for a coal mine (Pistorius 2005).

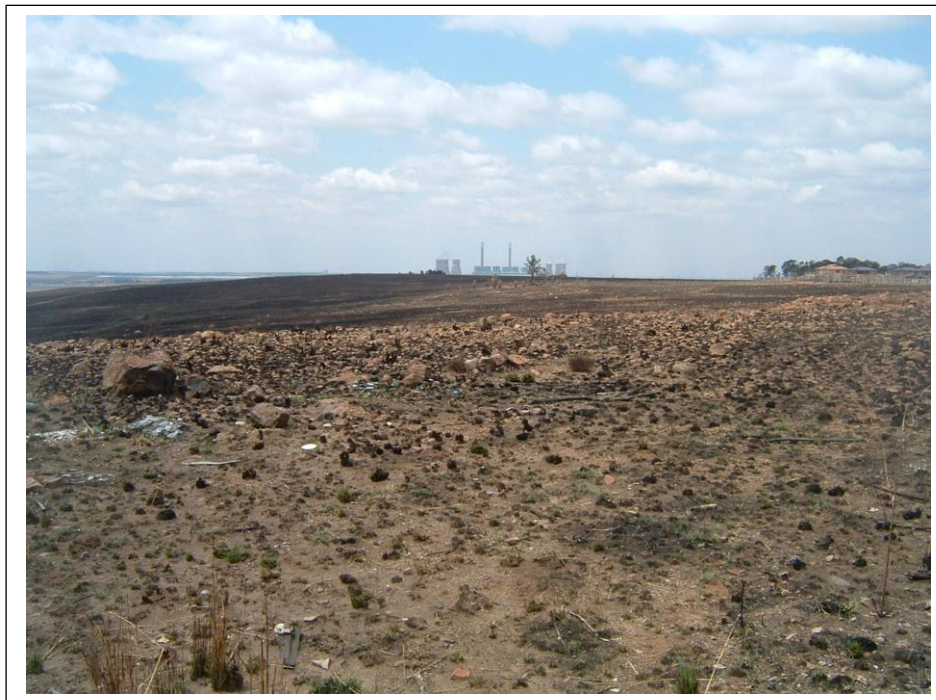
LIA Sotho, Pedi, Ndebele and Swazi communities contributed to the Eastern Highveld's stone walled architecture. The tradition set by these groups influenced settlers from Natal and the Cape Colony to utilize the same resources to construct dwellings and shelters. Farmers from Scottish, Irish, Dutch, German and Scandinavian descend settled and farmed in the Eastern Highveld. They brought the knowledge of stone masonry from Europe. This compensated for the lack of fire wood on the eastern Highveld which was necessary to bake clay bricks.

## 6 THE PHASE I HERITAGE IMPACT ASSESSMENT

### 6.1 The fieldwork survey

The fieldwork survey was undertaken in 2006 and a vehicle was used along the borders of the Project Area where accessible roads existed. The main focus of the survey, however, involved a pedestrian survey which was conducted across the Project Area. The pedestrian survey focussed on parts of the grass veld where it seemed as if disturbances may have occurred in the past, e.g. bald spots in the grass veld; stands of grass which are taller than the surrounding grass veld; the presence of exotic trees; evidence for building rubble, and ecological indicators such as invader weeds.

The following photographs illuminate the nature and character of the Project Area.



**Figure 6- The Project Area is undulating with a higher southern elevation where residential areas have already been established along the borders of the proposed new Valleyview residential development (above).**



**Figures 7 & 8- The northern edge of the Project Area incorporates a higher located area with rocky ridges (above and below).**





**Figures 9 & 10- A drainage line bisects the proposed residential development into two halves. This area was unsuitable for utilization such as occupation in the past as it was filled with running water during the summer rainy season (above and below).**



