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MCICT

PHASE 1: HERITAGE/ARCHAEOLOGICAL IMPACT ASSESSMENT FOR THE PROPOSED ESTABLISHMENT OF BORROW-PIT 5 FOR THE UPGRADING OF ACCESS ROAD D5010 AND D5021 AND ASSOCIATED INFRASTRUCTURE WITHIN THE LEPELLE-NKUMPI AND FETAKGOMO TUBATSE LOCAL MUNICIPALITIES, CAPRICORN AND SEKHUKHUNE DISTRICT MUNICIPALITIES, LIMPOPO PROVINCE.

OCTOBER 2026

Author: Trust Mlilo

DOCUMENT SYNOPSIS

ITEM	DESCRIPTION
PROPOSED DEVELOPMENT AND LOCATION	Phase 1: Heritage/Archaeological Impact Assessment for the proposed establishment of Borrow Pit 5 for the upgrading of access roads D5010 and D5021 and associated infrastructure within the Lepelle-Nkumpi and Fetakgomo Tubatse Local Municipalities, Capricorn and Sekhukhune District Municipalities, Limpopo of Province.
PURPOSE OF THE STUDY	The purpose of this heritage study is to identify and assess any heritage resources that may be located within the proposed establishment of Borrow Pit 5 for the upgrading of access roads D5010 and D5021 and associated infrastructure within the Lepelle-Nkumpi and Fetakgomo Tubatse Local Municipalities, Capricorn and Sekhukhune District Municipalities, Limpopo Province.
DMRE REF	RAL/T1282/2025
MUNICIPALITIES	Lepelle-Nkumpiand Fetakgomo Tubatse Local Municipalities, Capricorn and Sekhukhune District Municipalities, Limpopo Province.
PREDOMINANT LAND USE	Rural residential and agriculture
APPLICANT	Road Agency Limpopo (SOC) Ltd (RAL) 26 Rabe Street, Polokwane, 0699 Tel: 015 284 4646; Cell: 082 441 5330. Email: TshivhaseSP@ral.co.za
EAP	QEMS Management & Business Solutions (Pty) Ltd 7 Munnik Avenue Sterpark Polokwane, 0699 Tel: 061 535 3141 Email: sitholetp@qems.co.za &kholofelo@qems.co.za,
HERITAGE PRACTITIONER	**Mudzunga Consulting & ICT (Pty) Ltd** 135 Pitzer Road, Glen Austin Midrand, 1685 Cell: 0716859247, Tel: 011 037 1565, E-mail: trust.mlilo@gmail.com
AUTHOR	Dr Trust Mlilo (PhD, MA, BA Hons, PGDE, BA)
DATE OF REPORT	10/10/ 2026

EXECUTIVE SUMMARY

This report intends to inform and guide the applicant, Road Agency Limpopo (SOC) (Pty) Ltd (RAL), and contractors about the possible impacts of the proposed establishment of Borrow-Pit 5 for the upgrading of access roads D5010 and D5021 and associated infrastructure within the Lepelle-Nkumpi and Fetakgomo Tubatse Local Municipalities, Capricorn and Sekhukhune District Municipalities of Limpopo Province. Similarly, the document must also inform the South African Heritage Resources Agency (SAHRA) about the presence, absence, and significance of heritage resources located within the proposed borrow pit site and road servitude. This report is submitted in terms of Section 38(8) of the National Heritage Resources Act 25 of 1999 (NHRA) as part of the environmental authorisation for the proposed Borrow Pit 5 and road upgrade. This study aims to identify, record, and, if necessary, salvage irreplaceable heritage resources that may be impacted by the proposed borrow pit and road upgrade. In compliance with Section 38(8), QEMS Management & Business Solutions (Pty) Ltd tasked Mudzunga Consulting & ICT (Pty) Ltd on behalf of RAL to conduct a Phase 1 Archaeological and Heritage Impact Assessment (AIA/HIA) for the proposed establishment of Borrow Pit 5 for the upgrading of access roads D5010 and D5021 and associated infrastructure. Desktop studies, drive-throughs and fieldwalking were conducted in order to identify heritage landmarks within the proposed borrow pit site and road servitude. The general landscape has seen significant transformations owing to previous and current destructive land use activities such as road construction and agriculture. The study did not record any confirmable archaeological remains within the proposed borrow-pit site and road servitude earmarked for upgrading. In terms of Section 36 of the NHRA, the survey did not identify any graves and burial grounds. Similarly, the study did not identify any buildings and structures that qualify for protection in terms of Section 34 of the NHRA. The study identified a partially disturbed contemporary circular stone walling structure within the proposed borrow-pit site (see figures 6-8). The stone walling is younger than 60 years and does not qualify for protection in terms of Section 34 of the NHRA, which protects buildings and structures that are older than 60 years. The general project area is known for the occurrence of archaeological and historical sites (Mlilo 2018); however, none were identified within the proposed borrow pit site and road servitude. In terms of the built environment, It should be noted that archaeological remains and unmarked graves may exist beneath the surface and can be encountered during excavations along the road servitude and borrow-pit site. Thus, if chance finds are encountered during construction activities along the road servitude and borrow-pit site, work must be stopped forthwith, and the finds must be reported to the South African Heritage Resource Agency (SAHRA) or the heritage practitioner. This report must be submitted to the SAHRA for review in terms of Section 38 (4) of the NHRA.

The report makes the following observations:

- The findings of this report have been informed by desktop data review, field survey and impact assessment reporting, which include recommendations to guide heritage authorities in making decisions about the proposed establishment of Borrow Pit 5 and the upgrading of access Road D5010 and D5021.
- Surface visibility on some sections of the proposed borrow-pit site was compromised due to dense vegetation; however, the field survey was effective enough to cover significant sections of the project site. The immediate project area is predominantly rural and agricultural.
- Some sections of the proposed borrow-pit site are severely degraded from the previous extraction of gravel.

The report sets out the potential impacts of the proposed borrow-pit on heritage matters and recommends appropriate safeguards and mitigation measures that are designed to reduce the impacts where appropriate. The Report makes the following recommendations:

1. It is recommended that SAHRA endorse the report as having satisfied the requirements of Section 38 (8) of the NHRA.
2. It is recommended that SAHRA decide in terms of Section 38 (4) of the NHRA to approve the proposed establishment of Borrow Pit 5 and the upgrading of access Road D5010 and D5021.
3. From a heritage perspective, supported by the findings of this study, the proposed establishment of Borrow Pit 5 for the upgrading of access Road D5010 and D5021 is supported. However, the proposed borrow-pit application should be approved under the condition that activities do not extend beyond the area considered in this report.
4. Should chance archaeological materials or human remains be exposed during clearing and construction work on any section of the proposed borrow-pit site and road upgrade, work should cease in the affected area, and the discovery must be reported to the heritage authorities immediately so that an investigation and evaluation of the finds can be made. The overriding objective, where remedial action is warranted, is to minimize disruption in construction scheduling while recovering archaeological and any affected cultural heritage data as stipulated by the NHRA regulations.
5. Subject to the recommendations herein made and the implementation of the mitigation measures and adoption of the project EMPR, there are no significant cultural heritage resource barriers to the proposed Borrow-Pit 5 and road upgrade. The SAHRA may approve the proposed borrow-pit application and road upgrade from a heritage perspective, subject to recommendations provided in this report.

This report concludes that the impacts of the proposed borrow-pit and road upgrade on the cultural environmental values are not likely to be significant on the entire site if the EMP includes the recommended safeguard and mitigation measures identified in this report.

NATIONAL LEGISLATION AND REGULATIONS GOVERNING THIS REPORT

This is a specialist report and is compiled in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended, and the Environmental Impact Assessment Regulations, 2014.

DECLARATION OF INDEPENDENCE

In terms of Chapter 5 of the National Environmental Management Act of 1998, specialists involved in Impact Assessment processes must declare their independence.

I, **Trust Mlilo**, do hereby declare that I am financially and otherwise independent of the client and their consultants, and that all opinions expressed in this document are substantially my own, notwithstanding the fact that I have received fair remuneration from the client for the preparation of this report.

Expertise:

Trust Mlilo, PhD, MA., BA Hons, PDGE and BA & ASAPA (Professional affiliation member) and more than 20 years of experience in archaeological and heritage impact assessment and management. Mlilo is an accredited member of the Association for Southern African Professional Archaeologists (ASAPA), Amafa KwaZulu-Natal, and Eastern Cape Heritage Resources Agency (ECPHRA). He has conducted more than a hundred AIA/HIA Studies, heritage mitigation work and heritage development projects over the past 20 years of service. The completed projects vary from Phase 1 and Phase 2, as well as heritage management work for government, parastatals (Eskom), and several private companies such as BHP Billiton and Rhino Minerals.

Independence

The views expressed in this document are the objective, independent views of Dr Trust Mlilo and the survey was carried out under Mudzunga Consulting & ICT (Pty) Ltd. The company has no business, personal, financial, or other interest in the proposed Borrow Pit 5 for the upgrading of access Road D5010 and D5021 apart from fair remuneration for the work performed.

Conditions relating to this report.

The content of this report is based on the author's best scientific and professional knowledge, as well as available information. Mudzunga Consulting & ICT (Pty) Ltd reserves the right to modify the report in any way deemed fit should new, relevant, or previously unavailable or undisclosed information become known to the author from ongoing research or further work in this field or about this investigation.

This report must not be altered or added to without the prior written consent of the author and Mudzunga Consulting & ICT (Pty) Ltd. This also refers to electronic copies of the report, which are supplied for inclusion as part of other reports, including main reports. Similarly, any recommendations, statements or conclusions drawn from or based

on this report must refer to this report. If these form part of a main report relating to this investigation or report, this report must be included in its entirety as an appendix or separate section to the main report.

Authorship: This AIA/HIA Report has been prepared by Dr Trust Mlilo (Professional Archaeologist). The report is for the review of the National Heritage Resources Agency (SAHRA).

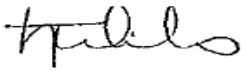
Geographic Co-ordinate Information**:** Geographic co-ordinates in this report were obtained using a hand-held Garmin Global Positioning System device. The manufacturer states that these devices are accurate to within +/- 5 m.

Maps**:** Maps included in this report use data extracted from the NTS Map and Google Earth Pro.

Disclaimer**:** The Authors are not responsible for omissions and inconsistencies that may result from information not available at the time this report was prepared.

The Archaeological and Heritage Impact Assessment Study was carried out within the context of tangible and intangible cultural heritage resources as defined by the SAHRA Regulations and Guidelines, for the approval of the proposed establishment of Borrow Pit 5 and for the upgrading of access Road D5010 and D5021 being proposed by RAL.

Signed by



10/10/ 2026

ACKNOWLEDGEMENTS

The author acknowledges QEMS Management & Business Solutions (Pty) Ltd for their assistance with the project details and for responding to technical queries related to the project.

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ABBREVIATIONS

AIA	Archaeological Impact Assessment
ASAPA	Association of South African Professional Archaeologists
EIA	Environmental Impact Assessment
EIA	Early Iron Age *(EIA refers to both Environmental Impact Assessment and the Early Iron Age but in both cases the acronym is internationally accepted.*
EIAR	Environmental Impact Assessment Report
ESA	Early Stone Age
GPS	Global Positioning System
HIA	Heritage Impact Assessment
ICOMOS	International Council of Monuments and Sites
LIA	Late Iron Age
LFC	Late Farming Community
LSA	Late Stone Age
MIA	Middle Iron Age
MSA	Middle Stone Age
NEMA	National Environmental Management Act 107 of 1998
NHRA	National Heritage Resources Act 25 of 1999
PHRA	Provincial Heritage Resource Agency
SAHRA	South African Heritage Resources Agency
ToR	Terms of Reference

KEY CONCEPTS AND TERMS

Periodization

Periodization *:* Archaeologists divide the different cultural epochs according to the dominant material finds for the different time periods. This periodization is usually region-specific, such that the same label can have different dates for different areas. This makes it important to clarify and declare the periodisation of the area one is studying. These periods are nothing a little more than convenient time brackets because their terminal and commencement are not absolute and there are several instances of overlap. In the present study, relevant archaeological periods are given below.

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)

Early Iron Age (~ AD 200 to 1000)

Late Iron Age (~ AD1100-1840)

Historic (~ AD 1840 to 1950, but a Historic building is classified as over 60 years old)

Definitions

Definitions Just like periodization, it is also critical to define key terms employed in this study. Most of these terms derive from South African heritage legislation and its ancillary laws, as well as international regulations and norms of best practice. The following aspects have a direct bearing on the investigation and the resulting report:

Cultural (heritage) resources are all non-physical and physical human-made occurrences, and natural features that are associated with human activity. These can be singular or in groups and include significant sites, structures, features, ecofacts and artefacts of importance associated with the history, architecture, or archaeology of human development.

Cultural significance is determined by means of aesthetic, historic, scientific, social, or spiritual values for past, present, or future generations.

Value is related to concepts such as worth, merit, attraction or appeal, concepts that are associated with the (current) usefulness and condition of a place or an object. Although significance and value are not mutually exclusive, in some cases, the place may have a high level of significance but a lower level of value. Often, the evaluation of any feature is based on a combination or balance between the two.

Isolated finds are occurrences of artefacts or other remains that are not in situ or are located apart from archaeological sites. Although these are noted and recorded, but do not usually constitute the core of an impact assessment unless they have intrinsic cultural significance and value.

In situ refers to material culture and surrounding deposits in their original location and context, for example, an archaeological site that has not been disturbed by farming.

Archaeological site/materials are remains or traces of human activity that are in a state of disuse and are in, or on, land and which are older than 100 years, including artefacts, human and hominid remains, and artificial features and structures. According to the National Heritage Resources Act (NHRA) (Act No. 25 of 1999), no archaeological artefact, assemblage or settlement (site) and no historical building or structure older than 60 years may be altered, moved or destroyed without the necessary authorisation from the South African Heritage Resources Agency (SAHRA) or a provincial heritage resources authority.

Historic material are remains resulting from human activities, which are younger than 100 years, but no longer in use, including artefacts, human remains and artificial features and structures.

Chance finds means archaeological artefacts, features, structures or historical remains accidentally found during development.

A grave is a place of interment (variably referred to as burial) and includes the contents, headstone or other marker of such a place, and any other structure on or associated with such place. A grave may occur in isolation or in association with others, whereupon it is referred to as being situated in a cemetery (contemporary) or burial ground (historic).

A site is a distinct spatial cluster of artefacts, structures, organic and environmental remains, as residues of past human activity.

Heritage Impact Assessment (HIA) refers to the process of identifying, predicting and assessing the potential positive and negative cultural, social, economic and biophysical impacts of any proposed project which requires authorisation or permission by law, and which may significantly affect the cultural and natural heritage resources. Accordingly, an HIA must include recommendations for appropriate mitigation measures for minimising or circumventing negative impacts, measures enhancing the positive aspects of the proposal and heritage management and monitoring measures.

Impact is the positive or negative effects on human well-being and/or on the environment.

Mitigation is the implementation of practical measures to reduce and circumvent adverse impacts or enhance beneficial impacts of an action.

Mining heritage sites refer to old, abandoned mining activities, underground or on the surface, which may date from the prehistoric, historical or the relatively recent past.

Study area or '**project area'** refers to the area where the developer wants to focus its development activities (refer to the plan).

Phase I studies refer to surveys using various sources of data and limited field walking in order to establish the presence of all possible types of heritage resources in any given area.

Assumptions and disclaimer

The investigation has been influenced by the unpredictability of buried archaeological remains (absence of evidence does not mean evidence of absence) and the difficulty in establishing intangible heritage values. It should be remembered that archaeological deposits (including graves and traces of mining heritage) usually occur below the ground level. Should artefacts or skeletal material be exposed during construction activities, such activities should be halted immediately, and a competent heritage practitioner and SAHRA must be notified for an investigation and evaluation of the find(s) to take place (see NHRA (Act No. 25 of 1999), Section 36 (6). Recommendations contained in this document do not exempt the applicant from complying with any National, Provincial, and Municipal legislation or other regulatory requirements, including any protection or management or general provision in terms of the NHRA. Mudzunga Consulting & ICT (Pty) Ltd assumes no responsibility for compliance with conditions that may be required by SAHRA in terms of this report.

1. INTRODUCTION

Mudzunga Consulting & ICT (Pty) Ltd was retained by QEMS Management & Business Solutions (Pty) Ltd on behalf of RAL to carry out a Phase 1 AIA/ HIA for the proposed establishment of Borrow Pit 5 for the upgrading of access roads D5010 and D5021 and associated infrastructure within the Lepelle-Nkumpi and Fetakgomo Tubatse Local Municipalities, Capricorn and Sekhukhune District Municipalities of Limpopo Province. This study was conducted to fulfil the requirements of Section 38 (8) of the NHRA as part of the environmental authorization for the project. The purpose of this heritage study is to identify and assess any heritage resources that may be located within the proposed Borrow-Pit site to make recommendations for their appropriate management. To achieve this, we conducted background research of published literature, maps, satellite imagery and databases (desktop studies), which was then followed by ground-truthing by means of drive-through surveys and field walking. Desktop studies revealed that the general project area is rich in Late Stone Age (LSA) and historical sites; however, the study did not identify any archaeological sites within the proposed borrow-pit site and road upgrade. It should be noted that while heritage resources may have been located in the entire study area, developments such as powerlines, agriculture, settlements, roads and boundary fence lines have either obliterated these materials or reduced them to isolated finds that can only be identifiable as chance finds during clearing and extraction of gravel at the proposed borrow pit site and road servitude. The proposed establishment of Borrow Pit 5 and the upgrading of access road D5010 and D5021 may be approved, subject to adopting the recommendations and mitigation measures proposed in this report. Based on the findings, there is no archaeological reason why the proposed establishment of Borrow Pit 5 and the upgrading of access roads D5010 and D5021 cannot be approved, taking full cognisance of procedures to follow in the event of chance findings.

Terms of Reference (ToR)

Mudzunga Consulting & ICT (Pty) Ltd was requested by QEMS Management & Business Solutions (Pty) Ltd to conduct an AIA/HIA study addressing the following issues:

- Archaeological and heritage potential of the proposed Borrow Pit 5 site and road upgrade, including any known data on affected areas.
- Provide details on methods of study; potential and recommendations to guide the SAHRA to make an informed decision with respect to authorisation of the proposed establishment of Borrow Pit 5 and the upgrading of access roads D5010 and D5021.
- Identify all objects, sites, and structures of archaeological or historical nature (cultural heritage sites) located within the proposed borrow pit site and road upgrade.
- Assess the significance of the cultural resources in terms of their archaeological, historical, scientific, social, religious, aesthetic and tourism value.

- Describe the possible impact of the proposed borrow pit on these cultural remains, according to a standard set of conventions.
- Propose suitable mitigation measures to minimise possible negative impacts on cultural resources.
- Review applicable legislative requirements.

Project Location

The Roads Agency Limpopo intends to undertake the upgrading of road D5021 and D5010 from Apel to Nkotokwane and construction of a new 1,687 m² bridge over the Olifants River. To facilitate this project, RAL requires access to gravel resources. RAL proposes the establishment of borrow pit five, which will serve as a designated extraction site to be used in the upgrading of the road. Table 1 lists the properties on which the applicant proposes to extract the gravel from the borrow pit, located within Lepelle-Nkumpi Local Municipality, Capricorn District Municipality, Limpopo Province. The central coordinates are 24°26'50.29"S 29°43'7.48"E.

Table 1: Locality Details of the proposed development site

Farm portion and No.	Surveyor General 21 Digit code
Portion 0 of farm Spelonk 478 KS	T0KS00000000047800000

Table 2: Corner Coordinates of the Proposed Borrow Pit Development

Coner coordinates	Latitude (S)	Longitude (E)
Corner one	24°26'52.90"S	29°43'4.16"E
Coner two	24°26'49.92"S	29°43'2.73"E
Coner three	24°26'46.99"S	29°43'11.92"E
Coner four	24°26'50.08"S	29°43'13.22"E



Figure 1: Locality map of the proposed Borrow Pit 5 site (QEMS Management & Business Solutions (Pty) Ltd, 2026)

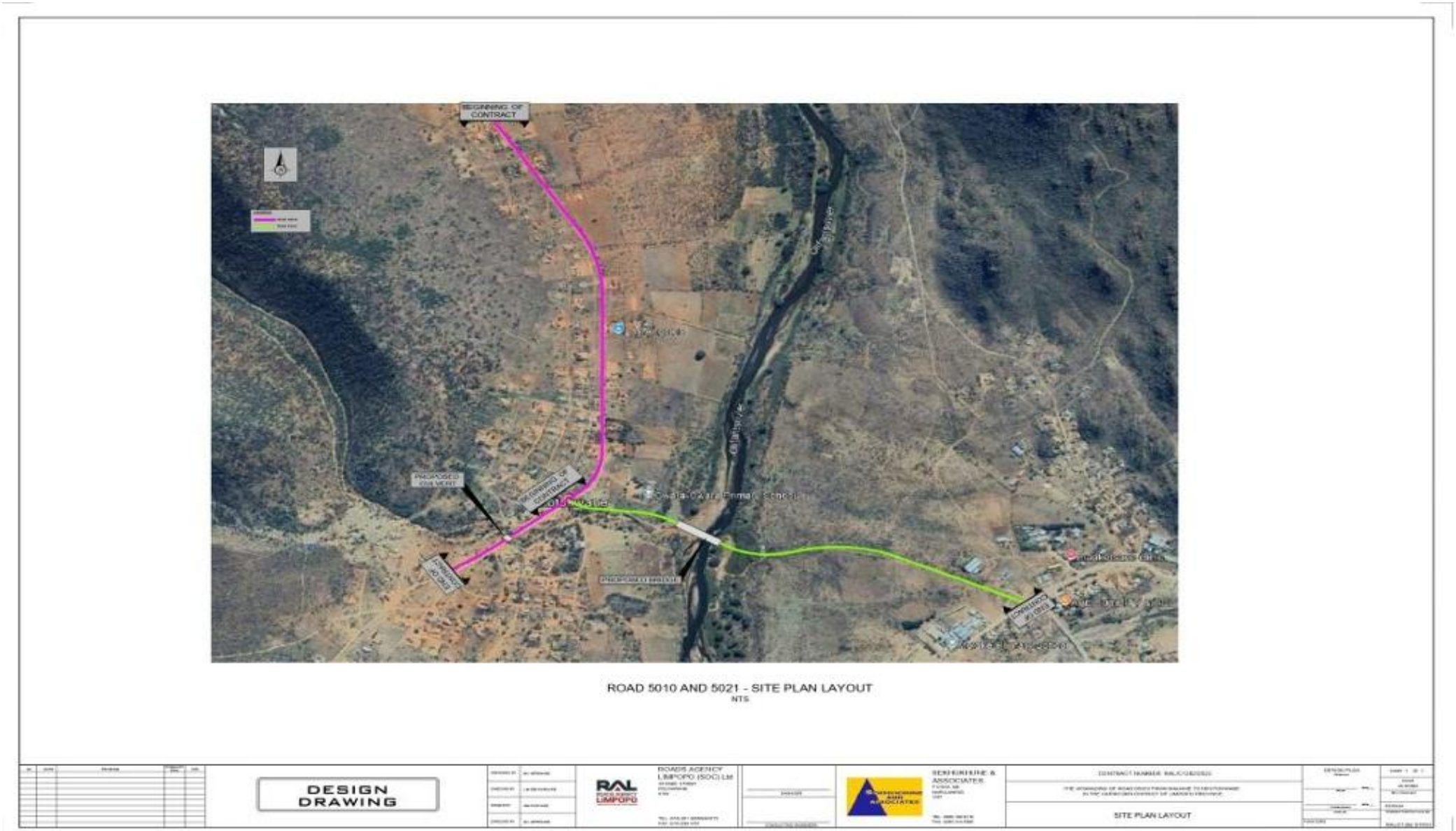


Figure 2: Topographic map showing proposed borrow pit site (*QEMS Management & Business Solutions (Pty) Ltd, 2026*)

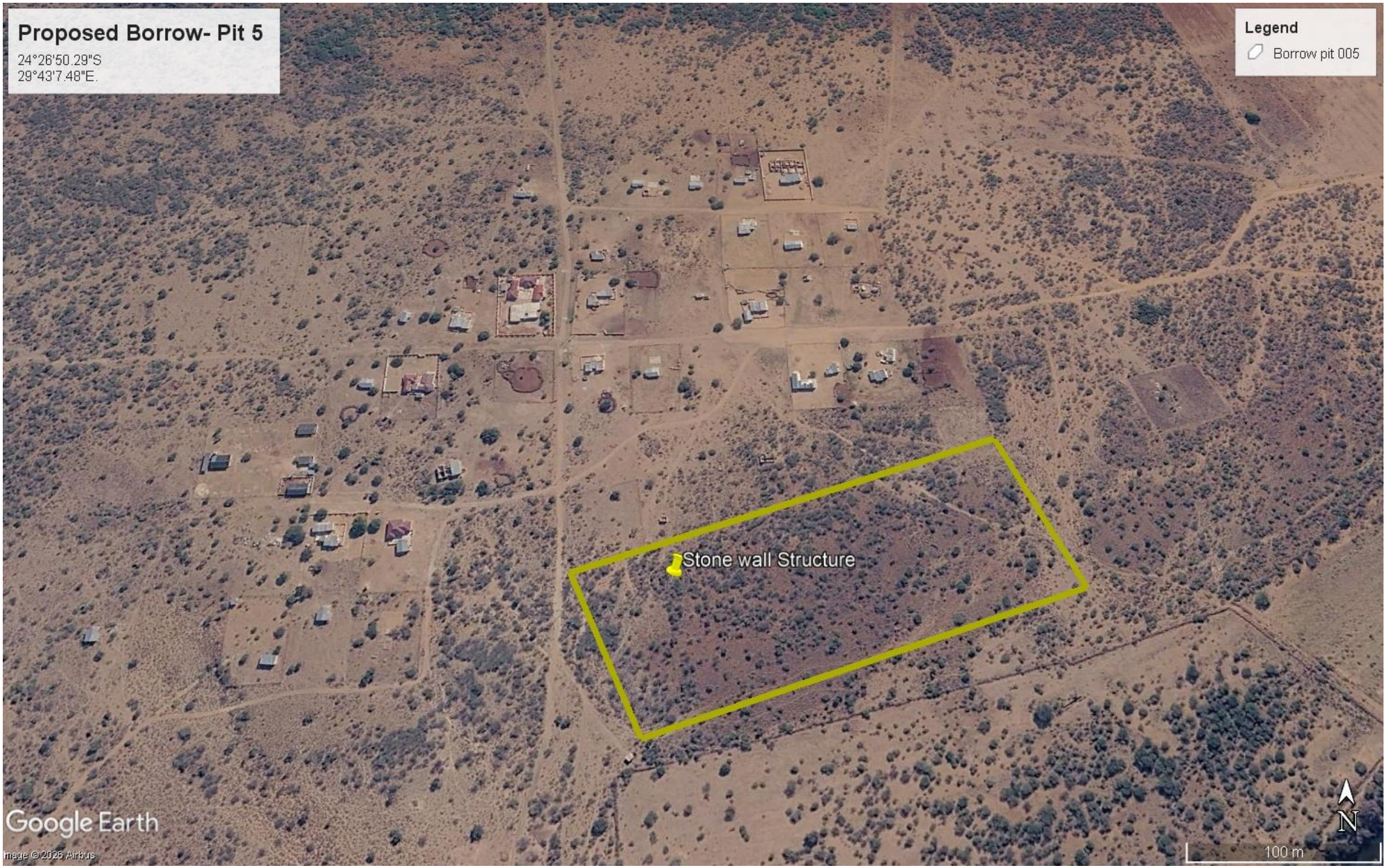


Figure 3: Topographic map showing proposed borrow pit site (QEMS Management & Business Solutions (Pty) Ltd, 2026)



Figure 4: Tracklogs of the surveyed area (Mudzunga Consultants & ICT (Pty) Ltd, 2026)

Project Background

Roads Agency Limpopo (SOC) Ltd (RAL) is in the process of applying for Environmental Authorisation (EA) from the Limpopo Department of Economic Development, Environment and Tourism (LEDET), a water use application from Limpopo-Olifants Catchment Management Agency (LOCMA), a borrow-pit application from DMR and a tree-cutting permit under the National Forests Act. In accordance with the National Environmental Management Act (NEMA), 1998 (Act No. 107 of 1998), and the Environmental Impact Assessment (EIA) Regulations, 2014 (as amended), RAL is undertaking a Basic Assessment Process.

The proposed upgrading of Road D5010 in Nkotokwane and the installation of culverts and the construction of a new section of Road D5021 between Nkotokwane and Apel are considered necessary and desirable due to the social, economic, and accessibility challenges currently experienced by the surrounding communities. Apel and Nkotokwane, including surrounding communities located on either side of the river, experience limited access to essential services and public facilities because there is no direct and reliable crossing point. Residents are often required to travel long distances to access nearby towns, shopping centres, healthcare facilities, schools, and places of employment. During rainy seasons, the river becomes difficult and dangerous to cross, further isolating communities and affecting daily activities. The proposed bridge and road will significantly improve mobility and connectivity between villages and surrounding areas. School children currently walk long distances to access educational facilities, which negatively affects school attendance, punctuality, and learner safety. The project will provide a safer and shorter route to schools, thereby improving access to education and reducing travel-related risks. In addition, residents currently travel long distances to access malls, retail centres, and other commercial facilities.

The proposed project entails the construction of a new bridge over the Olifants River. The proposed development also includes the upgrading of Road D5010 in Nkotokwane and the installation of culverts and the construction of a new section of Road D5021 between Nkotokwane and Apel. Both roads will be upgraded from gravel to a bituminous-surfaced standard. The total length of the proposed road works is approximately 3.6 km, comprising 2.2 km for the upgrading of Road D5010 and 1.4 km for the construction of the new Road D5021. In addition, the project includes applications for the excavation of five borrow pits to provide construction materials for the road and bridge works.

2. LEGISLATIVE CONTEXT

Three main pieces of legislation are relevant to the present study. The proposed borrow-pit mining application for road upgrade is submitted in terms of the National Environmental Management Act, 1998 (NEMA) and the 2017 EIA Regulations for activities that trigger the Mineral and Petroleum Resources Development Act, 2002 (MPRDA) (As amended). Therefore, this is in fulfilment of the assessment of the impact on heritage resources as required by section 24(4)(b)(iii) of NEMA and section 38(8) of the National Heritage Resources Act, Act 25 of 1999 (NHRA). An AIA or HIA is required as a specialist sub-section of the Basic Assessment (BA) process. This study was conducted in terms of Section 38(8) as part of environmental authorization. The provisions of this section do not apply to a development as described in subsection (1) if an evaluation of the impact of such development on heritage resources is required in terms of the Environment Conservation Act, 1989 (Act No. 73 of 1989), or the integrated environmental management guidelines issued by the Department of Environment Affairs and Tourism, or the Minerals Act, 1991 (Act No. 50 of 1991), or any other legislation: Provided that the consenting authority must ensure that the evaluation fulfils the requirements of the relevant heritage resources authority in terms of subsection (3), and any comments and recommendations of the relevant heritage resources authority about such development have been taken into account before the granting of the consent.

Thus, any person undertaking any development in the above categories must, at the very earliest stages of initiating such a development, notify the heritage resources authority responsible and furnish it with details regarding the location, nature and extent of the proposed development. Section 38 (2) (a) of the same Act also requires the submission of a heritage impact assessment report for authorisation purposes to the responsible heritage resources agencies (SAHRA/PHRAs). Because the proposed development will change the character of a site exceeding 5000 m², an HIA is required according to this section of the Act.

Related to Section 38 of the NHRA are Sections 34, 35, 36 and 37. Section 34 stipulates that no person may alter, damage, destroy or relocate any building or structure older than 60 years without a permit being issued by SAHRA or a provincial heritage resources authority. This section may not apply to the present study since none were identified. Section 35 (4) of the NHRA stipulates that no person may, without a permit issued by SAHRA, destroy, excavate, alter, or remove from its original position, or collect, any archaeological material or object. This section may apply to any significant archaeological sites that may be discovered before or during construction. This means that any chance find must be reported to the heritage practitioner or SAHRA/LIHRA, who will assist in investigating the extent and significance of the finds and inform the applicant about further actions. Such actions may entail the removal of material after documenting the find site or mapping of larger sections before destruction. Section 36 (3) of the NHRA also stipulates that no person may, without a permit issued by the South African Heritage Resources Agency (SAHRA), destroy, damage, alter, exhume or remove from its original position or otherwise disturb any grave or burial ground older than 60 years, which is situated outside a formal cemetery administered by a local authority. This section may apply in case of the discovery of chance burials, which is likely within the proposed

Borrow Pit 5 site. The procedure for reporting chance finds also applies to the unlikely discovery of burials or graves by the applicant or his contractors. Section 37 of the NHRA deals with public monuments and memorials, but this may not apply to this study because no protected monuments will be physically affected by the proposed mining at Borrow Pit 5.

In addition, the EIA Regulations of 2014 (as amended in 2017) promulgated in terms of NEMA (Act 107 of 1998) stated that environmental assessment reports will include cultural (heritage) issues. The new regulations in terms of Chapter 5 of the NEMA provide for an assessment of development impacts on the cultural (heritage) and social environment and for Specialist Studies in this regard. The end purpose of such a report is to alert the applicant (RAL, SAHRA/ LIHRA and interested and affected parties about existing heritage resources that may be affected by the proposed borrow-pit, and to recommend mitigatory measures aimed at reducing the risks of any adverse impacts on these heritage resources.

3. METHODOLOGY

Our HIA study was structured in five phases: field survey, consultation, report compilation and report review. The methodology is informed by the SAHRA Guidelines on Impact assessment for Development Projects, as well as the relevant provisions of the local heritage and environmental legislation. We conducted desktop studies, field surveys, consultations, report compilation and report review.

Phase I: Desktop studies

Desktop studies are crucial for the success of any project because they determine not just what is known but also identify gaps which must be closed during the study to meet the aims and objectives of the project. Literature on the archaeology and heritage character of the project was reviewed. A review of SAHRIS and other databases was conducted online. Further review of the relevant local and international legal frameworks was also done. Furthermore, relevant documents, databases such as Google Earth and any other available information were consulted. As part of the desktop study, published literature and cartographic data, as well as archival data on heritage legislation, the history and archaeology of the area were studied.

The desktop studies were carried out in libraries and archives. Electronic databases such as Google Earth, Google Maps and Google Images were consulted as well. Special attention was given to provincial and local authority development plans so that the HIA contributes to the attainment of local objectives.

Phase II: Fieldwork

The project aims to provide the client with an HIA that will support decision-making to ensure protection of the heritage resource base of the project area. The heritage resources must be identified, assessed, and ranked. This enables a proper definition of the resource and its boundaries. This requires the participation of a multi-disciplinary team with experience in heritage management, palaeontology, planning and risk management fields. The field survey was undertaken on 25 September 2026 by a team of two archaeologists. The study team covered the entire study site. The focus of the survey involved a pedestrian survey, which was conducted across the proposed study site. The pedestrian survey focused on parts of the project area where it seemed as if disturbances may have occurred in the past, for example, bald spots in the grass veld; stands of grass which are taller than the surrounding grass veld; the presence of exotic trees; evidence for building rubble; and ecological indicators such as invasive weeds.

Detailed photographic recording was also undertaken where relevant. The findings were then analysed in view of the proposed borrow pit to suggest further action. The result of this investigation is a report indicating the presence/absence of heritage resources and how to manage them in the context of the proposed establishment of Borrow Pit 5 and the upgrading of access road D5010 and D5021.

Phase iii: Consultation

The EIA Public Participation process will be conducted by the EAP and specialists. The EIA Public Participation Process will invite and address comments from affected communities and any registered heritage bodies on any matter related to the proposed establishment of Borrow Pit 5 and the upgrading of access road D5010 and D5021 including heritage concerns that may arise as a result of the project. The heritage team will investigate further information about the graves identified. The report will be submitted to SAHRA

Phase IV: Report compilation

Report compilation and impact assessment.

Phase V: Report review, finalisation and submission

Before the final draft of the HIA is submitted to the client, the report will be reviewed internally. The client will be provided with the opportunity to make some input before the report is finalised.

Visibility and Constraints

Surface visibility on some sections of the proposed borrow-pit site was compromised due to dense vegetation cover. It must be borne in mind that, due to the subterranean nature of cultural remains, this report should not be construed as a record of all archaeological and historic sites in the area.

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



Plate 1: showing the starting point for the road earmarked for upgrading.



Plate 2: showing contemporary stone walling on the edge of the proposed Borrow Pit 5 site.



Plate 3: showing the proposed borrow pit site.



Plate 4: showing the proposed Borrow Pit 5 site.



Plate 5: showing the proposed borrow-pit site



Plate 6: showing the proposed Borrow Pit 5 site.



Plate 7: showing the proposed Borrow Pit 5 site.



Plate 8: showing the proposed Borrow Pit 5 site.



Plate 9: showing the proposed borrow pit site.



Plate 10: showing the proposed borrow-pit site



Plate 11: showing the proposed borrow-pit site.



Plate 12: showing the proposed borrow-pit site.



Plate 13: showing the proposed borrow-pit site



Plate 14: showing the proposed borrow-pit site.



Plate 15: showing the proposed borrow-pit site



Plate 16: showing the proposed borrow-pit site.

4. ARCHAEOLOGICAL/HISTORICAL CONTEXT

The project is located in the Lepelle-Nkumpi and Fetakgomo Tubatse Local Municipalities in the Capricorn and Sekhukhune District Municipalities of Limpopo Province of South Africa, which boasts a rich traditional history of contemporary Northern Sotho (Huffman 2007, Coetzee 2010). In terms of heritage resources, the Limpopo Province is well-known for its Iron Age farmer archaeology related to State Formation in Iron Age farmer communities of Southern Africa. As a result, the landscape has seen intensive archaeological research over a period of more than 80 years and research, commercial and popular publications on the MCL are ample. Significant Middle Iron Age sites are known to occur on the farms Skutwater and Bismarck in the far west. In his thesis, Van Ewyk (1996) identified the communities in these landscapes as a single, homogeneous Iron Age community practising a mixed farming economy based on agriculture and animal husbandry. These activities were supplemented by hunting and gathering, exploiting wild faunal and floral food resources. They were largely self-sufficient, as the only imports identified were metals and glass beads. He illustrated that these settlements were subject to a degree of control under the Mapungubwe polity.

Archaeological and heritage studies in the Limpopo region indicate that the area is of high prehistoric and heritage significance. It is, in fact, a cultural landscape where Stone Age, Iron Age and Historical period sites contribute the bulk of the cultural heritage of the region (also Calebrese 1996; Huffman, 2007; Murimbika, 2006; Schoeman, 2006; Meyer, 2000; van Doornum, 2008).

Stone Age sites are generally identifiable by stone artefacts found scattered on the ground surface, as deposits in caves and rock shelters, as well as in eroded gully or river sections. Archaeological sites recorded in the project region confirm the existence of Stone Age sites that conform to the generic SA periodization split into the Early Stone Age (ESA) (2.5 million years ago to 250 000 years ago), the Middle Stone Age (MSA) (250 000 years ago to 22 000 years ago) and the Late Stone Age (LSA) (22 000 years ago to 300 years ago). Stone Age sites are known to be scattered across the Steelpoort Valley. For example, Stone Age sites have been recorded on several farms such as Hendriksplaats 281, Derde Gelid 278, Onverwacht 292, Winterveld 293, Annexe Grootboom 335, Grootboom 336 and Apiesboomen 295. Research conducted in the Bushman Rock shelter near Ohrigstad indicates that the mountainous area in the Lydenburg Valley has MSA and LSA sites, but due to a lack of research, many of the potential sites remain unknown. Rock paintings do occur in the Drakensberg Mountain ranges near Lydenburg; for example, a rock engraving site with engravings ranging from geometrical motifs to various animal figures has been recorded near Lydenburg. However, the specific affected project-receiving environment has low potential for Stone Age sites. Stone Age sites in the region are also associated with rock painting sites. Cave sites also exist in the landscape southwest of the project area. From an archaeological perspective, the Burgersfort Steelpoort area, like most of the Limpopo region, has the potential to yield Stone Age period sites (also see Deacon and Deacon, 1997). However, the specific affected project-receiving environment has low potential for Stone Age sites.

The Iron Age of the Limpopo region dates back to the 5th Century AD when the Early Iron Age (EIA) proto-Bantu-speaking farming communities began arriving in this region, which was then occupied by hunter-gatherers. These EIA communities are archaeologically referred to as the Kwale branch of the Urewe EIA Tradition (Huffman, 2007: 127-9). The Iron Age communities occupied the foothills and valley lands, introducing settled life, domesticated livestock, crop production and the use of iron (also see Maggs 1984a; 1984b; Huffman 2007). Alongside the Urewe Tradition was the Kalundu Tradition, whose EIA archaeological sites have been recorded along the Limpopo region. The Limpopo region is known for the famous golden rhino that was recovered from the Iron Age settlement site of Mapungubwe in the Limpopo Shashi Valley, now a UNESCO World Heritage Site. The Limpopo region is also known for the Zimbabwe tradition sites such as Thulamela and Dzata to the northeast, in the modern-day Venda region. From about 15 00 AD, the region was occupied by newly arriving groups of Late Iron Age farmers of the Kalundu Tradition (ibid). The region was the centre of immigration and migration of different African groups, some of which are ancestors of the contemporary Sotho and Tsonga predominant in the region.

The period c. A.D 950 – 1350 AD was dominated by ceramics that were derived from the preceding EIA and which have been called the Eiland (Evers 1981) or Herringbone pottery (Denbow 1983). At Eiland itself, there is an apparent gap between this final phase of the Early Iron Age and Letaba. Available radiocarbon dates for Letaba ceramics range from the early 17th – 19th centuries (Evers 1981). There were two unrelated ceramic styles in the 12th (Eiland) and 19th centuries (Letaba). Earlier groups comprised two ceramic styles: Moloko and Kgopolwe. Moloko and Kgopolwe are contemporary with general similarities to Eiland, which is the third development of the Western Stream Early Iron Age immigrants. The ceramic remains in the area mainly comprise Marateng Pottery. According to oral tradition, the Koni settled in the escarpment before the Pedi between 1600AD and 1650AD.

Historical period

European settlers arrived in the mid-19th century, initially interested in ivory but later seeking land and labour for agriculture. Tensions with African communities led to several conflicts, including attacks on the Pedi capital, though they failed to diminish Pedi authority. Peace was eventually negotiated, leading to further European settlement in the area. Some stone walls found in the region are not associated with any specific time period, while several ruins are likely linked to more recent historical occupations. The Anglo-Boer War, the largest conflict in South Africa at the time, left no known traces in the study area. The cultural landscape of the Dwarsrivier Valley reflects a diverse history, from Stone and Iron Age settlement to modern industrial mining, with much of the region having been altered mainly by agriculture and settlements.

According to Bergh (1999), by the early 19th century, groups such as the Pedi, Roka, Koni, and Tau had settled in the broader region. Schoeman (1997) notes that the Bapedi arrived in Sekhukhune land during the latter half of the 17th century, following earlier settlements by the Kwena, Roka, Koni, and Tau. The Kwena of Mongatane were the first to arrive in the area and split into two groups at the Olifants River. One group, led by Masabela, established

the first permanent Sotho settlement in Sekhukhuneland, while the second group, led by Kope, moved upstream and settled near present-day Groblersdal, eventually becoming known as the BaKopa. Over time, other groups like the Phasa, related to Masabela's followers, also moved into Sekhukhuneland. Although these groups were identified as Roka, other groups with the same name also existed. By around 1700, the Koni and Tau groups also began to settle in the area.

Khumalo-Ndebele Migration

Throughout the middle of the 1800s, the region witnessed the Mfecane migrations and displacements linked to groups such as the Ndebele of Mzilikazi. In 1821, the Khumalo-Ndebele, a Northern-Nguni group under Mzilikazi, migrated from KwaZulu-Natal. After initially settling at the confluence of the Vaal and Olifants Rivers, they moved further north and clashed with the Ndzundza-Ndebele near present-day Stoffberg, defeating them and briefly settling in the area (Bergh, 1999). During their stay, the Khumalo-Ndebele attacked the Koni of Makopole near Lydenburg and the Bapedi of Maroteng in 1822. Mzilikazi's forces also invaded the Bapedi heartland between the Olifants and Steelpoort Rivers, resulting in the death of the Pedi paramount leader, Phetedi, and most of his brothers. However, one brother, Sekwati, escaped northward. Sekwati returned in 1828, settling at Phiring, where he began to rebuild the Maroteng kingdom. During their brief stay in the area, the Khumalo-Ndebele raided and destroyed much of the grain and livestock of local communities (Smith, 1967). In 1826, Mzilikazi devastated the Koni communities in the Sekhukhune area. The Pedi recovered under Sekwati. Sekwati was, however, assassinated by his half-brother Mampuru in 1882. He was succeeded by his son Sekhukhune, who reunited the Pedi under his chieftaincy.

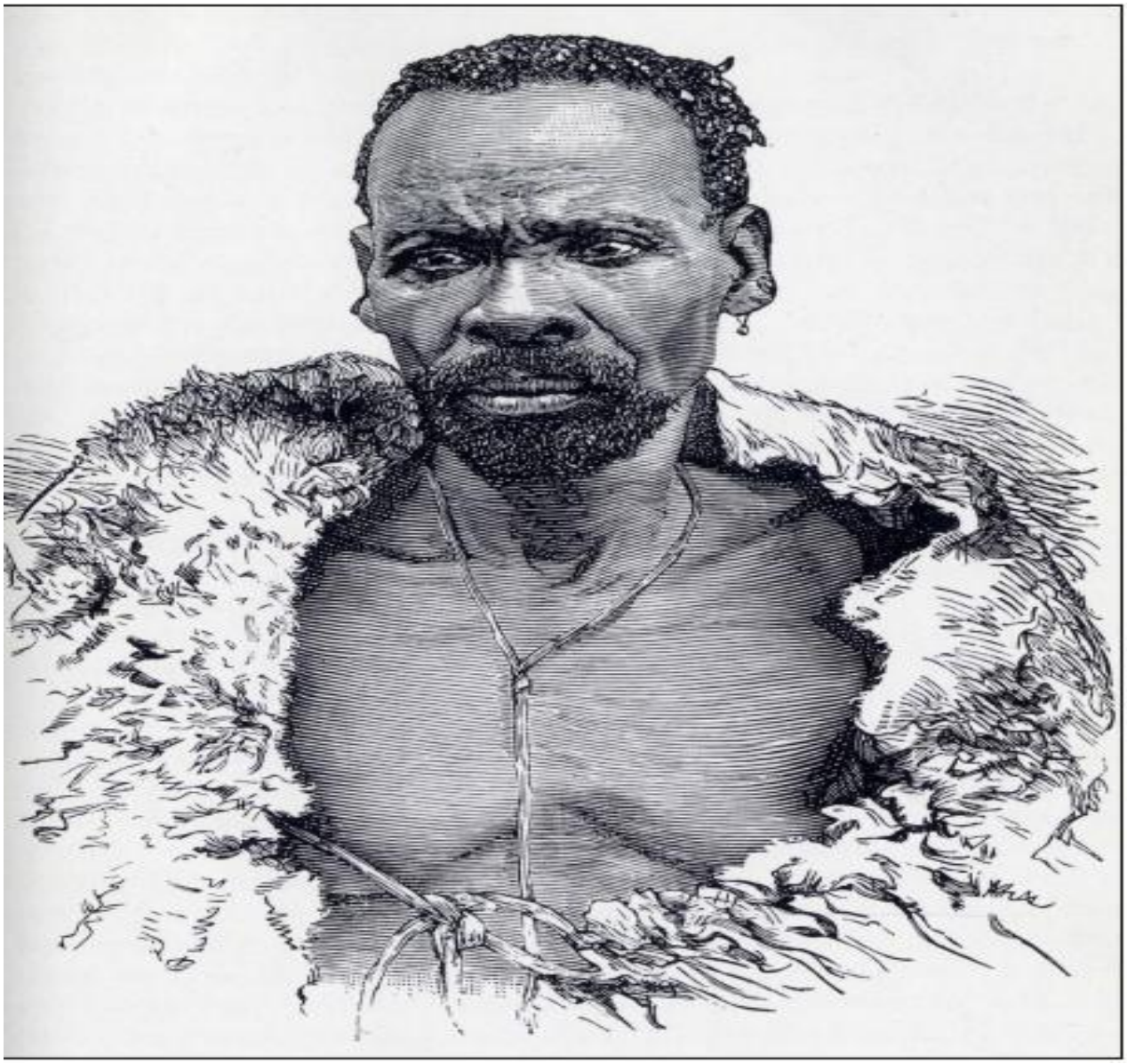


Plate 17: showing Sekhukhune, ruler of the Bapedi (Grasskopf, 1957)

From the 1840s, the Voortrekkers began arriving in the flat-lands foothills in the region, spreading northeast into modern-day Limpopo. They spread, establishing settlements which came to be settler towns such as Schoemansdale, Petersburg, and Louis Trichardt across modern-day Limpopo. The Voortrekkers arrived in the Limpopo region in the shadow of the weakened African kingdoms and chiefdoms in the aftermath of the Mfecane. This effectively ushered in a new era of colonial occupation by succeeding Afrikaans and British colonial administration authorities through the last half of the 1800s and into the late 1900s. By the 1850s, the region witnessed the influx of more settler communities, which triggered settler wars between the African chiefdoms and the incoming Afrikaner settlers. Some of these colonial wars and battles lasted into the Anglo-Boer Wars of 1899-1902. The latter effectively led to the complete subjugation of African communities to settler administration, starting as part of the ZAR of Transvaal. Thereafter, the region was annexed by the British and effectively placed the majority of African communities under the Union of South Africa in 1910, which eventually ended with the establishment of the new South Africa in 1994.

Before the arrival of Europeans, the area was home to Bantu-speaking peoples such as the Sotho-Tswana. White settlers were largely self-sufficient, relying on cattle/sheep farming and also hunting. Few towns were established, and farming remains the most dominant economy. It is not clear when Iron Age people first arrived in the area; however, it is thought that they first moved into the area around AD 400 – AD 700. Such an assumption is based on sites that have been found in the Steelpoort River valley, dating to the Early Iron Age and belonging to the Doornkop phase of the Early Iron Age, dating AD 600 – AD 900. Most of these sites are located on flat plateaus close to the Steelpoort River. It is possible that after this Phase, the Eiland Phase dating AD 1000 could have followed. And finally, the Pedi and also the Swazi/ Ndebele groups could have been next.

According to oral tradition, the Sotho people migrated from Central Africa, the Hurutshe group, which is part of the Sotho groups and from which it is acceptable that the Pedi originated, arrived in part of South Africa around the 16th century. In the late 1600s, the Bapedi settled south of Steelpoort station. Sekwati, the Pedi chief, established himself at Phiring during that era. Voortrekkers under Louis Trichardt and Hendrik Potgieter in 1845 and 1853 passed through the Pedi people, such was followed by land encroachment and stock theft, which resulted in tension between the Pedi and the Afrikaners. As a result, Sekwati decided to move from Phiring to Thaba Mosega in 1853. This movement was followed by a peaceful agreement, which was reached to in 1857 between the two groups, and made Steelpoort River the boundary. When Sekwati died, he was succeeded by a vicious Sekhukhune, his son, who became the chief by force and subjugated his half-brother Mampuru, who was the rightful heir. The discovery of gold in the region in 1871 and the failure to mine in 1875 led President Burgers to conclude that the Pedi were obstructing progress. 1876 marked the beginning of the first war between the Pedi and Afrikaners. Nonetheless, in 1877, Transvaal was seized by Britain, and the Pedi, along with other groups, were considered British subjects, and payment amounting to 2000 cattle was needed. However, Sekhukhune's refusal to pay such an amount resulted in conflicting views. War was then declared on the Pedi by the British, who were supported by the Swazi, and Sekhukhune eventually surrendered on the 2nd of December 1879 and was thus imprisoned in Pretoria. His surrender resulted in the killing of all his sons, and Maphuru, who was previously defeated and had to flee, was annexed as the chief of the Pedi. On the 28th of November 1879, Sekhukhune was captured, and the Pedi were defeated. Sekhukhune was released from jail in 1881 and returned to the Pedi. However, in 1882, he was killed on Mampuru's orders. Mampuru also had a conflict with the Afrikaners and had to flee the area.

Wars Between the Bapedi and the Boers

Tensions between the Bapedi and white settlers culminated in war during the late 1870s. In May 1876, the Volksraad declared war on the Bapedi. Although initial Boer attempts to subdue Sekhukhune's capital, Tshate, were unsuccessful, a peace agreement was signed in February 1877. However, subsequent British involvement led to renewed conflict. The war ended with the British capture of Tshate in November 1879. Sekhukhune was eventually captured on December 2, 1879, and imprisoned in Pretoria (Bergh, 1999). Most of the key battles between the

Bapedi, Boers, and British took place far from the current study area, with Tshate, the capital of Sekhukhune, located about 18.3 km northwest.

Intangible Heritage

As defined in terms of the UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage (2003) intangible heritage includes oral traditions, knowledge and practices concerning nature, traditional craftsmanship and rituals and festive events, as well as the instruments, objects, artefacts and cultural spaces associated with group(s) of people. Thus, intangible heritage is better defined and understood by the group of people who uphold it. In the present study area, very little intangible heritage is anticipated within the development footprint because most historical knowledge does not suggest a relationship with the study area, even though several other places in the general area.

SAHRIS Database and Impact Assessment Reports in the proposed project area

Several archaeological and heritage studies have been conducted within the project area since 2002, and these present the nature and heritage character of the area. The HIA conducted in the area also provides some predictive evidence regarding the types and ranges of heritage resources to be expected in the proposed project area (see reference list for HIA reports). The studies include mining, water pipeline and powerline projects. A survey of these reports observed that they all lack detail to provide a strong archaeological background for the study area. However, according to the archaeological cultural distribution sequences by Huffman (2007), the proposed borrow pit falls within the distribution area of various cultural groupings originating from both the Urewe Tradition (eastern stream of migration) and the Kalundu Tradition (western stream of migration). Huffman (2007) states that the Iron Age is better documented in Soutpansberg and toward Polokwane, where large settlements of people are known. This means that the proposed project area might have been subject to systematic archaeological study and hence gaps in the archaeological background. Roodt (2011, 2017a, 2017b, 2017c) did not record any surficial archaeological evidence or any structures older than 60 years within his study area. Roodt 2017 noted that the area contains no evidence of ritual or spiritual activities. However, the archaeological remains may be present as obscured subterranean deposits.

5 RESULTS OF THE FIELD STUDY

The literature survey suggests that before the 20th century, modern agriculture, mining and associated infrastructure, the general project area would have been a rewarding region to locate heritage resources related to the Stone Age and particularly the Iron Age and historical sites (Bergh 1999). However, the situation today is completely different. The study area now lies in a clearly modified landscape that has previously been cleared for residential developments and associated infrastructure. The study identified no historical structures or burial sites.

Archaeology

The survey did not record any archaeological sites within the proposed borrow-pit site and along the road earmarked for upgrading. The lack of confirmable archaeological sites is thought to be a result of destructive land use activities, which obliterated the surface remains and reduced them to isolated findings that can be identified during construction (see Figures 3, 4, 5, 6, 7, 8, & Plates 1-21). Based on the field study results and field observations, the receiving environment for the proposed borrow-pit has low to medium potential to yield previously unidentified archaeological sites during mining. The literature review also revealed that no archaeological sites are shown on a map contained in a historical atlas of this area. This, however, should rather be seen as a lack of research in the area and not as an indication that such features do not occur. The study confirmed that it is not designated as a heritage area in terms of Section 31 nor a cultural landscape.

Burial grounds and Graves

Human remains and burials are commonly found close to archaeological sites and abandoned settlements; they may be found in abandoned and neglected burial sites or occur sporadically anywhere because of prehistoric activity, victims of war, conflict or crime. It is often difficult to detect the presence of archaeological human burials on the landscape, as these burials, in most cases, are not marked at the surface and are concealed by dense vegetation cover. Human remains are usually identified when they are exposed through erosion, earth-moving activities, mining and construction. In some instances, packed stones or bricks may indicate the presence of informal burials. If any human bones are found during the course of construction work, then they should be reported to an archaeologist and work in the immediate vicinity should cease until the appropriate actions have been carried out by the archaeologist. Where human remains are part of a burial, they would need to be exhumed under a permit from either SAHRA (for pre-colonial burials as well as burials later than about AD 1500) or the Department of Health for graves younger than 60 years.

Public Monuments and Memorials

The study did not record any public memorials and monuments along the road earmarked for upgrading, and the proposed borrow-pit site. As such, the proposed road upgrade and borrow-pit may be approved without any further investigation and mitigation in terms of Section 37 of the NHRA.

Built Environment (Historical buildings and structures)

The general site is known for its abandoned vernacular structures, especially stone-walled enclosures, which are dotted in the project area. The study recorded a partially circular contemporary stone wall on the edge of the proposed borrow-pit site. The stone wall was confirmed to be contemporary and does not qualify for protection in terms of Section 34, which protects buildings and structures that are older than 60 years and Section 35, which protects archaeological sites. However, these stone-walled structures are a testimony to the endurance of indigenous architecture borrowed from the Late Iron Age communities. As such, the proposed borrow-pit and road upgrade may be approved without any further investigation and mitigation in terms of Section 34 of the NHRA.



Plate 18: Location of a contemporary structure located on the edge of the proposed borrow-pit site (Mudzunga Consulting & ICT, 2026)



Plate 19: Location of a contemporary stone wall on the borrow-pit site. *(*Mudzunga Consulting & ICT, 2026*)*.



Plate 20 Location of a contemporary stone wall on the borrow-pit site (Mudzunga Consulting & ICT, 2026).



Plate 21: Location of a contemporary stone wall on the borrow-pit site (Mudzunga Consulting & ICT, 2026).

6 IMPACTS ASSESSMENT

An impact can be defined as any change in the physical-chemical, biological, cultural, and/or socio-economic environmental system that can be attributed to human activities related to the project site under study for meeting a project need. A quantitative impact assessment will be conducted for the project. The method to be used makes use of the basic risk assessment approach of deriving an expression for risk from the product of likelihood (probability) and consequences.

The main objective of the impact assessment is to identify the negative impacts that can be avoided and/or mitigated and the benefits of the positive impacts during the planning, operation, decommissioning and rehabilitation phases of the proposed project on the environment. The impact assessment is aimed at predicting potential impacts of the proposed project. Impact assessment strives to avoid damage, loss of ecosystem services, and, where they cannot be avoided, to reduce and mitigate these impacts (DEA, 2013). Offsets to compensate for loss of habitat are regarded as a last resort, after all efforts have been made to avoid, reduce and mitigate. The mitigation hierarchy is represented in **Table 6**.

The significance of the impacts will be assessed considering the following descriptors:

Impact Identification

The study will identify impacts (positive and negative) associated with the project. The study will be required to specify the type of impact (direct/indirect) and will include an assessment of cumulative impacts that may occur because of the proposed project.

Impact Assessment Methodology

All the identified potential impacts were assessed according to the following Impact Assessment Methodology, as described below. This methodology has been utilised for the assessment of heritage impacts where the consequence (severity of impact, spatial scope of impact and duration of impact) and likelihood (frequency of activity and frequency of impact) have been considered in parallel to provide an impact rating and hence an interpretation in terms of the level of environmental management required for each impact.

The first stage of any impact assessment is the identification of potential heritage activities, aspects and impacts which may occur during the commencement and implementation of a project. This is supported by the identification of receptors and resources, which allows for an understanding of the impact pathway and an assessment of the sensitivity to change. Heritage impacts (social and biophysical) are then identified based on the potential interaction between the aspects and the receptors/resources.

The significance of the impact is then assessed by rating each variable numerically according to defined criteria as outlined in **Table 3**. The purpose of the rating is to develop a clear understanding of influences and processes associated with each impact. The severity, spatial scope and duration of the impact together comprise the consequence of the impact, and when summed, can obtain a maximum value of 15. The frequency of the activity and the frequency of the impact together comprise the likelihood of the impact occurring and can obtain a maximum value of 10. The values for likelihood and consequence of the impact are then read off a significance rating matrix table. This matrix thus provides a rating on a scale of 1 to 150 (low, medium low, medium high or high) based on the consequence and likelihood of a heritage impact occurring.

Natural and existing mitigation measures, including built-in engineering designs, are included in the pre-mitigation assessment of significance. Measures such as the demolition of infrastructure and reburial of graves are considered post-mitigation.

SEVERITY OF IMPACT	RATING
Insignificant / non-harmful	1
Small / potentially harmful	2
Significant / slightly harmful	3
Great / harmful	4
Disastrous / extremely harmful	5

SPATIAL SCOPE OF IMPACT	RATING
Activity specific	1
Project area specific (borrow pit)	2
Local area (within 5 km of the mine boundary)	3
Regional (Municipal area)	4
National	5

DURATION OF IMPACT	RATING
One day to one month	1
One month to one year	2
One year to ten years	3
Life of operation	4
Post closure / permanent	5

CONSEQUENCE

FREQUENCY OF ACTIVITY / DURATION OF ASPECT	RATING
Annually or less / low	1
6 monthly / temporary	2
Monthly / infrequent	3
Weekly / life of operation / regularly / likely	4
Daily / permanent / high	5

FREQUENCY OF IMPACT	RATING
Almost never / almost impossible	1
Very seldom / highly unlikely	2
Infrequent / unlikely / seldom	3
Often / regularly / likely / possible	4
Daily / highly likely / definitely	5

LIKELIHOOD

Table 3: Impact Assessment Parameter Ratings

CONSEQUENCE

LIKELIHOOD

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
2	4	6	8	10	12	14	16	18	20	22	24	26	28	30
3	6	9	12	15	18	21	24	27	30	33	36	39	42	45
4	8	12	16	20	24	28	32	36	40	44	48	52	56	60
5	10	15	20	25	30	35	40	45	50	55	60	65	70	75
6	12	18	24	30	36	42	48	54	60	66	72	78	84	90
7	14	21	28	35	42	49	56	63	70	77	84	91	98	105
8	16	24	32	40	48	56	64	72	80	88	96	104	112	120
9	18	27	36	45	54	63	72	81	90	99	108	117	126	135
10	20	30	40	50	60	70	80	90	100	110	120	1	140	150

	High	76 to 150	Improve current management
	Medium High	40 to 75	Maintain current management
	Medium Low	26 to 39	
	Low	1 to 25	No management required

SIGNIFICANCE = CONSEQUENCE x LIKELIHOOD

.

Loss of Heritage/Impact Statement

The main cause of impacts on archaeological sites is direct physical disturbance of the archaeological remains themselves and their contexts. It is important to note that the heritage and scientific potential of an archaeological site is highly dependent on its geological and spatial context. This means that, even though, for example, deep excavation may expose buried archaeological sites and artefacts, the artefacts are relatively meaningless once removed from their original position. The primary impacts are likely to occur during clearance; indirect impacts may occur during movement of heavy construction vehicles. Any additional excavation for foundations or temporary camp sites will result in the relocation or destruction of all existing surface heritage materials (if any are present).

Similarly, the clearing of access roads will impact material that lies buried in the topsoil. Since heritage sites, including archaeological sites, are non-renewable, it is important that they are identified and their significance assessed before construction. It is important to note that due to the localised nature of archaeological resources, individual archaeological sites could be missed during the survey, although the probability of this is very low within the proposed borrow pit site. Further, archaeological sites and unmarked graves may be buried beneath the surface and may only be exposed during surface clearance. The purpose of the AIA is to assess the sensitivity of the area in terms of archaeology and to avoid or reduce the potential impacts of the proposed borrow pit by means of mitigation measures (see appended Chance Find Procedure). There is still a possibility of finding archaeological remains buried beneath the ground. It is the considered opinion of the author that the chances of recovering a significant archaeological range from medium to high.

Pre & Construction/operational phase

Table 4: Loss of heritage during construction and mining phases.

Loss of Heritage					
Phase	**Mining**				
Criteria	**Details / Discussion**				
Description of impact	• Destruction of identified graves during clearance. • Disturbance of buried archaeological remains during excavation for gravel. • Stumping of archaeological remains by the movement of heavy equipment.				
Mitigation required	• Providing a 100m buffer zone from the burial sites • Use existing farm tracks and roads. • Use a chance find procedure to manage accidental finds				
Parameters	***Intensity***	***Spatial scale***	***Duration***	***Probability***	***Significance***
Pre-Mitigation	Serious (4)	Limited (4)	Short-term (3-5 years) (4)	Likely (4)	Major (negative) (48)
Post Mitigation	Limited (2)	Minor (2)	Short-term (3-5 years) (3)	Likely (4)	Minor (negative) (36)

Decommissioning/post-construction/closure phase

No direct loss of heritage resources is expected during this phase of the project. However, indirect impacts may occur during movement of vehicles.

Table 5: Loss of heritage during the decommissioning/closure phase.

Loss of heritage					
Phase	**Decommissioning (Removal of infrastructure and equipment)**				
Criteria	**Details / Discussion**				
Description of impact	• Stamping of archaeological remains by moving vehicles. • Accidental damage to graves by moving vehicles				
Mitigation required	• Use existing tracks and roads to remove infrastructure and equipment. • Use a chance find procedure to manage any accidental exposure /damage of heritage resources.				
Parameters	***Intensity***	***Spatial scale***	***Duration***	***Probability***	***Significance***
Pre-Mitigation	Serious (4)	Limited (2)	Short-term (3-5 years) (3)	Likely (4)	Major (negative) (36)
Post Mitigation	Limited (3)	Minor (2)	Short-term (3-5 years) (3)	Likely (4)	Minor (negative) (36)

Table 6: Impact Assessment Ratings

Heritage Aspect	• Nature of potential impact/risk	• Heritage Impact Significance Before Mitigation							• Impact Management Actions (Proposed Mitigation Measures)	• Heritage Impact Significance After Mitigation						
		• Consequence			• Probability					• Consequence			• Probability			
		Severity •	Spatial •	Duration •	Frequency: Activity •	Frequency: Impact •	Significance •	Significance Rating •	• Management and Mitigation Measures	Severity •	Spatial •	Duration •	Frequency: Activity •	Frequency: Impact •	Significance •	Significance Rating •
Loss of Heritage	Archaeological remains	2	2	2	3	3	36	Medium-Low	*Chance finds procedure	1	1	1	1	1	4	Low
	Burial grounds and Graves	2	2	2	2	2	16	High	* Chance finds procedure * None required	1	1	1	1	1	4	Low
	Building and structure	2	2	2	2	2	16	Low	* Mitigation is not required	2	2	2	3	3	36	Low
	Public monuments and plaques	1	1	1	1	1	4	Low	None required	2	2	2	3	3	36	Low

Table 7: Mitigation hierarchy of impacts

	Avoid or prevent	Refers to considering options in project location, siting, scale, layout, technology and phasing to avoid impacts on heritage. This is the best option, but it is not always possible. Where environmental and social factors give rise to unacceptable negative impacts, road construction should not take place. In such cases, it is unlikely to be possible or appropriate to rely on the other steps in the mitigation.
	Minimise	Refers to considering alternatives in the project location, siting, scale, layout, technology and phasing that would minimise impacts on heritage. In cases where there are heritage constraints, every effort should be made to minimise impacts.
	Rehabilitate	Refers to rehabilitation of areas where impacts are unavoidable, and measures are provided to return impacted areas to a near-natural state or an agreed land use after mine closure. Rehabilitation can, however, fall short of replicating the diversity and complexity of natural systems.
	Offset	Refers to measures over and above rehabilitation to compensate for the residual negative impacts on heritage after every effort has been made to minimise and then rehabilitate the impacts. Heritage offsets can provide a mechanism to compensate for significant residual impacts on biodiversity.

A small portion of the property with the remaining cultural landscape is anticipated to be lost due to the proposed borrow pit and associated activities. The impact of the proposed activity will potentially result in the loss of heritage if mitigation measures are not adhered to.

Cumulative Impacts

Cumulative impacts are defined as impacts that result from incremental changes caused by other past, present, or reasonably foreseeable actions together with the project. Therefore, the assessment of cumulative impacts for the proposed borrow pit and road upgrade is considered the total impact associated with the proposed project when combined with other past, present, and reasonably foreseeable future development projects. The impacts of the proposed borrow pit and road were assessed by comparing the post-project situation to a pre-existing baseline. This section considers the cumulative impacts that would result from the combination of the proposed borrow pit.

This proposed borrow pit and road upgrade, combined with other proposed project activities, will transform the landscape and will spoil the visual quality of the area within the proposed borrow pit site. The cumulative impact will negatively affect the landscape quality of the area, which is ordinarily considered to be a source. The frequency of development proposals in the area has the potential to collectively change the character of the landscape. The once-isolated landscape will see volumes of people establishing temporary camp sites during construction. In the long run the accumulative impact will be of medium significance in terms of its potential to change the characteristics and quality of the landscape in the long run. The field survey focused on the potential of lithic tools, rock engravings and archaeological sites that are known to occur in the study area.

Mitigation

The construction teams must also be inducted on how to identify heritage resources during clearing, mining and construction and the reporting procedure in accordance with the appended Chance find procedure. A copy of the chance finds procedure must be kept at the site office to ensure appropriate management of any accidental finds during the operational phase.

7 DISCUSSION

Several Phase 1 Archaeological/ Heritage studies have been conducted since 2002, and these present the nature and heritage character of the area. The studies include mining, water pipeline and powerline projects. However, none of these studies were done near the proposed project site. The proposed borrow pit site has been partially altered by agriculture to the extent that significant archaeological remains would not have survived in the area. However, given that the area was inhabited by indigenous communities in the past, there is the potential of encountering unmarked and forgotten graves in the study area. A survey of literature in the study area suggests that there is a gap in knowledge in the study area (see Huffman 2007). The field survey was compromised by dense vegetation cover in some sections, which inhibited visibility of surface archaeological remains and potential graves. As such, the potential for encountering subsurface LIA remains ranges from low to medium on the proposed borrow pit site (See the appended Chance find procedure for handling of chance finds). The lack of confirmable archaeological sites recorded during the current survey is thought to be a result of previous clearance that may have destroyed surface remains. However, the absence of confirmable and significant archaeological cultural heritage sites is not evidence in itself that such sites did not exist within the proposed borrow pit site. It should be noted that the significance of the site of Interest (the borrow pit site) is not limited to the presence or absence of physical archaeological sites.

8 CONCLUSION

Mudzunga Consulting & ICT (Pty) Ltd was tasked by QEMS Management & Business Solutions (Pty) Ltd on behalf of RAL to carry out a HIA for the proposed establishment of Borrow Pit 5 for the proposed road development in relation to road D5010 and D5021 within the Lepelle-Nkumpi and Fetakgomo Tubatse local Municipalities, Capricorn and Sekhukhune District Municipalities of Limpopo Province. The study did not identify any significant archaeological sites within the proposed borrow pit site. In terms of Section 34 of the NHRA, the study did not identify any buildings and structures that qualify for protection in terms of the said Act. In terms of Section 36, the study did not record any burial sites. As such, the proposed establishment of Borrow Pit 5 and the upgrading of access roads D5010 and D5021 may be approved without any further investigation and mitigation in terms of Section 38(8) of the NHRA. The potential for encountering accidental finds ranges from low to medium within the proposed borrow-pit site. The procedure for reporting chance finds has clearly been laid out, and if this report is adopted by SAHRA, then there are no archaeological reasons why the proposed borrow-pit site cannot be approved.

9 RECOMMENDATIONS

The report makes the following recommendations:

1. It is recommended that SAHRA endorse the report as having satisfied the requirements of Section 38 (8) of the NHRA.

2. It is recommended that SAHRA decide, in terms of Section 38 (4) of the NHRA, to approve the proposed establishment of Borrow Pit 5 and the upgrading of access roads D5010 and D5021.

3. From a heritage perspective, supported by the findings of this study, the proposed establishment of Borrow Pit 5 for upgrading of access roads D5010 and D5021 is supported. However, the proposed borrow-pit application should be approved under the condition that other activities do not extend beyond the area considered in this report, and measures must be put in place to protect the identified burial sites.

4. Should chance archaeological materials or human remains be exposed during clearing and construction work on any section of the proposed borrow-pit site and road upgrade, work should cease on the affected area, and the discovery must be reported to the heritage authorities immediately so that an investigation and

evaluation of the finds can be made. The overriding objective, where remedial action is warranted, is to minimize disruption in construction scheduling while recovering archaeological and any affected cultural heritage data as stipulated by the NHRA regulations.

5. Subject to the recommendations herein made and the implementation of the mitigation measures and adoption of the project EMPR, there are no significant cultural heritage resource barriers to the proposed Borrow Pit 5 and road upgrade. The SAHRA may approve the proposed borrow pit application and road upgrade from a heritage perspective, subject to recommendations provided in this report.

10 REFERENCES

Bergh, J.S. 1999. Geskiedenis atlas van Suid-Afrika: die Vier Noordelike Provinsies. Van Schaik, Pretoria.

Birkholtz, P. 2019. Heritage Impact Assessment for the Proposed Der Brochen Amendment Project located on certain sections of the farms Helena 6 JT, Der Brochen 7 JT and Mareesburg 8 JT, south of Steelpoort, Greater Tubatse Local Municipality, Greater Sekhukhune District Council, Limpopo Province.

Birkholtz, P.D. & H.S. Steyn. 2005. Phase 1 Heritage Impact Assessment for the Proposed Lebalelo Pipeline on the Farms Dwarsrivier 372 KT and Thorncliffe 374 KT, Mpumalanga Province, South Africa.

Blundell, G. & A. Ferreira. 2017. A report on the archaeology of "Wellington's Domes", on the Farm Utrecht (776LR), Mokopane.

Burke, E.E., (Ed.) 1969. The Journals of Carl Mauch: His Travels in the Transvaal and Rhodesia 1869-1872. National Archives of Rhodesia. Salisbury.

Changuion, L., 2008. A Report on the potential impact of Ndowana's prospecting activities on items of historical significance in Haenertsburg and its surroundings.

Coetzee, F., 2012. Cultural Heritage Survey of the Proposed Kabi Vaalkop PV Solar Facility, near Orkney, Dr Kenneth Kaunda District, North West Province. For Savannah Environmental (Pty) Ltd.

Coetzee, F. P., 2008. Cultural Heritage Survey of the Proposed Platinum Flotation and Tailings Facility on The Farm De Grooteboom 373 KT, Sekhukhune District, Limpopo Province, Pretoria: UNISA.

Coetzee, F. P., 2022. Phase 1 Archaeological Impact Assessment for the Proposed ECM Mareesburg Mining Development on Portions of the Farm Helena 6 JT and Mareesburg 8 JT, Steelpoort, Limpopo.

Conan Doyle, A. 1902. The Great Boer War. (http://www.angloboerwar.com/books/40-conandoyle-the-great-boer-war/986-conan-doyle-chapter-37-the-campaign-of-january-to-april1902).

Dreyer, K. 2005. Archaeological and Historical Investigation of the Proposed Residential Developments on Subdivision 13 of the farm Pretoriuskraal 53, Viljoenskroon, Free State.

Du Piesanie, J. 2012. Heritage Statement for Rhodium Reef Limited Platinum Operation, 2430CA and CC, De Goedeverwachting 332 KT; Boschkloof 331 KT; Belvedere 362 KT; Kennedy's Vale 361 KT; and Tweefontein 360 KT, Limpopo Province.

Herries, A.I.R. 2011. A chronological perspective on the Acheulian and its transition to the Middle Stone Age in southern Africa: the question of the Fauresmith. International Journal of Evolutionary Biology 2011: 1-25.

Higgitt, N, Du Piesanie, J. and Nel, J. 2015. De Grooteboom Mining Permit Application and Associated Environmental Management Plan: Heritage Scoping Report.

Huffman, T. & H.S. Schoeman. 2002. Archaeological Assessment of the Der Brochen Project, Mpumalanga.

Huffman, T.N. 2007. Handbook to the Iron Age: The Archaeology of Pre-Colonial Farming Societies in Southern Africa. University of KZN Press: South Africa.

Inskeep, R. R. 1978. The people of southern Africa. David Phillip, Cape Town.

Jordaan, J. 1992. The Bakoni Malapa Museum: Establishment and Management. Commissioned by the Town Council of Pietersburg. Review Printers.

Klein, R. 1., 1984. Later Stone Age Faunal Samples from Heuningneskrans Shelter (Transvaal) and Leopard's Hill Cave (Zambia). The South African Archaeological Bulletin, 39(140), pp. 109-116.

Kruger, N. 2017. Archaeological Impact Assessment (AIA) On Portions of the Farms Thorncliffe 374 Kt, Helena 6 JT, De Grooteboom 373 Kt and St George 2 JT For the Proposed Glencore Eastern Mines Expansion Project, Steelpoort Area, Greater Fetakgomo Tubatse Local Municipality, Limpopo Province.

Lombard, M., Wadley, L., Deacon, J., Wurz, S., Parsons, I., Moleboheng, M., Swart, J., & Mitchell, P. 2012. South African and Lesotho Stone Age Sequence Updated. The South African Archaeological Bulletin 67: 123-144.

Loubser, J.H.N. 1994. Ndebele Archaeology of the Pietersburg Area. Navorsinge van die Nasionale Museum Bloemfontein. Vol. 10, Part 2.

Louw, A. W., 1969. Bushman Rock Shelter, Ohrigstad, Eastern Transvaal: A Preliminary Investigation, 1965. The South African Archaeological Bulletin, 24(94), pp. 39-51.

Maggs, T., 1995. Neglected Rock Art: The rock engravings of agricultural communities, in SA Archaeological Bulletin, 162.

Magoma, M., 2014. Phase 1 Archaeological Impact Assessment Specialist Study Report for the proposed Tubatse Strengthening Phase 1 Senakangwedi B Integration Project in Steelpoort Area of Greater Tubatse Local Municipality within Sekhukhune District, Limpopo Province, Pretoria: Vhubvo Archaeo-Heritage Consultants.

Mason, R. 1962. Prehistory of the Transvaal. Wits University Press: Johannesburg.

Mason, R.J. 1988. Kruger Cave, Late Stone Age, Magaliesburg. Johannesburg: Archaeological Research Unit, University of the Witwatersrand.

Matlosana Municipality, n.d. Catalogue of Heritage Sites.

Miller, S. 2015. Cultural Heritage Impact Assessment for Shafts #1 to #7, Orkney, North West Province, South Africa. For CAPM Gold.

Mitchell, P. 2002. The Archaeology of Southern Africa. Cambridge University Press: Cambridge.

Mönnig, H.O.1967. The Pedi. Pretoria: J.L. van Schaik.

Morris, D. 2008. Archaeological and Heritage Impact Assessment on Remainder of Carter Block 458, near Lime Acres, Northern Cape. McGregor Museum.

Munyai, R.R. 2021. Phase 1 Archaeological and Cultural Historical Impact Assessment Scan for Additional Activities located within the Approved Mining Right Area and Authorised, Two Rivers Platinum (Pty) Ltd on Portion 6 of Dwarsrivier Farm 372 KT, Steelpoort, Limpopo Province.

Pelser, A. G. 2012. Report On an Archaeological Impact Assessment for The Expansion of The Lafarge Aggregate Quarry Near Polokwane, Limpopo Province. Prepared for Lafarge Mining South Africa (Pty) Ltd.

Phillipson, D.W. 1985. African archaeology. Cambridge University Press, Cambridge.

Pistorius, J. 2011. Phase 1 Cultural and Heritage Impact Assessment Study for the Proposed Extension of Mining Operations (Project Fairway) at Everest Platinum Mine on parts of several adjoining farms in the Steenkampsberge between Roossenekal and Lydenburg in the Limpopo Province of South Africa.

Plug, I., 1981. Some Research Results on the Late Pleistocene and Early Holocene Deposits of Bushman Rock Shelter, Eastern Transvaal. The South African Archaeological Bulletin, Vol. 36, No. 133, pp. 14-21.

Porraz, G., Val, A., Dayet, L., De La Pena, P., Douze, K., Miller, C.E., Murungi, M.L., Tribolo, C., Schmid, V.C.& Sievers, C. 2015. Bushman Rock Shelter (Limpopo, South Africa): a perspective from the edge of the Highveld. South African Archaeological Bulletin 70: 166– 179.

Research Project: Field Research by Anthony Sinclair and Patrick Quinney, 1996–2001: 105–137. Oxford: Archaeopress.

Roodt, F. & L. Stegmann. 2012. Phase 1 Heritage Impact Assessment Report. Two Rivers Platinum Mine, Limpopo.

Roodt, F. 2003a. Phase 1 Heritage Impact Assessment Der Brochen Tailings Dams Farms: Helena and St. George, Mpumalanga Province.

Roodt, F. 2008. Heritage Impact Assessment Report: Residential Development Roodepoort 744 LS Port. 4 & Langgenoeg 745 LS Port. 1 Polokwane, Limpopo. Prepared for Gideon De Klerk, Envirodel.

Roodt, F. 2008. Heritage Resources Scoping Report for the Der Brochen Mine, Richmond Farm: Mpumalanga.

Roodt, F., 2003b. Phase 1 Heritage Impact Assessment: De Grootboom Township Establishment, Mpumalanga, Polokwane: Cultural Resource Consultants.

Roodt, F., 2003c. Phase 1 Heritage Impact Assessment: Der Brochen Project Helena Complex - Trial Mining Phase, Mpumalanga Province, Polokwane: Cultural Resources Consultants.

Sampson, C.G. 1974. The Stone Age Archaeology of Southern Africa. New York: Academic Press.

Sinclair, A. 2009. The MSA stone tool assemblage from the Cave of Hearths, Beds 4–9. In: McNabb, J. & Sinclair, A. (eds) The Cave of Hearths: Makapan Middle Pleistocene

Smith, B. & Zubieta, L. F., 2007. The Power of Ancient Art. In: Mpumalanga: History and Heritage. Durban: University of KwaZulu-Natal Press.

Smith, B.W. 1997. Zambia's ancient rock art: The paintings of Kasama. Oxford: Nuffield Press for the National Heritage Conservation Commission of Zambia.

Smith, B.W. 2002. Forbidden images: Rock paintings and the Nyau secret society of central Malawi and eastern Zambia. African Archaeological Review 18:187 211.

Smith, B.W., & Ouzman, S. 2004. Taking Stock: Identifying Khoekhoen Herder Rock Art in Southern Africa. Current Anthropology 45: 499-526.

Smith, B.W., & Van Schalkwyk, J.A. 2002. The white camel of the Makgabeng. Journal of African History 43:235 54.

South African Museums Association (SAMA). 1991. Guide to the Museums in the Transvaal. SAMA Transvaal Regional Branch: Pretoria.

Ten Raa, E. 1974. A record of some prehistoric and some recent Sandawe rock paintings. Tanzania Notes and Records 75:9–27.

Tobias, P.V. 1949. The excavation of Mwulu's Cave, Potgietersrust district. South African Archaeological Bulletin 4: 2–13.

Van der Ryst, M.M. 1998. The Waterberg Plateau in the Northern Province, Republic of South Africa, in the Later Stone Age. Oxford: British Archaeological Reports International Series 715.

Van der Ryst, M.M., 2006. Seeking Shelter: Later Stone Age Hunters, Gatherers and Fishers of Oliboompoort in the western Waterberg south of the Limpopo. Unpublished doctoral thesis, University of the Witwatersrand, Johannesburg.

Van der Walt, J. & J.P. Celliers. 2009. Archaeological Impact Assessment for a Proposed Water Pipeline and Access Route for the Booysendal Platinum Mine, Steelpoort, Mpumalanga Province.

Van der Walt, J. & W. Fourie. 2007. Archaeological Impact Assessment for Proposed Mining Development on the farm Mareesburg 8 JT, District Steelpoort.

Van Der Walt, J. 2021a. Heritage Impact Assessment for the Proposed New Khulu Tailings Storage Facility and Associated Infrastructure Project, Dwarsrivier Chrome Mine, Limpopo Province.

Van Der Walt, J. 2021b. Heritage Impact Assessment for the proposed pipeline (SE2) between Spitskop Pump Station and Mototolo Mine, Steelpoort, Limpopo Province. Van Der Walt, J. 2018. Heritage Impact Assessment for the Establishment of Various Projects and the Expansion of the Exploration Programme at Dwarsrivier Chrome Mine, Steelpoort, Limpopo Province.

Van Doornum, B. 2007a. Changing places, spaces and identity in the Shashi-Limpopo region of Limpopo Province, South Africa. Unpublished PhD thesis. Johannesburg: University of the Witwatersrand.

Van Doornum, B. 2007b. Tshisiku Shelter and the Shashe-Limpopo confluence area hunter-gatherer sequence. Southern African Humanities 19:17-67.

Van Schalkwyk, J. 2016. Cultural Heritage Impact Assessment for the Proposed Mining Activities on Portions of The Farms Kennedy's Vale 361KT and Spitskop 333kt, Greater Tubatse Local Municipality, Limpopo Province.

Van Schalkwyk, J.A., & Smith, B.W. 2004. "Insiders and outsiders: Sources for reinterpreting a historical event," in African Historical Archaeologies. Edited by Andrew Reid and Paul Lane, pp. 325–46. London: Kluwer Academic.

Van Vollenhoven, A., 2012. A Report on A Cultural Heritage Impact Assessment for A Proposed New Tailings Storage Facility at the Two Rivers Platinum Mine, Close to Steelpoort, Limpopo Province.

Van Vollenhoven, A., 2017. A Report on A Cultural Heritage Impact Assessment for The Proposed De Groote Boom Prospecting Right Application on The Farm De Grooteboom 373 KT, Close to Steelpoort, Limpopo Province.

Van Vollenhoven, A.C. & A. Pelser. 2002. Report on a Cultural Resources Survey for the Two Rivers Project, done on the Farm Dwarsrivier 372 KT, Mpumalanga Province.

APPENDIX 1: CHANCE FIND PROCEDURE FOR THE PROPOSED ESTABLISHMENT OF BORROW PIT 5 FOR THE UPGRADING OF ACCESS ROAD D5010 AND D5021 AND ASSOCIATED INFRASTRUCTURE WITHIN THE LEPELLE-NKUMPI AND FETAKGOMO TUBATSE LOCAL MUNICIPALITIES, CAPRICORN AND SEKHUKHUNE DISTRICT MUNICIPALITIES, LIMPOPO PROVINCE (RAL/T1282/2025).

OCTOBER 2026

ACRONYMS

BGG	Burial Grounds and Graves
CFPs	Chance Find Procedures
ECO	Environmental Control Officer
HIA	Heritage Impact Assessment
ICOMOS	International Council on Monuments and Sites
NHRA	National Heritage Resources Act (Act No. 25 of 1999)
SAHRA	South African Heritage Resources Authority
SAPS	South African Police Service
UNESCO	United Nations Educational, Scientific and Cultural Organization

11 CHANCE FIND PROCEDURE

Introduction

An Archaeological Chance Find Procedure (CFP) is a tool for the protection of previously unidentified cultural heritage resources during construction. The main purpose of a CFP is to raise awareness of all construction workers and management on site regarding the potential for accidental discovery of cultural heritage resources and establish a procedure for the protection of these resources. Chance Finds are defined as potential cultural heritage (or paleontological) objects, features, or sites that are identified outside of or after Heritage Impact studies, normally as a result of construction monitoring. Chance Finds may be made by any member of the project team, who may not necessarily be an archaeologist or even a visitor. Appropriate application of a CFP on development projects has led to the discovery of cultural heritage resources that were not identified during archaeological and heritage impact assessments. As such, it is considered to be a valuable instrument when properly implemented. For the CFP to be effective, the site manager must ensure that all personnel working within the proposed site understand the CFP and the importance of adhering to it if cultural heritage resources are encountered. In addition, training or induction in cultural heritage resources that might potentially be found on site should be provided. In short, the Chance find procedure details the necessary steps to be taken if any culturally significant artefacts are found during construction.

Definitions

In short, the term 'heritage resource' includes structures, archaeology, meteorites, and public monuments as defined in the South African National Heritage Resources Act (Act No. 25 of 1999) (NHRA) Sections 34, 35, and 37. Procedures specific to burial grounds and graves (BGG) as defined under NHRA Section 36 will be discussed separately, as this requires the implementation of separate criteria for CFPs.

Background

The proposed establishment of Borrow-pit 5 and the upgrading of access roads D5010 and D5021 are located within the Lepelle-Nkumpi and Fetakgomo Tubatse local municipalities, Capricorn and Sekhukhune District Municipalities of Limpopo Province. The proposed Borrow Pit 5 for the upgrading of access road D5010 and D5021 is subject to heritage survey and assessment at the planning stage and construction in accordance with Section 38(8) of the NHRA. These surveys are based on surface indications alone, and it is therefore possible that sites or significant archaeological remains can be missed during surveys because they occur beneath the surface. These are often accidentally exposed in the course of construction or any associated

construction work, and hence the need for a Chance Find Procedure to deal with accidental finds. In this case, an extensive Archaeological Impact Assessment was completed by Mlilo (2025) for the proposed establishment of Borrow-pit 1 and the upgrading of access road D5010 and D5021. The AIA/HIA conducted was very comprehensive and surveyed approximately 80 % of the study area. The current study (Mlilo 2024) recorded a burial site within the proposed borrow pit site.

Purpose

The purpose of this Chance Find Procedure is to ensure the protection of previously unrecorded heritage resources within the proposed borrow pit site. This Chance Find Procedure intends to provide the applicant and contractors with an appropriate response in accordance with the NHRA and international best practice. This CFP aims to avoid or reduce project risks that may occur as a result of accidental finds whilst considering the best international practice. In addition, this document seeks to address the probability of archaeological remains and features becoming accidentally exposed during mining and the movement of mining equipment. The proposed borrow pit and road upgrade have the potential to cause severe impacts on significant tangible and intangible cultural heritage resources buried beneath the surface or concealed by dense grass cover. Mudzunga Consulting & ICT (Pty) Ltd developed this Chance Find Procedure to define the process which governs the management of Chance Finds during mining. This ensures appropriate treatment of chance finds while also minimising disruption of the construction schedule. It also enables compliance with the NHRA and all relevant regulations. Archaeological Chance Find Procedures are to promote preservation of archaeological remains while minimising disruption of mining and construction scheduling. It is recommended that due to the moderate archaeological potential of the project area, all site personnel and contractors be informed of the Archaeological Chance Find procedure and have access to a copy while on site. This document has been prepared to define the avoidance, minimisation, and mitigation measures necessary to ensure that negative impacts to known and unknown archaeological remains as a result of project activities are prevented or, where this is not possible, reduced to as low as reasonably practicable during construction and mining.

Thus, this Chance Finds Procedure covers the actions to be taken from the discovery of a heritage site or item to its investigation and assessment by a professional archaeologist or other appropriately qualified person to its rescue or salvage.

GENERAL CHANCE FIND PROCEDURE

General

The following procedure is to be executed if archaeological material is discovered:

- All construction/clearance activities in the vicinity of the accidental find/feature/site must cease immediately to avoid further damage to the find site.
- Briefly note the type of archaeological materials you think you have encountered, and their location, including, if possible, the depth below the surface of the find
- Report your discovery to your supervisor or if they are unavailable, report to the project ECO, who will provide further instructions.
- If the supervisor is not available, notify the Environmental Control Officer immediately. The Environmental Control Officer will then report the find to the Site Manager, who will promptly notify the project archaeologist and SAHRA.
- Delineate the discovered find/ feature/ site and provide a 30m buffer zone from all sides of the find and any other project, and a 100m buffer zone for mining projects.
- Record the find GPS location, if able.
- All remains are to be stabilised *in situ*.
- Secure the area to prevent any damage or loss of removable objects.
- Photograph the exposed materials, preferably with a scale (a yellow plastic field binder will suffice).
- The project archaeologist will undertake the inspection process in accordance with all project health and safety protocols under the direction of the Health and Safety Officer.

- **Finds rescue strategy**: All investigation of archaeological soils will be undertaken by hand, all finds, remains, and samples will be kept and submitted to a museum as required by the heritage legislation. If any artefacts need to be conserved, the relevant permit will be sought from the SAHRA.
- An on-site office and finds storage area will be provided, allowing storage of any artefacts or other archaeological material recovered during the monitoring process.
- In the case of human remains, in addition to the above, the SAHRA Burial Ground Unit will be contacted, and the guidelines for the treatment of human remains will be adhered to. If skeletal remains are identified, an archaeologist will be available to examine the remains.
- The project archaeologist will complete a report on the findings as part of the proposed borrow pit.

- Once authorisation has been given by SAHRA, the Applicant will be informed when mining activities can resume.

Management of chance finds

Should the Heritage specialist conclude that the find is a heritage resource protected in terms of the NRHA (1999) Sections 34, 36, 37 and NHRA (1999) Regulations (Regulation 38, 39, 40), Mudzunga Consulting & ICT (Pty) Ltd will notify SAHRA and/or PHRA on behalf of the applicant. SAHRA/LIHRA may require that a search and rescue exercise be conducted in terms of NHRA Section 38. This may include rescue excavations, for which Mudzunga Consulting will submit a rescue permit application, having fulfilled all requirements of the permit application process.

If human remains are accidentally exposed, the SAHRA Burial Ground Unit or Mudzunga Heritage Specialist must immediately be notified of the discovery to take the required further steps:

a. Heritage Specialist to inspect, evaluate and document the exposed burial or skeletal remains and determine further action in consultation with the SAPS and Traditional authorities:

b. The heritage specialist will investigate the age of the accidental exposure to determine whether the find is a burial older than 60 years under the jurisdiction of SAHRA or whether the exposed burial is younger than 60 years under the jurisdiction of the Department of Health in terms of the Human Tissue Act.

c. The local SAPS will be notified to inspect the accidental exposure to determine whether the site is a scene of crime or not.

d. Having inspected and evaluated the accidental exposure of human remains, the project Archaeologist will then track and consult the potential descendants or custodians of the affected burial.

e. The project archaeologist will consult with the traditional authorities, local municipality, and SAPS to seek endorsement for the rescue of the remains. Consultation must be done in terms of NHRA (1999) Regulations 39, 40, and 42.

f. Having obtained consent from affected families and stakeholders, the project archaeologist will then compile a Rescue Permit application and submit it to the SAHRA Burial Ground and Graves Unit.

g. As soon as the project archaeologist receives the rescue permit from SAHRA, he will, in collaboration with the company/contractor, arrange for the relocation in terms of logistics and appoint an experienced undertaker to conduct the relocation process.

h. The rescue process will be done under the supervision of the archaeologist, the site representative and affected family members. Retrieval of the remains shall be undertaken in such a manner as to reveal the stratigraphic and spatial relationship of the human skeletal remains with other archaeological features in the site (e.g., grave goods, hearths, burial pits, etc.). A catalogue and bagging system shall be utilised that will allow ready reassembly and relational analysis of all elements in a laboratory. The remains will not be touched with the naked hand; all Contractor personnel working on the borrow pit must wear clean cotton or non-powdered latex gloves when handling remains in order to minimise contamination of the remains with modern human DNA. The project archaeologist will document the process from exhumation to reburial.

i. Having fulfilled the requirements of the rescue/burial permit, the project archaeologist will compile a mitigation report which details the whole process from discovery to relocation. The report will be submitted to SAHRA and to the client.

Note that the relocation process will be informed by SAHRA Regulations and the wishes of the descendants of the affected burial.

APPENDIX 2: HERITAGE MANAGEMENT PLAN INPUT INTO THE PROPOSED ESTABLISHMENT OF BORROW PIT 5 FOR THE UPGRADING OF ACCESS ROAD D5010 AND D5021 AND ASSOCIATED INFRASTRUCTURE WITHIN THE LEPELLE-NKUMPI AND FETAKGOMO TUBATSE LOCAL MUNICIPALITIES, CAPRICORN AND SEKHUKHUNE DISTRICT MUNICIPALITIES OF LIMPOPO PROVINCE.

Objective	• Protection of archaeological sites and land considered to be of cultural value. • Protection of known physical cultural property sites against vandalism, destruction and theft; and • The preservation and appropriate management of new archaeological finds, should these be discovered during construction and mining							
No.	Activity	Mitigation Measures	Duration	Frequency	Responsibility	Accountable	Contacted	Informed
Pre-mining Phase								
1	Planning	Ensure all known sites of cultural, archaeological, and historical significance are demarcated on the site layout plan and marked as no-go areas.	Throughout Project	Weekly Inspection	Contractor [C] CECO	SM	ECO	EA EM PM
Mining Phase								
1	Emergency Response	Should any archaeological or physical cultural property heritage resources be exposed during excavation for construction, construction in the vicinity of the finding must be stopped until the heritage authority has cleared the development to continue.	N/A	Throughout	C CECO	SM	ECO	EA EM PM
		Should any archaeological, cultural property heritage resources be exposed during excavation or be found on a development site, a registered heritage specialist or SAHRA/LIHRA official must be called to the site for inspection.		Throughout	C CECO	SM	ECO	EA EM PM
		Under no circumstances may any archaeological, historical or physical cultural property heritage material be destroyed or removed from the site;		Throughout	C CECO	SM	ECO	EA EM PM
		Should remains and/or artefacts be discovered on the development site during earthworks, all work will cease in the area affected, and the Contractor will immediately inform the Construction Manager, who in turn will inform SAHRA/LIHRA		When necessary	C CECO	SM	ECO	EA EM PM
		Should any remains be found on site that are potentially human remains, the SAHRA/LIHRA and South African Police Service should be contacted.		When necessary	C CECO	SM	ECO	EA EM PM
Rehabilitation Phase								
		Same as the construction/mining phase.						
Operational Phase								
		Same as the construction/mining phase.						

APPENDIX 3: LEGAL PRINCIPLES OF HERITAGE RESOURCES MANAGEMENT IN SOUTH AFRICA

Extracts relevant to this report from the National Heritage Resources Act No. 25 of 1999 (Sections 5, 36 and 47):

General principles for heritage resources management

5. (1) All authorities, bodies, and persons performing functions and exercising powers in terms of this Act for the management of heritage resources must recognise the following principles:

(a) Heritage resources have lasting value in their own right and provide evidence of the origins of South African society, and as they are valuable, finite, non-renewable and irreplaceable, they must be carefully managed to ensure their survival;

(b) Every generation has a moral responsibility to act as trustee of the national heritage for succeeding generations, and the State has an obligation to manage heritage resources in the interests of all South Africans.

(c) heritage resources have the capacity to promote reconciliation, understanding and respect, and contribute to the development of a unifying South African identity; and

(d) Heritage resources management must guard against the use of heritage for sectarian purposes or political gain.

(2) To ensure that heritage resources are effectively managed

(a) The skills and capacities of persons and communities involved in heritage resources management must be developed; and

(b) Provision must be made for the ongoing education and training of existing and new heritage resources management workers.

(3) Laws, procedures and administrative practices must

(a) be clear and generally available to those affected thereby;

(b) in addition to serving as regulatory measures, they also provide guidance and information to those affected thereby; and

(c) Give further content to the fundamental rights set out in the Constitution.

(4) Heritage resources form an important part of the history and beliefs of communities and must be managed in a way that acknowledges the right of affected communities to be consulted and to participate in their management.

(5) Heritage resources contribute significantly to research, education and tourism, and they must be developed and presented for these purposes in a way that ensures dignity and respect for cultural values.

(6) Policy, administrative practice and legislation must promote the integration of heritage resources conservation in urban and rural planning and social and economic development.
(7) The identification, assessment and management of the heritage resources of South Africa must
(a) take account of all relevant cultural values and indigenous knowledge systems;
(b) take into account material or cultural heritage value and involve the least possible alteration or loss of it;
(c) promote the use and enjoyment of and access to heritage resources, in a way consistent with their cultural significance and conservation needs;
(d) contribute to social and economic development.
(e) safeguard the options of present and future generations; and
(f) be fully researched, documented and recorded.

Burial grounds and graves

36. (1) Where it is not the responsibility of any other authority, SAHRA must conserve and generally care for burial grounds and graves protected in terms of this section, and it may make such arrangements for their conservation as it sees fit.
(2) SAHRA must identify and record the graves of victims of conflict and any other graves which it deems to be of cultural significance and may erect memorials associated with the grave referred to in subsection (1), and must maintain such memorials.
(3) (a) No person may, without a permit issued by SAHRA or a provincial heritage resources authority
(a) destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;
(b) destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or
(c) bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation equipment, or any equipment which assists in the detection or recovery of metals.
(4) SAHRA or a provincial heritage resources authority may not issue a permit for the destruction or damage of any burial ground or grave referred to in subsection (3)(a) unless it is satisfied that the applicant has made satisfactory arrangements for the exhumation and re-interment of the contents of such graves, at the cost of the applicant and in accordance with any regulations made by the responsible heritage resources
authority.

(5) SAHRA or a provincial heritage resources authority may not issue a permit for any activity under subsection (3)(b) unless it is satisfied that the applicant has, in accordance with regulations made by the responsible heritage resources authority

(a) made a concerted effort to contact and consult communities and individuals who, by tradition, have an interest in such grave or burial ground; and

(b) reached agreements with such communities and individuals regarding the future of such a grave or burial ground.

(6) Subject to the provisions of any other law, any person who in the course of development or any other activity, discovers the location of a grave, the existence of which was previously unknown, must immediately cease such activity and report the discovery to the responsible heritage resources authority, which must, in co-operation with the South African Police Service and in accordance with regulations of the responsible heritage resources authority

(a) investigate the purpose of obtaining information on whether or not such a grave is protected in terms of this Act or is of significance to any community; and

(b) if such a grave is protected or is of significance, assist any person or community which is a direct descendant to make arrangements for the exhumation and re-interment of the contents of such grave or, in the absence of such a person or community, make any such arrangements as it deems fit.

(7) (a) SAHRA must, over a period of five years from the commencement of this Act, submit to the Minister for his or her approval lists of graves and burial grounds of persons connected with the liberation struggle and who died in exile or as a result of the action of State security forces or agents provocateurs and which, after a process of public consultation, it believes should be included among those protected under this section.

(b) The Minister must publish such lists as he or she approves in the Gazette.

(8) Subject to section 56 (2), SAHRA has the power, with respect to the graves of victims of conflict outside the Republic, to perform any function of a provincial heritage resources authority in terms of this section.

(9) SAHRA must assist other State Departments in identifying graves in a foreign country of victims of conflict connected with the liberation struggle and, following negotiations with the next of kin, or relevant authorities, it may re-inter the remains of that person in a prominent place in the capital of the Republic.

General policy

47. (1) SAHRA and a provincial heritage resources authority.

(a) must, within three years after the commencement of this Act, adopt statements of general policy for

the management of all heritage resources owned or controlled by it or vested in it; and

(b) may from time to time amend such statements so that they are adapted to changing circumstances or in accordance with increased knowledge; and

(c) must review any such statement within 10 years after its adoption.

(2) Each heritage resources authority must adopt for any place which is protected in terms of this Act and is owned or controlled by it or vested in it, a plan for the management of such place in accordance with the best environmental, heritage conservation, scientific and educational principles that can reasonably be applied taking into account the location, size and nature of the place and the resources of the authority concerned, and may from time to time review any such plan.

(3) A conservation management plan may, at the discretion of the heritage resources authority concerned and for a period not exceeding 10 years, be operated either solely by the heritage resources authority or in conjunction with an environmental or tourism authority or under contractual arrangements, on such terms and conditions as the heritage resources authority may determine.

(4) Regulations by the heritage resources authority concerned must provide for a process whereby, before the adoption or amendment of any statement of general policy or any conservation management plan, the public and interested organisations are notified of the availability of a draft statement or plan for inspection, and comment is invited and considered by the heritage resources authority concerned.

(5) A heritage resources authority may not act in any manner inconsistent with any statement of general policy or conservation management plan.

(6) All current statements of general policy and conservation management plans adopted by a heritage resources authority must be available for public inspection on request.