

# ARCHAEOLOGICAL IMPACT ASSESSMENT

## FOR THE PROPOSED NIETGEDACHT BUILDING WASTE STORAGE, HANDLING AND DISTRIBUTION FACILITY, GAUTENG PROVINCE

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## General

The possibility of unmarked or informal graves and subsurface finds cannot be excluded. If any possible finds are made during construction, the operations must be stopped and a qualified archaeologist contacted for an assessment of the find/s.

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## **EXECUTIVE SUMMARY**

**Site name and location:** The proposed Nietgedacht building waste storage, handling and distribution facility (study site) is located on Portion 31 of the farm Nietgedacht 535 JQ, within Ward 96 of the City of Johannesburg Metropolitan Municipality.

The site is situated adjacent to the N14 highway between Roodepoort and Centurion and the provincial road 1027 is located immediately south of the site.

**1: 50 000 Topographic Map:** 2527 DD.

**EIA Consultant:** Prism EMS

**Developer:** Sand Shifters CC

**Heritage Consultant:** Heritage Contracts and Archaeological Consulting CC (HCAC).

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**Date of Report:** 15 February 2016.

### **Findings of the Assessment:**

During the survey of the study area no surface indicators of archaeological (Stone or Iron Age) material was identified. Other studies in the area similarly recorded no sites of archaeological significance e.g. Kusel (2007), van Schalkwyk (2013) van der Walt (2015 a and b).

In terms of the built environment of the area (Section 34), no standing structures older than 60 years occur in the study area. In terms of the archaeological component of Section 35 no archaeological features or material was recorded in the study area. In terms of section 36 no graves or cemeteries was recorded inside the development, although a cemetery was recorded located well outside of the development footprint and no further action is necessary for this aspect.

Due to the lack of significant heritage features in the study area there is from an archaeological point of view no reason why the development cannot commence based on approval from SAHRA.

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## ABBREVIATIONS

AIA: Archaeological Impact Assessment
ASAPA: Association of South African Professional Archaeologists
BIA: Basic Impact Assessment
CRM: Cultural Resource Management
ECO: Environmental Control Officer
EIA: Environmental Impact Assessment*
EIA: Early Iron Age*
EIA Practitioner: Environmental Impact Assessment Practitioner
EMP: Environmental Management Plan
ESA: Early Stone Age
GPS: Global Positioning System
HIA: Heritage Impact Assessment
LIA: Late Iron Age
LSA: Late Stone Age
MEC: Member of the Executive Council
MIA: Middle Iron Age
MPRDA: Mineral and Petroleum Resources Development Act
MSA: Middle Stone Age
NEMA: National Environmental Management Act
PRHA: Provincial Heritage Resource Agency
SADC: Southern African Development Community
SAHRA: South African Heritage Resources Agency

*\*Although EIA refers to both Environmental Impact Assessment and the Early Iron Age both are internationally accepted abbreviations and must be read and interpreted in the context it is used.*

## GLOSSARY

Archaeological site (remains of human activity over 100 years old)

Early Stone Age (~ 2.6 million to 250 000 years ago)

Middle Stone Age (~ 250 000 to 40-25 000 years ago)

Later Stone Age (~ 40-25 000, to recently, 100 years ago)

The Iron Age (~ AD 400 to 1840)

Historic (~ AD 1840 to 1950)

Historic building (over 60 years old)



## 1 BACKGROUND INFORMATION

Heritage Contracts and Archaeological Consulting CC (**HCAC**) was appointed to conduct an Archaeological Impact Assessment for the proposed Nietgedacht project as part of the Basic Assessment process.

The aim of the study is to identify cultural heritage sites, document, and assess their importance within local, provincial and national context. It serves to assess the impact of the proposed project on non-renewable heritage resources, and to submit appropriate recommendations with regard to the responsible cultural resources management measures that might be required to assist the developer in managing the discovered heritage resources in a responsible manner. It is also conducted to protect, preserve, and develop such resources within the framework provided by the National Heritage Resources Act of 1999 (Act 25 of 1999).

The report outlines the approach and methodology utilized before and during the survey, which includes: Phase 1, a desktop study that includes collection from various sources and consultations; Phase 2, the physical surveying of the study area on foot and by vehicle; Phase 3, reporting the outcome of the study.

General site conditions were recorded by means of photographs, GPS locations, and site descriptions. Possible impacts were identified and mitigation measures are proposed in the following report.

This report must also be submitted to the SAHRA for review.

## **1.1. Terms of Reference**

### **Desktop study**

Conduct a brief desktop study where information on the area is collected to provide a background setting of the archaeology that can be expected in the area.

### **Field study**

Conduct a field study to: a) systematically survey the proposed project area to locate, identify, record, photograph and describe sites of archaeological, historical or cultural interest; b) record GPS points identified as significant areas; c) determine the levels of significance of the various types of heritage resources recorded in the project area.

### **Reporting**

Report on the identification of anticipated and cumulative impacts the operational units of the proposed project activity may have on the identified heritage resources for all 3 phases of the project; i.e., construction, operation and decommissioning phases. Consider alternatives, should any significant sites be impacted adversely by the proposed project. Ensure that all studies and results comply with Heritage legislation and the code of ethics and guidelines of ASAPA.

To assist the developer in managing the discovered heritage resources in a responsible manner, and to protect, preserve, and develop them within the framework provided by the National Heritage Resources Act of 1999 (Act 25 of 1999).

## **1.2. Archaeological Legislation and Best Practice**

Phase 1, an AIA or a HIA is a pre-requisite for development in South Africa as prescribed by SAHRA and stipulated by legislation. The overall purpose of a heritage specialist input is to:

- » Identify any heritage resources, which may be affected;
- » Assess the nature and degree of significance of such resources;
- » Establish heritage informants/constraints to guide the development process through establishing thresholds of impact significance;
- » Assess the negative and positive impact of the development on these resources;
- » Make recommendations for the appropriate heritage management of these impacts.

The AIA or HIA, as a specialist sub-section of the EIA, is required under the National Heritage Resources Act NHRA of 1999 (Act 25 of 1999), Section 23(2) (b) of the NEMA and section S. 39 (3) (b) (iii) of the MPRDA.

The AIA should be submitted, as part of the EIA, BIA or EMP, to the PHRA if established in the province or to SAHRA. SAHRA will be ultimately responsible for the professional evaluation of Phase 1 AIA reports upon which review comments will be issued. 'Best practice' requires Phase 1 AIA reports and additional development information, as per the EIA, BIA/EMP, to be submitted in duplicate to SAHRA after completion of the study. SAHRA accepts Phase 1 AIA reports authored by professional archaeologists, accredited with ASAPA or with a proven ability to do archaeological work.

Minimum accreditation requirements include an Honours degree in archaeology or related discipline and 3 years post-university CRM experience (field supervisor level).

Minimum standards for reports, site documentation and descriptions are set by ASAPA in collaboration with SAHRA. ASAPA is based in South Africa, representing professional archaeology in the SADC region. ASAPA is primarily involved in the overseeing of ethical practice and standards regarding the archaeological profession. Membership is based on proposal and secondment by other professional members.

Phase 1 AIA's are primarily concerned with the location and identification of sites situated within a proposed development area. Identified sites should be assessed according to their significance. Relevant conservation or Phase 2 mitigation recommendations should be made. Recommendations are subject to evaluation by SAHRA.

Conservation or Phase 2 mitigation recommendations, as approved by SAHRA, are to be used as guidelines in the developer's decision making process.

Phase 2 archaeological projects are primarily based on salvage/mitigation excavations preceding development destruction or impact on a site. Phase 2 excavations can only be conducted with a permit, issued by SAHRA to the appointed archaeologist. Permit conditions are prescribed by SAHRA and includes (as minimum requirements) reporting back strategies to SAHRA and deposition of excavated material at an accredited repository.

In the event of a site conservation option being preferred by the developer, a site management plan, prepared by a professional archaeologist and approved by SAHRA, will suffice as minimum requirement.

After mitigation of a site, a destruction permit must be applied for from SAHRA by the client before development may proceed.

Human remains older than 60 years are protected by the National Heritage Resources Act, with reference to Section 36. Graves older than 60 years, but younger than 100 years fall under Section 36 of Act 25 of 1999 (National Heritage Resources Act), as well as the Human Tissues Act (Act 65 of 1983), and are the jurisdiction of SAHRA. The procedure for Consultation Regarding Burial Grounds and Graves (Section 36[5]) of Act 25 of 1999) is applicable to graves older than 60 years that are situated outside a formal cemetery administrated by a local authority. Graves in this age category, located inside a formal cemetery administrated by a local authority, require the same authorisation as set out for graves younger than 60 years, in addition to SAHRA authorisation. If the grave is not situated inside a formal cemetery, but is to be relocated to one, permission from the local authority is required and all regulations, laws and by-laws, set by the cemetery authority, must be adhered to.

Human remains that are less than 60 years old are protected under Section 2(1) of the Removal of Graves and Dead Bodies Ordinance (Ordinance no. 7 of 1925), as well as the Human Tissues Act (Act 65 of 1983), and are the jurisdiction of the National Department of Health and the relevant Provincial Department of Health and must be submitted for final approval to the office of the relevant Provincial Premier. This function is usually delegated to the Provincial MEC for Local Government and Planning; or in some cases, the MEC for Housing and Welfare. Authorisation for exhumation and reinternment must also be obtained from the relevant local or regional council where the grave is situated, as well as the relevant local or regional council to where the grave is being relocated. All local and regional provisions, laws and by-laws must also be adhered to. To handle and transport human remains, the institution conducting the relocation should be authorised under Section 24 of Act 65 of 1983 (Human Tissues Act).

### **1.3. Description of Study Area**

#### **1.3.1 Location Data**

The proposed building waste storage, handling, and distribution facility (study site) is located on Portion 31 of the farm Nietgedacht 535 JQ, within Ward 96 of the City of Johannesburg Metropolitan Municipality. The site is situated adjacent to the N14 highway between Roodepoort and Centurion that forms the north western boundary and the provincial road, 1027, is located immediately south of the site (Figure 1). The site is located approximately 4 km south of Lanseria Airport. The study area measures approximately 8 ha.

#### **Coordinates of the Property Access Road:**

Latitude: 25° 58' 46.21"S

Longitude: 27° 56' 0.52"E



## 1.3.2. Location Map

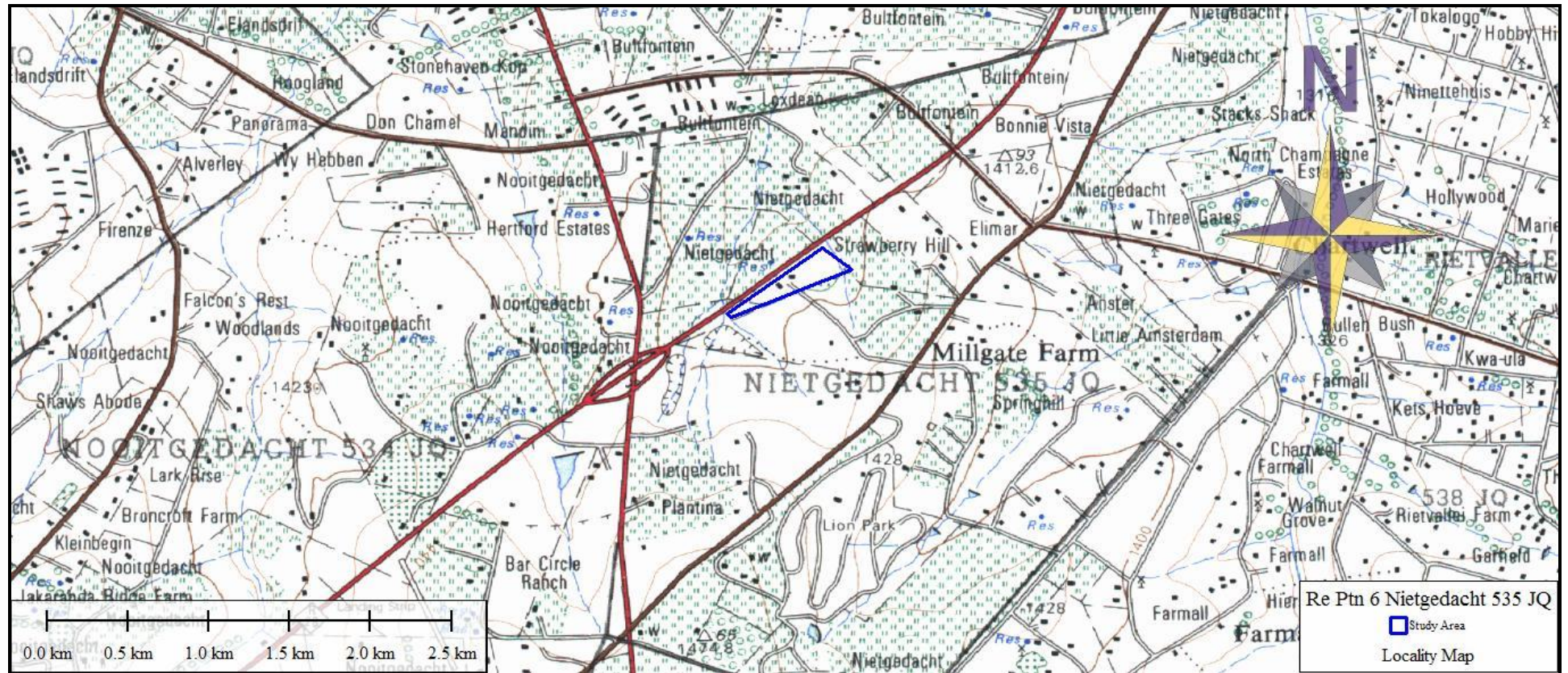


Figure 1: Location map

## **2. APPROACH AND METHODOLOGY**

The aim of the study is to cover archaeological databases to compile a background of the archaeology that can be expected in the study area followed by field verification; this was accomplished by means of the following phases.

### **2.1 Phase 1 - Desktop Study**

The first phase comprised desktop, scanning existing records for archaeological sites, historical sites, graves, architecture (structures older than 60 years) of the area. The following approach was followed:

#### ***2.1.1 Literature Search***

This was conducted by utilising data stored in the national archives and published reports relevant to the area. The aim of this is to extract data and information on the area in question.

#### ***2.1.2 Information Collection***

SAHRIS was consulted to collect data from previously conducted CRM projects in the region to provide a comprehensive account of the history of the study area.

#### ***2.1.3 Consultation***

No public consultation was done by the author as this was done independently as part of the BA.

#### ***2.1.4 Google Earth and Mapping Survey***

Google Earth and 1:50 000 maps of the area were utilised to identify possible places where sites of heritage significance might be located.

#### ***2.1.5 Genealogical Society of South Africa***

The database of the Genealogical Society was consulted to collect data on any known graves in the area.

### **2.2 Phase 2 - Physical Surveying**

Due to the nature of cultural remains, the majority of which occurs below surface, a field survey of the proposed development was conducted. The study area was surveyed by means of vehicle and extensive pedestrian surveys on 22 January 2016. The survey was aimed at covering the proposed development footprint, focussing on specific areas on the landscape that would be more likely to contain archaeological and/or other heritage remains like drainage lines, rocky outcrops as well as slight elevations in the natural topography. These areas were searched more intensively, but many other areas were walked in order to confirm expectations in those areas. Track logs of the areas covered were taken (Figure 2).





Figure 2: Track logs of the areas surveyed indicated in black with the development footprint indicated in blue.

### **2.3. Restrictions**

Due to the fact that most cultural remains may occur below surface, the possibility exists that some features or artefacts may not have been discovered/ recorded during the survey and the possible occurrence of unmarked graves and other cultural material cannot be excluded. This report only deals with the footprint area of the proposed development as indicated in the location map.

Although HCAC surveyed the area as thoroughly as possible, it is incumbent upon the developer to stop operations and inform the relevant heritage agency should further cultural remains, such as graves, stone tool scatters, artefacts, bones or fossils, be exposed during the process of development.

### **3. NATURE OF THE DEVELOPMENT**

Sand Shifters are proposing the development of the waste handling and storage facility for functions associated with the movement, treatment, recycling and processing of the rubble and construction waste to recyclable materials and/or saleable products.



## 4. HISTORICAL AND ARCHAEOLOGICAL BACKGROUND OF THE STUDY AREA

### 4.1 Databases Consulted

Twenty four sites are on record for the larger geographical area at the Wits database. These sites consist of Stone Age (ESA & LSA), Late Iron Age, engraving sites and cemeteries. None of these sites are located within or close to the project area but provide a background of to the sites that can be expected. Numerous previous CRM projects were conducted in the general vicinity of the study area. The studies include a township development project completed by Kitto and Fourie (2013). They recorded three sites including grave sites. Kusel (2007) conducted a study and identified no sites of significance. Van Schalkwyk (2013) and Van der Walt (2015 a and b) also recorded no sites during his study. Pelser (2011) recorded informal cemeteries, but no other sites of significance.

### *Genealogical Society and Google Earth Monuments*

No cemeteries are indicated for the farm under investigation. There is however several cemeteries indicated for the farm Nooitgedacht 534 JQ directly to the west. These cemeteries will not be impacted on by the proposed development.

### 4.2. Brief background to the study area

This section will endeavour to give a brief overview of the history of the wider area and district in which the farm is located.

#### » 4.2.1. Historiography and Methodology

A farm does not exist in isolation and the history of the surrounding area will be briefly discussed. Sources for the history of the area surrounding the study area include secondary source material, maps, electronic sources and archival documents. A brief history of human settlement and black and white interaction in the area is included in this report. The source of J. S. Bergh (1999) will be used to write a short history of the area.

#### » 4.2.2. Historical background of the area

Excavations by Mason (1997) at the Boulders shopping centre (approximately 20 km to the east of the current study area) was aimed at interpreting the cultural layering of the Midrand area and provides a good platform for understanding the cultural use of the wider landscape. He identified 7 occupational layers in his excavations that can be broadly divided into Stone Age, Iron Age and historical occupations.

The Stone Age can be divided in three main phases as follows;

- Later Stone Age; associated with Khoi and San societies and their immediate predecessors. Recently to ~30 thousand years ago
- Middle Stone Age; associated with Homo sapiens and archaic modern humans. 30-300 thousand years ago.
- Earlier Stone Age; associated with early Homo groups such as Homo habilis and Homo erectus. 400 000-> 2 million years ago.

Remains dating to all three of these phases were identified by Mason at the Boulders shopping Centre site, MSA and LSA material was also recorded at Glenn Ferness cave. The Iron Age of the region consists of Tswana speaking people who settled in the area from the early 16<sup>th</sup> century.

J. S. Bergh's historical atlas of the four northern provinces of South Africa is a very useful source for the writing of local and regional history. Interestingly, it seems that the study area is located about 32 km north of the Melville Koppies, which is a Middle Stone-Age site. (Bergh 1999: 4) This area was also important to Iron Age communities, since these people had smelted and worked iron ore at the Melville Koppies site since the year 1060, by approximation. (Bergh 1999: 7, 87)

Regarding the Iron Age, the Smelting Site at Melville Koppies requires further mention. The site was excavated by Professor Mason from the Department of Archaeology of WITS in the 1980's. Extensive Stone walled sites are also recorded further South at Klipriviers Berg Nature reserve belonging to the Late Iron Age period. A large body of research is available on this area. These sites (Taylor's Type N, Mason's Class 2 & 5) are now collectively referred to as Klipriviersberg (Huffman 2007). These settlements are complex in that aggregated settlements are common, the outer wall sometimes includes scallops to mark back courtyards, there are more small stock kraals, and straight walls separate households in the residential zone. These sites dates to the 18th and 19th centuries and was built by people in the Fokeng cluster.

In this area the Klipriviersberg walling would have ended at about AD 1823, when Mzilikazi entered the area (Rasmussen 1978). This settlement type may have lasted longer in other areas because of the positive interaction between Fokeng and Mzilikazi.

The Difaqane (Sotho), or Mfekane ("the crushing" in Nguni) was a time of bloody upheavals in Natal and on the Highveld, which occurred around the early 1820's until the late 1830's. (Bergh 1999: 10). It came about in response to heightened competition for land and trade, and caused population groups like gun-carrying Griquas and Shaka's Zulus to attack other tribes. (Bergh 1999: 14; 116-119) It seems that, in 1827, Mzilikazi's Ndebele started moving through the area where Johannesburg is located today. This group went on raids to various other areas in order to expand their area of influence. (Bergh 1999: 11).

During the time of the Difaqane, a northwards migration of white settlers from the Cape was also taking place. Some travellers, missionaries and adventurers had gone on expeditions to the northern areas in South Africa, some already as early as the 1720's. It was however only by the late 1820's that a mass-movement of Dutch speaking people in the Cape Colony started advancing into the northern areas. This was due to feelings of mounting dissatisfaction caused by economical and other circumstances in the Cape. This movement later became known as the Great Trek.

This migration resulted in a massive increase in the extent of that proportion of modern South Africa dominated by people of European descent. (Ross 2002: 39) By 1939 to 1940, farm boundaries were drawn up in an area that includes the present-day Johannesburg and Krugersdorp. (Bergh 1999: 15).

The first settlers moved in the Midrand area in the 1820s, this included hunters, traders, missionaries and other travellers. Voortrekker farmers such as Frederik Andries Strydom and Johannes Elardus Erasmus established the farms Olifantsfontein and Randjesfontein respectively around the 1840's and this indicated permanent occupation of the area by white settlers. These early white settlers and their descendants were often buried on their farms and formal and informal graves and graveyards can be expected anywhere on the landscape (Van Schalkwyk 1998).

The Anglo-Boer War (1899-1902) also touched Midrand, and for a short period it was a key focus of the British war effort, when the British forces under Lord Roberts advanced through Midrand from Johannesburg en route to Pretoria. Pretoria was occupied on 5 June 1900. Some British military units were stationed close to the study area this includes the Escom Training Centre as well as Bibury Grange. No major battles took place in Midrand. Conflict in the area was defined by the Boer attempts to sabotage the railway line as well as attacks on troop trains. A notable incident was the successful Boer demolition of the railway culvert near the Pinedene Station. The railway had to be completely rebuilt by the Imperial Military Railways in 1901 (Van Schalkwyk 1998).

#### **4.2.2. Johannesburg**

The city of Johannesburg was formally established in 1886 with the discovery of gold and the Witwatersrand reef on the farm Langlaagte. This gold discovery set off an influx of people from all over the world into the settlement to find gold. The new settlement was named after two officials of the Zuid-Afrikaansche Republiek (ZAR), Christiaan Johannes Joubert and Johannes Rissik, who both worked in land surveying and mapping.

#### **4.2.3. History of Lanseria**

A dream of two aviation enthusiasts Fanie Haacke and Abe Sher in the 1970's to build the busiest airport in the country became a reality in 1974. Work began to build Johannesburg's alternative international airport, with an investment of R2,7 million (Lanseria.co.za).

The Minister of Planning, Mr JJ Loots explained the need for a new airport on 6 June 1972, and said the new facility would rival the only other large airport at the time, Jan smuts, amid protests from the local community. Just two years later, the airport started operating and opened its doors to privately operated aircraft (Lanseria.co.za).

In 1975 Lanseria International Airport hosted an air show called Air Africa International '75. This is an important event on the international aerospace calendar. Another air show was hosted in 1977. More than R 100 million rand worth of aircraft and equipment was displayed at the Aviation Africa Show. More international air shows followed in 1979 and 1981 and the crowds grew every year.

Lanseria housed 4 Impala Squadron and 41 Reconnaissance Squadron of the South African Air Force from May 1979 until 1991 (Lanseria.co.za).

In 1977, The Department of Transport published changes in regulations governing private and charter aircraft. "Lanseria Airport is to be the new terminal for all flights to and from South Africa by visiting aircraft registered in foreign countries and engaged in carrying passengers or cargo to South Africa for remuneration", the Gazette stated (Lanseria.co.za). . Lanseria Airport continued to grow and became the home base for several commercial airlines.

In 1990, Lanseria's co-owners, the Roodepoort and Krugersdorp Municipalities and the Transvaal Administrator, announced that the airport was to be sold. Tenders for the ownership and management of the airport were issued and the tender was awarded to a consortium of private investors in 1991.

When former President, Nelson Mandela, was released from prison in May 1990, he was flown to Johannesburg and the first time he set foot on Gauteng soil after such a long time, was onto the tarmac at Lanseria Airport (Lanseria.co.za).

## **5. HERITAGE SITE SIGNIFICANCE AND MITIGATION MEASURES**

The presence and distribution of heritage resources define a 'heritage landscape'. In this landscape, every site is relevant. In addition, because heritage resources are non-renewable, heritage surveys need to investigate an entire project area, or a representative sample, depending on the nature of the project. In the case of the proposed project the local extent of its impact necessitates a representative sample and only the footprint of the areas demarcated for development were surveyed. In all initial investigations, however, the specialists are responsible only for the identification of resources visible on the surface.

This section describes the evaluation criteria used for determining the significance of archaeological and heritage sites. The following criteria were used to establish site significance:

- » The unique nature of a site;
- » The integrity of the archaeological/cultural heritage deposits;
- » 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/is known);
- » The preservation condition of the sites;
- » Potential to answer present research questions.

Furthermore, The National Heritage Resources Act (Act No 25 of 1999, Sec 3) 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:

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

### 5.1. Field Rating of Sites

Site significance classification standards prescribed by SAHRA (2006), and acknowledged by ASAPA for the SADC region, were used for the purpose of this report. The recommendations for each site should be read in conjunction with section 7 of this report.

<b><i>FIELD RATING</i></b>	<b><i>GRADE</i></b>	<b><i>SIGNIFICANCE</i></b>	<b><i>RECOMMENDED MITIGATION</i></b>
National Significance (NS)	Grade 1	-	Conservation; national site nomination
Provincial Significance (PS)	Grade 2	-	Conservation; provincial site nomination
Local Significance (LS)	Grade 3A	High significance	Conservation; mitigation not advised
Local Significance (LS)	Grade 3B	High significance	Mitigation (part of site should be retained)
Generally Protected A (GP.A)	-	High/medium significance	Mitigation before destruction
Generally Protected B (GP.B)	-	Medium significance	Recording before destruction
Generally Protected C (GP.C)	-	Low significance	Destruction

## 6. BASELINE STUDY-DESCRIPTION OF SITES

It is important to note that the entire farm was not surveyed but only the development footprint. The topography of the study area is relatively flat gently sloping to the North West, the site is covered by veld grass and archaeological visibility is high (Figure 3 & 4).

The entire area in the north eastern section of the study area is disturbed by extensive earthworks and dumping activities (Figure 5, 6 and 9). These activities would have destroyed any surface indicators of any archaeological sites. A Building indicated on the 1970's topographic map is also destroyed by these activities; however some features were recorded in the study area (Figure 7). The remains of a dwelling indicated on the 1943 topographic map (Figure 8) was recorded as Feature 1. This structure is totally demolished and all that remains is a large rectangular cement slab (Figure 10) where the building used to stand measuring approximately 8 x 6 meters. Due to the extent of the demolition of the feature it is of no significance apart from being mentioned in this report. A modern dwelling (Figure 11 & 12) with outbuildings younger than 60 years was recorded as Feature 2. This plastered dwelling with a tile roof is neglected and as it is currently occupied it was not possible to gain access to the house. The site is not indicated on the 1943 maps of the area and only appears on the 1970's map of the area and is therefore not older than 60 years and not protected by legislation. A large cemetery with more than 20 graves was located **outside** (approximately 230 meters) and to the south of the development. The site is overgrown and the exact amount of graves is unknown (Figure 13).

No traces of any archaeological remains were identified during the survey and a search on archaeological data bases also yielded no known sites within the study area and no heritage significant sites were identified during the desktop study.

The area is characterised by informal settlements and no significant cultural landscapes or viewsapes were noted during the fieldwork.





Figure 3: Eastern portion of the study area.



Figure 4: Central and eastern portion of the study area.



Figure 5: Earthworks and dumping in the north eastern section of the study area.



Figure 6: Earthworks and dumping in the north eastern section of the study area.



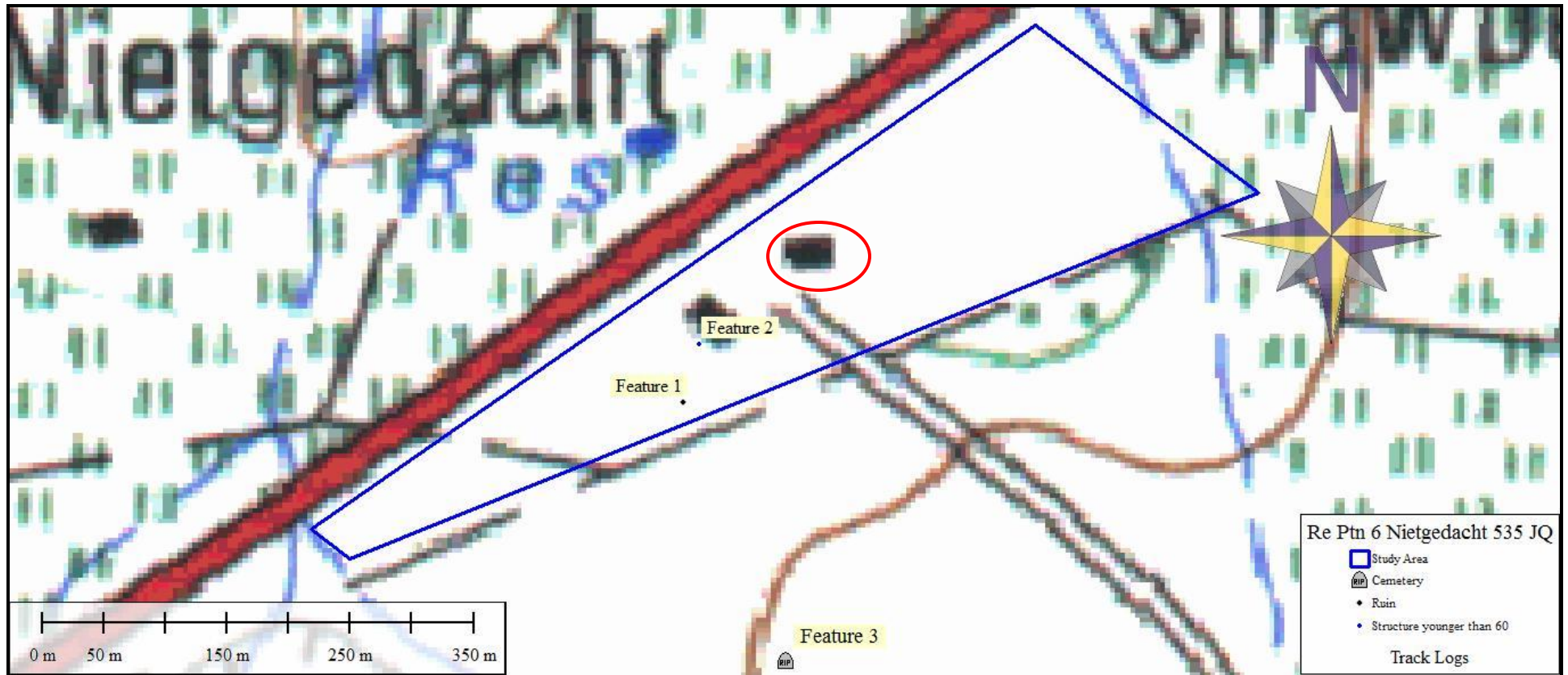


Figure 7: Site distribution map, also indicating a demolished house now located within the disturbed area, marked in red.

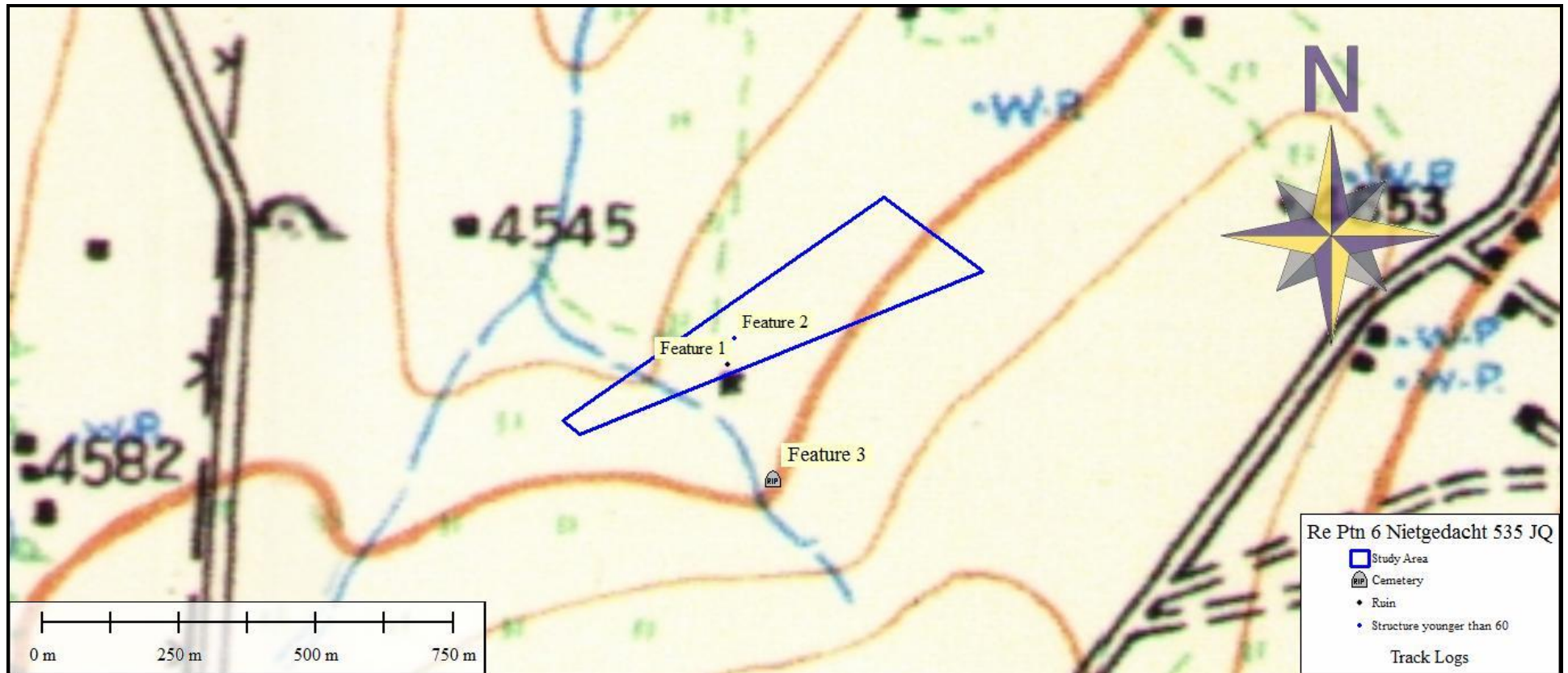


Figure 8: Extract of the 1943 topographical map.





Figure 9. Google Image of the study area, indicating the disturbed area characterised by dumping and ground moving area in red.



Figure 10: Demolished remains of Feature 1.



Figure 11: Out buildings at Feature 2.



Figure 12: Main dwelling at Feature 2.



Figure 13: Cemetery recorded as feature 3 viewed from the south.



## 7. CONCLUSIONS AND RECOMMENDATIONS

The north eastern portion of the study area is extensively disturbed by earthmoving activities and large scale dumping of building rubble that would have destroyed any surface indicators in this area. A dwelling indicated on the topographic maps of this area has been obliterated and no trace of this structure could be located during the survey.

HCAC was appointed to assess the study area in terms of the archaeological component of Section 35 of the NHRA. No raw material suitable for stone tool manufacture occur in the study area as the locally geology forms consist of granite and gneiss. No ceramics or stone walls attributed to the Iron Age occur in the area and archaeological features or artefacts were recorded within the study area. No further mitigation is recommended in terms of Section 35 for the proposed development to proceed.

In terms of the built environment of the area (Section 34), no standing buildings older than 60 years occur within the study area. The remains of a dwelling indicated on the 1943 topographic map was recorded as Feature 1 and is older than 60 years. This structure is totally demolished and all that remains is a large rectangular cement slab where the building used to stand measuring approximately 8 x 6 meters. Due to the extent of the demolishment of the feature it is of no significance apart from being mentioned in this report. A modern dwelling with outbuildings younger than 60 years was recorded as Feature 2. The site is not located on the 1943 maps of the area and only appears on the 1970's map of the area and is therefore not older than 60 years and not protected by legislation and no further action is necessary for this aspect. For the current project proposal this building will not be impacted in the immediate future.

In terms of Section 36 of the Act a single cemetery was recorded located **approximately 230 meters outside** of the development footprint. The cemetery is not located close to the existing access roads or activity areas associated with the proposed project and no impact is expected on this feature. Therefore no further mitigation is recommended at this point.

The area is characterised by informal settlements and no significant cultural landscapes or viewsapes were noted during the fieldwork.

Due to the subsurface nature of archaeological remains and the fact that graves can occur anywhere on the landscape, it is recommended that a chance find procedure is implemented for the project as part of the EMP:

**Chance find procedure**

This procedure applies to the developer's permanent employees, its subsidiaries, contractors and subcontractors, and service providers. The aim of this procedure is to establish monitoring and reporting procedures to ensure compliance with this policy and its associated procedures. Construction crews must be properly inducted to ensure they are fully aware of the procedures regarding chance finds as discussed below.

- If during the pre-construction phase, construction, operations or closure phases of this project, any person employed by the developer, one of its subsidiaries, contractors and subcontractors, or service provider, finds any artefact of cultural significance or heritage site, this person must cease work at the site of the find and report this find to their immediate supervisor, and through their supervisor to the senior on-site manager.
- It is the responsibility of the senior on-site Manager to make an initial assessment of the extent of the find, and confirm the extent of the work stoppage in that area.
- The senior on-site Manager will inform the ECO of the chance find and its immediate impact on operations. The ECO will then contact a professional archaeologist for an assessment of the finds who will notify the SAHRA.

### 7.1 Reasoned Opinion

From a heritage perspective the proposed project is acceptable from a heritage point of view. If the above recommendations are adhered to and based on approval from SAHRA, HCAC is of the opinion that the development can continue as the development will not impact negatively on the archaeological record of the area. If during the pre-construction phase or during construction, any archaeological finds are made (e.g. graves, stone tools, and skeletal material), the operations must be stopped, and the archaeologist must be contacted for an assessment of the finds. Due to the subsurface nature of archaeological material and graves the possibility of the occurrence of unmarked or informal graves and subsurface finds cannot be excluded, but can be easily mitigated by preserving the sites *in-situ* within the development.

### 8. PROJECT TEAM

Jaco van der Walt, Project Manager

### 9. STATEMENT OF COMPETENCY

I (Jaco van der Walt) am a member of ASAPA (no 159), and accredited in the following fields of the CRM Section of the association: Iron Age Archaeology, Colonial Period Archaeology, Stone Age Archaeology and Grave Relocation. This accreditation is also acknowledged by SAHRA and AMAFA.

I have been involved in research and contract work in South Africa, Botswana, Zimbabwe, Mozambique, Tanzania and the DRC; having conducted more than 300 AIA's since 2000.

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