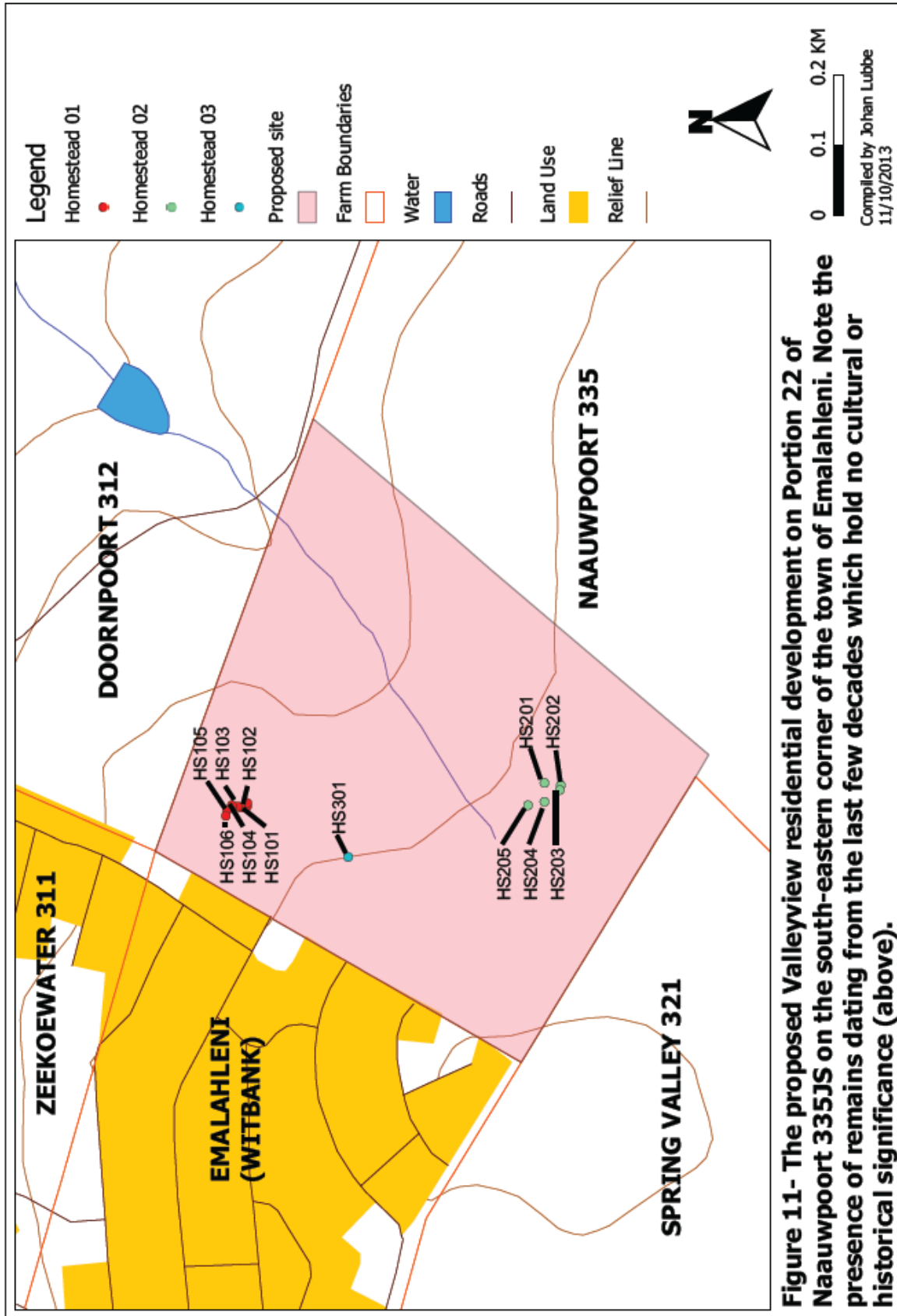
## **6.2 Types and ranges of heritage resources**

The Phase I HIA study for the proposed new residential development revealed the following types and ranges of heritage resources (as outlined in Section 3 of the National Heritage Resources Act [No 25 of 1999]) in the Project Area:

- Remains which do not hold any cultural historical significance.

(A water buck pump which used to exist in the Project Area could not be located and was probably removed since the last survey was done in 2006).

The Phase I HIA study is now briefly discussed and illuminated with photographs. Most of the remains which do not hold any cultural historical significance were geo-referenced and mapped and their levels of significance is indicated (Figure 11; Table 1).



**Figure 1.1- The proposed Valleyview residential development on Portion 22 of Naaupoort 335JS on the south-eastern corner of the town of Emalahleni. Note the presence of remains dating from the last few decades which hold no cultural or historical significance (above).**

## **6.2.1 Remains with no cultural historical significance**

Remains which hold no cultural historical significance occur in the Project Area, namely:

- Household remains that date from the last few decades consisting of foundations for houses, middens and scatters of household debris such as glass ware and tin plate.
- Ruins of dwellings which were occupied until recently and which are associated with wrecks of vehicle and other modern household rubbish.

### **6.2.1.1 Homesteads from the last few decades**

Small homesteads were located in the Project Area during the past few decades. These homesteads consisted of dwellings that were grouped together.

Each cluster of homesteads may have contained as many as three to six or seven dwellings. These dwellings were constructed with stone and clay foundations on which clay and/or brick walls were constructed.

All the residences were square or rectangular. They are associated with middens composed of ash, fragments of coal and modern household debris.

The houses were probably covered with corrugated iron roofs.

Three clusters of homesteads (HS1, HS2 and HS3) were geo-referenced and mapped (Figures 12 &, 13; Table 1).

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**Figures 13 & 14- Remains of one of several homesteads which date from the last few decades. These square houses were constructed with clay and stone foundations whilst the walls were built with clay. These remains have to a large extent disintegrated and hold no cultural or historical significance (above and below).**





### 6.2.1.2 Ruins of temporary dwellings from the recent past

The ruins of temporary houses that were occupied, abandoned and which have disintegrated also occur near the north-eastern corner of the Project Area. These remains date from the recent past and are associated with modern household rubbish.

These remains were not photographed or mapped as they hold no historical or cultural significance.

### 6.3 Table

Table that outline the coordinates and significance rating for the remains which date from the last few decades are the following:

<b>Homestead 01: features</b>	<b>Coordinates</b>	<b>Significance</b>
HS101 Midden	25° 54.590'; 29° 16.489'	LOW
HS102 Dwelling	25° 54.590'; 29° 16.492'	LOW
HS103 Midden	25° 54.585'; 29° 16.488'	LOW
HS103 Dwelling	25° 54.582'; 29° 16.489'	LOW
HS104 Pit (toilet?)	25° 54.577'; 29° 16.488'	LOW
HS105 Dwelling	25° 54.577'; 29° 16.490'	LOW
HS105 Three stones	25° 54.573'; 29° 16.486'	LOW
HS106 Midden	25° 54.572'; 29° 16.481'	LOW
<b>Homestead 02: features</b>		
HS201 Midden	25° 54.843'; 29° 16.509'	LOW
HS202 Dwelling	25° 54.857'; 29° 16.507'	LOW
HS203 Heap of soil (dwelling?)	25° 54.856'; 29° 16.503'	LOW
HS204 Dwelling	25° 54.843'; 29° 16.493'	LOW
HS205 Dwelling	25° 54.829'; 29° 16.490'	LOW
<b>Homestead 03: features</b>		
HS301 Dwelling	25° 54.676'; 29° 16.446'	LOW

**Table 1- Coordinates for remains from the last few decades which hold no historical or cultural significance (above).**

## **7 THE SIGNIFICANCE, POSSIBLE IMPACT ON AND THE MITIGATION OF THE HERITAGE RESOURCES**

### **7.1 Possible impact on remains from the last few decades**

It is highly likely that all the remains which date from the last few decades will be affected (destroyed) when either Alternative 01 or Alternative 02 for the proposed Valleyview residential development is implemented.

### **7.2 The significance of the remains from the last few decades**

The remains from the last few decades have no cultural or historical significance as these remains date from the recent past.

### **7.3 The significance of the impact on remains from the last few decades**

The significance of the impact on the remains from the recent past was determined using a ranking scale based on the following criteria:

- Occurrence
  - Probability of occurrence (how likely is it that the impact may/will occur?), and
  - Duration of occurrence (how long may/will it last?)
- Severity
  - Magnitude (severity) of impact (will the impact be of high, moderate or low severity?), and
  - Scale/extent of impact (will the impact affect the national, regional or local environment, or only that of the site?).

Each of these factors has been assessed for each potential impact using the following ranking scales:

<b>Probability:</b> 5 – Definite/don't know 4 – Highly probable 3 – Medium probability 2 – Low probability 1 – Improbable 0 – None	<b>Duration:</b> 5 – Permanent 4 - Long-term (ceases with the operational life) 3 - Medium-term (5-15 years) 2 - Short-term (0-5 years) 1 – Immediate
<b>Scale:</b> 5 – International 4 – National 3 – Regional 2 – Local 1 – Site only 0 – None	<b>Magnitude:</b> 10 - Very high/don't know 8 – High 6 – Moderate 4 – Low 2 – Minor

The environmental significance of each potential impact was assessed using the following formula:

$$\text{Significance Points (SP)} = (\text{Magnitude} + \text{Duration} + \text{Scale}) \times \text{Probability}$$

The maximum value is 100 Significance Points (SP). Potential environmental impacts are rated as very high, high, moderate, low or very low significance on the following basis:

- More than 80 significance points indicates VERY HIGH environmental significance.
- Between 60 and 80 significance points indicates HIGH environmental significance.
- Between 40 and 60 significance points indicates MODERATE environmental significance.
- Between 20 and 40 significance points indicates LOW environmental significance.
- Less than 20 significance points indicates VERY LOW environmental significance.

The significance of the impact on the remains from the past few decades is very low (Table 2).

	Status	Magnitude	Scale	Duration	Probability	Significance points	Significance rating
Remains last few decades	-	2	1	1	5	20	Very low

**Table 2: Significance of potential impacts on remains from the last few decades (above).**

#### **7.4 Mitigation the impact on the remains from the last few decades**

No mitigation measures are needed for the remains from the last few decades.

## **8 CONCLUSION AND RECOMMENDATIONS**

The Phase I HIA study for the proposed new residential development revealed the following types and ranges of heritage resources (as outlined in Section 3 of the National Heritage Resources Act [No 25 of 1999]) in the Project Area:

- Remains which do not hold any cultural historical significance.

(A water buck pump which used to exist in the Project Area could not be located and was probably removed since the last survey was done in 2006).

### **Possible impact on remains from the last few decades**

It is highly likely that all the remains which date from the last few decades will be affected (destroyed) when either Alternative 01 or Alternative 02 for the proposed Valleyview residential development is implemented.

### **The significance of the remains from the last few decades**

The remains from the last few decades have no cultural or historical significance as these remains date from the recent past.

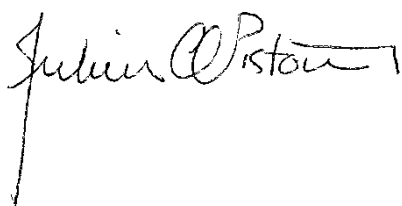
### **The significance of the impact on remains from the last few decades**

The significance of the impact on the remains from the recent past was determined using a ranking scale based on various criteria.

The significance of the impact on the remains from the past few decades is very low (Table 2).

### **Mitigation the impact on the remains from the last few decades**

No mitigation measures are needed for the remains from the last few decades.



**DR JULIUS CC PISTORIUS**

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## **APPENDIX A: DETAILS OF THE SPECIALIST**

**Profession:** Archaeologist, Museologist (Museum Scientists), Lecturer, Heritage Guide Trainer and Heritage Consultant

**Qualifications:**

BA (Archaeology, Anthropology and Psychology) (UP, 1976)

BA (Hons) Archaeology (distinction) (UP, 1979)

MA Archaeology (distinction) (UP, 1985)

D Phil Archaeology (UP, 1989)

Post Graduate Diploma in Museology (Museum Sciences) (UP, 1981)

**Work experience:**

Museum curator and archaeologist for the Rustenburg and Phalaborwa Town Councils (1980-1984)

Head of the Department of Archaeology, National Cultural History Museum in Pretoria (1988-1989)

Lecturer and Senior lecturer Department of Anthropology and Archaeology, University of Pretoria (1990-2003)

Independent Archaeologist and Heritage Consultant (2003-)

**Accreditation:** Member of the Association for Southern African Professional Archaeologists. (ASAPA)

**Summary:** Julius Pistorius is a qualified archaeologist and heritage specialist with extensive experience as a university lecturer, museum scientist, researcher and heritage consultant. His research focussed on the Late Iron Age Tswana and Lowveld-Sotho (particularly the Bamalatji of Phalaborwa). He has published a book on early Tswana settlement in the North-West Province and has completed an unpublished manuscript on the rise of Bamalatji metal workings spheres in Phalaborwa during the last 1 200 years. He has excavated more than twenty LIA settlements in North-West and twelve IA settlements in the Lowveld and has mapped hundreds of stone walled sites in the North-West. He has written a guide for Eskom's field personnel on heritage management. He has published twenty scientific papers in academic journals and several popular articles on archaeology and heritage matters. He collaborated with environmental companies in compiling State of the Environmental Reports for Ekurhuleni, Hartebeespoort and heritage management plans for the Magaliesberg and Waterberg. Since acting as an independent consultant he has done approximately 800 large to small heritage impact assessment reports. He has a longstanding working relationship with Eskom, Rio Tinto (PMC), Rio Tinto (EXP), Impala Platinum, Angloplats (Rustenburg), Lonmin, Sasol, PMC, Foskor, Kudu and Kelgran Granite, Bafokeng Royal Resources etc. as well as with several environmental companies.

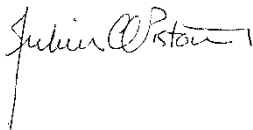
## APPENDIX B: DECLARATION OF INDEPENDENCE

I, Julius CC Pistorius, declare that:

- I act as the independent environmental practitioner in this application
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting environmental impact assessments, including knowledge of the National Heritage Resources Act (No 25 of 1999) and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, regulations and all other applicable legislation;
- I will take into account, to the extent possible, the matters listed in regulation 8 of the regulations when preparing the application and any report relating to the application;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- I will ensure that information containing all relevant facts in respect of the application is distributed or made available to interested and affected parties and the public and that participation by interested and affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced to support the application;
- I will ensure that the comments of all interested and affected parties are considered and recorded in reports that are submitted to the competent authority in respect of the application, provided that comments that are made by interested and affected parties in respect of a final report that will be submitted to the competent authority may be attached to the report without further amendment to the report;
- I will keep a register of all interested and affected parties that participated in a public participation process; and
- I will provide the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not
- all the particulars furnished by me in this form are true and correct;
- will perform all other obligations as expected from an environmental assessment practitioner in terms of the Regulations; and
- I realise that a false declaration is an offence in terms of regulation 71 and is punishable in terms of section 24F of the Act.

### Disclosure of Vested Interest

I do not have and will not have any vested interest (either business, financial, personal or other) in the proposed activity proceeding other than remuneration for work performed in terms of the Environmental Impact Assessment Regulations, 2010.



Signature of the environmental practitioner:  
Private Consultant

Name of company:  
10 October 2013

Date:

Signature of the Commissioner of Oaths:

Date:

Designation: