

ARCHAEOLOGICAL IMPACT ASSESSMENT

FOR THE PROPOSED K148 ROAD DEVELOPMENT, VOSLOORUS, GAUTENG
PROVINCE

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Envirolution

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EXECUTIVE SUMMARY

Site name and location: The proposed K148 Road development commences at the intersection between Routes K148 and K154, km 0,000 on the K148 and continues in a north-easterly direction where it terminates at the intersection between Routes K148 and K133 at approximately km 8,600.

1: 50 000 Topographic Map: 2628 AC & AD.

EIA Consultant: Envirolution.

Developer: Gauteng Department of Roads and Transport (GPDORT).

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

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Date of Report: 7 February 2016. Revised 26 July 2016.

Findings of the Assessment:

The study area was assessed in terms of the archaeological component of Section 35 of the NHRA and although the area immediately south of the study area at Suikerbosrand is known for extensive Late Iron Age stone walled sites, the extensive ploughing activities within the study area would have obliterated any possible surface indications of archaeological sites. This was confirmed during the survey and no surface indicators of archaeological (Stone or Iron Age) material was identified in the study area.

In terms of the built environment of the study area (Section 34), no standing buildings older than 60 years occur in the areas visited although several demolished foundations of informal dwellings occur in the area. Based on current evidence these structures are assumed not to be older than 60 years or of heritage significance. Sites like these could however contain unmarked graves that is of high social significance.

Two cemeteries were recorded and will require some management actions as outlined in section 7 of this report. No significant cultural landscapes or viewsapes were noted during the fieldwork. Based on the results of the field survey of the proposed K148 road there are no significant archaeological risks associated with the development and from an archaeological point of view there is no reason why the development should not proceed if the recommendations as made in the report area adhered by and based on approval from SAHRA. It should however be noted that in terms of Section 36, cemetery 1 will require further mitigation prior to development.

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ABBREVIATIONS

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

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

GLOSSARY

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

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

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

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

The Iron Age (~ AD 400 to 1840)

Historic (~ AD 1840 to 1950)

Historic building (over 60 years old)

1 BACKGROUND INFORMATION

Heritage Contracts and Archaeological Consulting CC (HCAC) was appointed to conduct an Archaeological Impact Assessment for the proposed k148 road project and forms part of the EIA for the proposed 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 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 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

This project is located in the Gauteng Province of South Africa on provincial Route K148. The project route commences at the intersection between Routes K148 and K154, km 0,000 on the K148 and continues in a north-easterly direction where it terminates at the intersection between Routes K148 and K133 at approximately km 8,600. The project area is located to the south east of Vosloorus and to the north of Suikerbosrand (Figure 1).

1.3.2. Location Map

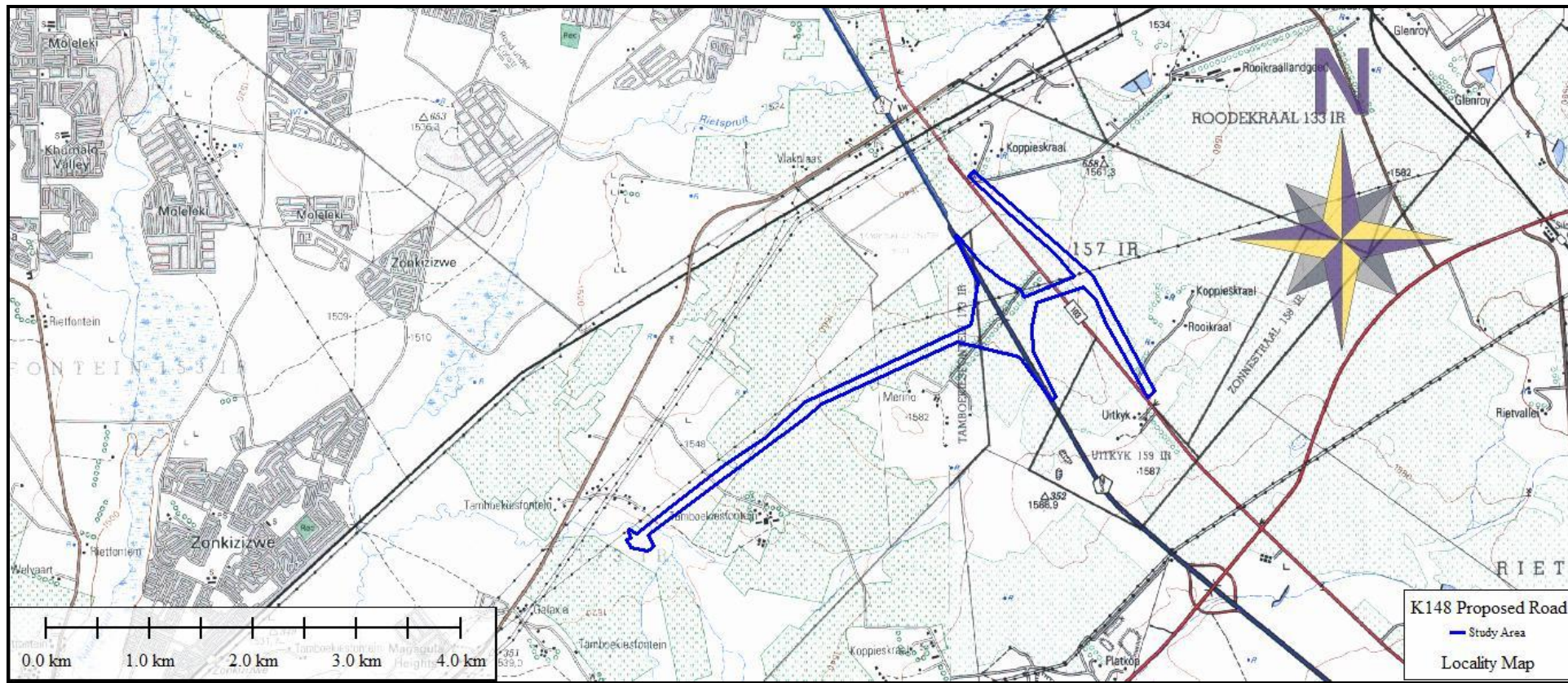


Figure 1: Location map

2. APPROACH AND METHODOLOGY

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

2.1 Phase 1 - Desktop Study

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

2.1.1 Literature Search

The literature search was conducted utilising data for information gathering from published reports relevant to the area. The aim of this is to extract data and information on the area in question.

2.1.2 Information Collection

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

2.1.3 Consultation

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

A field survey of the proposed road upgrade was conducted. The study area was surveyed by means of vehicle and extensive surveys on the 8th of December 2015. The survey was aimed at covering the proposed infrastructure, 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. Track logs of the areas covered were taken (Figure 2).



Figure 2: Track logs of the areas surveyed indicated in black with the study area in blue.

2.3. Restrictions

Due to the fact that most cultural remains may occur below surface, the possibility exists that some features or artefacts may not have been discovered/ recorded during the survey and the possible occurrence of unmarked graves and other cultural material cannot be excluded. This report only deals with the footprint area of the proposed road widening as indicated in the location map. A Palaeontological Impact Assessment was not included in the study as it was not part of the scope of work. Extensive crop farming hampered archaeological visibility and restricted access.

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

This is a Greenfields project (K148) linking in with existing roads (K154 and K133). The project includes:

- Verification of K148, K154, K146 and K133 alignments with a 62 meter road reserve.
- Detail design of the horizontal and vertical geometric alignment of the K148 route.
- Detail design of the K133/K148 and K146/K148 intersections.
- Detail design of the N3-11/K148 diamond interchange and bridge.
- Detail design of the general drainage of the road reserve and river / stream crossings at km 3.740 and km 7.980.
- Preliminary allowances for the investigation of three borrow pits and one hard rock quarry.
- Construct a pavement structure capable of accommodating current and future traffic loading.

Going at right-angles from the northwest-southeast R103 road between Johannesburg and Heidelberg, the proposed N3/K148 road will pass west-southwest between the two Engen service stations that are located on a new bridge on both sides of the N3 Johannesburg-Durban motorway. It will then head through farmland, onto a higher area where it will bend more south, and then it will descend to its current western extent just before reaching the edge of the residential areas of Magagula Heights.

At this point it will have an approximately 1-km long right-angled connection at the K146, back to the narrow unnamed tar road, which is located northwest of the site. At the eastern end, to comply with regulations, the R103 will have to be reconstructed as a curve slightly northeast of its current position, so that the R 103-N3/ K148 junction lies at the correct distance from a motorway. Besides the new bridge to be constructed over the N3, another bridge is planned near the western end of the development, where it is proposed that the K145/ K146 cross a small river. A later western phase is planned to link the remaining 3.3 km of the N3/ K148 road to the R550 between Nigel and Meyerton.

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. Sites recorded included Early Stone Age and historic sites.

- » Birkholtz, P.D. June 2002. Heritage Impact Assessment for the proposed Kwenele South Extension 2 development. An unpublished report by CRM Africa. On file at SAHRA. He recorded 2 ESA sites and a historical structure.
- » Birkholtz, P.D. 2014. Heritage Impact Assessment for the proposed development of Vosloorus Extension 24, Vosloorus Extension 41 and Vosloorus Extension 43 on Portion 144 of the farm Vlakplaats 138 IR, Boksburg Local Municipality, Ekurhuleni District Municipality, Gauteng Province. An unpublished report by PGS, on file at SAHRA. This study recorded various historical/ modern structures as well as stone built features.
- » Fourie, W. November 2006. Heritage Impact Assessment for Albertsdal Extension 4. An unpublished report by Matakoma. Recorded a single ESA site.
- » Van der Walt, J. & W. Fourie. December 2005. Archaeological Impact Assessment for the proposed Vosloorus Hospital. An unpublished report by Matakoma. Recorded no sites of significance.
- » Van der Walt, J. April 2009. Archaeological Impact Assessment for a Proposed Development on Portion 83 of the farm Vlakplaats 183 JR. An unpublished report by Wits. Recorded dolomite with stromatolites.
- » Van Schalkwyk, J. April 2003. Proposed Vosloorus Cultural Village. An unpublished report by the National Cultural History Museum. On file at SAHRA. This study recorded no heritage sites.
- » Van Schalkwyk, J. October 2004. Heritage Impact Assessment for Vosloorus Ext. 24. An unpublished report by the National Cultural History Museum. On file at SAHRA. This study recorded no heritage sites.

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

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.

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

During the time of the Difaqane, a northwards migration of white settlers from the Cape was also taking place. Some travellers, missionaries and adventurers had gone on expeditions to the northern areas in South Africa, some already as early as the 1720's.

It was however only by the late 1820's that a mass-movement of Dutch speaking people in the Cape Colony started advancing into the northern areas. This was due to feelings of mounting dissatisfaction caused by economical and other circumstances in the Cape. This movement later became known as the Great Trek. This migration resulted in a massive increase in the extent of that proportion of modern South Africa dominated by people of European descent. (Ross 2002: 39) By 1939 to 1940, farm boundaries were drawn up in an area that includes the present-day Johannesburg and Krugersdorp. (Bergh 1999: 15).

Anglo-Boer War

Two incidents of the Anglo Boer War took place close to the study area.

An Anglo Boer War battle known as the Battle of Doornkop took place in the area on 29 May 1900. The British were advancing toward Johannesburg led by General John French. De La Rey and his men held the Klipriviersberg Ridge for the first two days but on the third day the Boers were outflanked by French's cavalry to the West, where General Sarel Oosthuizen's commando was forced to withdraw. This opened the road to Johannesburg and the British took the city peacefully on 30 May 1900 (Bikholtz 2013). Their route would have passed a few kilometers from the present study area. Huffman (2008) recorded several sangers dating to the Boer war close to the study area on a ridge.

On 18 February 1901 a British train was held up by a Boer Commando along the railway line between the Klip River and Natalsspruit Stations (www.vaalmeander.co.za) (Wallace, 1976). While Wallace (1976) states that the train was loaded with food and had been held up, the Vaal Meander website indicates that the train was derailed within the boundaries of the farm Palmietfontein after which a machine gun, cavalry greatcoats, saddles and other supplies were taken (Birkholtz 2013).

4.2.2. Alberton

At the age of 13 Johannes Petrus Meyer bought 11 hectare of his father's farm, Elandsfontein (www.alberton.co.za) from his stepfather. After his death his brother Org took over the farm. General Alberts purchased a part of the farm Elandsfontein from Org and he planned to split it up into erven and sell it. As the Meyer family originally came from Prins Albert in the Cape colony, General Alberts decided to name the new township Alberton. The first family to settle was the Van der Merwe family in 1903. In 1905 at least five families had settled on the properties. Alberton's first town hall and factory was built in 1918. The first company in Alberton was CJ Fuchs (Pty) Limited and still doing business under the name Fuchsware. Alberton's first street lights were also installed during this time and a huge rat plague hit Alberton in 1924 (www.alberton.co.za).

Alberton's roads were tarred in 1926. Mail had to be fetched from Germiston by horse and as there was no post office during this time in Alberton, the mail was delivered to a general store. The first official post office was opened in 1926. Building work started in 1938 on the new town hall. The Newmarket suburb was established in January 1938 and the Newmarket Hotel was opened in 1940 in Voortrekker Street. Alrode was established in 1943 (www.alberton.co.za). A part of the farm, Roodekop had to be purchased by the Town Council to make this possible. The well-known "Blou Meul" was established in 1954 and is still situated in Van Riebeeck Street, Alberton North. Things started to speed up and the municipal bus services, first maternity ward and library were established in the 50's. The sought after suburb, Alberante was established in the 60's. Another suburb, General Albertspark was established and named after the chairman of the syndicate that started Alberton.

Black people living on a piece of the farm, Elandsfontein had to be moved to another area. This area was later known as Thokoza and was established in 1959. The land they lived on previously was declared in 1971 as a whites only suburb and became known as Verwoerdpark. The Alberton population was recorded in 1960 as about 9 000 and 24 000 in Thokoza. Edenpark was established in the 1970's and the first house was handed over in 1976. The streets were named after motorcars.

The Alberton Boulevard was another big development and was established in the mid 80's (www.alberton.co.za).

4.2.3. Vosloorus

During 1956 to 1959 the Boksburg Town Council acquired a portion of the farm Vlakplaats for an amount of £189,920 with the intention of establishing a new township on the land. The reason for the new township was to remove the black residents of Stirtonville near Boksburg to this new township in accordance with the policies of the Apartheid Government. The Council experienced a number of difficulties with the **Vlakplaats** property including the fact that a mineral rights owner came to the fore as well as the geographic reality that the property was located in the district of Heidelberg. Only by 1960 were the boundaries of the district of Boksburg altered to also include the newly acquired property (Bonner, 2001). Vosloorus was eventually only established in 1963. Stirtonville was renamed Reiger Park and has since become home to Boksburg's coloured community.

According to Bonner (2001) the removal from Stirtonville to Vosloorus was only accomplished in 1964. He also indicates that the name Vosloorus was decided upon by the authorities in honour of the then chairman of the Boksburg Council's Committee of Non-European Affairs, W.I. Vosloo. A local authority was established in 1983 when Vosloorus was given full municipal status.

Vosloorus Extension 2 was established during November 1987. The new extension comprised 200 houses (Bonner, 2001).

In 1988, the town councils of Vosloorus and Reiger Park staged a consumer boycott in Boksburg on the East Rand. The boycott by black and coloured residents followed the reintroduction of petty apartheid measures of the Boksburg Town Council which at the time was controlled by the Conservative Party (CP). In the local elections of October 1988, the CP won 12 of 20 council seats. At its first meeting, the new Council decreed that it would begin rigorously enforcing the Separate Amenities Act, a by-then largely ignored law that re-established whites-only toilets, parks, and sports facilities. The two consumer boycott found enthusiastic corporate support. A number of multinational companies like Colgate-Palmolive, American Cyanamid and Unilever provided buses to ferry shoppers to shops in neighboring towns, cancelled expansion plans and ran advertisements denouncing the racist Council. The economy of the town suffered and several businesses had to close down (<http://www.sahistory.org.za/dated-event/vosloorus-and-reiger-park-call-consumer-boycott>).

Vosloorus was one of the townships in the East Rand that was seriously affected by the political violence that occurred in the late 1980s and early 1990s (Birkholtz 2014).

4.2.4. Archaeology of the area

Although there are no well-known Stone Age sites located on or around the study area there is evidence of the use of the larger area by Stone Age communities for example along the Kliprivier where ESA and MSA tools were recorded. LSA material is recorded along ridges to the south of the current study area (Huffman 2008). Petroglyphs occur at Redan as well as along the Vaal River (Berg 1999).

Extensive Stone walled sites are recorded at Klipriviers Berg Nature reserve and Suikerbosrand belonging to the Late Iron Age period. A large body of research is available on this area. These sites (Taylor's Type N, Mason's Class 2 & 5) are now collectively referred to as Klipriviersberg (Huffman 2007). These settlements are complex in that aggregated settlements are common, the outer wall sometimes includes scallops to mark back courtyards, there are more small stock kraals, and straight walls separate households in the residential zone. These sites date to the 18th and 19th centuries and were built by people in the Fokeng cluster.

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

5. HERITAGE SITE SIGNIFICANCE AND MITIGATION MEASURES

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

This section describes the evaluation criteria used for determining the significance of archaeological and heritage sites.

The following criteria were used to establish site significance:

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

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

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

5.1. Field Rating of Sites

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

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

It is important to note that only the footprint of the proposed road alignment was surveyed as indicated in Figure 1 & 2. The study area is extensively disturbed by agricultural activities (Figure 7 - 9) and although the area to the south at Suikerbosrand is known for Archaeological sites dating to the Stone Age and Iron Age sites the extensive ploughing in the area would have obliterated any possible surface indications of archaeological sites. This was confirmed during the survey and no surface indicators of archaeological (Stone or Iron Age) material was identified in the study area.

In terms of the built environment of the area (Section 34), the demolished stone and mud foundations of various dwellings occur in the southern portion of the study area (Figure 4). These structures are not indicated on the 1943 or second editions of the 1: 50 000 maps (Figure 4 & 5) of the area and are assumed not to be older than 60 years and therefore not protected by legislation and of no significance. This assumption should be made cautiously as it could be that these structures were just not mapped at the time. Furthermore structures like these are known to contain unmarked graves and would then be of high social significance.

From the archival maps (Figure 4 & 5) it is clear that none of the recorded features or any other features of significance occurred in the study area at the time apart from trails and cultivated fields.

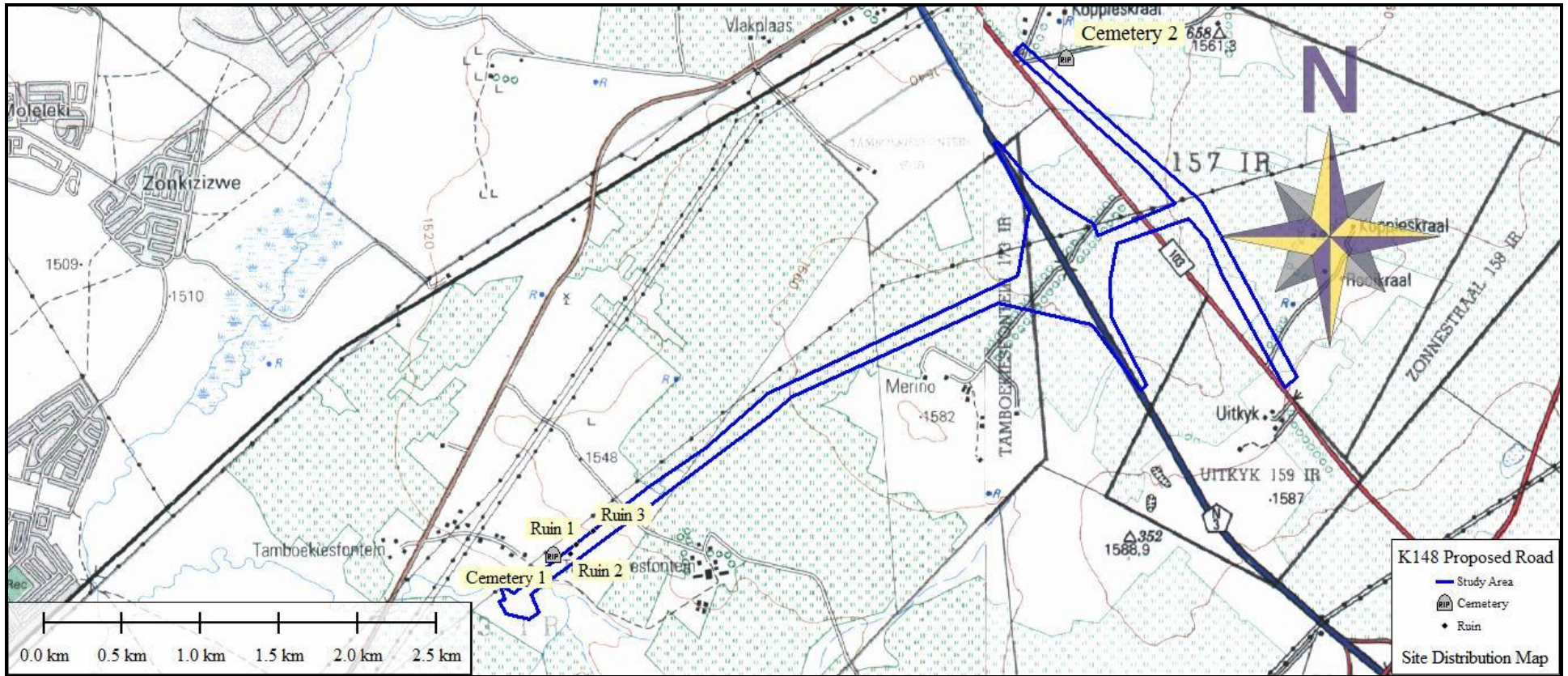


Figure 3. Site Distribution map.

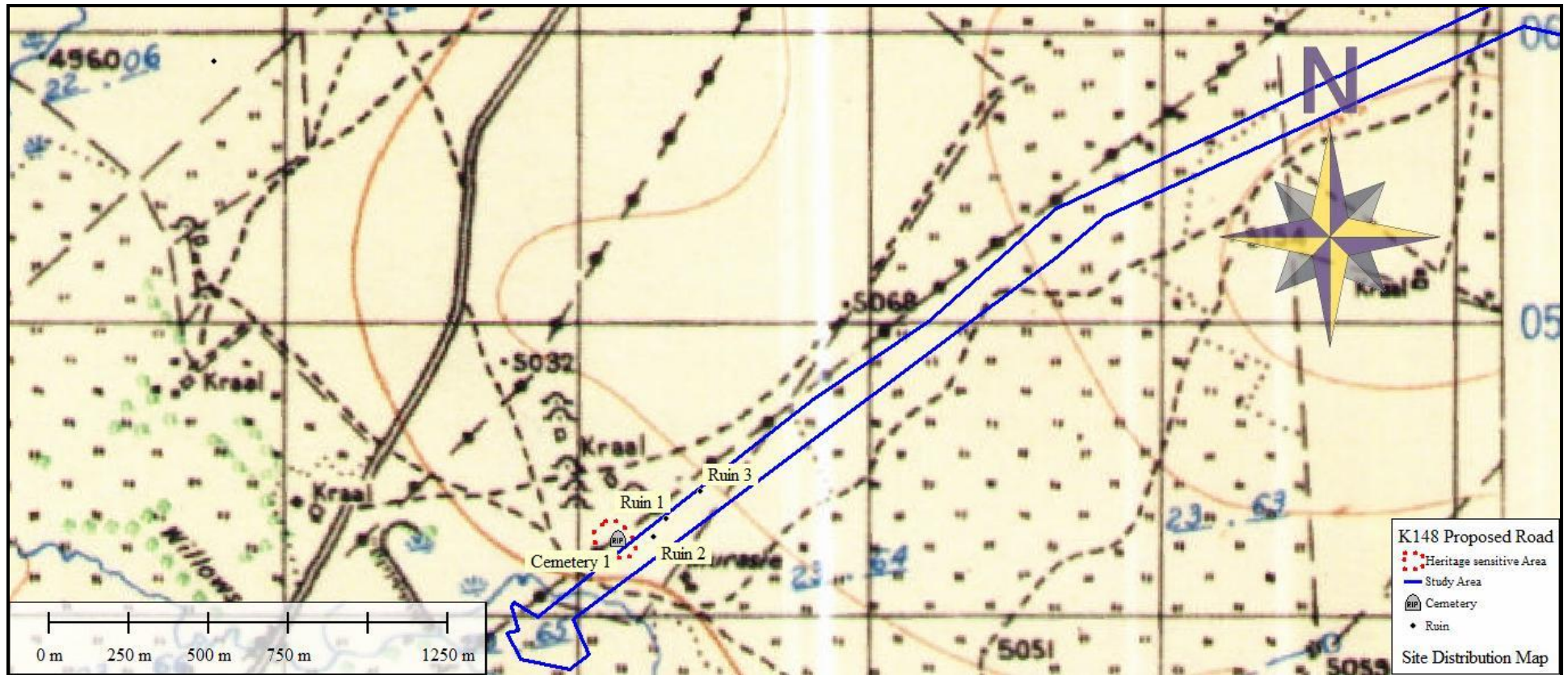


Figure 4. Enlarged section of the 2628 AC sheet drawn in 1943. Note that no features existed in the proposed corridor at this time.

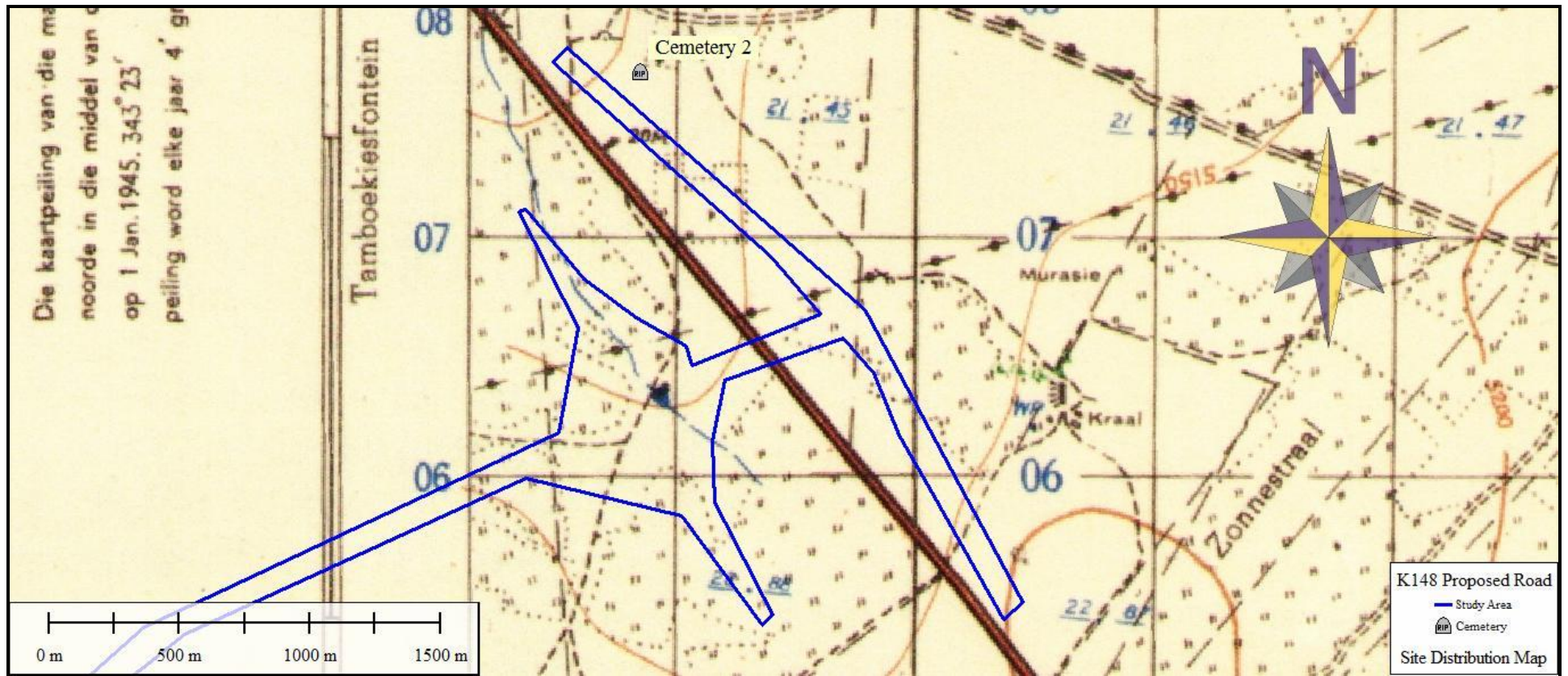


Figure 5. Enlarged section of the 2628 AD sheet drawn in 1942. Note that no features exist in the proposed corridor at this time.



Figure 6. General Site Conditions.



Figure 7. General site conditions.



Figure 8. General Site conditions



Figure 9. General site conditions

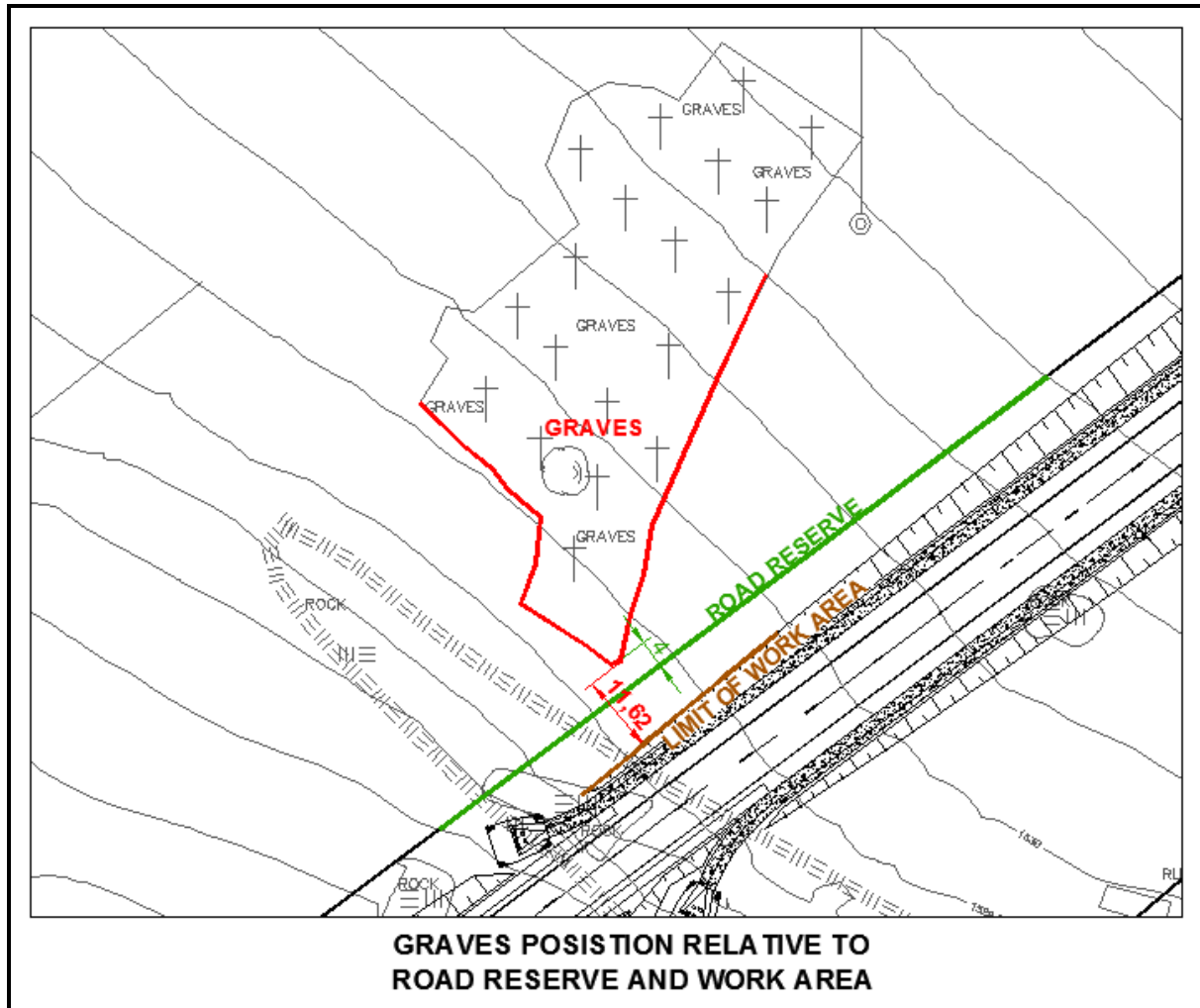
7.2. Sites with Coordinates

Site Number	Landscape	Cultural Markers	Co ordinates
Cemetery 1	Historical/recent	Marked graves	26° 24' 33.9804" S, 28° 13' 19.1713" E to 26° 24' 36.2305" S, 28° 13' 19.7437" E
Cemetery 2	Historical/recent	Marked graves	26° 22' 52.7501" S, 28° 15' 18.1001" E
Ruin 1	Historical/recent	Rectangular mud and stone foundations	26° 24' 34.5564" S, 28° 13' 23.4048" E
Ruin 2	Historical/recent	Rectangular mud and stone foundations	26° 24' 32.7529" S, 28° 13' 24.8593" E
Ruin 3	Historical/recent	Rectangular mud and stone foundations	26° 24' 29.9629" S, 28° 13' 28.6860" E

7.3. Site Descriptions

7.3.1 Cemeteries

Cemetery 1 is a very large cemetery measuring approximately 70 x 50 meters. The graves are aligned east to west and clearly marked (Figure 10). Grave dressings consist of stone, cement headstones and granite headstones. The cemetery is located on the edge (4 meters) of the proposed road reserve as indicated below.



Cemetery 2 is a small cemetery consisting of approximately 4 graves (Figure 11). The graves are marked by stone grave dressings, and the grave yard includes a granite headstone of the grave of Richard Ntetha who passed away in 1984. The site is located outside of the proposed road corridor (approximately 117 meters to the north) and will not be directly impacted by the proposed road.

Cemeteries are of high social significance and given a Field Rating of Generally Protected A.



Figure 10. Cemetery 1 viewed from the north east.



Figure 11. Cemetery 2 viewed from the east.

7.3.2 Ruins

The foundations of several ruins occur in the southern portion of the study area. These ruins are totally demolished and are only marked by mud and stone foundations (Figure 12 and 13). The foundations consist of rectangular stone foundations measuring approximately 4x6 meters as well as circular foundations measuring approximately ¾ meter in diameter. Modern industrial artefacts, such as wire, glass and cans, are scattered over this area. Structures like these could contain unmarked graves. More foundations could be uncovered during construction, if this is the case the occurrence of graves should be confirmed in the social consultation process.

Field Rating (Recommended grading or field significance) of the site: Generally Protected C. If unmarked graves occur it has High social significance.



Figure 12. Low foundation walls at ruin 1.



Figure 13. Low foundation walls at ruin 2.

7. CONCLUSIONS AND RECOMMENDATIONS

Heritage Contracts and Archaeological Consulting CC (HCAC) has been contracted by Envirolution to conduct an Archaeological Impact Assessment for the proposed K148 road. It is important to note that only the footprint of the proposed road was surveyed as indicated in Figure 1 & 2 and not the entire farm.

The study area was assessed in terms of the archaeological component of Section 35 of the NHRA and although the area to the south of the study area is known for Rock Art, Stone Age and Late Iron Age stone walling the extensive agricultural activities in the study area would have obliterated any possible surface indications of *in-situ* archaeological sites. This was confirmed during the survey and no surface indicators of archaeological (Stone or Iron Age) material was identified in the study area.

In terms of the built environment of the area (Section 34), the demolished stone and mud foundations of various ruins occur in the southern portion of the study area. These structures are not indicated on the 1943 or 1975 1: 50 000 maps of the area and are assumed not to be older than 60 years and therefore not protected by legislation and of no significance. This assumption should be made cautiously as it could be that these structures were just not mapped at the time. However due to the extent of the destruction of the structures they hold very little heritage value. The structures have been recorded in this report and this is regarded as sufficient recording of the sites. It must be remembered that sites like these might contain unmarked graves that is of high social significance. It is therefore recommended that the social team should confirm the presence of graves in the area and that the area should be monitored during earthworks.

Two cemeteries were recorded, Cemetery 1 is a large cemetery located 4 meters from the proposed road reserve. Cemetery 2 is a much smaller cemetery located 117 meters to the north of the proposed road corridor.

The following recommendations are applicable for the project:

- An archival study must be conducted prior to construction to determine the age and history of the ruins if the ruins will be impacted on.
- When the final alignment is determined the impact on the ruins must be assessed. It is possible that not all the ruins were documented and the final alignment will determine which ruins will be impacted on.
- The social team should consult with the local community to these areas (demolished ruins) to show and / or confirm the presence of graves in this area prior to construction.
- It is recommended that a buffer zone of at least 20 meters should be kept from the ruins as these sites might contain unmarked graves, this buffer should be pegged out on site with a surveyor.
- Cemetery 1 is located 4 meters from the road reserve and approximately 11 meters from the actual road (refer to section 7.3.1 of this report). Due to design constraints it is not possible to adhere to the 30 meter buffer zone preferred by SAHRA. It is recommended that a reduction of this buffer zone is negotiated with SAHRA based on a CMP (Cultural Management Plan) for the cemetery. The boundary of the cemetery must be pegged out on site with a surveyor and will need to be fenced with an access gate for family members. The social team should consult with the local community to determine the extent of the cemetery prior to being pegged out by the surveyor.
- If it is not possible to retain the cemetery *in situ* a grave count must be conducted and the graves relocated adhering to all legal requirements and processes. This should however be seen as a last resort.

- Cemetery 2 is located outside of the impact area and should be temporarily demarcated during the construction phase to protect the site against accidental damage.

No significant cultural landscapes or viewsapes were noted during the fieldwork as the southern portion of study area is bordered by a large informal settlement. The high density agricultural activities impeded on the archaeological visibility in the study area it is recommended that a chance find procedure is incorporated into the EMP for this project as detailed below and should be enforced by the ECO.

Chance find procedure

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

- If during the pre-construction phase, construction, operations or closure phases of this project, any person employed by the developer, one of its subsidiaries, contractors and subcontractors, or service provider, finds any artefact of cultural significance or rock engraving, 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.

Based on the results of the field survey of the proposed K148 there are no significant archaeological risks associated with the development and from an archaeological point of view there is no reason why the development should not proceed if the recommendations as made in the report area adhered by and based on approval from SAHRA. It should however be noted that in terms of Section 36, cemetery 1 will require further mitigation prior to development.

7.1 Reasoned Opinion

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

8. PROJECT TEAM

Jaco van der Walt, Project Manager

9. STATEMENT OF COMPETENCY

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

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

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