ARCHAEOLOGICAL IMPACT ASSESSMENT

FOR THE PROPOSED SABIS SCHOOL, GAUTENG PROVINCE

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LEAP

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EXECUTIVE SUMMARY

Site name and location: The proposed Sabis School is located on Portion 20 of the Farm Zwartkoppies 364 JR, Gauteng Province

Purpose of the study: This study comprises an Archaeological Impact Assessment of the proposed school and associated infrastructure to determine the presence of cultural heritage sites and the impact of the proposed infrastructure on these non-renewable resources.

1:50 000 Topographic Map: 2528 CD.

EIA Consultant: LEAP

Developer: Sonsprop (Pty) Ltd

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

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Date of Report: 30 January 2017

Findings of the Assessment:

HCAC was appointed to assess the study area in terms of the archaeological component of Section 35 of the NHRA as part of the basic assessment for the project. The assessment focuses on the development footprint of the proposed school and associated infrastructure measuring approximately 6 hectares. During the survey 5 heritage features were recorded within the proposed development footprint. These consist of Late Iron Age (LIA) stone walled sites, middens and undecorated ceramics. Similarly several other LIA sites have been recorded on the farm Zwartkoppies (e.g., Kusel 2005, Huffman 2005, Naude 2013). As several other sites dating to this period are found on the farm Zwartkoppies the sites located within the Sabis School development is not unique and can be mitigated.

An independent Paleontological study was conducted by Fourie (2017) and this study determined that the impact of the development on fossil heritage is **HIGH** and further mitigation measures are required as per the specialist report (Fourie 2017).

If the recommendations as made in section 8 of this report are adhered to (subject to approval from SAHRA) the impact of the project on the heritage resources of the area will be mitigated to an acceptable level and then there is no compelling reason why the proposed project should not proceed.



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.

Disclaimer: Although all possible care is taken to identify sites of cultural importance during the investigation of study areas, it is always possible that hidden or sub-surface sites could be overlooked during the study. Heritage Contracts and Archaeological Consulting CC and its personnel will not be held liable for such oversights or for costs incurred as a result of such oversights.

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- The results of the project;
- The technology described in any report;
- Recommendations delivered to the Client.



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ABBREVIATIONS

^{*}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 Sabis School and associated infrastructure development as part of the Basic Assessment process for the project.

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 Sabis School project comprises a school development and related infrastructure on Portion 20 of the Farm Zwartkoppies 364 JR, Gauteng Province (Figure 1) measuring approximately 20 hectares. This study focussed on the development footprint area and comprises approximately 6,06 hectares and is located at 25° 47′ 22.8806″ S, 28° 22′ 46.3399″ E.

Current land use consists of a lodge with camps for game and cattle. To the north of the study area are old agricultural fields and the other areas surrounding the study area can be classified as a Greenfields site. The vegetation is described by Mucina and Rutherford (2006) as Marikana Thornveld. The local geology can be described as shale and diabase.



1.3.2. Location Map

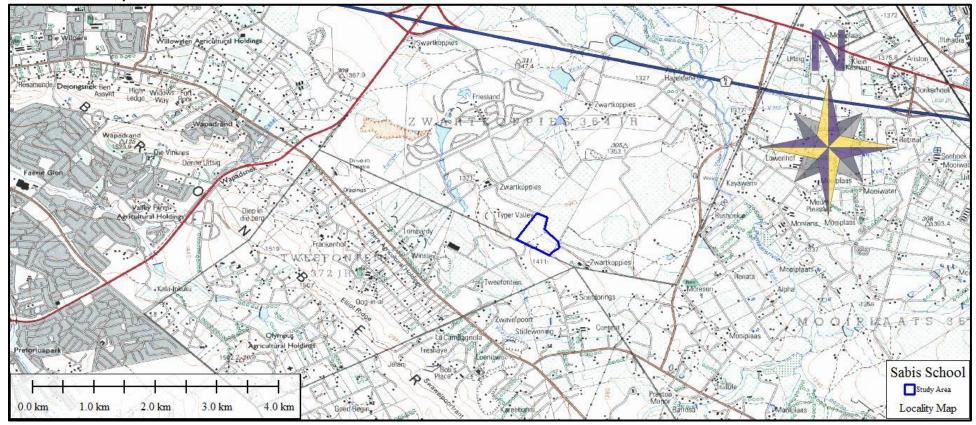


Figure 1. Locality Map indicating the study area in blue.



Sabis School Study Area

•• Development Footprint

Figure 2. Development footprint indicated in red and study area indicated in blue.

400 m



100 m

200 m

300 m

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.

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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 approached 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

Stakeholder engagement is a key component of any BAR process. Public consultation is a legislative requirement of the NHRA. The main purpose of the stakeholder engagement process for the proposed project is to provide a platform and opportunity for stakeholders to raise issues of concern or comments and to express their views on the proposed project. The stakeholder engagement process that was conducted for the proposed development followed a collaborative approach. Through the stakeholder engagement, adequate and timely information is provided to all I&APs to ensure that they are given sufficient opportunity to voice their concerns and issues. No heritage concerns were raised during this process.

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 during the week of 25 January 2017.

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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 3. Track logs of the areas surveyed indicated in black with the development footprint indicated in yellow.



2.3. Restrictions

Due to the subsurface nature of archaeological artefacts, 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. It should be noted that ground visibility was low due high vegetation cover.

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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

The Applicant intends to develop a School and related infrastructure on Portion 20 of the Farm Zwartkoppies 364 JR The development comprises approximately 6.06 hectares.



4. HISTORICAL AND ARCHAEOLOGICAL BACKGROUND OF THE STUDY AREA

4.1 Databases Consulted

Several previous CRM surveys are on record for the larger study area. Towards the north in Mamelodi several Late Iron Age settlements are recorded linked to Southern Ndebele speaking people with an occupation date ranging between the 1600's up to the 1800's (van Schalkwyk 2011 & Van der Walt 2008). Closer to the study area, also on the farm Zwarkoppies at least 3 projects are on record (Kusel 2005, Huffman 2005, Naude 2013). All of these sites recorded LIA stone walled sites. 8 Sites are on record for the 2528 CD 1: 50 000 map at the Wits data base, these sites consist of LIA, rock art and Stone Age sites. None of these are in close proximity to the study area.

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Google Earth and 1:50 000 maps of the area were utilised to identify possible places where archaeological and historical sites might be located indicating that along foothills and dolerite dykes LIA sites can be expected.

Genealogical Society and Google Earth Monuments

Neither the Genealogical Society nor the monuments database at Google Earth (Google Earth also include some archaeological sites and historical battlefields) have any recorded sites in the study area.

4.2. Brief background to the study area

Zwartkoppies 364 JR forms part of the Kungwini Local Municipality in Gauteng Province. Portion 20 of the farm is currently owned by the company Sonsprop Pty Ltd, who purchased the property in June 2016. The property is 21.4133 hectares in extent. (Windeed Search Engine 2017)

Record of historical landowners

Date	Transferred from	Transferred to	Purchase price
1971	-	Willow View Inv Pty Ltd	Unknown
1989	Willow View Inv Pty Ltd	United Bank	R250 000
1989	United Bank	Basson Rachel Catrina	R250 000
1998	Basson Rachel Catrina	ABSA Bank	R600 000
2008	ABSA Bank	-	Unknown
2016	-	Sonsprop Pty Ltd	R43 550 000

(Windeed Search Engine 2017)



4.2.1. Maps of the area under investigation

Since the mid-1800s up until the present, South Africa has been divided and re-divided into various districts. The district of Pretoria was established in 1857, and the land that would later be known as Portion 20 of Zwartkoppies 364 JR formed part thereof. This remained the case up until 1994. As of 1994 the farm was located in the new province of Gauteng, still in the Pretoria magisterial district (Bergh 1999: 17, 20-27). Note that, prior to 1950 the farm under investigation was known as Zwartkoppies 289. This farm is famous for the fact that it used to belong to the former Pretoria Industrialist Sammy Marks who built his farmhouse in 1886 (to the north of the study area) and who died on the farm in 1922.

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Figure 4. Google Earth image showing the location of Portion 20 of Zwartkoppies 364 JR (red border). (Google Earth 2016)



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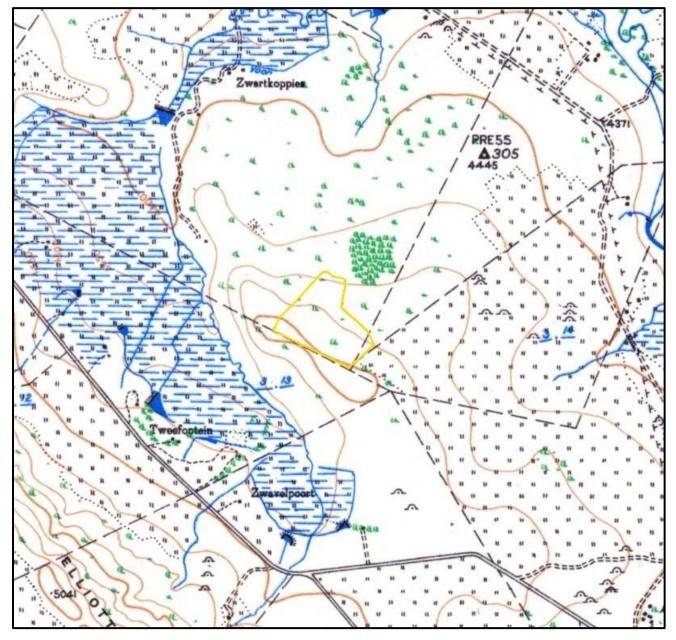


Figure 5. 1944 Topographical map showing the approximate location of the portion under investigation on the farm Zwartkoppies 289. The area of interest is marked by a yellow border. One can see that it was a bushveld area. No developments are visible on the property. A large area to the west was used as irrigated, cultivated land. To the east, cultivated fields and a number of traditional huts are visible. (Topographical map 1944)



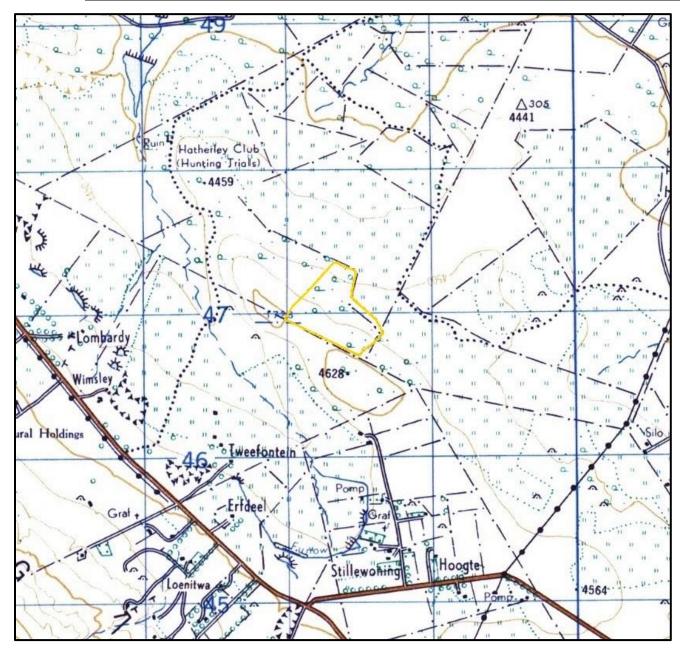


Figure 6. 1964 Topographical map of the portion under investigation on Zwartkoppies 364 JR. The area was still bushveld. No developments are visible on this portion. To all sides of the property one can see cultivated lands,



indicating that this area was used mainly as farms. The Hatherley Club Hunting Trails can be seen to the northwest and a hut is visible to the southwest. (Topographical Map 1964)

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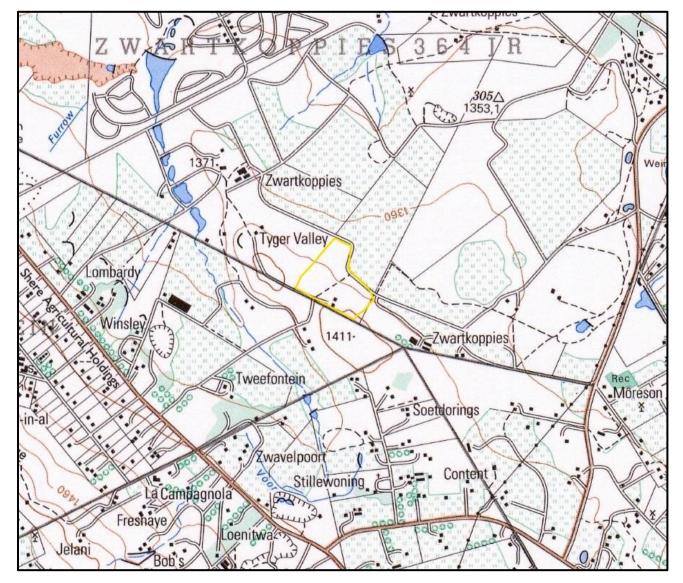


Figure 7. 1991 Topographical map of portion 20 of Zwartkoppies 364 JR. Two buildings and a track / hiking trail are visible on the property. Some small roads and buildings, as well as cultivated fields can be seen in the vicinity of the property. (Topographical Map 1991)



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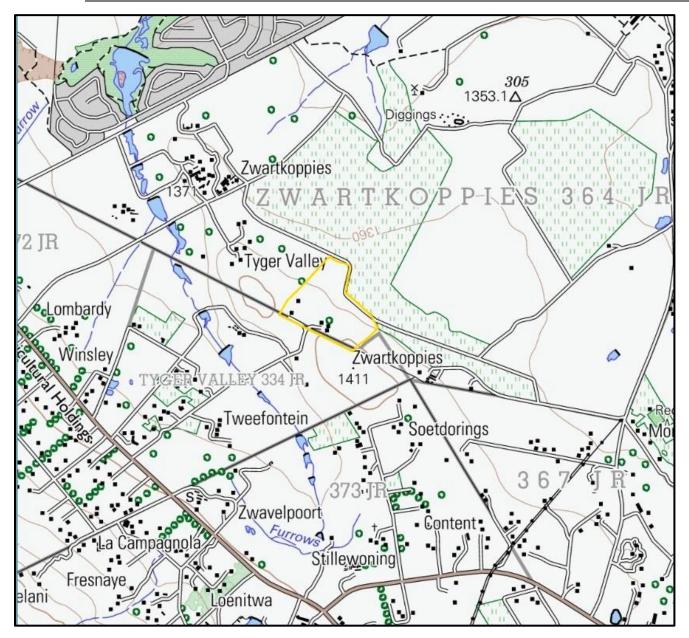


Figure 8. 2001 Topographical map of portion 20 of Zwartkoppies 364 JR. The two buildings dating to 1991 can still be seen, and three more buildings are visible on the property. The track / hiking trail is no longer visible. Some small roads, a number of buildings, and cultivated fields can still be seen in the vicinity of the property. (Topographical Map 2001)



4.2.2. Archaeology of the area

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 histories. In the greater Pretoria area an Early Stone Age Terrain, known as Wonderboompoort has been identified. This area was also important to Iron Age communities, as it was located within an area where many Late Iron Age terrains were found. (Bergh 1999: 4, 7). Another well-known Iron Age site is the early Iron Age Site of Derdepoort where a small collection of ceramics was uncovered dating back to the 4th to 7th century AD (Nienaber et al 1997).

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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. 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. At the beginning of the nineteenth century, the predominant black tribe in the area north of Pretoria was the Manala-Ndebele. The Kgatla were also present to the north of where Pretoria is located today. It seems that, in 1832, Shaka's Zulu tribe passed by the south of Pretoria from the southeast in a westerly direction. This was in order to attack Mzilikazi's Ndebele. This group also went on raids in various other areas in order to expand their area of influence. (Bergh 1999: 11, 14,109-119). 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 as early as the 1720's.

The Scottish travellers Robert Scoon and William McLuckie passed through, or close by the area where the study area was located in 1829. In the same year, Robert Moffat and James Archbell also travelled through this area. In the mid 1830's, several travellers made their way from the Pretoria area inland. These included the travellers Robert Scoon, Dr Andrew Smith and Captain William Cornwallis Harris. (Bergh 1999: 12-13)

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)

Pretoria was founded in 1855 and became the capital of South Africa, then known as the Zuid-Afrikaanse Republiek (ZAR), in 1860. By 1900, Pretoria was a thriving Transvaal town, with shaded streets, well-kept gardens and a lively economy. In mid-1899, the Pretoria district had a white population of 21 000 men and 19 000 women, while the black, coloured and Indian population totalled 38 618. (Theron 1984: 1-3)

The Anglo-Boer War was the greatest conflict that had taken place in South Africa up to date, and also affected the Pretoria district. The white concentration camp closest to the study area was situated a small distance to the northeast of Pretoria. A white and a black concentration camp are located to the southwest of Pretoria, in the Irene area.

The Boer side generally lost ground against the British in this area as the war continued, and in June 1900 the Boer military leaders decided that Pretoria would have to be surrendered to the British forces. This decision was inevitable if the war was to be continued. The town was very susceptible to a siege, and its defence would have gravely endangered the lives of its inhabitants. More importantly, the defence of the town would involve such a great number of Boers that the capture of these men would have surely meant the end of the war. Pretoria was therefore occupied by British forces on Tuesday 5 June 1900. (Bergh 1999: 54, 250; Theron 1984: 273-279).



The battle of Diamond hill took place to the east of the study area a couple of days later. The battle is also referred to as the battle of Donkerhoek. Lord Roberts and his army occupied Pretoria and expected the Boers to surrender, the Boers however moved their capital to Machadodorp and went to great lengths to protect the railway line to prevent the British from moving east toward Machadodorp. General Louis Botha strategically positioned 3500 men in the hills in areas where he expected the British would try and pass. The British advanced toward Botha's forces with 5000 mounted men and 8000 infantry including about 70 guns. The British stated their aims to be to clear the Boers from the Pretoria area. The British attacked both ends of the Boer line on 11 June 1900. Their infantry and artillery advanced toward the centre of the position. The next day the British launched a strong attack on the Boers and improved their position which forced the Boers to flee. The Boers lost 30 men (11 were killed) and the British suffered 180 casualties. The Boers left with a sense of victory and the determination to continue to fight. The war lasted 2 more years and guerrilla warfare was characteristic of the war. Another battle took place at Silkaatsnek, to the northwest of Pretoria, some distance from the project area. Here, General De la Rey's Boer troops defeated the British army on 11 July 1900.

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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.

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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 8 of this report.

FIELD RATING	GRADE	SIGNIFICANCE	RECOMMENDED MITIGATION
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

The proposed Sabis School will be situated on Portion 20 of the Farm Zwartkoppies 364 JR. The property is situated on the south-eastern fringes of Pretoria in the City of Tshwane Metropolitan Municipality within the Gauteng Province. The farm Zwartkoppies and surrounding properties were at first commercial farms with their main focus on the production of crops and the raising of live-stock. Most of these farms were later sub-divided into small holdings which supported a wide range of businesses and activities. No specific previous farming activities are evident within the proposed site for the development. Zwartkoppies farm is also known because of Sammy Marks who bought and resided on the farm (to the north of the study area).

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The farm portion measures approximately 21ha in size, but the indicated development will only cover approximately 6ha of the property. This part of the property is situated on the northern slopes of a ridge and is overlooking residential estates to the north of it. The extreme northern extent of the property is flat and has red-brown sandy soils.

The properties directly to the east, south and west of the study area are also undeveloped and are also overgrown with vegetation typical of that area. The properties to the north of the study area have mostly been developed into residential estates with their associated infrastructure such as roads and other services.

The property has a lodge and facilities for functions at the top of the ridge. The lower slopes to the north are divided into several camps and are being used as grazing facilities for cattle and game. The property is overgrown with grass and other vegetation especially now after the spate of good rains in the area limiting archaeological visibility (Figure 9).

The whole property is fenced off with a high cement palisade fence (Figure 11). Several smaller fences formed the internal camps and sub-divisions. Tracks follow the fences around the property and farm infrastructure such as pumps and water pipes are also evident.

During the survey five sites were recorded (Table 1), located at the base of a small ridge (Figure 12 & 13). These sites consist of Later Iron Age stone walled sites with middens and undecorated ceramics (Figure 10). A short feature description follows with recommendations included in Section 8 of this report.



Table 1: Recorded features and coordinates

Field No	Type Site	Coordinates	Significance	Description
SS 1	Stone Walled Complex	25° 47' 27.0" S 28° 22' 48.0" E	Medium Significance	Low stone packed walls, the complex is approximately 60m in diameter. A midden with ash, animal bone fragments and potsherds is situated within one of the enclosures.
SS 2	Stone Walled Complex	25° 47' 22.3" S 28° 22' 43.7" E	Medium Significance	Low stone packed walls, the complex is approximately 40m in diameter. A midden with ash, animal bone fragments and potsherds is situated within one of the enclosures.
SS 3	Stone Walled Complex	25° 47' 25.4" S 28° 22' 43.0" E	Medium Significance	Low stone packed walls, the complex is approximately 40m in diameter
SS 4	Stone Walled Complex	25° 47' 26.7" S 28° 22' 46.0" E	Medium Significance	Low stone packed walls, the complex measures about 25 m in diameter
SS 5	Stone Walled Complex	25° 47' 29.1" S 28° 22' 47.6" E	Medium Significance	Low stone packed walls, the complex measures about 25 m in diameter





Figure 9. General site conditions – note the dense vegetation. .



Figure 10. Midden with scatter of undecorated ceramics. .





Figure 11: Existing fence that impacted on Site 2.



6.1. Site Distribution Map

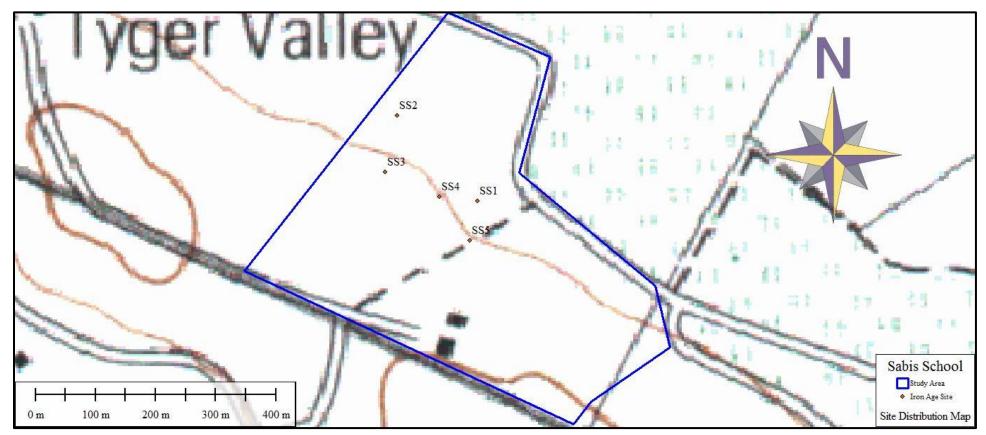


Figure 12: Site distribution map.



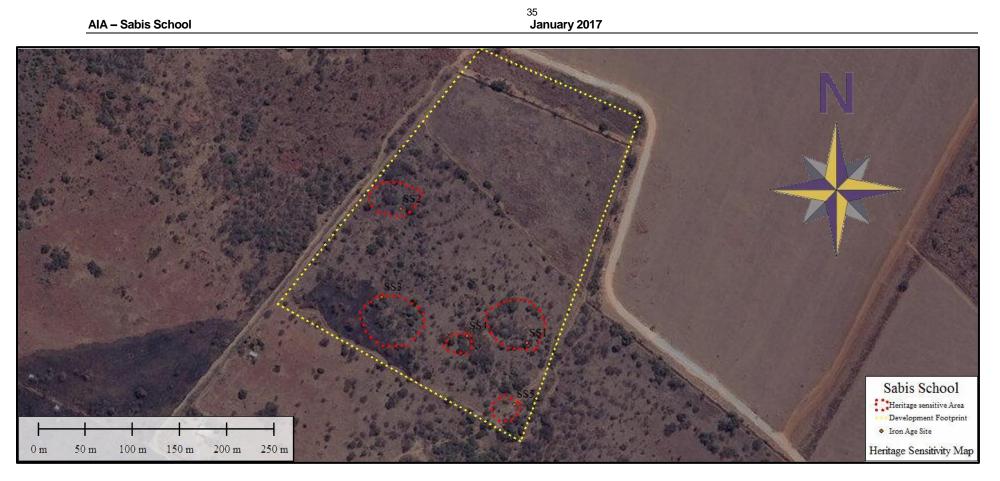


Figure 13: Heritage Sensitivity map.



6.2. Site Descriptions

6.2.1 Stone Walled Sites (Site 1 - 5)

Field Number	SS1, SS2, SS3, SS4, SS5
Type of Site	Archaeological
Geographical Setting	At the base of a small ridge
Current Condition of site	Sites 2 and 5 have been impacted on by construction activities associated with the construction of the fence and internal roads. Stone packed walls are highly overgrown.
Description and type of artefacts, approximate age and significant features of the site.	Stonewalled complexes were identified at the location of site 1 -5. The low stone walls were packed to form circular enclosures and other sections of wall. The enclosures are of various sizes, but together they form a distinct pattern as part of a LIA settlement. The walls consist of low lines of packed rocks, but some of these walls were damaged or collapsed in certain areas. The walls measure approximately 0,5m high and 0,5m wide. The stone walls are also overgrown with grass, trees and other vegetation hampering the identification of the size and layout of the stone walls. Middens with ash, animal bone fragments and potsherds were recorded within the enclosures at Site 1 and Site 2.
Estimation or measurement of site extent	The packed walls covered an area of approximately 60m in diameter for site 1, 40m in diameter for site 2 and 3 and 25 m in diameter for site 4 and 5 (Figure 13).
Depth and stratification of the site	Unknown





Figure 14: Undecorated ceramics from Site 1



Figure 15: Low stone packed walls at Site 1

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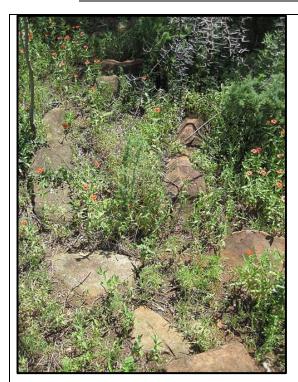


Figure 16. Stone packed wall foundations at Site 2



Figure 17: Walling at Site 3.

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Figure 18. Stone packed wall foundations at Site 4



Figure 19. Collapsed stone walls at Site 5.

Statement of Significance

Due to the fact that the layout of the settlement is still intact and that archaeological deposit occur at the sites – medium significance.



Field Rating (Recommended grading or field significance) of the site:	Generally Protected B (GP.B).
Recommendations	Preservation <i>in situ</i> or mapping of the site and excavation before a destruction permit can be applied for.

7. Potential Impact

7.1. Pre-Construction phase:

It is assumed that the pre-construction phase involves the removal of topsoil and vegetation as well as the establishment of road infrastructure needed for the construction phase. These activities can have a negative and irreversible impact on all of the recorded heritage sites. Impacts include destruction or partial destruction of non-renewable heritage resources.

7.2. Construction Phase

During this phase the impacts and effects are similar in nature but more extensive than the pre-construction phase. These activities can have a negative and irreversible impact on all of the recorded heritage sites. Impacts include destruction or partial destruction of non-renewable heritage resources.

7.3. Operation Phase:

No impact is envisaged for the recorded heritage resources during this phase.



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8. CONCLUSIONS AND RECOMMENDATIONS

HCAC was appointed to assess the study area in terms of the archaeological component of Section 35 of the NHRA as part of the basic assessment for the project. The assessment focuses on the proposed school and associated infrastructure. The vegetation in the study area was high limiting archaeological visibility it was nevertheless possible to identify the main areas with archaeological sites. During the survey 5 heritage features were recorded within the proposed development footprint. These consist of LIA stone walled sites and associated middens including ceramics. Similarly several other LIA sites have been recorded on the farm Zwartkoppies (e.g., Kusel 2005, Huffman 2005, Naude 2013). Although no decorated ceramics were recorded to identify the sites, ceramics recorded by Huffman (2005) approximately 600 meters to the east of the study area belongs to the *Uitkomst facies* dating to AD 1650 to 1820 (Huffman 2007). The walling is described at Klipriviersberg (Huffman 2007) or Group III (Taylor 1979). These ceramics and walling was constructed by the ancestors of the BaFokeng (Huffman 2005). As several other sites dating to this period are found on the farm Zwartkoppies the sites located within the Sabis School development is not unique and can be mitigated.

Based on current available information and the lack of layout plan the following recommendations are applicable:

- Site 1 5: The preservation of the sites in situ is the preferred option. If this is not possible these sites will require archaeological mitigation prior to the construction phase where the sites will be mapped, and excavated before a destruction permit can be applied for. If the sites are preserved a buffer zone of 20 meters should be kept around the sites during construction and a heritage management plan should be implemented for the sites as part of the EMP for the project.
- It must be kept in mind that sites like these might contain unmarked graves and if impacted on these sites must be monitored by a professional archaeologist during the construction phase to mitigate accidental finds.
- A chance find procedure must also be included in the EMP for accidental finds as briefly outlined below.

An independent Paleontological study was conducted by Fourie (2017) and this study determined that the impact of the development on fossil heritage is HIGH and further mitigation measures are required as per the specialist report (Fourie 2017).



Chance finds 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.

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- If during the 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, 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.

If the recommendations are adhered to (subject to approval from SAHRA) the impact of the project on the heritage resources of the area will be mitigated to an acceptable level and then there is no compelling reason why the proposed project should not proceed.

9. PROJECT TEAM

Jaco van der Walt, Project Manager and Archaeologist Marko Hutten, Archaeologist

10. 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 valid for/acknowledged by SAHRA and AMAFA.

I have been involved in research and contract work in South Africa, Botswana, Zimbabwe, Mozambique, DRC and Tanzania; having conducted more than 400 AIAs since 2000.



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Annexure A

DOCUMENTS AT THE NATIONAL ARCHIVES OF SOUTH AFRICA

The following archival sources can be consulted if a more in depth study is done in the future.

DEPOT TAB SOURCE SNA **TYPE LEER VOLUME NO** 196 **SYSTEM** 01 **REFERENCE** NA346/04 **PART** REVEREND C HOFFMAN GERMAN MISSION SCHOOLPLAATS PRETORIA NUMBER OF NATIVE DESCRIPTION FAMILIES WISHING TO LEAVE EDENDALE AND TO RESIDE ON ZWARTKOPPIES 289 (PROPERTY OF MR STRUBEN). **STARTING** 19040000 **ENDING** 19040000

DEPOT TAB **SOURCE** LD **TYPE LEER VOLUME NO** 1763 SYSTEM 01 AG1904/09 REFERENCE **PART DESCRIPTION** REGISTRATION OF ALLEGED SERVITUDE - ZWARTKOPPIES NO 289. **STARTING** 1909 **ENDING** 1909

DEPOT SAB **SOURCE BES TYPE LEER VOLUME NO** 1024 **SYSTEM** 01 **REFERENCE** 954 **PART DESCRIPTION** WH STRUBEN, **ZWARTKOPPIES** 289. WATER RIGHTS. **STARTING** 19090000

ENDING 19140000



DEPOT SAB SOURCE CDB

TYPE CDB

 VOLUME_NO
 3/1066

 SYSTEM
 01

REFERENCE TAD13/1/340
PART 1

DESCRIPTION PLAASLIKE BESTUUR. LANDBOUHOEWES. LUANNA. PRETORIA. PLAAS ZWARTKOPPIES,

NO. **289.**

STARTING 19480000

ENDING 19500000

DEPOT SAB

SOURCE CDB
TYPE LEER

VOLUME_NO 15305

SYSTEM 01

REFERENCE PB4/19/2/37/364/2 **PART** 1

DESCRIPTION PLAASLIKE BESTUUR. GEMEENSKAPSVORMING. BESIGHEIDSREGTE. PRETORIA. RESTANTE GEDEELTE VAN GEDEELTE 14 VAN **ZWARTKOPPIES 364JR.**

STARTING 19770000

ENDING 19840000

DEPOT SAB

SOURCE CDB
TYPE LEER

VOLUME_NO 15306

SYSTEM 01

REFERENCE PB4/19/2/37/364/3

PART

DESCRIPTIONPLAASLIKE BESTUUR. GEMEENSKAPSVORMING. BESIGHEIDSREGTE. PRETORIA.
GEDEELTE 24 (GEDEELTE VAN GEDEELTE 14) VAN **ZWARTKOPPIES 364JR.**

STARTING 19770000

ENDING 19880000

DEPOT SAB

SOURCE RLA
TYPE LEER
VOLUME NO 45

SYSTEM 01

REFERENCE 20/2/2/4/17 **PART** 1

DESCRIPTION FISIESE BEPLANNING. GIDSBEPLANNING. GROTER PRETORIA. WYSIGING VAN GIDSPLAN.

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AIA – Sabis School January 2017

GEDEELTE 6 ('N GEDEELTE VAN GEDEELTE 1) VAN DIE PLAAS **ZWARTKOPPIES 364JR. STARTING**19840000

ENDING 19850000

DEPOT SAB SOURCE SAB

TYPE LEER
VOLUME NO 45

SYSTEM 01

REFERENCE 20/2/2/4/17 **PART** 1

DESCRIPTION FISIESE BEPLANNING. GIDSBEPLANNING. GROTER PRETORIA. WYSIGING VAN GIDSPLAN.
GEDEELTE 6 ('N GEDEELTE VAN GEDEELTE 1) VAN DIE PLAAS ZWARTKOPPIES 364JR. PLANNE.

STARTING 00000000

ENDING 00000000

DEPOT SAB

SOURCE RLA
TYPE LEER

VOLUME_NO 55

SYSTEM 01

REFERENCE 20/2/2/4/42 **PART** 1

DESCRIPTION FISIESE BEPLANNING. GIDSBEPLANNING. GROTER PRETORIA. WYSIGING VAN GIDSPLAN. GEDEELTE 13 VAN DIE PLAAS **ZWARTKOPPIES 364JR.** BYLAAG. AANSOEK INGEVOLGE DIE BEPALINGS VAN ARTIKEL 6A VAN DIE WET OP FISIESE BEPLANNING.

STARTING 19860000

ENDING 19860000

DEPOT SAB

SOURCE RLA
TYPE LEER

VOLUME_NO 55 SYSTEM 01

SYSTEM 01

REFERENCE 20/2/2/4/42

REFERENCE 20/2/2/4/42 **PART** 1

DESCRIPTIONFISIESE BEPLANNING. GIDSBEPLANNING. GROTER PRETORIA. WYSIGING VAN GIDSPLAN.GEDEELTE13VANDIEPLAASZWARTKOPPIES364JR.

STARTING 19860000

ENDING 19880000

DEPOT TAB SOURCE NE

TYPE LEER



 VOLUME_NO
 223

 SYSTEM
 01

REFERENCE 5/2/1/7-1549

PART

DESCRIPTIONVERKLARING TOT NASIONALE GEDENKWAARDIGHEID. SAMMYMARKS-HUIS EN BUITENGEBOUE.
PLAAS ZWARTKOPPIES **364-JR. DISTRIK** PRETORIA.

STARTING 19880000

ENDING 19890000

 DEPOT
 SAB

 SOURCE
 RLA

 TYPE
 LEER

 VOLUME_NO
 63

 SYSTEM
 01

 REFERENCE
 20/2/2/4/80

 PART
 1

DESCRIPTION FISIESE BEPLANNING. GIDSBEPLANNING. GROTER PRETORIA. WYSIGING VAN GIDSPLAN. GEDEELTE 6 ('N GEDEELTE VAN GEDEELTE 1) VAN DIE PLAAS **ZWARTKOPPIES 364JR.**

STARTING 19890000

ENDING 19910000

