

Archaeological Impact Assessment

Archaeological Impact Assessment Report for the Junction 21 Township Development, Gauteng.

Prepared For

JR 209 Investments (Pty) Ltd

By



HERITAGE

Contracts and Archaeological Consulting

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EXECUTIVE SUMMARY

Bokamoso Landscape Architects and Environmental Consultants, on behalf of JR 209 Investments (Pty) Ltd (M&T Developers), appointed Heritage Contracts and Archaeological Consulting CC (HCAC) to conduct an Archaeological Impact Assessment for a proposed township development called Junction 21 on the Remainder of Portion 7, Portion 65, and Portion 61 of the Farm Elandfontein 412-JR, and Portion 2, Portion 30, Remainder of Portion 29, Remainder of Portion 22 and Portion 28 of the Farm Witkoppies 393-JR, Gauteng Province. The size of the property is approximately 1249,1464 ha. The proposed Twenty One Township 4 will be the fourth phase of a larger development, known as Twenty One Development 1. The study area falls within the area of jurisdiction of the Ekurhuleni Metropolitan Municipality in Gauteng Province.

The topography of the study area is relatively flat, gently sloping towards the Rietvlei River that flows through the western portion of the site in a north south direction. A ridge on the western portion of the study area that is mostly unaffected by the extensive agricultural activities in the area contains stone walling that was previously identified belonging to the Late Iron Age and Historical periods (van Schalkwyk 2007). Several residential dwellings and outbuildings are found within the study area, although none of them are older than 60 years or of architectural value and require no further management action.

Three previously unrecorded cemeteries were recorded in the study area and are of high social significance. Some of these graves are regularly visited and cleared; depending on the precise location of development activities these sites will require mitigation.

If the recommendations as made in section 7 of this report are adhered to (subject to approval from SAHRA) there is, from an archaeological point of view, no reason why the development should not proceed.

General

Due to the subsurface nature of archaeological material and unmarked graves, the possibility of the occurrence of such finds cannot be excluded. If during construction any possible finds such as stone tool scatters, artefacts or bone and fossil remains are made, the operations must be stopped and a qualified archaeologist must be 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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CONTENTS

EXECUTIVE SUMMARY	3
GLOSSARY	7
1 BACKGROUND INFORMATION	8
1.1 Terms of Reference	9
1.2. Archaeological Legislation and Best Practice.....	9
1.3 Description of Study Area	12
1.3.1 <i>Location Data</i>	12
1.3.2. <i>Location Map</i>	12
2. APPROACH AND METHODOLOGY	13
2.1 Phase 1 - Desktop Study.....	13
2.1.1 <i>Literature Search</i>	13
2.1.2 <i>Information Collection</i>	13
2.1.3 <i>Consultation</i>	13
2.1.4 <i>Google Earth and Mapping Survey</i>	13
2.1.5 <i>Genealogical Society of South Africa</i>	13
2.2 Phase 2 - Physical Surveying.....	13
2.3. Restrictions.....	15
3. NATURE OF THE DEVELOPMENT.....	15
4.1 Databases Consulted.....	15
4.2. Historiography and Methodology	16
4.2.1. <i>Maps Of The Area Under Investigation</i>	16
4.2.2. <i>A Brief History Of Human Settlement And Black And White Interaction In The Farm Area</i>	19
4.2.3. <i>Historical Overview Of The Ownership And Development Of The Farms Elandsfontein 412 Jr And Witkoppies 393 Jr</i>	21
5. HERITAGE SITE SIGNIFICANCE AND MITIGATION MEASURES	36
5.1. Field Rating of Sites	38
6. BASELINE STUDY-DESCRIPTION OF SITES	39
6.2 DESCRIPTION OF FINDS.....	43
6.2.1 <i>Sites with Coordinates</i>	43
6.2.2 <i>Structures with Coordinates</i>	48
7. RECOMMENDATIONS	53
8. CONCLUSIONS.....	54
9. PROJECT TEAM.....	54
10. STATEMENT OF COMPETENCY.....	54
11. REFERENCES.....	55

FIGURES

Figure 1: Location map showing the study area.	12
Figure 2: Track logs of the survey indicated in black.	14
Figure 3 1931 Map of the Transvaal. The farms were at the time known as Witkoppies No. 105 and Elandsfontein No. 452.	17
Figure 4: 1982 Topographical Map of the Johannesburg District. The green dot indicates the location of the farm Witkoppies.....	18
Figure 5: Subdivision of Elandsfontein in 1948.	24
Figure 6: Proposed building plan of a cafe on Portion 53 of the farm Elandsfontein. (NASA SAB, CDB: 14994 PB4/19/2/22/412/1).....	25
Figure 7 : Location of the factory used for the manufacture of explosives on portion 113 (a portion of portion 9) on farm Elandsfontein 412JR. (NASA SAB, CDB: 14963 PB4/19/2/20/412/1).....	26
Figure 8: A sketch map of Portion 7 of Witkoppies, as well as a map showing the location of this portion. (NASA SAB, CDB: 15325 PB4/19/2/37/393/1).....	30
Figure 9: Terrain plan for the workshop for the repair of private agricultural machinery and implements on Portion 7 of the farm Witkoppies 393 JR. Scale: 1:500. (NASA SAB, CDB: 15325 PB4/19/2/37/393/1).....	32
Figure 10: Photographs showing the workshop as well as its location with regards to the road. (NASA SAB, CDB: 15325 PB4/19/2/37/393/1).....	34
Figure 11. Distribution of structures within the study area.	40
Figure 12: Site distribution map.....	41
Figure 14. Maize fields hampered coverage of the area.....	42
Figure 15. Dense wattle plantations.....	42
Figure 16. Agricultural fields covered large parts of the study area.....	42
Figure 17. Dense vegetation in the study area.	42
Figure 18: Cement headstone at Site 1.....	46
Figure 19: General view of Site 1.....	46
Figure 20: Granite headstones at Site 2.....	46
Figure 21: General site conditions at Site 2.....	46
Figure 22: Stone packed graves at Site 3.....	47
Figure 23: General site condition at Site 3.....	47
Figure 24: Stone walling at Site 4.....	47
Figure 25: Overgrown Stone walling at Site 5.....	47
Figure 26: General site conditions at Site 6.....	48
Figure 27: Stone wall foundations at Site 6.....	48
Figure 30: Structure 10.....	50
Figure 31: Structure 4.....	50
Figure 32: Structure 5.....	50
Figure 33: Structure 6.....	50
Figure 34: Structure 7.....	51
Figure 35: Structure 2.....	51

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

<i>Kind of Study</i>	Archaeological Impact Assessment
<i>Type of development</i>	Township Development
<i>Rezoning/ subdivision of land</i>	Rezoning
<i>Developer:</i>	JR 209 Investments (Pty) Ltd (M&T Development)
<i>Consultant:</i>	Bokamoso Landscape Architects & Environmental Consultants
<i>Farm Owner:</i>	M&T Development

Bokamoso Landscape Architects and Environmental Consultants, on behalf of JR 209 Investments (Pty) Ltd, appointed Heritage Contracts and Archaeological Consulting CC (HCAC) to conduct an Archaeological Impact Assessment for a proposed township development on Remainder of Portion 7, Portion 65, and Portion 61 of the Farm Elandfontein 412-JR, Portion 2, Portion 30, Remainder of Portion 29, Remainder of Portion 22 and Portion 28 of the Farm Witkoppies 393-JR, Gauteng Province) to be known as Twenty One Township 4 (informally known as Wolf & Van Wyk). The size of the property is approximately 1249,1464 ha. The proposed *Twenty One Township 4* will be the fourth phase of a larger development, known as Twenty One Development¹. The study area falls within the area of jurisdiction of the Ekurhuleni Metropolitan Municipality in Gauteng Province.

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; Phase 2, the physical surveying of the study area on foot and by vehicle; Phase 3, reporting the outcome of the study.

During the survey 6 heritage sites were identified, consisting of stone walled enclosures and cemeteries. A further 10 structures have been recorded but is considered of low heritage significance due to the fact that they have no architectural or historical value ascribed to them. General site conditions and features on sites 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 and history 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 a legal body, 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 AIAs 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 administered by a local authority. Graves in this age category, located inside a formal cemetery administered 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 reinterment 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 study area (Remainder of Portion 7, Portion 65 and 61 of the Farm Elandsfontein 412-JR, Portion 2, Portion 30, Portion 28, Remainder of Portion 29, Remainder of Portion 22 of the Farm Witkoppies 393-JR) is situated to the east of the R21 Freeway, north of the R25 and west of the R60. The proposed township is situated directly to the east of the proposed Twenty One Township 3 Development and to the north of the Serengeti Golf and Country Estate.

1.3.2. Location Map

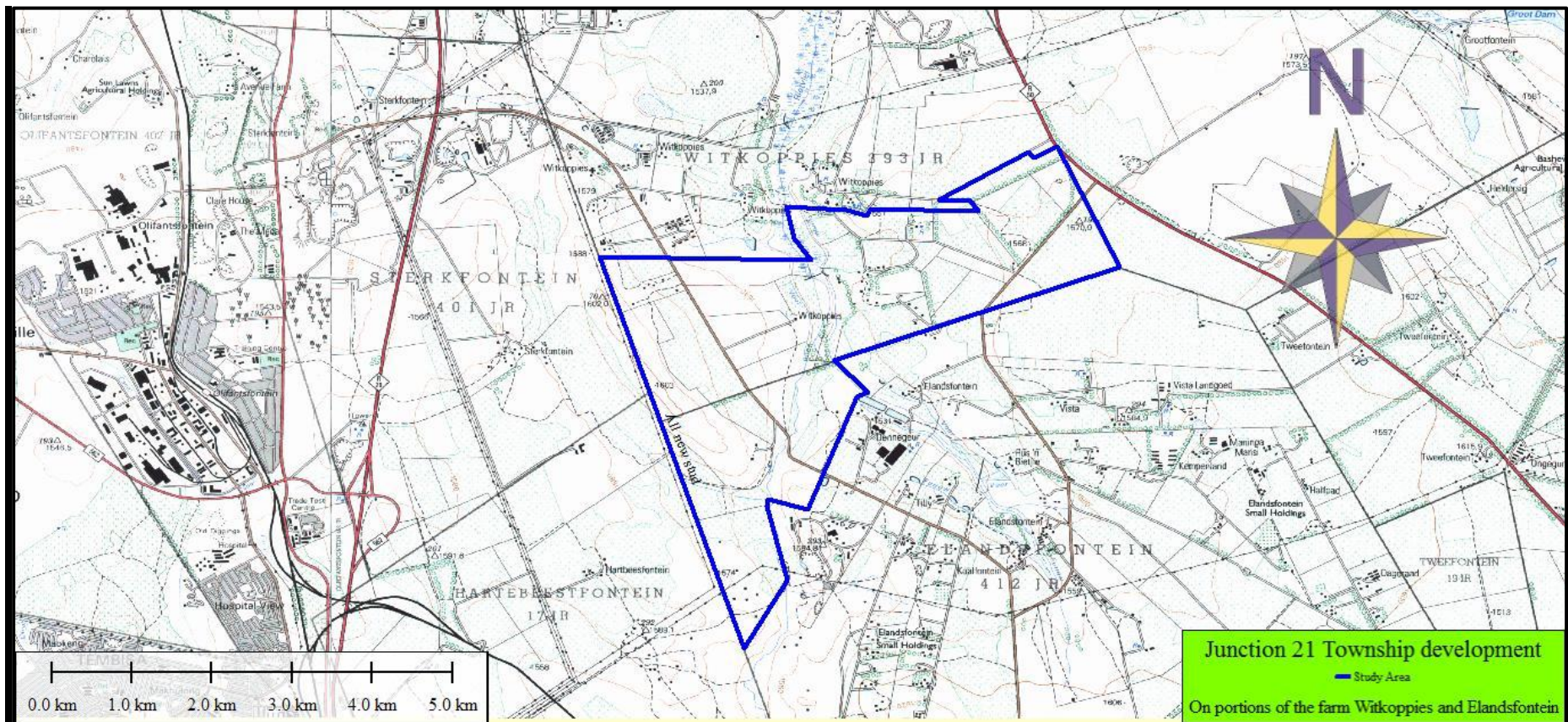


Figure 1: Location map showing the study area.

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 a desktop study scanning existing records for archaeological sites, historical sites, graves, architecture (structures older than 60 years) of the area.

2.1.1 Literature Search

Utilising data for information gathering stored in the archaeological database at Wits and previous CRM reports done in the area. The aim of this is to extract data and information on the area in question.

2.1.2 Information Collection

The SAHRA report mapping project (Version 1.0) and 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 during this study but was done as part of the environmental Scoping report (L. Gregory 2013). The team did however consult with Mr Neville Botha who resides in the study area regarding graves or sites of archaeological and historical significance. He did point out two cemeteries and historical stone walls.

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

A field survey of the study area was conducted. The study area was surveyed by means of vehicle and extensive surveys on foot during the week of 8 – 12 April 2013. The survey was aimed at covering as much of the study area in a systematic manner, but also focused 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. It is important to note that access to the study area was severely limited due to crops, weeds and plantations. Track logs of the areas covered were taken (Figure 2). Due to the nature of cultural remains, the majority of which occurs below surface it is incumbent upon the developer to contact an archaeologist should any archaeological, historical or skeletal material be uncovered during construction.

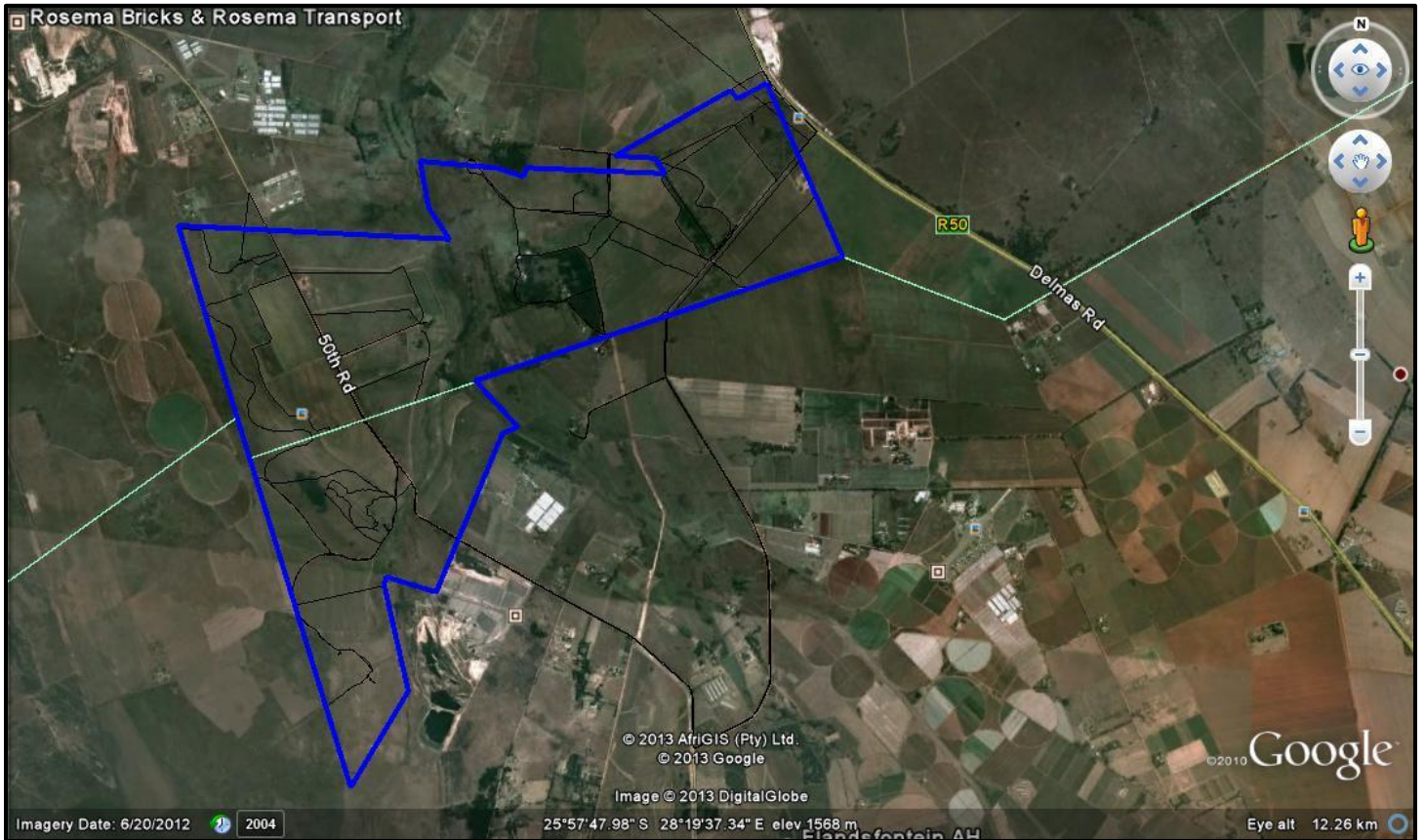


Figure 2: Track logs of the survey indicated in black.

The precise location of the infrastructure for the development was not available at the time of the survey and therefore as much as possible of the study area was covered. This was however hampered by extensive agricultural activities with crops impairing ground visibility. Furthermore, large areas are covered by impenetrable plantations and weeds related to the historically disturbed character of the area.

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. Low ground visibility of parts of the study area is due to crops, plantations and weeds, and the possible occurrence of unmarked graves and other cultural material cannot be excluded. It is assumed that information obtained for the wider region and the previous assessment by van Schalkwyk (2007) is accurate and applicable to this study. This study did not include a palaeontological assessment.

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 stone tool scatters, artefacts, bones or fossils, be exposed during the process of development.

3. NATURE OF THE DEVELOPMENT

Proposed Twenty One Township 4 will comprise of 3072 erven with the following zonings:

- 2968 erven zoned for “Residential 1”
- 32 erven zoned for “Residential 2” purposes with a density of 25 units/ha
- 3 erven zoned “Special” for commercial and agricultural purposes
- 7 erven zoned “Special” for a club house and community facilities
- 1 erf zoned for “Residential 2” purposes with 14 dwelling units
- 3 erven zoned “Public Open Space”
- 42 erven zoned “Private Open Space”
- 8 erven zoned “Special” for access control
- 7 erven zoned “Special” for access, access control and engineering services.

4. HISTORICAL AND ARCHAEOLOGICAL BACKGROUND OF THE STUDY AREA

4.1 Databases Consulted

Wits Archaeological Data Bases

Eight previously recorded sites are on record for the 2528 CD topographical sheet at the Wits database (referenced 2009). None of these sites are however in close proximity to the study area.

SAHRA Report Mapping Project

Two previous heritage studies were conducted covering portions of the study area (SAHRA report mapping project V1.0) by J. van Schalkwyk (2007) and Birkholtz (2008). Van Schalkwyk recorded some sites and these are incorporated into the report.

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. Historiography and Methodology

It was necessary to use a range of sources in order to give an accurate account of the history of the area in which the farms Elandsfontein 412 JR and Witkoppies 393 JR are located. Sources include secondary source material, maps and archival documents. It should be noted that this section was written within a limited time-frame, and should therefore only serve as an introduction to the history of the farm.

4.2.1. Maps Of The Area Under Investigation

Since the mid 1800's up until the present, South Africa has been classified into various different districts. Since 1857, the farms Elandsfontein 412 JR and Witkoppies 393 JR formed part of the Pretoria district. (Geskiiedenisatlas van Suid-Afrika 1999: 17) This remained the case up until 1902, after which the farms still formed part of the magisterial district of Pretoria, but also of the area of Witwatersrand. The farms still fell under the jurisdiction of the Pretoria district by 1910, but were no longer considered as being part of the Witwatersrand. This remained the case up until 1977, since which time the farms would have fallen into the magisterial district of the Witwatersrand. In 1994 South Africa was again subdivided into different districts, and as from that time the farm area is located within the Kempton Park district. (Geskiiedenisatlas van Suid-Afrika 1999: 20-27)



REFERENCE	VERKLARINGS
Magisterial Districts	Magistraatsdistrikte
Main Roads	Hoofweë
Railways	Spoorweë
Townships	Dorpe

Figure 3 1931 Map of the Transvaal. The farms were at the time known as Witkoppies No. 105 and Elandsfontein No. 452.

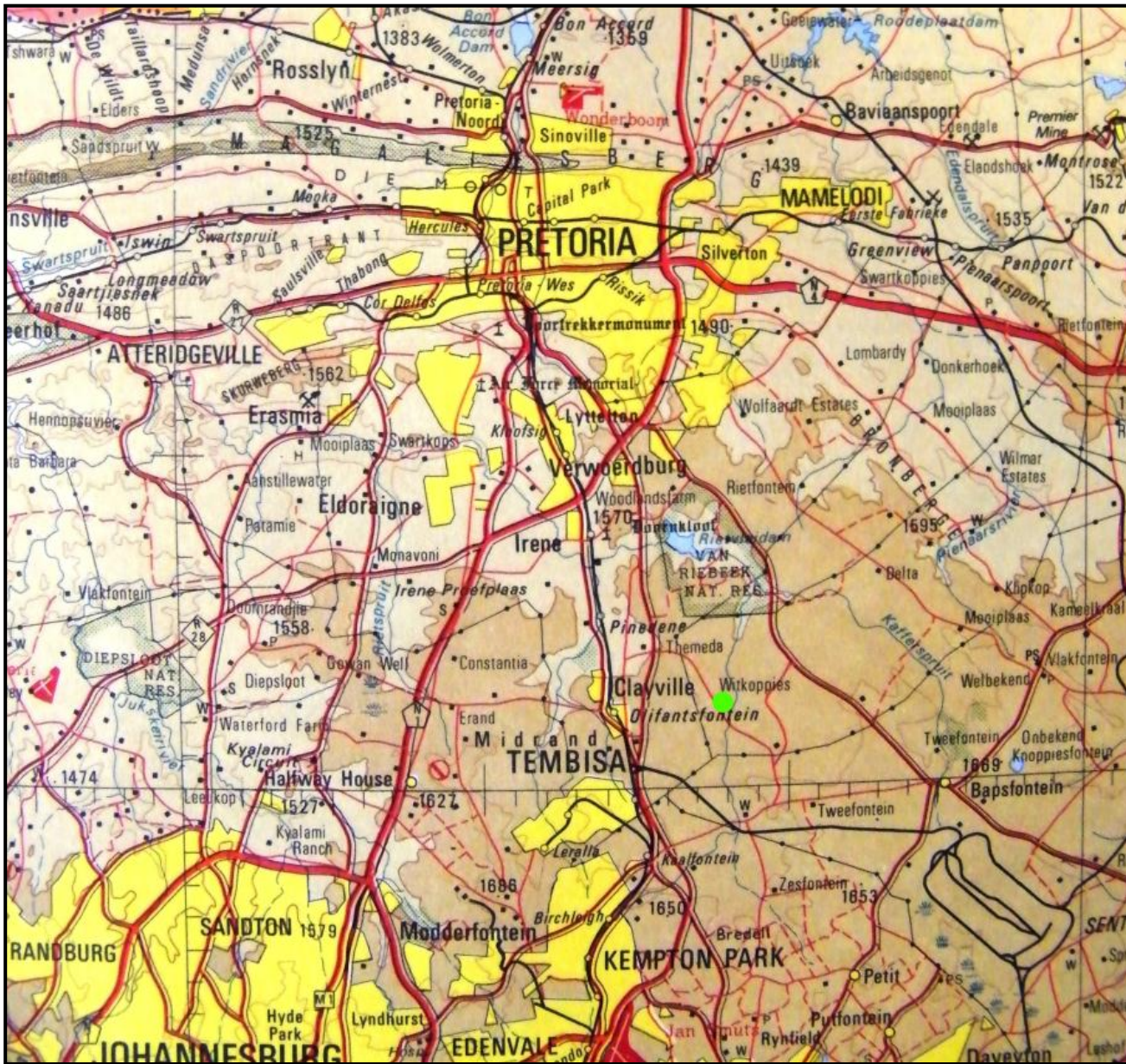


Figure 4: 1982 Topographical Map of the Johannesburg District. The green dot indicates the location of the farm Witkoppies.

4.2.2. A Brief History Of Human Settlement And Black And White Interaction In The Farm 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. According to this source no Stone Age or Iron Age sites are located in the vicinity of the Elandsfontein 412 JR and Witkoppies 393 JR farm area. (Geschiedenisatlas van Suid-Afrika 1999: 4-8)

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, through the area where Elandsfontein 412 JR and Witkoppies 393 JR are situated today. 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. (Geschiedenisatlas van Suid-Afrika 1999: 10-11, 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 already as early as the 1720's. In 1825 the Scottish adventurer David Hume made his journey close by the area where Elandsfontein 412 JR and Witkoppies 393 JR are located today, travelling first from the trade site at Kuruman in a north eastern direction towards the black village of Shoshong (today this is close to the present-day Mahalapye), then in a south eastern direction towards Pretoria, and finally back to Kuruman. In 1847 another famous traveller, David Livingstone, travelled through the area under investigation. Livingstone is probably the best-known traveller to have made his journey through the northern provinces of South Africa, but is even better known for his travels into Central Africa. He arrived at Kuruman in 1841 as a missionary of the London Missionary Society. Two years later, he commenced a second journey into the northern provinces of South Africa. He first established a mission station at Mabotsa under the Kgatla (northwest of the present-day Zeerust), then travelled in a south easterly direction past Rustenburg and turned near the north of Johannesburg. Livingstone then travelled past the area where Pretoria would later be established, through the farm area under investigation. Hereafter he made his way back to the mission station. (Geschiedenisatlas van Suid-Afrika 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, where the farms Elandsfontein 412 JR and Witkoppies 393 JR are situated. The concentration camp located closest to the farm area was situated to the southwest of Pretoria, in the Irene area. Several black concentration camps were located to the east and the west of the farms. The battle that took place closest to the farms played out at Donkerhoek, some distance to the southeast of Pretoria. (Geschiedenisatlas van Suid-Afrika 1999: 54) The Boer side lost ground against the British 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. (Theron 1984: 273-279)

Between 1939 and 1940, farm boundaries were drawn up in an area that includes the present-day Kempton Park magisterial area. (Geschiedenisatlas van Suid-Afrika 1999: 15)

The properties Elandsfontein 412 JR and Witkoppies 393 JR are today located within the Kempton Park area, and it is more than likely that the development of this town would have had an impact in the area of study. Some information regarding the foundation and development of Kempton Park will therefore be provided.

Kempton Park is situated some 20 kilometres to the northeast of Johannesburg and about 40 kilometres south of Pretoria. The town is strategically located, as the Jan Smuts Airport falls within the town's municipal boundary. The official known date for the establishment of the town was 25 August 1903, but the area was inhabited long before this time: first by nomadic hunters and cattle farmers, and later by white settlers who had made their journey from the Cape. An important date to note is 25 October 1959, when the Zuid Afrikaansche Republiek issued a title deed over the farm Zuurfontein No. 369 to Johannes Stephanus Marais. The land was inspected on 12 December 1859 and declared to be about 3000 morgen in extent, though it was about 1000 morgen larger. In March 1865 the farm Rietfontein 32 IR, just northwest of Zuurfontein, was registered in the

name of Cornelius Johannes Beukes, and these two farms formed the bulk of what is today known as Kempton Park. Gold prospecting started in the Transvaal as from 1886, and suddenly the farms Rietfontein and Zuurfontein were alive with activity. The construction of a railway line by the Nederlandsche Zuid-Afrikaansche Spoorwegmaatskappij from Pretoria was another big step in the development of the area. Stations were built at Irene, Kaalfontein and Zuurfontein. A third important development was the construction of a large dynamite factory to the northwest of Zuurfontein by the Zuid-Afrikaansche Maatschappij van Ontploffbare Stoffen. This was important, due to the growing demand for explosives at the goldmines of the Witwatersrand. The Zuurfontein station became the link with the Pretoria line and this further sped up development in the area. (Anon 1978: 7, 9, 13 & 15)

The founder of Kempton Park was one Carl Friedrich Wolff, who was born in Kempten, the capital of the Bavarian district Allgau in South Germany. It is for this reason that the town was named Kempton Park. The town was established in 1903, and the first records of a government school in the area (on Zuurfontein) dates back to 1904. In 1907 the Zuurfontein Mission Sunday School was established, and one of the first businesses was McNamara Shot Drills, which was founded in 1914. In 1923 a vigilance committee for the town was elected, and two years later Kempton Park's first police station was established. Zuurfontein School became Kempton Park School in 1934, and in the following year the Health Committee was proclaimed. The first electricity was installed in Kempton Park in 1937, and in 1939 the town had its first Village Council. The Esselen Parks Railway College was established in the town in 1941. Two years later the first water reticulation scheme was installed. A very important date was 1945, when the Jan Smuts Airport was proclaimed. In 1954 the town got its first sewerage system and in 1976 the Kempton Park Hospital opened. (Anon 1978: 17, 94-95)

4.2.3. Historical Overview Of The Ownership And Development Of The Farms Elandsfontein 412 Jr And Witkoppies 393 Jr

Some facets of the history of the farms Elandsfontein 412 JR and Witkoppies 393 JR could be determined by studying a list of the archival documents available on the properties in the National Archives of South Africa. It should be noted that the farms formerly had different numbers, and were known as Elandsfontein No. 452 and Witkoppies No. 105 by 1931.

Elandsfontein 412 JR (previously No. 452)

A house was used on the farm Elandsfontein for the purposes of a school during 1907. Mr. D.J.E. Opperman requested the Education Department in June 1907 to take the school over and convert it to a government school. The request was granted and the government would lease the property from Mr. D.J.E. Opperman.

The new Government school was opened in August 1907 and closed in September 1907 due to the teacher, Miss Otto, leaving to take a post at Pretoria West End School. (NASA TAB, TED: 2053 E1310)

On 2 January 1935, Sara Maria Gildenhuis, the owner of the farm Elandsfontein No. 452 in the Pretoria District, applied to have one G. C. Nel as a helper on her farm. Nel would live in a room constructed of bricks, with an iron roof. He would be paid two pounds per month and accommodation would be free. He would furthermore earn a quarter of the farm's produce. The following were planted: wheat, maize, luserne, potatoes, various vegetables, and summer fruit. Chickens and cattle were also kept on the farm. (NASA SAB, VWR: 119 B645/201/37)

On 15 October 1935 S. M. Gildenhuis applied to the government for a support grant for a helper on her farm. This person was Gerhardus Marthinus Steenkamp, a 30 year old married man with two small children. It was asked that a monthly grant of 2 pounds would be paid by the Department of Labour and National Welfare for the period of 8 August 1936 to 8 August 1937. At this stage Ms Gildenhuis had experienced three years of failed harvests and therefore was not able to earn a salary. Gildenhuis did not live on the farm herself, but her son, B. C. Gildenhuis acted as the manager on the farm. (NASA SAB, VWR: 119 B645/201/37)

In November 1936 S. M. Gildenhuis filled out another form, and some information is provided regarding the farm. The approximate value of the property at that stage was 2800 pounds (400 morgen farm), and the approximate value of cattle and other assets was 200 pounds. It was approximated that the annual income of the farm was 50 pounds. At that stage the property was used for mixed farming. About 20 morgen of the farm was irrigated, and another 10 morgen was planted. About 370 morgen of the farmland was used for grazing. A fountain provided water on the property. It was noted that the owner of the farm would provide four bags of seed, a plough, a planter, 26 oxen and four black labourers to Steenkamp to work with on the farm. (NASA SAB, VWR: 119 B645/201/37)

In October 1941, the Secretary for Defence for the Union of South Africa sent two copies of an Agreement of Lease, in respect of the farm Elandsfontein No. 452, to the Secretary for Public Works. This agreement was entered into with Willem Maarten Jacobus Opperman. It was depicted in the agreement that Opperman would lease the Remaining Extent of Elandsfontein to the government of the Union of South Africa, measuring 132.5 morgen, as from August 1941 for the monthly amount of twenty pounds. The government would then have the right to prepare the ground for the purpose of a military aerodrome. The government could then also erect any buildings or structures for the use of an aerodrome or other military purposes, whilst retaining the right to tear down these structures. (NASA SAB, PWD: 3540 19/11413)

By 1946 the Department of Defence had made a number of improvements on the property. These improvements included the following:

- A store with a concrete foundation, cement floor and wooden and iron walls, which was in a fair condition. Size: 20' x 13'
- A pit latrine with a concrete foundation; fair condition. Size: 7' x 6'
- A garage with a concrete foundation, cement floor and a pitch roof; bad condition. Size: 89' x 34'
- Offices with a concrete foundation, cement floors and a pitch roof; fair condition. Size: 61' x 16'
- A non-European pit latrine with an earth floor; fair condition. Size: (3) 10' x 12
- European pit latrine with a cement floor; fair condition. Size: 7' x 6'
- A shelter with a cement floor, walls of weather board and a lean-to roof; bad condition. Size: 8' x 15'.

These improvements were offered for sale to Opperman for a sum of 350 pounds when the lease contract ended on 25 June 1946. (NASA SAB, PWD: 3540 19/11413)

On 2 September 1948 permission was granted that portion 50 of farm Elandsfontein be subdivided into portions 51, 52 & 53. (NASA SAB, CDB: 3/701 TAD9/18/77)

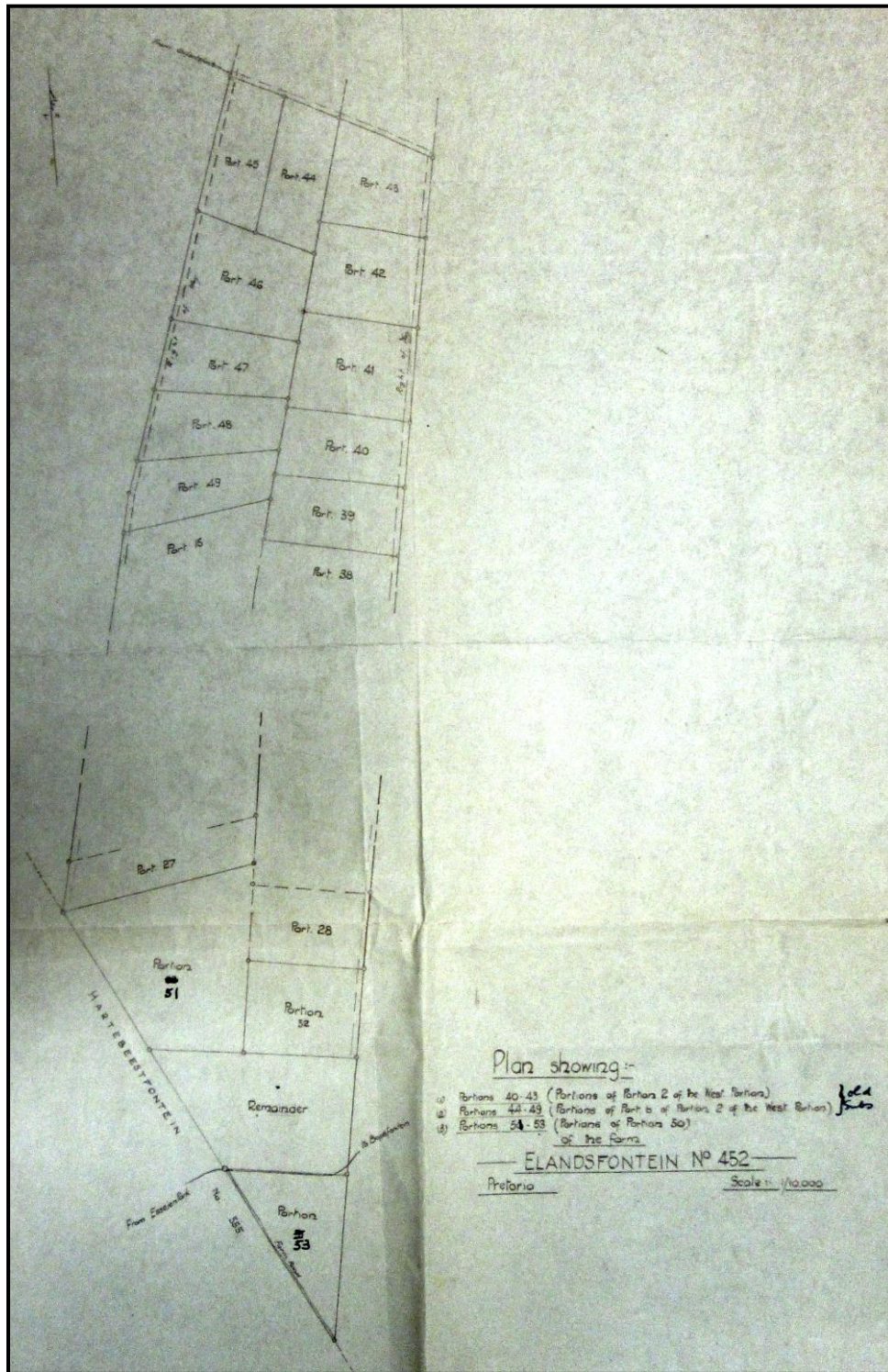


Figure 5: Subdivision of Elandsfontein in 1948.

On 15 March 1968 Mr. H.J. van Eck applied for permission to have a block of flats built on portion 70 (a portion of portion 68) of farm Elandsfontein 412 JR. The request was however rejected by the Department of Local Affairs on 6 January 1969. (NASA SAB, CDB: 3/936 TAD9/52/9)

On 23 April 1971, portion 53 of farm Elandsfontein 412JR was sold to Mewes Johan Tromp van Niekerk. In 1977 a request was made to have a café built on this portion as well as obtain business rights to trade. On 10 January 1978 the request and rights was approved and granted by the Department of Local Affairs. (NASA SAB, CDB: 14994 PB4/19/2/22/412/1)

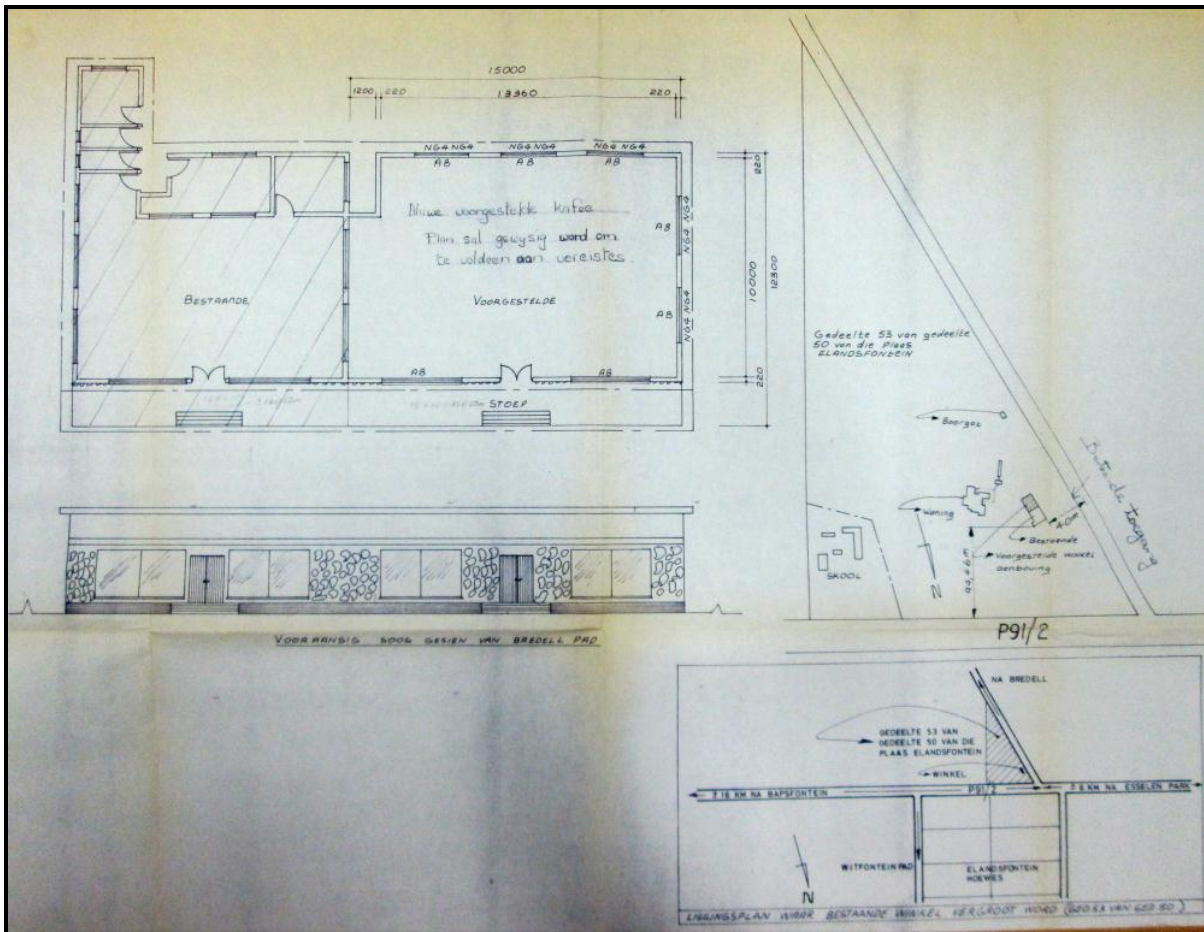


Figure 6: Proposed building plan of a cafe on Portion 53 of the farm Elandsfontein. (NASA SAB, CDB: 14994 PB4/19/2/22/412/1)

On 10 December 1975 permission was granted to James Sydney & Co to establish a factory used for the manufacture of explosives on portion 113 (a portion of portion 9) on farm Elandsfontein 412JR. (NASA SAB, CDB: 14963 PB4/19/2/20/412/1)

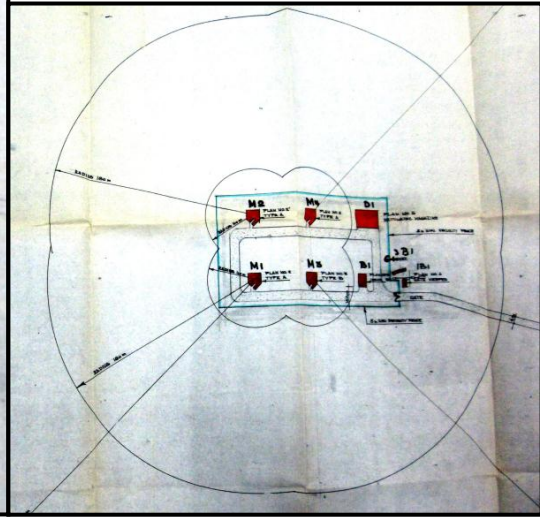
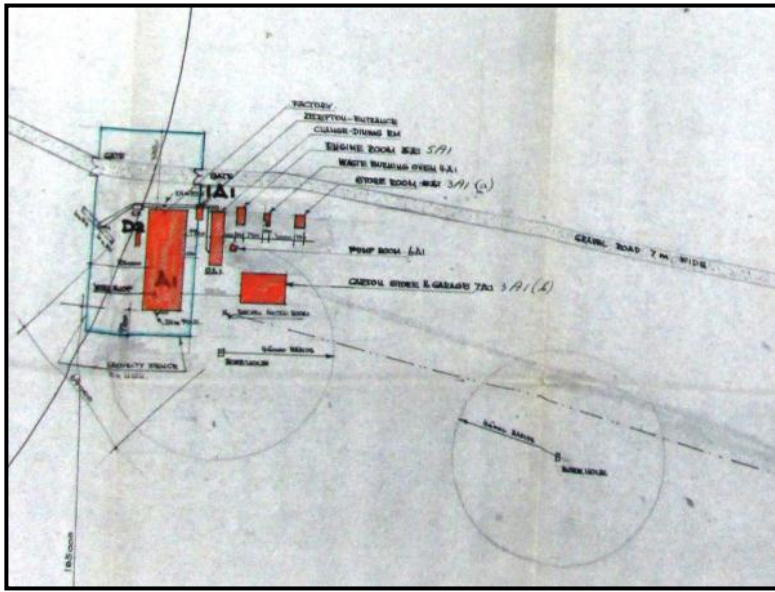
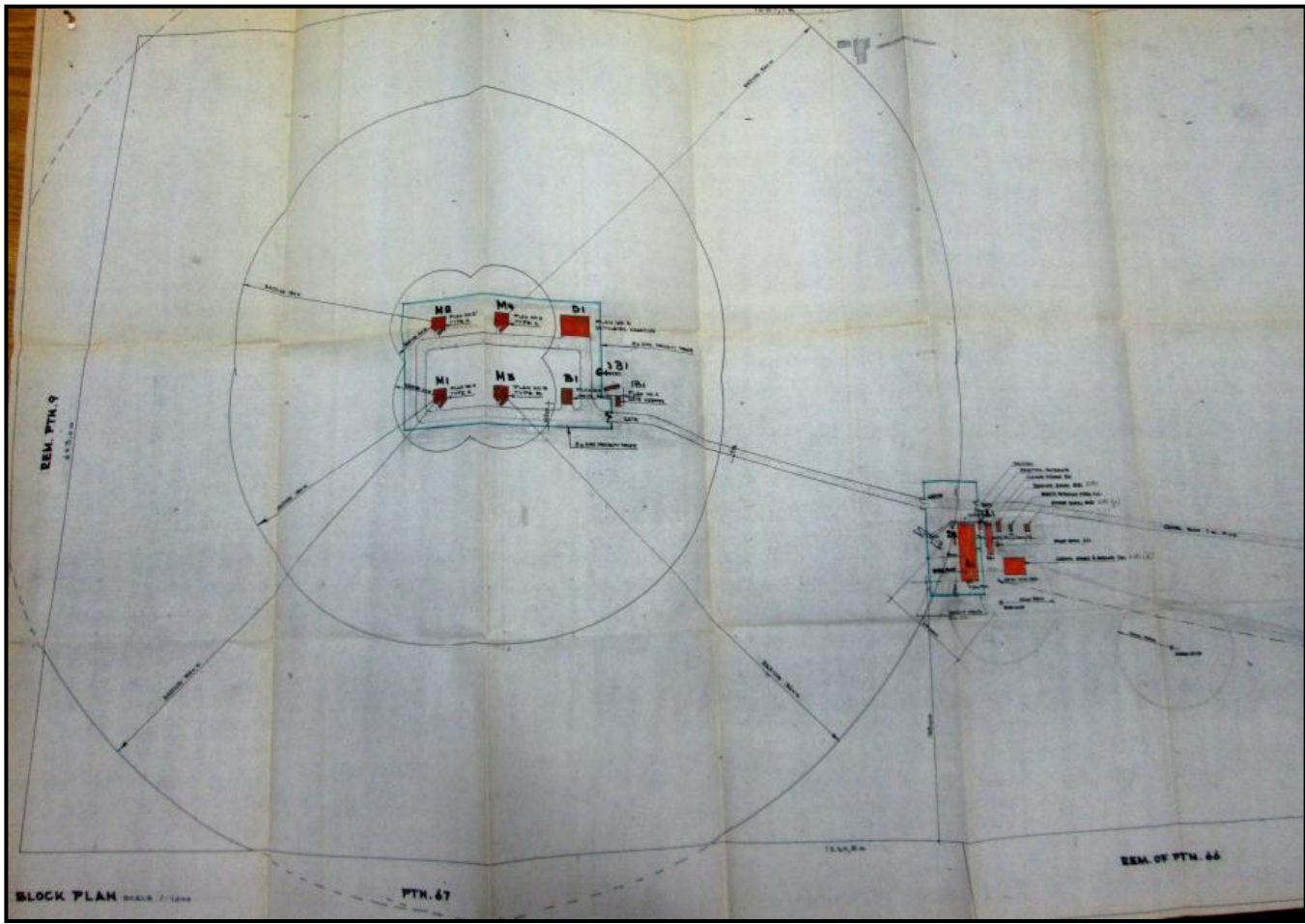


Figure 7 : Location of the factory used for the manufacture of explosives on portion 113 (a portion of portion 9) on farm Elandsfontein 412JR. (NASA SAB, CDB: 14963 PB4/19/2/20/412/1)

Mr. F de Abreu applied for rights to have a motor garage and a scrap yard built on portion 53 (a portion of portion 50) on 1 July 1982. The request was denied on 25 July 1983 by the Director of Local Government. (NASA SAB, CDB: 14963 PB4/14/2/20/412/2)

Witkoppies 393 JR (previously No. 105)

On 12 March 1936 an Irrigation Loan for the sum of six hundred pounds for a period of twenty years was made to Rasmus Stephanus Elardus Erasmus (in the estates of the late Johannes Elardus Erasmus and Aletta Johanna Erasmus, born Jacobsz) for the freehold farm Witkoppies No. 105. (NASA SAB, URU: 1569 664)

On 30 September 1941 the Secretary for Defence wrote to the Secretary for Public Works noting that a Wireless Transmitter Workshop would be erected at the Waterkloof Air Station on Witkoppies No. 105. It was estimated that the expenditure to erect the station would amount to 13 500 pounds sterling. 12 500 pounds were allocated for the construction of the building, and 1000 pounds for the supply of electric lighting, drainage and water supply. On 24 October 1941 the Secretary for Public Works replied, saying that the erection of the wireless workshop had been entrusted to a Pretoria contractor, and was due for completion in ten weeks. This contractor was Mr. J. P. Lamb of 131 Mears Street, Pretoria. Due to the urgency of the matter, time did not permit for the invitation of tenders. Some of the materials used in the construction of the Workshop were the following:

- Linoleum and Leidek (for flooring),
- Rhino board, chequer plate covers,
- Rhino board cornice, Asbestos (roofing,
- Eaves gutter, rainwater pipe and ridge covering),
- Elbows to rainwater pipes,
- Bricks,
- Hollow blocks,
- Doors,
- Teak frames to duct openings,
- Framing to offices,
- Floor spring hinges,
- An indicator bolt,
- Locks,
- A locking bar and padlock,
- Grip handles
- Monkey-tail bolts

Strap hinges and rag bolts
 Fish plates
 Tubular gates
 Steel windows
 Aeroductors
 Hydrants and hose reels
 Basins
 Sink
 Urinal and cistern
 W. C. Suites
 Timber

The construction was completed and taken over from the contractor on 19th January 1942. (NASA SAB, PWD: 722 27/1494)

Some of the sections of the Wireless Transmitter Workshop included a Test Section, a Construction Shop, a store and a Vehicle Shop. In order to ensure that there would be no interruption in the wireless services at the station due to a failure in the main power supply, it was proposed that a 70 K. V. A. 3 phase 380/220 volt emergency power plant would be installed. The plant would be provided and installed by the South African Air Force and the "change over" switch gear would also be installed by them. A building to house the plant was also required, and a fuel store would then also be necessary. In May 1942 it was estimated that the cost of these buildings would be 500 pounds sterling. Electrical connections to the wireless transmitter block would then also have to be installed. (NASA SAB, PWD: 722 27/1494)

A completing report for the Wireless Workshop at the Waterkloof Air Station was filled out on 25 July 1945 by the District Engineer of the Pretoria district. The cost for the entire project (including electrical work) amounted to 18 261 pounds sterling. It was noted that the contractor was satisfactory and would be recommended for further service. (NASA SAB, PWD: 722 27/1494)

On 29 November 1976 Portion 7 (a portion of Portion 3) of the farm Witkoppies 393 JR was transferred from the ownership of John Clifford Carkeek (Born on 21 August 1917) to R. V. O. Aannemers (Eiendoms) Beperk. This portion measured 23, 8983 hectares, and was sold for the sum of R23 000.00. The conditions of sale were the following:

1. That the owner of Portion 3 of the farm Witkoppies 393 JR, as well as the owners of sections B and D of the Remaining Extent of the farm, would also have the right to the use of water from the neighbouring farm Elandsfontein 452 JR.

2. Portion 3 of the farm furthermore had a right to a quarter share of the water in the water furrow running from section B to section D of the Remaining Extent of the farm.
3. The land would furthermore be used solely for residential and agricultural purposes. The number of buildings on the land, or on any duly approved subdivision thereof, would not exceed one residence together with such outbuildings which were ordinarily required to be used in connection therewith and such further buildings and structures as would be required for purposes of agriculture. No sort of place of business or industry whatsoever could be opened or conducted on the land. Furthermore, no building or structure could be erected within a distance of 94, 46 metres from the centre line of a public road.
4. On 18 September 1973 the right was granted to the Electricity Supply Commission to convey electricity over Portion 7 of the property, together with ancillary rights.

(NASA SAB, CDB: 15325 PB4/19/2/37/393/1)

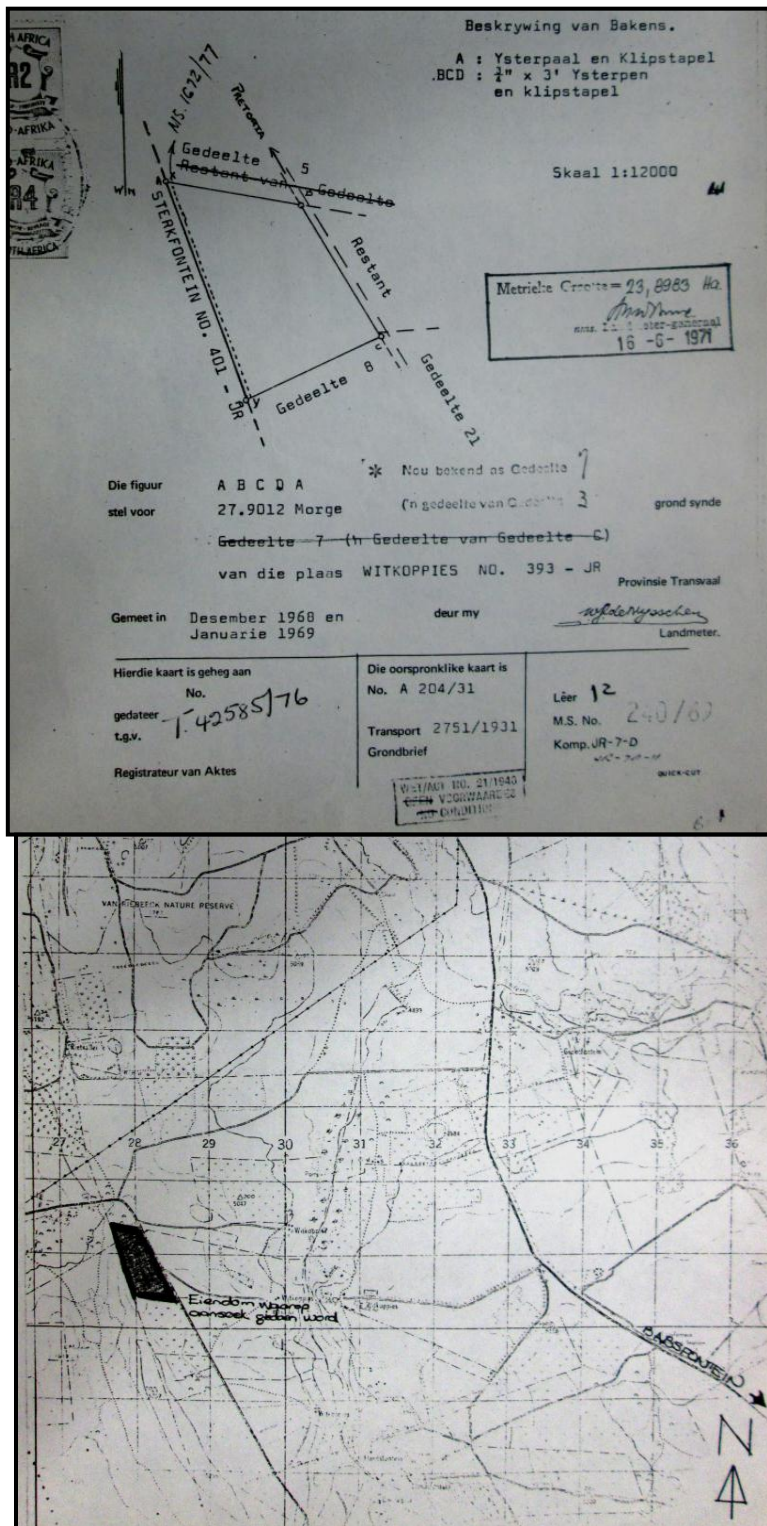


Figure 8: A sketch map of Portion 7 of Witkoppies, as well as a map showing the location of this portion. (NASA SAB, CDB: 15325 PB4/19/2/37/393/1)

On 8 October 1979, R. V. O. Aannemers (Edms) Beperk applied to the Director Local Management for the legalisation of the construction of a workshop on Portion 7 of Witkoppies 393 JR. The workshop would be used for the repair of the landowner's own agricultural machinery and implements.

The workshop had a floor measurement of 412, 5 square meters. Three store rooms had been built, measuring 21.6, 18.6 and 28.8 square meters respectively, as well as toilet facilities for whites and non-whites. (NASA SAB, CDB: 15325 PB4/19/2/37/393/1)

The location of the property was describes as being 20km south of Pretoria, just south of the Apollo power station and just south of the Rietvlei Dam Nature Reserve, as well as 2km east of the Pretoria-Kempton Park highway. The property was at that time situated within the jurisdiction of the Transvaal Council for the Development of Peri-Urban Areas. (NASA SAB, CDB: 15325 PB4/19/2/37/393/1)

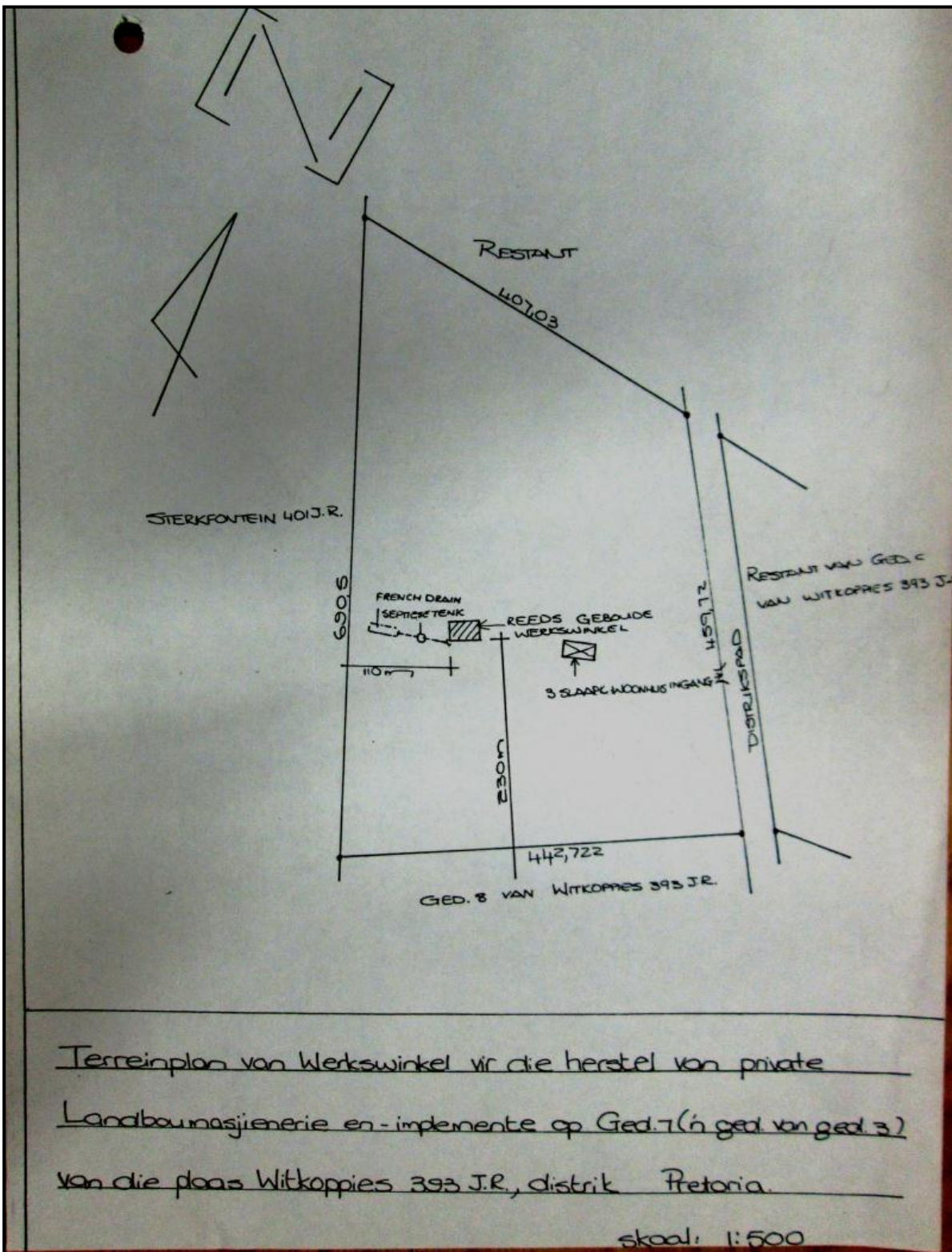


Figure 9: Terrain plan for the workshop for the repair of private agricultural machinery and implements on Portion 7 of the farm Witkopjes 393 JR. Scale: 1:500. (NASA SAB, CDB: 15325 PB4/19/2/37/393/1)

The situation was explained as follows: the owner of the land had spent a vast amount of resources to construct a workshop for the repair of private agricultural implements and machinery, and had not deemed it necessary to provide plans for the development in advance, since these developments had to do with agricultural activities, as stipulated in the conditions of the Deed of Transfer. All the implements and machinery mentioned were however used on other properties. (NASA SAB, CDB: 15325 PB4/19/2/37/393/1)

The landowner explained that Portion 7 of the farm Witkoppies 393 JP was of such a nature that it served best for the construction of such a building. The land was of poor quality and rocky, and an insufficient supply of water prevented that intensive agricultural activities could be practiced there. The property was also too small for the keeping of cattle. The property was however very well situated with regards to transport routes. (NASA SAB, CDB: 15325 PB4/19/2/37/393/1)

R. V. O. Aannemers (Edms) Beperk owned several forestry enterprises in the Eastern Transvaal, and especially in the area of Carolina and Ermelo. The firm supplied especially the mining areas of the Witwatersrand with wood. Due to the nature of forestry activities, it was necessary to the landowner to own his own heavy machinery and implements for the cultivation of felled trees, as well as the building of forestry roads. These implements and machines were very expensive and required proper upkeep, and R. V. O. Aannemers (Edms) Beperk explained that a central place was needed for the repair, upkeep and servicing thereof. It was also necessary to provide facilities for the technicians and experts that were employed to work in the workshop. One white technician and six black helpers would be employed and live on the site. (NASA SAB, CDB: 15325 PB4/19/2/37/393/1)

R. V. O. Aannemers (Edms) Beperk received a reply to their application from the Director of Roads on 18 January 1980. Since the building was erected 156.90 meters from the road, the application was approved. The Secretary for Industry however denied the request for the legalisation of the workshop, as well as the employment of black workers on Portion 7 of Witkoppies on 13 May 1980. (NASA SAB, CDB: 15325 PB4/19/2/37/393/1)

The firm once again wrote to the Secretary for Industry, explaining that there had been a misunderstanding regarding the admissibility of the workshop complex. R. V. O. Aannemers (Edms) Beperk had apparently contacted and sent plans to the council for Peri-Urban Areas, asking whether it would be lawfully permitted to establish the complex. The Council's reply was apparently that it was not necessary to provide development plans to the council if a property was larger than 25 morgen. This is why it was decided to continue with the development. Since an amount of R72 000.00 had already been spent on building the workshop, the Secretary was urgently besieged to reconsider. (NASA SAB, CDB: 15325 PB4/19/2/37/393/1)

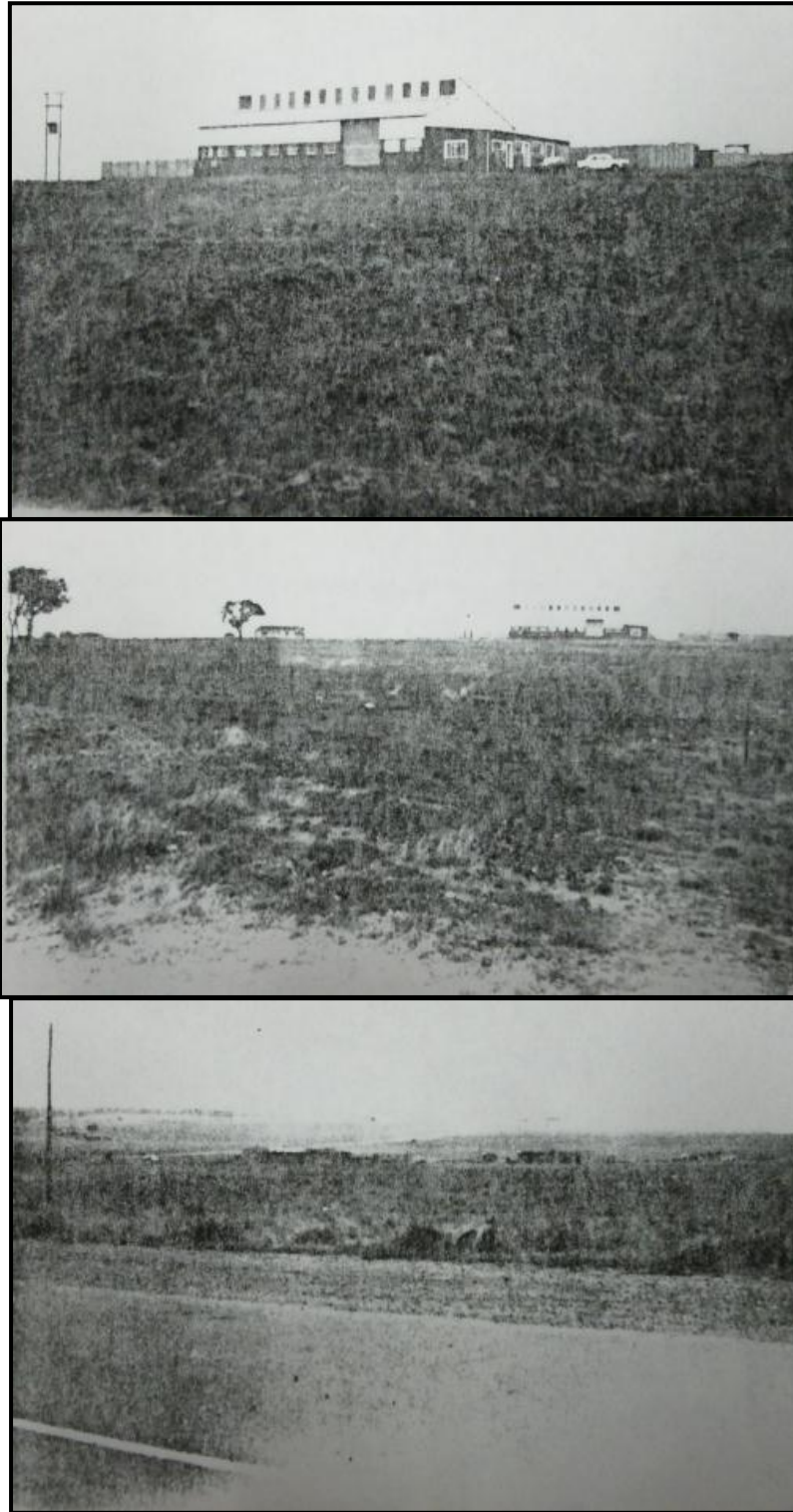


Figure 10: Photographs showing the workshop as well as its location with regards to the road. (NASA SAB, CDB: 15325 PB4/19/2/37/393/1)

In a memorandum regarding the affair, dated 2 January 1981, it is noted that apart from the Department of Industry's denial of R. V. O. Aannemers (Edms) Beperk's request, the Transvaal Council for the Development

of Peri-Urban Areas was also averse to permitting this development. The latter however conceded that the firm could continue its activities on the farm up until 30 October 1982, after which time R. V. O. Aannemers (Edms) Beperk would have to move their workshop to a town area. No further rights were granted to the firm to continue running its workshop on the site by May 1983, but it could not be ascertained from the documentary evidence whether the workshop was moved hereafter. (NASA SAB, CDB: 15325 PB4/19/2/37/393/1)

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 quarry extension 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.

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 STUDY-DESCRIPTION OF SITES

From the site distribution map (Figure 12) it is clear that most of the recorded sites occur within the western portion of the surveyed area. With the exception of a cemetery in the eastern portion of the survey area. Structures mostly consisting of the remnants of cattle pens and residential dwellings with associated outbuildings are found scattered over the study area.

Six heritage sites were recorded consisting of three informal cemeteries (**Site 1, 2 and 3**) a stone walled enclosure possibly of Late Iron Age origin (**Site 4**) and a further two stone walled enclosures previously classified as belonging to the Anglo Boer war (**Site 5 and 6**) that should be considered a no-go area in development with a 30m buffer from the stone walled sites and 15 meters from the grave sites. A total of 10 structures were mapped (Figure 11), recorded and digitally photographed. According to current information these sites are probably younger than 60 years, of little architectural value on of low heritage significance.

Archaeological visibility was very low due to crops, high grass cover and impenetrable wattle and poplar plantations (Figure 14 – 17).

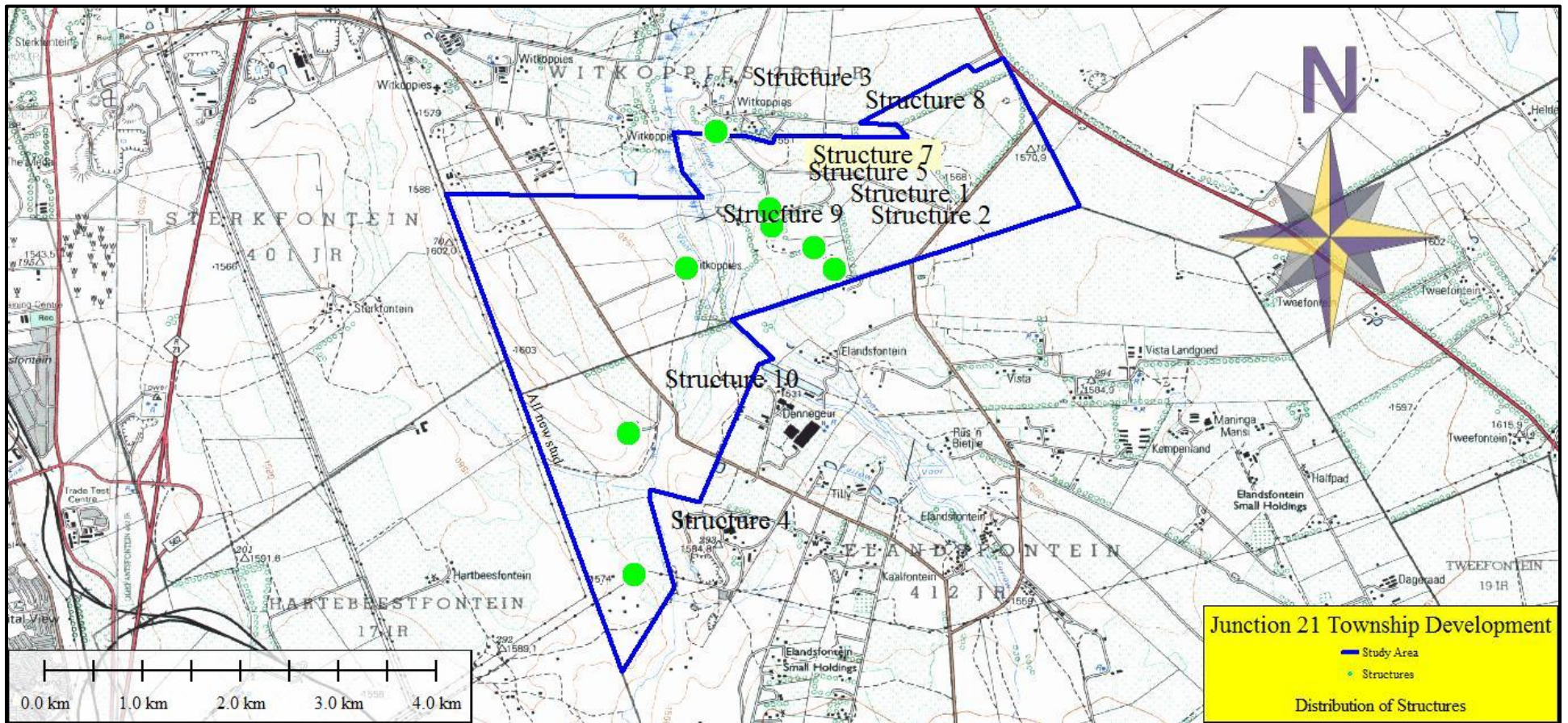


Figure 11. Distribution of structures within the study area.

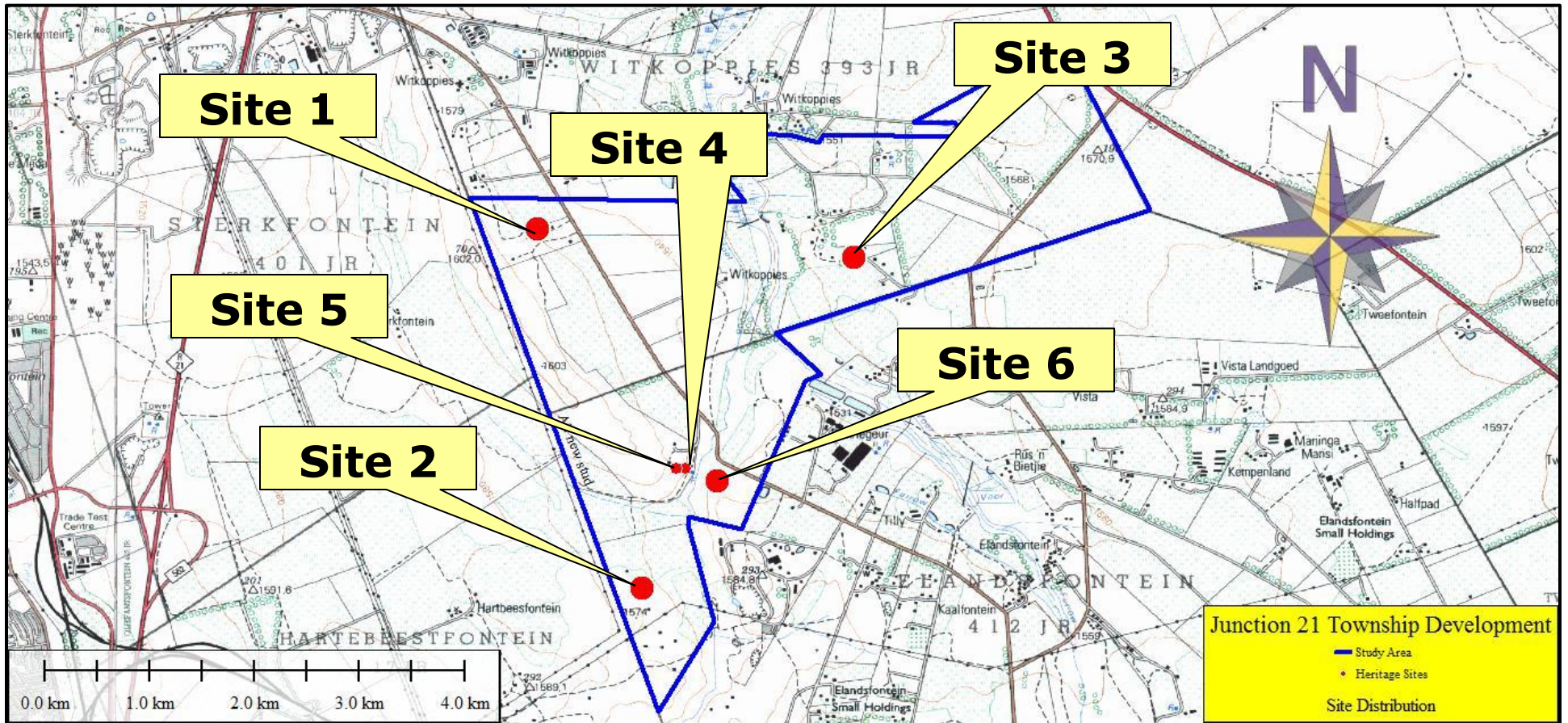


Figure 12: Site distribution map



Figure 13. Maize fields hampered coverage of the area



Figure 14. Dense wattle plantations.



Figure 15. Agricultural fields covered large parts of the study area.



Figure 16. Dense vegetation in the study area.

6.2 DESCRIPTION OF FINDS

6.2.1 Sites with Coordinates

Site Number	Type Site	Cultural Markers	Co ordinate	Recorded by
Site 1	Cemetery	Graves mostly stone packed.	S25 57 05.6 E28 17 09.0	J vd Walt 2013
Site 2	Cemetery	Stone packed graves, several with granite headstones	S25 58 56.0 E28 17 41.3	J vd Walt 2013
Site3	Cemetery	Graves mostly stone packed.	S25 57 14.6 E28 18 46.4	J vd Walt 2013
Site 4	Possible Late Iron Age	Stone walled enclosure	S25 58 19.3 E28 17 54.6	J van Schalkwyk 2007 (Site 9)
Site 5	Possibly Anglo Boer War	Stone Walled enclosure	S25 58 19.3 E28 17 51.8	J van Schalkwyk 2007 (Site 10)
Site 6	Possibly Anglo Boer War	Stone Walled enclosure	S29 56 04.1 E22 24 14.2	J van Schalkwyk 2007 (Site 11)

Site 1: Informal cemetery

The site consists of a large overgrown cemetery located on the edge of a large maize field. The graves are aligned east to west and are mostly stone packed. One cement headstone was visible with a single decipherable inscription of 1947 inscribed into the cement. It is not clear if this refers to the birth date or passing away date. Based on the size of the grave it belongs to a child. The site is so overgrown that it is not possible to determine the amount of graves present. According to the farmer Mr N Botha is a large cemetery.

The location of the proposed infrastructure is not available at this point and it is uncertain if there will be a direct impact on the informal cemetery.

Heritage significance: Generally Protected A (GP.A)
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Site 2: Informal cemetery

This is the location of a large informal cemetery. The site is still regularly visited by the family members evident from the fact that most of the graves are regularly cleaned. Several graves have recently erected granite headstones. Some cement headstones are also present with the majority stone packed graves all aligned east to west. The site is highly overgrown but it is estimated the site contain close to a hundred graves but needs to be verified.

The location of the proposed infrastructure is not available at this point and it is uncertain if there will be a direct impact on the informal cemetery.

Heritage significance: Generally Protected A (GP.A)
--

Site 3: Informal cemetery

The site consists of more than 20 stone packed graves. Based on the size of the graves several children graves are also present. The graves are aligned east to west and are located in a cluster of wattle trees that makes it difficult to get an accurate count of the graves present.

The location of the proposed infrastructure is not available at this point and it is uncertain if there will be a direct impact on the informal cemetery.

Heritage significance: Generally Protected A (GP.A)
--

Site 4: Previously recorded as a possible Iron Age enclosure

The site was first recorded by J van Schalkwyk in 2007. It was described as follows: "Some stone walling, consisting of a large central enclosure, with some terracing to the south and west of it. It is possible that this dates to the Iron Age or early historic times. The walls are constructed in typical manner: two parallel rows of large stones are used on the outside, and is then filled in with smaller stones inside". The site was revisited by the author as part of the current study. The site is overgrown and no further cultural material or elements were noted that can shed light to the age or period of the structure. The site is located on a ridge close to the Rietvlei river.

The location of the proposed infrastructure is not available at this point and it is uncertain if there will be a direct impact on the stone walled enclosure.

Heritage significance: Generally Protected A (GP.A)

Site 5 & 6: Previously recorded as a possible Anglo Boer war stone walled enclosure

Both these sites were also recorded by J van Schalkwyk in 2007. He considered both sites to belong to the same time period and being defensive in nature forming a unit and recorded a loophole on the northern side of the stone walled enclosure at Site 6. He further distinguishes these sites from Site 4 based on the different construction techniques used. Furthermore during the current study unmarked earthen ware fragments were noted providing evidence that this site possibly belong to the historic period. The site is on the same ridge as Site 4 close to the Rietvlei River.

The location of the proposed infrastructure is not available at this point and it is uncertain if there will be a direct impact on the stone walled enclosure.

Heritage significance: Generally Protected A (GP.A)



Figure 17: Cement headstone at Site 1

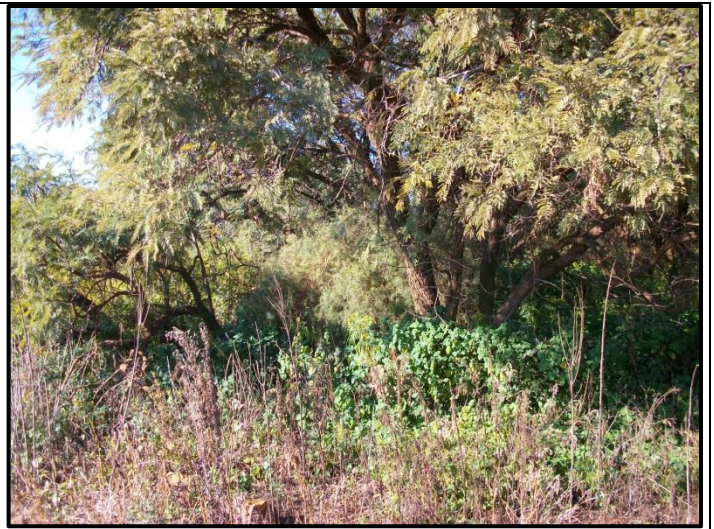


Figure 18: General view of Site 1



Figure 19: Granite headstones at Site 2



Figure 20: General site conditions at Site 2



Figure 21: Stone packed graves at Site 3



Figure 22: General site condition at Site 3



Figure 23: Stone walling at Site 4



Figure 24: Overgrown Stone walling at Site 5

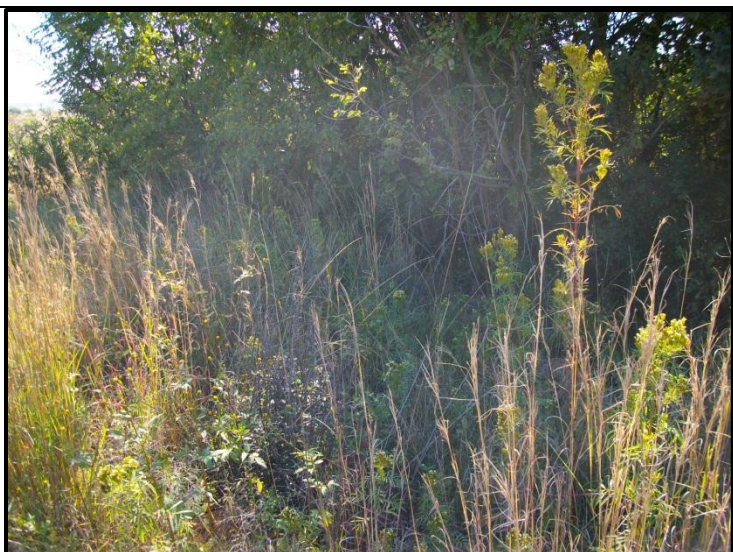


Figure 25: General site conditions at Site 6



Figure 26: Stone wall foundations at Site 6

6.2.2 Structures with Coordinates

Site Number	Type Site	Cultural Markers	Co ordinate	Recorded By
Structure 1	Dwelling	N.A.	S25 57 13.7 E28 18 49.5	J vd Walt 2013
Structure 2	Dwelling	N.A.	S25 57 20.9 E28 18 56.6	J vd Walt 2013
Structure 3	Dwelling	N.A.	S25 56 35.6 E28 18 17.2	J vd Walt 2013
Structure 4	Dwelling	N.A.	S25 59 02.1 E28 17 50.1	J vd Walt 2013
Structure 5	Dwelling	N.A.	S25 57 06.7 E28 18 35.7	J vd Walt 2013
Structure 6	Dwelling	N.A.	S25 57 05.2 E28 18 34.9	J vd Walt 2013

Structure 7	Dwelling	N.A.	S25 57 01.1 E28 18 35.0	J vd Walt 2013
Structure 8	Dwelling	N.A.	S25 56 43.0 E28 18 54.6	J vd Walt 2013
Structure 9	Dwelling	N.A.	S25 57 20.5 E28 18 07.4	J vd Walt 2013
Structure 10	Dwelling	N.A.	S25 58 15.2 E28 17 48.2	J van Schalkwyk 2007

There is a possibility that not all of the structures have been recorded within the study area.



Figure 27: Structure 10



Figure 28: Structure 4



Figure 29: Structure 5



Figure 30: Structure 6



Figure 31: Structure 7



Figure 32: Structure 2

Impact evaluation of the proposed project on heritage resources

Sites 1 -6: Cemeteries and stone walled enclosures

Nature: During the construction phase activities resulting in disturbance of surfaces and/or sub-surfaces may destroy, damage, alter, or remove from its original position informal cemeteries as well as archaeological, historical material or objects.

Mitigation:

6 sites were identified during the survey. As the infrastructure layout is not available at this time it is unknown if any of these sites will be directly impacted by the proposed development. It is however possible with the current baseline information to assist the planning team to avoid the recorded heritage resources as a mitigation measure and to incorporate these “no go’ areas as open spaces into the development.

If this is not possible the cemeteries (**Site 1 -3**) can be relocated adhering to all the legal requirements required from such a process. The same goes for the stone walled enclosures (**Sites 4 -6**), if these cannot be preserved they will have to be mapped, test excavated and possibly memorialised

Cumulative impacts:

Sites like these are non-renewable and impact on any sites context or material will be permanent and destructive.

Residual Impacts: Depletion of archaeological and historical record of the area.

7. RECOMMENDATIONS

Six heritage significant sites have been recorded in the study area. Since a layout plan for the proposed infrastructure associated with the township development is not available at this stage it is not possible to determine if the recorded sites will be impact upon by the proposed development. It is however possible to make recommendations for the preservation of these sites within the development or if this is not possible what mitigation actions will be necessary. **Sites 4-6** have been previously recorded (van Schalkwyk 2007) and for the purposes of this report their classification as belonging to the Iron Age and historical (Anglo Boer) period has been retained. However during the archival and background study no reference was found regarding Anglo Boer war activity on the farm and this preliminary classification should be used cautiously.

The following recommendations are applicable for the proposed project:

- The informal cemeteries (**Sites 1 - 3**), are to be preserved in situ (no go areas), it will have to be fenced off and provided with a gate for access by family members. A buffer zone of at least 15 meters will have to be kept around the site in order to facilitate the protection of the site.
- If the preservation of the cemeteries is not possible they can be relocated but this should be viewed as a last option adhering to all the applicable legislation.
- The location of the stone walled sites (**Sites 4 -6**) on the ridge in the western portion of the study area should facilitate their preservation in situ with a buffer zone of at least 50 meters around them (no go areas).
- If this is not possible from a development perspective extensive mitigation will be needed and will include as a minimum scale mapping and test excavation of the sites with possible memorialization of the sites. After which application can be made to SAHRA for their destruction.
- It is further recommended that a Conservation Management Plan is drawn up and included in the EMP for the project to protect no go areas if the in situ option is taken.
- The public participation process (as part of the EIA) should include a heritage component. This will ensure that any graves or heritage sites that was not picked up during the survey be recorded and dealt with before development starts.
- If any possible artefacts are found such as tool scatters, bone or fossil remains are exposed or noticed during construction, the operations must be stopped and a qualified archaeologist must be contacted to assess the find.

8. CONCLUSIONS

The impacts to heritage resources by the proposed development are not considered to be highly significant and the impact on the recorded sites can very easily be mitigated. Three informal cemeteries was identified, ideally these should be retained into open places within the development. Three stone wall enclosures were documented on a ridge in the western portion of the study area and these can be easily retained and incorporated within the development. Several structures occur on the property mostly consisting of residential dwellings with outbuildings and farm labourer dwellings. None of these seem to have any historical or architectural significance and no evidence could be found that any of these are older than 60 years.

Due to the subsurface nature of archaeological material and unmarked graves the possibility of the occurrence of unmarked or informal graves and subsurface finds cannot be excluded. If during construction any possible finds such as stone tool scatters, artefacts or bone and fossil remains are made, the operations must be stopped and a qualified archaeologist must be contacted for an assessment of the find.

If the recommendations as made in section 7 of this report are adhered to (subject to approval from SAHRA) there is from an archaeological point of view no reason why the development should not proceed

9. PROJECT TEAM

Jaco van der Walt, Project Manager

Liesl Bester, Background and Archival specialist

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.

Currently, I serve as Council Member for the CRM Section of ASAPA, and have been involved in research and contract work in South Africa, Botswana, Zimbabwe, Mozambique, Tanzania and the DRC; having conducted more than 300 AIAs since 2000.

11. REFERENCES

Archival Sources (National Archive, Pretoria)

National Archives of South Africa. 1977-1980. SAB, CDB: 14994 PB4/19/2/22/412/1. *Plaaslike Bestuur. Gemeenskapsvorming. Besigheidsregte. Kempton Park. Gedeelte 53. Gedeelte van Gedeelte 50. Elandsfontein 412JR.*

National Archives of South Africa. 1907-1915. TAB, TED: 2053 E1310. *Elandsfontein 452 School Pretoria Board Establishment.*

National Archives of South Africa. 1968-1969. SAB, CDB: 3/936 TAD9/52/9. *Plaaslike Bestuur. Onderverdeling van plaas. Kempton Park.*

National Archives of South Africa. 1971-1983. SAB, CDB: 15325 PB4/19/2/37/393/1. *Plaaslike Owerhede. Gemeenskapsontwikkeling. Besigheidsregte. Pretoria. Gedeelte 7 (gedeelte van Gedeelte 3) van Witkoppies 393 JR.*

National Archives of South Africa. 1941-1944. SAB, PWD: 722 27/1494. *Pretoria Waterkloof Air Station. Lease of Witkoppies No 105 as auxiliary landing ground from Mr RSE Erasmus.*

National Archives of South Africa. 1936. SAB, URU: 1569 664. *Irrigation loan for \$600 for 20 years to be made to RSE Erasmus and Mrs. JE Erasmus of farm Witkoppies No 105, Pretoria.*

National Archives of South Africa. 1936. SAB, VWR: 119 B645/201/37. *Aansoek deur Plaaseienaar Elandsfontein 452. SM Gildenhuys. Bywoner GM Steenkamp.*

National Archives of South Africa. SAB, CDB: 14963 PB4/14/2/20/412/2. *Plaaslike Bestuur. Gemeenskapsvorming. Besigheidsregte. Heidelberg. Gedeelte 53 (gedeelte van Gedeelte 50) van Elandsfontein 412JR.*

National Archives of South Africa. 1982. SAB, CDB: 14963 PB4/19/2/20/412/1. *Plaaslike bestuur. Gemeenskapsvorming. Besigheidsregte. Heidelberg. Gedeelte 113 (gedeelte van Gedeelte 9) van Elandsfontein 412 JR.*

National Archives of South Africa. 1941-1946. SAB, PWD: 3540 19/11413. *Benoni Defence Dept. Lease of aerodrome on farm Elandsfontein No 452 from Mr WMJ Opperman.*

National Archives of South Africa. 1948. SAB, CDB: 3/701 TAD9/18/77. *Plaaslike Bestuur. Onderverdeling van plaasgrond. Pretoria. Elandsfontein 452.*

Archaeological Sources:

Archaeological database, University of the Witwatersrand.

Birkholtz, P.D. 2008. *Heritage Impact Assessment Proposed Selcourt Ext 5 Residential Development on Portion 3 of the Farm Vlakfontein 103 IR, Ekurhuleni Metropolitan Municipality, Gauteng Province*. An unpublished report by Archaeology Africa CC on file at SAHRA as: 2008-SAHRA-0015

Gregory, L. 2013. Environmental Scoping Report for Twenty One Township 4 Gaut: 002/11-12/E0010. Unpublished report for M&T Development.

National Heritage Resources Act NHRA of 1999 (Act 25 of 1999)

SAHRA Report Mapping Project Version 1.0, 2009

Van Schalkwyk, J.A. 2007. *Heritage Impact Assessment for the Planned Sterkfontein (Junction 21) Development, Pretoria Municipal District, Gauteng Province*. An unpublished report by the National Cultural History Museum on file at SAHRA as: 2007-SAHRA-0057.

Secondary Sources:

Anon. 1978. *Reflections on the past: Kempton Park 1903-1978*. Pretoria: Group Editors.

Geskiedenisatlas van Suid-Afrika. Die viernoordelikeprovinsies. Edited by J. S. Bergh. 1999. Pretoria: J. L. van Schaik Uitgewers.

Ross, R. 2002. *A concise history of South Africa*. Cambridge: Cambridge University Press.

Theron, B. M. 1984. *The social history of Pretoria during the first phase of the Anglo-Boer War: October 1899 - June 1900*. MA Thesis, Pretoria: University of South Africa.

Maps

Google Earth. 2013. *25°58'21.23" S 28°22'02.40" E elev 1580m*. [Online]. [Cited 07 April 2013].

Topographical Map. 1982. *South Africa. 1:500 000 Sheet. 2526 Johannesburg, Third Edition*. Pretoria: Government Printer.

Topographical Map. 2001. *South Africa. 1:50 000 Sheet. 2528CD Rietvlei Dam, Sixth Edition*. Pretoria: Government Printer.

Union of South Africa. 1931. *Map of the Transvaal Province. 1: 375 000*. Pretoria: Surveyor General's Office.

Appendix A: Areas that needs to be assessed before construction starts

