

**AN ARCHAEOLOGICAL DESKTOP ASSESSMENT FOR THE PROPOSED
CONSTRUCTION OF THE SIPHAFENI ACCESS ROAD, SAKHISIZWE LOCAL
MUNICIPALITY, CHRIS HANI DISTRICT MUNICIPALITY, EASTERN CAPE
PROVINCE.**

Prepared for:

All Green Environmental Consultant
03 Gately Street
Southernwood
East London
5200

Contact person: Hebert Nemato

Cell: 076 262 9420

Email: nematoht@gmail.com

Compiled by:

Ms C. Booth

t/a Booth Heritage Consulting

8 Frances Street

Oatlands

Grahamstown

6139

Contact details: cbooth670@gmail.com / 082 062 4655

Date: August 2021

CONTENTS

NOTE	3.
1. EXECUTIVE SUMMARY	3.
1.1. Purpose of the Study	3.
1.2. Brief Summary of Findings	3.
1.3. Recommendations and Mitigation	4.
2. DECLARATION OF INDEPENDENCE	5.
3. SUMMARY OF SPECIALIST EXPERTISE	5.
4. INTRODUCTION	5.
4.1. Background Information	5.
4.1.1. Type of Development (Extract from the Background Information Document)	5.
4.2. Applicant	9.
4.3. Environmental Assessment Practitioner (EAP)	9.
5. SCOPE OF WORK AND TERMS OF REFERENCE	9.
6. LEGISLATIVE AND POLICY FRAMEWORK	9.
7. ASSUMPTIONS AND LIMITATIONS	10.
8. DESCRIPTION OF THE PROPERTY	10.
8.1. Location data	10.
8.2. Coordinates and sites for the proposed construction of the Siphafeni Access Road, Sakhisizwe Local Municipality, Chris Hani District Municipality, