

PHASE 1
ARCHAEOLOGICAL IMPACT ASSESSMENT
RELATING TO THE PROPOSED LESEDI FILLING STATION ON REMAINDER OF
FARM INVERAAN 262/LR, BLOUBERG LOCAL MUNICIPALITY
LIMPOPO PROVINCE, SOUTH AFRICA.



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i. **Technical and Executive Summaries**

Property details	
Province	Limpopo
Magisterial District	Capricorn District
Topo-cadastral map	2329
Coordinates	23° 8'25.69"S 29° 0'25.24"E
Closest town	Bochum and Vivo CBDs
Farm name	Remainder of farm Inveraan 262/LR

Development criteria in terms of Section 38 (1) of the NHR Act 25 of 1999	Yes	No
Construction of road, wall, power line, pipeline, canal or other linear form of development or barrier exceeding 300m in length		No
Construction of bridge or similar structure exceeding 50m in length		No
Development exceeding 5000 sqm		No
Development involving three or more existing erven or subdivisions		No
Development involving three or more erven or divisions that have been consolidated within past five years		No
Rezoning of site exceeding 10 000 sqm		No
Any other development category, public open space, squares, parks, recreation grounds		No

Development	
Description of development	Development of a Petroleum Filling Station
Project name	Lesedi Filling Station
Developer	Mr Eric Chipu
Heritage consultant	Mr. Eric Ndivhuho Mathoho,
Purpose of the study	Heritage Impact Assessment to identity and assesssignificance of sites (if any) to be impacted by the proposed Proposed Filling Station

Land use	
Previous land use	Vacant Land
Current land use	Residential Stand

ii. Executive Summary

This report provides the results of an Archaeological Impact Assessment (AIA) study for the proposed Lesedi Filling Station development on Remaining Portion of farm Inveraan 262/LR, near Blouberg Hospital, Blouberg Local Municipality. The Stand is situated roughly 30 kilometers North west of Bochum CBD, and adjacent to the Blouberg Hospital, situated alongside the main arterial tarred road (Blouberg Road) from Blouberg to Blouberg Hospital, Vhembe district, Limpopo Province South Africa.

As part of the application process and good corporate citizenship, archaeological impact assessment study was conducted as part of the broader Basic Assessment (BA) study which investigate the impact of the proposed development on the receiving environment including heritage resources. As part of Basic Assessments (BA), the applicant is required by law to obtain Environmental Authorization (EA) in line with the Environmental Impact Assessment (EIA) Regulation published in Government Notice R 327 under Section 24(5) of the National Environmental Management Act No. 107 of 1998 (NEMA) as amended in 2017. An application for Basic Assessments has been lodged with the Limpopo Department of Economic Development Environment and Tourism. As part of the application process, P Enviro Consultants were appointed to facilitate the process of an independent heritage consulting company to assess the heritage sensitivity of the area. A multi-stepped methodology was used to address the terms of reference. To begin with, a desktop study was carried out to identify any known heritage sites and their significance in the surrounding environment. This involved consulting contract archaeology and paleontological reports filed on SAHRIS, research and academic publications. Finally, the study was guided by the National Heritage Resources Act of 1999 and SAHRA Minimum Standards for impact assessment.

Based on this study, the following conclusions were reached:

- The proposed development is scheduled to take place on a 3400sqm on sandy soils, currently under cultivation. Three individual Trees are located on site, including Euphorbia Species, Boscia albitrunca and Combretum species
- Ground truthing of the area proposed for the Filling Station and associated infrastructures development found no important cultural heritage resource, archaeological materials nor graves

- Although no archaeological remains were found, it is possible that some significant features may be buried beneath the ground. Should buried archaeological materials and burials be encountered during the process of development, the following must apply:
 - Work must stop immediately
 - A professional archaeologist or nearest heritage authority must be contacted.

Based on this assessment which found no archaeological resources in this area we recommend that the heritage authorities approve the project as planned.

iii. ACKNOWLEDGEMENTS:

CLIENT NAME: LESEDI FILLING STATION

CONTACT PERSON: MR ERIC CHIPU

REPORT AUTHOR: Eric Ndivhuho Mathoho (PhD)

Declaration of Independence and CV

I Eric Ndivhuho Mathoho declare that I am an independent consultant and have no business, financial, personal or other interest in the proposed development, application or appeal in respect of which I am appointed other than fair remuneration for work performed about the activity, application or appeal. There are no circumstances that compromise the objectivity of me performing such work.

Signed:



Eric Ndivhuho Mathoho, BA (Hons) in Archaeology (Univen) MPhil. D.Phil. in Archaeology (UCT) ASAPA Member, Archaeologist and Heritage Expert.

TABLE OF CONTENTS

CONTENT	PAGE
ARCHAEOLOGICAL IMPACT ASSESSMENT	2
i. Technical and Executive Summaries	i
ii. Executive Summary	ii
iii. ACKNOWLEDGEMENTS:	iv
Declaration of Independence and CV	iv
Table of figures.....	vii
1. INTRODUCTION	1
2. RELEVANT LEGISLATION	3
2.1. The National Heritage Resource Act (25 of 1999)	3
Historical remains.....	3
Archaeological remains.....	4
Burial grounds and graves	5
Cultural Resource Management	5
2.2. The Human Tissue Act (65 of 1983).....	6
3. TERMS OF REFERENCE	7
4. TERMINOLOGY	8
5. METHODOLOGY	10
Source of information.....	10
ii. Field surveys	10
Assumption and Limitations.....	10
6. ASSESSMENTS CRITERIA	11
6.1 Site Significance	11
6.2 Impact Rating.....	12
VERY HIGH	12
HIGH	12
MODERATE	13
LOW	13
NO SIGNIFICANCE	13

6.3	Certainty	13
6.4	Duration	14
6.5	Mitigation	14
7.	Historical background a brief synthesis of the archaeology and heritage of the study area	14
7.1.1.	The Stone Age Period	14
7.1.2.	FARMING COMMUNITIES AND RECENT HISTORIES	15
8.	SITE LOCATION AND PROJECT DESCRIPTION	16
9.	ASSESSMENT OF SITES AND FINDS	19
10.	CONCLUSION AND RECOMMENDATIONS	19
11.	TRANSECTS SNAPSHOT AND SITE PLAN	20
12.	REFERENCE	21
	Addendum 1: Definitions and Acronyms	24
	ADDENDUM 2: Types and ranges as outlined by the National Heritage Resource Act (Act 25 of 1999)	26

Table of figures

Figure 1: Study area location and Google Earth Maps 1
Figure 2: View of Study Site from the North 17
Figure 3: View of the Study Site showing Cultivated State from the east 17
Figure 4: View of the study area showing cultivated state from the West 18
Figure 5: View of the Site from the West 18
Figure 6: Snapshot of Transact Walk 20

1. INTRODUCTION

Mr Eric Chipu identified vacant land adjacent to Blouberg Hospital, the area is well fenced, +-3400 Sqm stand underlain with Sandy soils. The stand where the proposed Filling Station development has been earmarked is located on an unsurveyed land on the remaining portion 1 of the farm Inveraan 262/LR, near Blouberg Hospital, Blouberg Local Municipality. The farm is situated roughly 30 kilometers' northwest of Bochum CBD, adjacent to Blouberg Hospital.

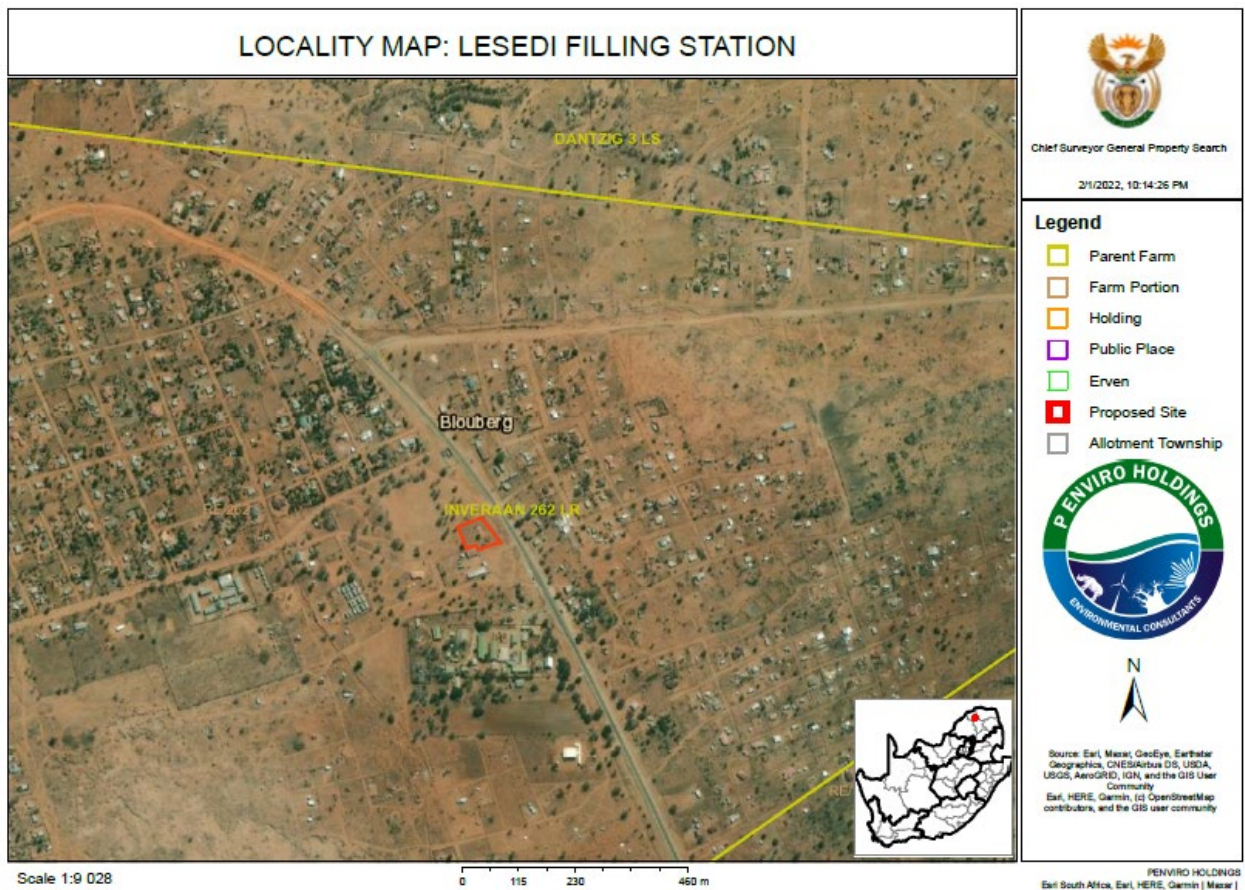


Figure 1: Study area location and Google Earth Maps

The objective behind this development is to provide crucial services while creating job opportunities to the local people. In terms of EIA Regulations promulgated on 4 December 2014, read with Section 44 of the National Environmental Management Act (Act 107 of 1998), the proposed development falls within listed Activity, namely:

- GNR327 Listing Notice 1 Activity 14
- GNR 324 Listing Notice 3 Activity 10

Therefore, pre-development Environmental Impact Assessment is a prerequisite, subject to approval by the Limpopo Department of Economics Development, Environment and Tourism. To ensure that the proposed Filling Station and associated infrastructures meets the environmental requirements in line with the National Environmental Management Act 107 of 1998, Mr Eric Chipu appointed P Enviro Consultants as an Independent Environmental Assessment (IEA) Practitioner, to undertake an Archaeological Impact Assessment (AIA) for the proposed project.

To comply with relevant legislations, the applicant Mr Eric Chipu requires information on the heritage resources that occur within or near the proposed site and their heritage significance. The

objective of the study is to document the presence of archaeological and historical sites of significance to inform and provide guidance on the proposed development activities. Apart from contributing towards the preservation of the heritage resources, the studies provide information and awareness of the types of archaeological and heritage sites that occur within the proposed study area. The document enables the developer to align their functions and responsibilities to advance proposed activities and at the same time minimizing potential impact on archaeological and heritagesites. This study was conducted in line with the National Heritage Resources Act of 1999 (Act No. 25 of 1999). The Act protects heritage resources through formal and general protection. The Act provide that certain developmental activities require consents from relevant heritage resources authorities such as Limpopo Heritage Resources Authorities (LIHRA) and South African Heritage Resources Agency (SAHRA). In addition to heritage legislations, the South African Heritage Resources Agency has developed minimum standards used in impact assessment, while these local standards, are operational they are strengthened by the International Council of Monuments and Sites (ICOMOS) published guideline for assessing impacts. The Burra Charter of 1999, requires a cautious approach to the

management of sites; it sets out firmly that the cultural significance of heritage places must guide all decisions.

The National Heritage Resources Act (NHRA - Act No. 25 of 1999) protects all structures and features older than 60 years (Section, 34), archaeological sites and materials (Section 35) and graves and burial sites (Section, 36). To comply with the legislation, the applicant requires information on the heritage resources, that occur in the area proposed for development and their significance. This will enable the Applicant to take pro-active measures to limit the adverse effects that the development could have on such heritage resources.

2. RELEVANT LEGISLATION

Two sets of legislation are relevant for the purposes of this study in as far as they contain provisions for the protection of tangible and intangible heritage resources including burials and burial grounds.

2.1. The National Heritage Resource Act (25 of 1999)

This Act established the South African Heritage Resource Agency (SAHRA) as the prime custodian of the heritage resources and makes provision for the undertaking of heritage resources impact assessment for various categories of development as determined by section 38. It also provides for the grading of heritage resources (Section, 7) and the implementation of a three-tier level of responsibility and functions from heritage resources to be undertaken by the State, Provincial and Local authorities, depending on the grade of heritage resources (Section, 8)

In terms of the National Heritage Resource Act 25, (1999) the following is of relevance:

Historical remains

Section 34 (1) No person may alter or demolish any structure or part of a structure, which is older than 60 years without a permit issued by the relevant Provincial Heritage

Resources Authority.

Archaeological remains

Section 35(3) Any person who discovers archaeological and paleontological materials and meteorites during development or agricultural activity must immediately report the find to the responsible heritage resource authority or the nearest local authority or museum.

Section 35(4) No person may, without a permit issued by the responsible heritage resources authority-

- destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or paleontological site or any meteorite;
- destroy, damage, excavate, remove from its original position, collect or own any archaeological or paleontological material or object or any meteorite;
- trade in, sell for private gain, export or attempt to export from republic any category of archaeological or paleontological material or object or any meteorite; or
- bring onto or use at an archaeological or paleontological site any excavation equipment or any equipment which assist with the detection or recovery of metal or archaeological material or object or such equipment for the recovery of meteorites.

Section 35(5) When the responsible heritage resource authority has reasonable cause to believe that any activity or development which will destroy, damage or alter any archaeological or paleontological site is underway, and where no application for a permit has been submitted and no heritage resource management procedures in terms of section 38 has been followed, it may

- serve on the owner or occupier of the site or on the person undertaking such development an order for the development to cease immediately for such period as is specified in the order
- carry out an investigation for obtaining information on whether an archaeological or paleontological site exists and whether mitigation is necessary;
- if mitigation is deemed by the heritage resources authority to be necessary, assist the person on whom the order has been served under paragraph (a) to apply for a permit as required in subsection (4); and
- recover the cost of such investigation from the owner or occupier of the land on which it is

believed an archaeological or paleontological site is located or from the person proposing to undertake the development if no application for a permit is received within two weeks of the order being served.

Subsection 35(6) the responsible heritage resource authority may, after consultation with the owner of the land on which an archaeological or paleontological site or meteorite is situated; serve a notice on the owner or any other controlling authority, to prevent activities within a specified distance from such site or meteorite.

Burial grounds and graves

Section 36 (3) No person may, without a permit issued by SAHRA or a provincial heritage resources authority:

- (i) 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
- (ii) bring onto or use at a burial ground or grave any excavation equipment, or any equipment which assists in detection or recovery of metals.

Subsection 36 (6) Subject to the provision of any person who during development or any other activity discover 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 resource authority which must, in co-operation with the South African Police service and in accordance with regulation of the responsible heritage resource authority-

- (I) carry out an investigation for obtaining information on whether such grave is protected in terms of this act or is of significance to any community; and
if such grave is protected or is of significance, assist any person who or community which is a direct descendant to decide for the exhumation and re-interment of the contents of such grave or, in the absence of such person or community, make any such arrangement as it deems fit.

Cultural Resource Management

Section **38(1)** Subject to the provisions of subsection (7), (8) and (9), any person who intends to undertake a development*...

- must at the very earliest stages of initiating such development notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.

development means any physical intervention, excavation, or action, other than those caused by natural forces, which may in the opinion of the heritage authority in any way result in a change to the nature, appearance or physical nature of a place, or influence its stability and future well-being, including:

- (i) Construction, alteration, demolition, removal or change of use of a place or a structure at a place;
- (ii) Any change to the natural or existing condition or topography of land, and
- (iii) Any removal or destruction of trees, or removal of vegetation or topsoil;

place means a site, area or region, a building or other structure

structure means any building, works, device or other facility made by people and which is fixed to the ground.

2.2. The Human Tissue Act (65 of 1983)

This act protects graves younger than 60 years, these falls under the jurisdiction of the National Department of Health and the Provincial Health Department. Approval for the exhumation and reburial must be obtained from the relevant provincial MEC as well as relevant Local Authorities.

3. **TERMS OF REFERENCE**

The terms of references for the study were to undertake an Archaeological Impact Assessment relating to the proposed Filling Station and associated infrastructures and submit a specialist report, which addresses the following:

- Executive summary
- Scope of work undertaken
- Methodology used to obtain supporting information
- Overview of relevant legislation
- Results of all investigations
- Interpretation of information
- Assessment of impact
- Recommendation on effective management measures
- References

4. TERMINOLOGY

The Heritage Impact Assessment (HIA) referred to in the title of this report includes a survey of heritage resources as outlined in the National Heritage Resources Act, 1999 (Act No 25 of 1999) Heritage resources, (Cultural resources) include all human-made phenomena and intangible products that are result of the human mind. Natural, technological or industrial features may also be part of heritage resources, as places that have made an outstanding contribution to the cultures, traditions and lifestyle of the people or groups of people of South Africa.

The term 'pre-historical' refers to the time before any historical documents were written or any written language developed in a area or region of the world. The historical period and historical remains refer, for the project area, to the first appearance or use of 'modern' Western writing brought South Africa by the first colonist who settled in the Cape in the early 1652 and brought to the other different part of South Africa in the early 1800.

The term 'relatively recent past' refers to the 20th century. Remains from this period are not necessarily older than sixty years and therefore may not qualify as archaeological or historical remains. Some of these remains, however, may be close to sixty years of age and may soon, qualify as heritage resources.

It is not always possible, based on the observation alone, to distinguish clearly between archaeological remains and historical remains or between historical remains and remains from the relatively recent past. Although certain criteria may help to make this distinction possible, these criteria are not always present, or when they are present, they are not always clear enough to interpret with great accuracy. Criteria such as square floors plan (a historical feature) may serve as a guideline. However circular and square floors may occur together on the same site.

The 'term sensitive remains' is sometimes used to distinguished graves and cemeteries as well as ideologically significant features such as holy mountains, initiation sites or other sacred places. Graves are not necessarily heritage resources if they date from the recent past and do not have headstones that are older than sixty years. The distinction between 'formal' and 'informal' graves in most instances also refers to graveyards that were used by colonists and by indigenous people. This distinction may be important as different cultural

groups may uphold different traditions and values regarding their ancestors. These values should be recognized and honored whenever graveyards are exhumed and relocated.

The term 'Stone Age' refers to the prehistoric past, although Late Stone Age people lived in South Africa well into the historical period. The Stone Age is divided into an Early Stone Age (3 Million years to 150 000 thousand years ago) the Middle Stone Age (150 000 years ago to 40 years ago) and the Late Stone Age (40 000 years to 200 years ago).

The term 'Early Iron Age' and Late Iron Age respectively refers to the periods between the first and second millenniums AD.

The 'Late Iron Age' refers to the period between the 17th and the 19th centuries and therefore includes the historical period.

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

The term 'study area' or 'project area' refers to the area where the developers want to focus its development activities (refer to plan)

Phase I studies refer to survey using various sources of data to establish the presence of all possible types of heritage resources in each area.

Phase II studies include in-depth cultural heritage studies such as archaeological mapping, excavating and sometimes laboratory work. Phase II work may include documenting of rock art, engravings or historical sites and dwellings; the sampling of archaeological sites or shipwrecks; extended excavation of archaeological sites; the exhumation of bodies and the relocation of grave yards, etc. Phase II work may require the input of specialist and require the co-operation and the approval of SAHRA.

5. METHODOLOGY

Source of information

i. Desktop studies

Desktop studies were performed to gain information on the archaeological and paleontological studies of the region. This cultural landscape is richly endowed with the Paleontological heritage, dominated by fossils located in the Ecca group of the Karoo super group (Durand 2009). The landscape hosts significant tangible and intangible heritage encompassing Stone Age, Iron Age (Zhizo, Leopard Kopje, Khami and Vha-Venda ancestral homes) (see, Siyathembana 2012; 2017, Lebaron, Kuman and Grab 2010; Forsman, 2016; Pollarolo and Kuman 2009; Van Doornum, 2005; Wilkins, Pollarolo and Kuman 2010, Huffman 2007, Manyanga 2007). The desktop studies also involved a review of HIA reports (Pistorius 2011, Siyathembana 2012, 2017) and monitoring reports within and around Blouberg Hospital and the Venetia Limpopo Nature Reserve and in the Mapungubwe National Park (Siyathembana 2017).

ii. Field surveys

To identify sites on the ground and assess their significance, a dedicated field survey was performed to the site for the proposed development and associated infrastructure. The fieldwork was performed on the 02 February 2022, the process followed systematic inspections of predetermined linear transects which resulted in the maximum coverage of the entire site. The sampling method selected was the stratified random technique where the study area was taken as strata with random field walking around them. Standard archaeological observation practices were followed; visual inspection was supplemented by relevant written source; the site was recorded by hand held GPS and plotted on 1:50 000 Topographical and Google Earth maps. The general condition of the terrain was photographed with a Canon 1000D Camera.

Assumption and Limitations

It must be pointed out that heritage resources can be found in the unexpected places, it must also be borne in mind that survey may not detect all the heritage resources in each project area. While some remains may simply be missed during surveys (observations)

existing site infrastructure concealment, others may occur below the surface of the earth and may be exposed once development (such as the construction of the proposed facilities) commences.

6. ASSESSMENTS CRITERIA

This section describes the evaluation criteria used for determining the significance of archaeological and heritage sites. The significance of archaeological and heritage sites was determined based on the following criteria:

- The unique nature of a site.
- The amount/depth of the archaeological deposit and the range of features (stonewalls, activity areas etc.).
- The wider historic, archaeological and geographic context of the site.
- The preservation condition and integrity of the site.
- The potential to answer present research questions.

6.1 Site Significance

The site significance classification standards as prescribed in the guidelines and endorsed by the South African Heritage Resources Agency (2006) and approved by the Association for Southern African Professional Archaeologists (ASAPA) for the Southern African Development Community (SADC) region, were used in determining the site significance for this report.

The classification index is represented in the Table below that show grading and rating systems of heritage resources in South Africa.

FIELD RATING	GRADE	SIGNIFICANCE	RECOMMENDED MITIGATION
National Significance (NS)	Grade 1	-	Conservation National Site ;nomination
Provincial Significance (PS)	Grade 2	-	Conservation Provincial Site ;nomination

FIELD RATING	GRADE	SIGNIFICANCE	RECOMMENDED MITIGATION
Local Significance (LS)	Grade 3A	High Significance	Conservation; Mitigation not advised
Local Significance (LS)	Grade 3B	High Significance	Mitigation (Part of site should be retained)
Generally Protected (GP.A)	Grade 4A	High / Medium Significance	Mitigation before destruction
Generally Protected (GP.B)	Grade 4B	Medium Significance	Recording before destruction
Generally Protected (GP.C)	Grade 4C	Low Significance	Destruction

6.2 Impact Rating

VERY HIGH

These impacts would be considered by society as constituting a major and usually permanent change to the (natural and/or cultural) environment, and usually result in severe or very severe effects, or beneficial or very beneficial effects.

Example: The loss of a species would be viewed by informed society as being of VERY HIGH significance.

Example: The establishment of a large amount of infrastructure in a rural area, which previously had very few services, would be regarded by the affected parties as resulting in benefits with VERY HIGH significance.

HIGH

These impacts will usually result in long term effects on the social and /or natural environment. Impacts rated as HIGH will need to be considered by society as constituting an important and usually long-term change to the (natural and/or social) environment. Society would probably view these impacts in a serious light.

Example: The loss of a diverse vegetation type, which is common elsewhere, would have a significance rating of HIGH over the long term, as the area could be rehabilitated.

Example: The change to soil conditions will impact the natural system, and the impact on affected parties (e.g. farmers) would be HIGH.

MODERATE

These impacts will usually result in medium- to long-term effects on the social and/or natural environment. Impacts rated as MODERATE will need to be considered by the public or the specialist as constituting a unimportant and usually short-term change to the (natural and/or social) environment. These impacts are real, but not substantial.

Example: The loss of a sparse, open vegetation type of low diversity may be regarded as MODERATELY significant.

Example: The provision of a clinic in a rural area would result in a benefit of MODERATE significance.

LOW

These impacts will usually result in medium to short term effects on the social and/or natural environment. Impacts rated as LOW will need to be considered by society as constituting an important and usually medium-term change to the (natural and/or social) environment. These impacts are not substantial and are likely to have little real effect.

Example: The temporary changes in the water table of a wetland habitat, as these systems are adapted to fluctuating water levels.

Example: The increased earning potential of people employed because of a development would only result in benefits of LOW significance to people living some distance away.

NO SIGNIFICANCE

There are no primary or secondary effects at all that are important to scientists or the public.

Example: A change to the geology of a certain formation may be regarded as severe from a geological perspective, but is of NO SIGNIFICANCE in the overall context.

6.3 Certainty

DEFINITE: More than 90% sure of a fact. Substantial supportive data exist to verify the assessment.

PROBABLE: Over 70% sure of a fact, or of the likelihood of an impact occurring.
POSSIBLE: Only over 40% sure of a fact, or of the likelihood of an impact occurring.
UNSURE: Less than 40% sure of a fact, or of the likelihood of an impact occurring.

6.4 Duration

SHORT TERM : 0 – 5 years

MEDIUM: 6 – 20 years

LONG TERM: more than 20 years

DEMOLISHED: site will be demolished or is already demolished

6.5 Mitigation

Management actions and recommended mitigation, which will result in a reduction in the impact on the sites, will be classified as follows:

- ✓ **A** – No further action necessary
- ✓ **B** – Mapping of the site and controlled sampling required
- ✓ **C** – Preserve site, or extensive data collection and mapping required; and
- ✓ **D** – Preserve site

7. Historical background a brief synthesis of the archaeology and heritage of the study area.

7.1.1. The Stone Age Period

Most of the archaeological research in and around the region took place within this region, the Limpopo Valley. Nevertheless, a general account of the nature of the Stone Age can be provided. Conventionally speaking, the Stone Age period has been divided into the Early Stone Age (ESA) (3.5 million and 250 000 BP), the Middle Stone Age (MSA) (250 000 – 25000 BP) and the Later Stone Age (25000 – 2000 BP) (Phillipson 2005). Early Stone Age stone tool assemblages are made up of the earlier Oldwan and later Acheulian types. The Oldwan tools were very crude and were used for chopping and butchering. These were replaced by Acheulian ESA tools dominated by handaxes and cleavers which are remarkably standardized (Wadley, 2007; Sharon, 2009). Evidence presented from Makapansgat caves shows that the first tool making hominids belong to either an early species of the Homo or an immediate ancestor which is yet to be discovered here in South

Africa (Phillipson 2005; Esterhuysen, 2007). Both the Oldwan and Acheulian industries are well represented in the archaeology of northern South Africa as shown by studies in the Makapansgat valley (Kuman et al. 2005; Sumner and Kuman 2014).

The Middle Stone Age dates to between 250 000 ago and 25 000 years ago. In general, Middle Stone Age tools are characterized by a size reduction in tools such as hand axes, cleavers, and flake and blade industries. The period is marked by the emergence of modern humans and was accompanied by change in technology, behavior, physical appearance, art, and symbolism (Phillipson 2005). A variety of MSA tools includes blades, flakes, scraper and pointed tools that may have been hafted onto shafts or handles and used as spear heads. Surface scatters of these flake and blade industries occur widespread across southern Africa (Klein 2000; Thompson & Marean, 2008). Residue analyses on some of the stone tools indicate that these tools were certainly used as spear heads (Wadley, 2007). From about 25 000 BP, stone tool assemblages generally attributed to the Later Stone Age emerged. This period is marked by a reduction in stone tool sizes. Typical stone tools include microliths and bladelets. Later Stone Age stone tools were recovered in the Soutpansberg and well known sites of the Mapungubwe National Park. This period is also associated with the development of rock art whose distribution is known across southern Africa (Deacon and Deacon 1999; Phillipson 2005).

7.1.2. FARMING COMMUNITIES AND RECENT HISTORIES

The Mapungubwe Cultural Landscape is an archaeologically layered landscape declared a World Heritage site in 2003 (Deacon and Norton, 2003). It consists of various layers of human occupation dating back millions of years. The earliest layer belongs to the Early Stone Age (ESA) (2.6 million – 200 000 BP) which is followed by the Middle Stone Age (MSA) (300 000 – 20 000 BP) and the Later Stone Age (LSA) (20 000 -to the recent historical time (last 2000 years) (Sampson 1974; 1984; Sadr 2008; Barham and Mitchell, 2008). Then, there is the layer corresponding to Early Iron Age farmers in the first millennium AD (Huffman, 2007). This layer is followed by the Middle Iron Age associated with the state capitals at Schroda, K2 and Mapungubwe. After this various groups Khami - Venda and Sotho-Tswana - settled in the area during the Late Iron Age. The last layers relate to colonial history and the early history of the twentieth century. The material signatures for all these cultural periods have been identified in the Mapungubwe cultural landscape as broadly defined (Huffman 2007)

and collectively convey its significance (Deacon and Norton 2003). Huffman's work on the Venetia Limpopo Nature Reserve and adjacent areas identified many sites, few of which are on the south-western side of the farm Endora 66MS, along the Kolope River.

Other sites were recovered on the farm Venetia 104MS but none on Krone 104MS (Huffman 2011). Current knowledge suggests that the Limpopo Valley has attracted farming communities who were also interacting with hunter-gatherers. Some of the sites of interaction were used for rain making and rain control. This landscape therefore is associated with scientific, historical, cultural, scientific and aesthetic values (Siyathembana, 2017).

8. SITE LOCATION AND PROJECT DESCRIPTION

The proposed Filling Station development has been earmarked on the remaining extent of farm Inveraan 262/LR, near Blouberg Hospital, Blouberg Local Municipality. The Stand is situated on GPS Co-ordinates 23° 8'25.69"S 29° 0'25.24"E. the site is roughly 30 kilometers Northwest of Bochum CBD,

The study area covers 3400 Sqm currently under cultivation. The area fall within the Blouberg Mopane Bushveld complex which stretch from the Baines drift towards Alldays in the west covering the remaining north of the Soutpansberg. Generally, the region is dominated by undulating and very irregular plains with some hills in the western section dominated by open woodland to moderately closed shrubveld subjugated by *Colophospermum mopane* and *Terminalia prunoides* on clayey bottom lands with scattered *Combretum apiculatum* which are commonly associated with hilly areas (Mucina & Rutherford, 2003). Geologically, the area is underlain by the Archean Beit Bridge complex which consist of gneisses and metasediments with variable soils from deep heavy clay soils to free drained sandy soils (Acocks 1975, Mucina & Rutherford, 2003). The dominant plant taxa include, *Colophospermum Mopane*, *Terminalia prunoides*, *Combretum apiculatum*, *Dichrostachy cineria*, *Acacia tortilis*, *Acacia negrences*, *Grewia flava*, *G Fleverscens*, *Schlerocaryabirrea*, *Lenea schwchimfutii*, *Acacia Karroo*.

The proposed development entails establishment of Petroleum Filling Station



Figure 2: View of Study Site from the North



Figure 3: View of the Study Site showing Cultivated State from the east



Figure 4: View of the study area showing cultivated state from the West



Figure 5: View of the Site from the West

9. ASSESSMENT OF SITES AND FINDS

This section contains the results of the heritage sites/finds assessment. The phase 1 heritage scoping assessment program as required in terms of the Section 38 of the National Heritage Resource Act (Act 25 of 1999) was done for the proposed Filling Station and associated infrastructures. No sites were found during the desktop study and the subsequent field survey. There are no primary or secondary effect at all that are important to scientist or the public that will be impacted by the proposed project activities.

<i>Heritage Significance:</i>	No significance
<i>Impact:</i>	Negative
<i>Impact Significance:</i>	High
<i>Certainty:</i>	Probable
<i>Duration:</i>	Permanent
<i>Mitigation:</i>	A

10. CONCLUSION AND RECOMMENDATIONS

Based on this study, the following conclusions were reached:

- The proposed development is scheduled to take place on a 3400sqm of land dominated by sandy soils, currently under cultivation. Three individual Trees/Plant taxa include Euphorbia Species, Boscia albitrunca and Combretum species
- Ground truthing of the area proposed for the Filling Station and associated infrastructures development found no important cultural heritage resource, archaeological materials nor graves
- Although no archaeological remains were found, it is possible that some significant features may be buried beneath the ground. Should buried archaeological materials and burials be encountered during the process of development, the following must apply:
 - Work must stop immediately
 - A professional archaeologist or nearest heritage authority must be contacted.
- Based on this assessment which found no archaeological resources in this area we recommend that the heritage authorities approve the project as planned.

11. TRANSECTS SNAPSHOT AND SITE PLAN

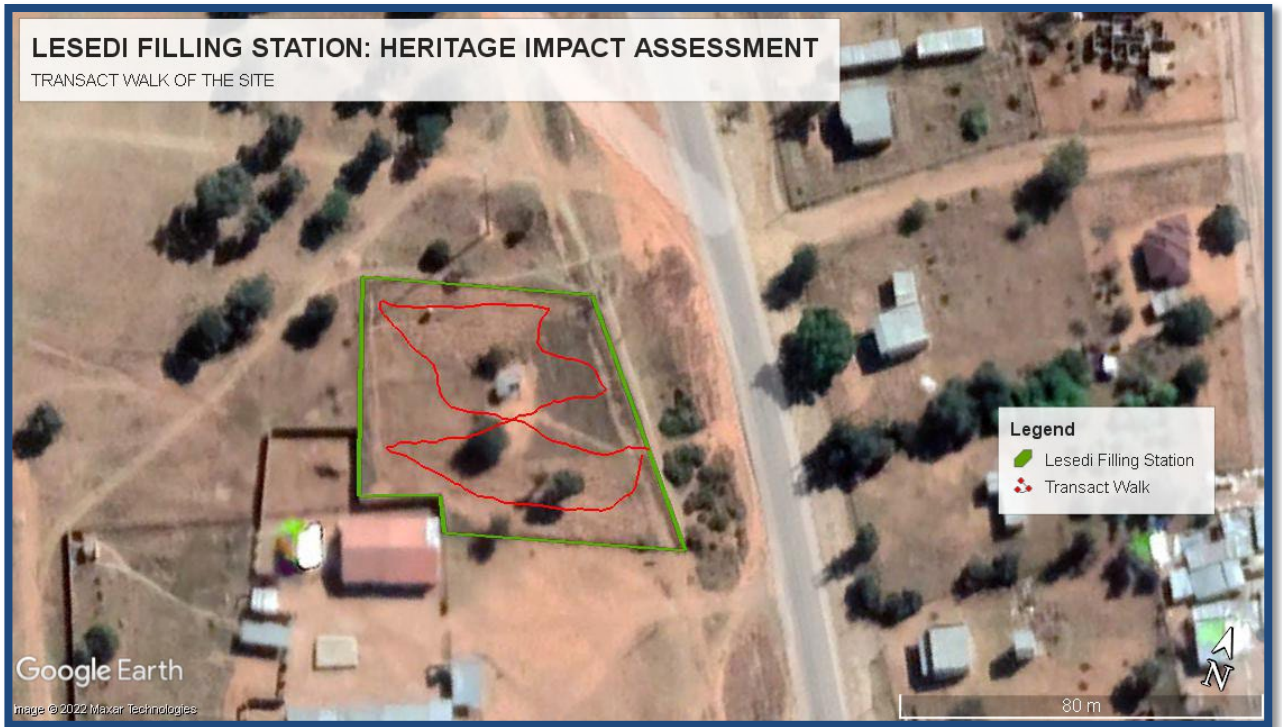


Figure 6: Snapshot of Transact Walk

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ADDENDUMS

Addendum 1: Definitions and Acronyms

Archaeological Material remains resulting from human activities, which 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.

Chance Finds Archaeological artefacts, features, structures or historical cultural remains such as human burials that are found accidentally in context previously not identified during cultural heritage scoping, screening and assessment studies. Such finds are usually found during earth moving activities such as water pipeline trench excavations.

Cultural Heritage Resources Same as Heritage Resources as defined and used in the South African Heritage Resources Act (Act No. 25 of 1999). Refer to physical cultural properties such as archaeological and paleontological sites; historic and prehistoric places, buildings, structures and material remains; cultural sites such as places of ritual or religious importance and their associated materials; burial sites or *graves* and their associated materials; geological or natural features of cultural importance or scientific significance. Cultural Heritage Resources also include intangible resources such as religion practices, ritual ceremonies, oral histories, memories and indigenous knowledge.

Cultural Significance The complexities of what makes a place, materials or intangible resources of value to society or part of, customarily assessed in terms of aesthetic, historical, scientific/research and social values.

Grave A place of interment (variably referred to as burial), including 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 where upon it is referred to as being situated in a cemetery.

Historic Material 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.

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

Late Iron Age this period is associated with the development of complex societies and state systems in southern Africa.

Material culture Buildings, structure, features, tools and other artefacts that constitute the remains from past societies.

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

Acronyms:

AIA	Archaeological Impact Assessment
EIA	Environmental Impact Assessment
EIA	Early Iron Age
EMP	Environmental Management Plan
MHG	Millenium Heritage Group (PTY)LTD
NEMA	National Environmental Management Act, 1998 (Act No.107 of 1998)
NHRA	National Heritage Resources Act, 1999 (Act No.25 of 1999)
SAHRA	South African Heritage Resources Agency
ESA	Early Stone Age
MSA	Middle Stone Age
LSA	Late Stone Age
IA	Iron Age
LIA	Late Iron Age
UNESCO	United Nations Educational, Scientific and culturural Organization
WHC	World Heritage Conventions of 1972

ADDENDUM 2: Types and ranges as outlined by the National Heritage Resource Act (Act 25 of 1999)

The National Heritage Act (Act No 25 of 1999, Art 3) outlines the following types and ranges of the heritage resources that qualify as part of the national estate, namely:

- (a) Places, buildings structures and equipment of cultural significance;
- (b) Places to which oral tradition are attached or which are associated with living heritage;
- (c) Historical settlement and townscapes
- (d) Landscape and natural features of cultural significance;
- (e) Geological sites of scientific or cultural importance
- (f) Archaeological and paleontological sites
- (g) Graves and burial ground including-
 - (I) Ancestral graves
 - (II) Royal graves and graves of traditional leaders
- (III) Graves of victim of conflict
- (IV) Graves of individuals designated by the minister by notice in the gazette;
- (V) Historical graves and cemeteries; and
- (VI) Other human remains which are not covered by in terms of the Human Tissue Act, 1983(Act No 65 of 1983)
 - (h) sites of significance relating to the history of slavery in South Africa;(i) movable objects, including-
 - (I) object recovered from soil or waters of South Africa, including archaeological and paleontological objects and material, meteorites and rare geological specimens;
 - (II) objects to which oral traditions are attached or which are associated with living heritage
 - (III) ethnographic art and objects;
 - (IV) military objects;
 - (V) objects of decorative or fine art;
 - (VI) object of scientific or technological interest; and
- (VII) books, records, documents, photographs, positive and negatives, graphic, film or video material or sound recording, excluding those that are public records as defined in section 1(xiv) of the National Archives of South Africa Act, 1996(Act No 43 of 1996).

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

- (a) its importance in the community, or pattern of South Africa's history;
- (b) its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;
- (c) its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;
- (d) its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;

- (e) its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;
- (f) its importance in demonstrating a high degree of creative or technical achievement at a particular period;
- (g) its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons
- (h) Its strong or special association with the life or work of a person, group or organization of importance in the history of South Africa
- (i) Sites of significance relating to the history of slavery in South Africa.