HERITAGE IMPACT ASSESSMENT

A DESKTOP STUDY

PROPOSED SHOPPING COMPLEX AND A FILLING STATION IN MSELENI AREA ON THE PORTION 13 OF THE FARM RESERVE NO. 14 OF NO. 15834 HV WITHIN UMHLABUYALINGANA LOCAL MUNICIPALITY WITHIN THE UMKHANYAKUDE DISTRICT MUNICIPALITY, KWAZULU-NATAL PROVINCE

For: Phakanani Environmental Consultants
PO Box 1198
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Prepared by Frans Roodt

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DECLARATION OF INDEPENDENCE

I, Frans Roodt representing Vhufa Hashu Heritage Consultants, hereby confirm my independence as a specialist archaeologist and heritage practitioner and declare that I have no business, financial, personal or other interest in any proposed activity, application or appeal in respect of this proposed project, other than fair remuneration for the work performed.

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Principal Investigator (ASAPA member 120)

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1. INTRODUCTION (See Annexure **A** for relevant legislation)

The author was appointed by Phakanani Environmental Consultants to undertake a Desktop Heritage Impact Assessment for the proposed Shopping Complex and a Filling Station in the Mseleni area on the Portion 13 of the Farm Reserve No. 14 of No. 15834HV, within Umhlabuyalingana Local Municipality in the Umkhanyakude District Municipality in KwaZulu-Natal Province.

2. LOCATION AND PROPERTY DISCRIPTION

The proposed project area is located in what is known as Maputuland in Northern KwaZulu-Natal at site coordinates: -27.339542° 32.529085° at the junction of roads R22 and D1885. The size of the development will be 0.8562 hectare. It is situated in a rural area characterised by its close-knitted homesteads and associated garden fields approximately 3 km south-west of the small town of Mseleni and 4 km north-east of Lake Sibaya. The proposed project lies within a previously ploughed, now a abandoned garden.

3. LEGISLATION

The relevant legislation is the **KwaZulu-Natal Amafa and Research Institute Act** (Act No. 5 of 2018).

Chapter 8; GENERAL PROTECTION OF HERITAGE RESOURCES assigns the following section to the protection of such resources:

Section 37. General protection: Structures
Section 38. General protection: Graves of victims of conflict
Section 39. General protection: Informal and private burial grounds
Section 40. General protection: Battlefield sites, archaeological sites, rock art sites, palaeontological sites, historical fortifications, meteorite or meteorite impact sites.

4. TERMS OF REFERENCE

- Review baseline information;
- Impact assessment – identify and assess potential impacts and determine cumulative impacts relating to the project;
- Identify mitigation measures;
- Provide guidance with regard to additional information, if applicable; and
- Provide project recommendations.

5. METHODOLOGY

5.1 Sources of information

A search for relevant previous studies, archaeological and archival sources, e.g., SAHRIS database, publications, local histories, internet articles, Google earth and historical maps was conducted.

5.2 Limitations

The study is limited due to the fact that a site visit/inspection was not conducted.

5.3 Terminology

Palaeontology:	The study of fossils to determine the structure and evolution of extinct animals and plants and the age and conditions of deposition of the rock strata in which they are found
Early Stone Age:	Predominantly the Oldowan artifacts and Acheulian hand axe industry complex dating to + 1Myr yrs – 250 000 yrs. before present.
Middle Stone Age:	Various lithic industries in SA dating from ± 250 000 yrs. - 22 000 yrs. before present.
Late Stone Age:	The period from ± 22 000-yrs. to contact period with either Iron Age farmers or European colonists.
Early Iron Age:	Most of the first millennium AD
Middle Iron Age:	10^{th} to 13^{th} centuries AD
Late Iron Age:	14^{th} century to colonial period. *The entire Iron Age represents the spread of Bantu speaking peoples.*
Phase 1 assessments:	Scoping surveys to establish the presence of and to evaluate heritage resources in a given area
Phase 2 assessments:	In depth culture resources management studies which could include major archaeological excavations, detailed site surveys and mapping / plans of sites, including historical / architectural structures and features. Alternatively, the sampling of sites by collecting material, small test pit excavations or auger sampling could be undertaken.
Sensitive:	Often refers to graves and burial sites, as well as ideologically significant sites such as ritual / religious places. *Sensitive* may also refer to an entire landscape / area known for its significant heritage remains.

6 GENERIC BASELINE INFORMATION

6.1 The Stone Age

The Stone Age covers most of southern Africa and the earliest consist of the Oldowan and Acheul artefacts assemblages. Oldowan tools are regularly referred to as “choppers”. Oldowan artefacts are associated with Homo *habilis*, the first true humans. In South Africa definite occurrences have been found at the sites of Sterkfontein and Swartkrans. Here they are dated to between 1.7 and 2 million years old. Bearing in mind the proximity of the Makapans Valley palaeontological site about 30km south-east of the project area it is possible that they may occur here. This was followed by the Acheulian technology from about 1.4 million years ago which introduced a new level of complexity. The large tools that dominate the Acheulian artefact assemblages range in length from 100 to 200 mm or more. Collectively they are called bifaces because they are normally shaped by flaking on both faces. In plan view they tend to be pear-shape and are broad relative to their thickness. Most bifaces are pointed and are classified as handaxes, but others have a wide cutting end and are termed cleavers. The Acheulian design persisted for more than a million years and only disappeared about 250 000 years ago.

The change from Acheulian with their characteristic bifaces, handaxes and cleavers to Middle Stone Age (MSA), which are characterized by flake industries, occurred about 250 000 years ago and ended about 30 000 – 22 000 years ago. For the most part the MSA is associated with modern humans; Homo sapiens. MSA remains are found in open spaces where they are regularly exposed by erosion as well as in caves. Characteristics of the MSA are flake blanks in the 40 – 100 mm size range struck from prepared cores, the striking platforms of the flakes reveal one or more facets, indicating the preparation of the platform before flake removal (the prepared core technique), flakes show dorsal preparation – one or more ridges or arise down the length of the flake – as a result of previous removals from the core, flakes with convergent sides (laterals) and a pointed shape, and flakes with parallel laterals and a rectangular or quadrilateral shape: these can be termed pointed and flake blades respectively. Other flakes in MSA assemblages are irregular in form.

An important Stone Age Site, Border Cave, is located approximately 60km north-west-west from the project area near Ingwavuma along the Eswatini (formerly Swaziland). Here early humans lived for the past almost 200 000 years. A recent reanalysis of organic artifacts shows that the Stone Age inhabitants of this cave used notched bones for notational purposes, wooden digging sticks, bone awls, and bone points similar to those used by the San as arrowheads. A point is decorated with a spiral groove filled with red ochre, which closely parallels similar marks that San make to identify their arrowheads when hunting. A mixture of beeswax, Euphorbia resin, and possibly egg, wrapped in vegetal fibers, dated to 40,000 BP, may have been used for hafting. Ornaments include marine shell beads and ostrich eggshell beads, directly dated to 42,000 BP. A digging stick, dated to 39,000 BP, is made of Flueggea virosa. A wooden poison applicator, dated to 24,000 BP, retains residues with ricinoleic acid, derived from poisonous castor beans. A reappraisal of radiocarbon age estimates, and the identification of key elements material culture at Border Cave, places the emergence of modern hunter–gatherer adaptation, as we know it, to about 40 000 years ago. Similar early humans as those at Border cave would have most likely roamed the plains around the project area and utilised the land and nearby water resource.

Generally, the change from Middle Stone Age to Later Stone Age (LSA) took place in most parts of southern Africa little more than about 20 000 years ago. It is marked by a series of technological innovations or new tools that, initially at least, were used to do much the same jobs as had been done before, but in a different way. Their introduction was associated with changes in the nature of hunter-gatherer material culture. The innovations associated with the Later Stone Age "package" of tools include rock art – both paintings and engravings, smaller stone tools, so small that the formal tools less that 25mm long are called microliths (sometimes found in the final MSA) and Bows and arrows. Rock art is an important feature of the LSA.

6.2 The Iron Age

In terms of Huffman's (2007) distribution sequences of the Iron Age, the project area may contain the remains of the under-mentioned ceramic (pottery) units, which form distinct cultural groups:

- **Urewe Tradition**, originating in the Great Lakes area of Central Africa, it was a secondary dispersal centre for eastern Bantu speakers. It represents the eastern stream of migration into Southern Africa. The Uruwe Tradition consists of various Branches of which two Branches, with their respective ceramic units are relevant in the area under discussion:

  - **Kwale Branch**:
    Mzonjani facies (Broederstroom) AD 450 – 750 (Early Iron Age)

  - **Blackburn Branch**:
    Blackburn facies AD 1050 – 1500 (Late Iron Age)

- **Kalundu Tradition**, originating in the far North of Angola, it was another secondary dispersal centre for eastern Bantu speakers and represents the western stream of migration into Southern Africa. Only the Happy Rest Sub-Branch with its respective ceramic units are relevant here:

- **Happy Rest Sub-branch**:
  Msulusi facies AD 650 – 750 (Early Iron Age).
  Ndondondwane facies AD 750 – 950 (Early Iron Age).
  Ntshekane facies AD 950 – 1050 (early Iron Age).

No archaeological work has been undertaken in the direct vicinity of the proposed project area. However, In addition to the discussion above, and relevant to the ancestry of the Tsonga people, Fumiko Ohinata (2002) excavated the Simunye site (S 26° 09'; E 31° 52') which is situated along the southern bank of the Mbuluzi River in north-eastern Swaziland near Simunye. The site, which is dated to the latter half of the second millennium AD, produced ceramic material, an infant pot burial, a cluster of buried pots, glass trade beads, and other human and faunal remains, and was most likely inhabited by ancestors of Tsonga-speaking people.

The test excavations at Simunye are therefore important because it is the first site to produce a reasonable ceramic sample and other items of material culture from a context that can be related to Tsonga-speakers, thereby allowing the investigation of previously unexplored issues.

6.3 The Historical past

Portuguese documents indicate that the chiefdoms of Tembe, Mpfume, Manhisa and Libombo, all of which have descendants today in southern Mozambique, were in the area around Delagoa Bay in the sixteenth century AD. It is also known that such chiefdoms each controlled a large area. Portuguese documents indicate that the Rjonga chiefdom of Nyaka extended almost as far south as St Lucia Bay in KwaZulu-Natal. Trading with Europeans through Delagoa Bay, which began in the sixteenth century but intensified after the 1750s, was the pivot around which later socio-political developments turned.

6.4 Palaeontology

The upper geological formation of the area consists of the Maputuland group. During the last glacial period, approximately 18 000 years ago, the Earth was much colder and sea level was more than 100 metres below present. The coastline at that time would have been far out to sea and many of the larger rivers cut deep valleys along the coast. As the earth warmed and the sea level rose, these valleys were in filled with unconsolidated estuarine muds and shelly sands, grouped together into the Maputuland Group (65 million years ago to the present day). The Maputuland Group forms a thin blanket of Tertiary and Cretaceous successions that extend from Durban northwards into Mozambique. Rich marine / estuarine invertebrate fauna including diverse molluscs, plus corals, bryozoans, brachiopods, echinoids, crustaceans, microfossils, sharks' teeth, trace fossils (including human & other mammal tracks), land snails may occur in the Maputuland formation.

7. DISCUSSION

The area is fairly densely populated with structured and well spaced dwellings and family gardens. The project site had clearly been ploughed successively over the years although it is now well vegetated. This is indicated by the historical view of Google Earth dating from 2010 showing that the site had less vegetation then than it has in the most recent Google Earth imagery.

In view of the past disturbances such as cultivation and other human activities, it is highly unlikely that any graves or burials will occur on the site. Similarly, the gardening would have destroyed the context and integrity of any archaeological material that may be on the site.

8. CONCLUSION

The desktop study has revealed no evidence that there are significant heritage resources in the proposed project area. No significant heritage sites or cultural material had previously been recorded here. The proposed development will most likely have no new negative

impact on archaeological or palaeontological heritage resources. This document serves as a statement to that effect.

From a heritage perspective we have no objection with regard to the proposed development, although the principal of *absence of evidence is not necessarily evidence of absenc*e applies.

9. RECOMMENDATIONS

It is recommended that chance find protocols be implemented for the proposed project (see Annexure A & B).

10. REFERENCES

Groenewald, G. 2012. Palaeontological Technical Report for Kwazulu-Natal. Metsi Metseng Geological & Environmental Services.

Ohinata, F. 2002. The beginning of 'Tsonga' archaeology: excavations at Simunye, north-eastern Swaziland. Southern African Humanities Vol. 14 Pages 23–50. Pietermaritzburg.

Junod, H. A.1962. The life of a South African tribe: vol. 1. New York: University Books Inc.

KwaZulu Natal Province. 2018. KwaZulu-Natal Amafa and Research Institute Act (Act No. 5 of 2018) Pietermaritzburg.

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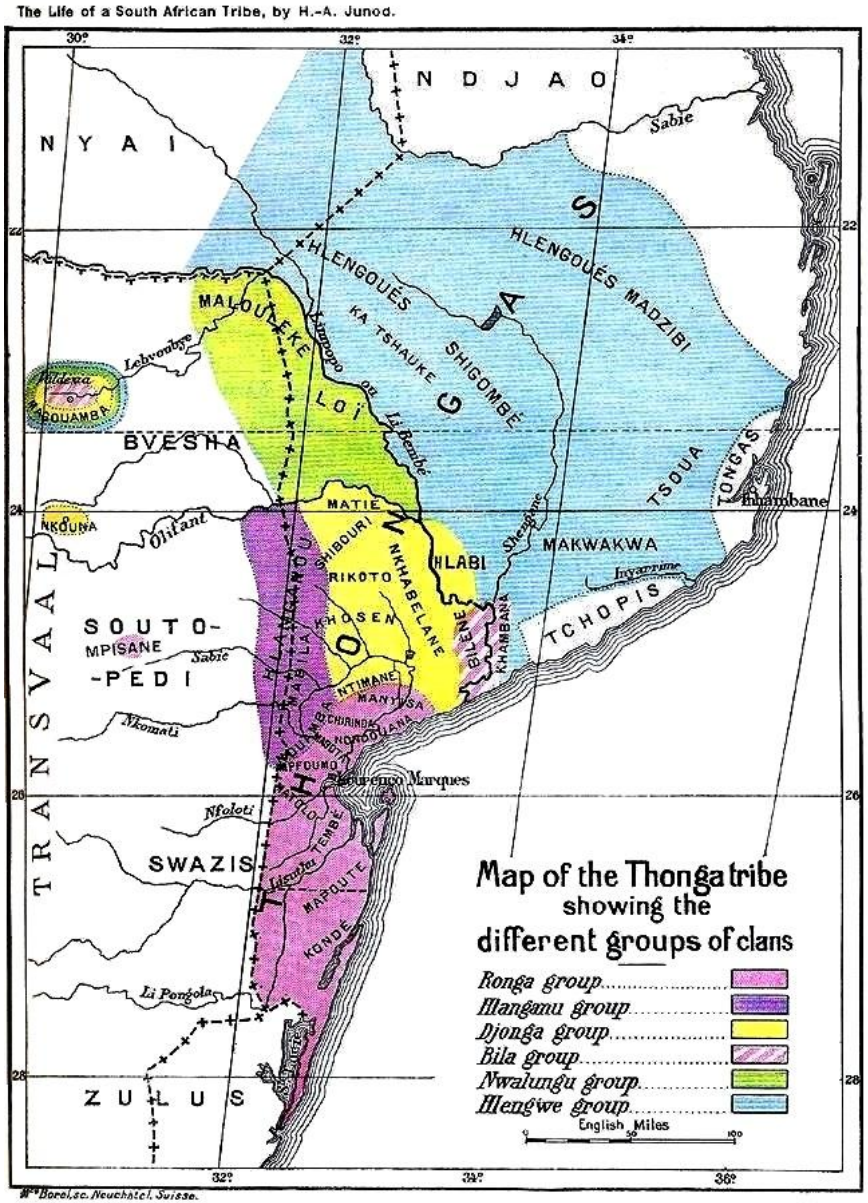

Figure 1. Junod,s historical map of Tsonga speaking people.

Figure 2. Google Earth image showing the location in relation to Lake Sibaya.

Figure 3. Google Earth historical imagery of 2010 showing the vegetation and ploughed landscape of the proposed project site.

Figure 4. Google Earth current image showing the increased vegetation of the proposed project site.

Figure 5. Google Earth image showing homesteads and gardens surrounding the proposed project site.

<table>
<tr><td colspan="3">ANNEXURE A:</td></tr>
<tr><td colspan="3">CHANCE FOSSIL FINDS PROTOCOL: Proposed Shopping Complex and a Filling Station in the Mseleni area on the Portion 13 of the Farm Reserve No. 14 of No. 15834HV</td></tr>
<tr><td>Province & region:</td><td colspan="2">KwaZulu-Natal, Umhlabuyalingana Local Municipality</td></tr>
<tr><td>Responsible Heritage Management Authority</td><td colspan="2">The KZN Amafa & Research Institute, PO Box 2685, Pietermaritzburg, 3200</td></tr>
<tr><td>Rock unit(s)</td><td colspan="2">Maputuland group</td></tr>
<tr><td>Potential fossils</td><td colspan="2">Marine / estuarine invertebrate fauna including diverse molluscs, plus corals, bryozoans, brachiopods, echinoids, crustaceans, microfossils, sharks' teeth, trace fossils</td></tr>
<tr><td rowspan="5">Environmental officer</td><td colspan="2">1. Once alerted to fossil occurrence(s): alert site foreman, stop work in area immediately, safeguard site with security tape / fence / sand bags for support if necessary.</td></tr>
<tr><td colspan="2">2. Record key data while fossil remains are still in situ:
Accurate geographic location – describe and mark on site map / 1: 50 000 map / satellite image / aerial photo / GPS
Context – describe position of fossils within stratigraphy (rock layering) and depth below surface
Photograph fossil(s) in situ with scale, from different angles, including images showing context (e.g. rock layering)</td></tr>
<tr><td>3. If feasible to leave fossils in situ:
Alert Heritage Management Authority and project palaeontologist who will advise on any necessarymitigation
Ensure fossil site remains safeguarded until clearance is given by the Heritage Management Authority for work to resume</td><td>3. If not feasible to leave fossils in situ (emergency procedure only):
Carefully remove fossils, as far as possible still enclosed within the original sedimentary matrix (e.g. entire block of fossiliferous rock)
Photograph fossils against a plain, level background, with scale
Carefully wrap fossils in several layers of newspaper / tissue paper / plastic bags
Safeguard fossils together with locality and collection data (including collector and date) in a box in a safe place for examination by a palaeontologist
Alert Heritage Management Authority and project palaeontologist who will advise on any necessary mitigation</td></tr>
<tr><td colspan="2">4. If required by Heritage Management Authority, ensure that a suitably-qualified specialist palaeontologist is appointed as soon as possible by the developer.</td></tr>
<tr><td colspan="2">5. Implement any further mitigation measures proposed by the palaeontologist and Heritage Management Authority</td></tr>
<tr><td>Specialist palaeontologist</td><td colspan="2">Record, describe and judiciously sample fossil remains together with relevant contextual data (stratigraphy / sedimentology / taphonomy). Ensure that fossils are curated in an approved repository (e.g. museum / university / Council for Geoscience collection) together with full collection data. Submit Palaeontological Mitigation report to Heritage Resources Authority. Adhere to best international practice for palaeontological fieldwork and Heritage Management Authority minimum standards.</td></tr>
</table>

ANNEXURE B:

CHANCE ARCHAEOLOGICAL FINDS PROTOCOL: Proposed Shopping Complex and a Filling Station in the Mseleni area on the Portion 13 of the Farm Reserve No. 14 of No. 15834HV	
Province & region:	KwaZulu-Natal, Umhlabuyalingana Local Municipality
Responsible Heritage Management Authority	The KZN Amafa & Research Institute, PO Box 2685, Pietermaritzburg, 3200
Archaeological unit	Stone Age, Iron Age and Historical period
Potential archaeological material	Stone tools and flakes Ceramic fragments (Potshards) Midden deposits (rubbish heap) Fired or burnt clay Pits with cultural material Ashy deposits Stone foundations
Environmental officer	**1**. Once alerted to archaeological occurrence(s): alert site foreman, stop work in area immediately, safeguard site with security tape / fence / sand bags for support if necessary.
	2. Alert the responsible heritage authority
	3. If required by Heritage Management Authority, ensure that a suitably-qualified specialist archaeologist is appointed as soon as possible by the developer.
	4. Implement any further mitigation measures proposed by the archaeologist and Heritage Management Authority
Specialist Archaeologist	Record, describe and judiciously sample cultural remains together with relevant contextual data as prescribed by minimum standards.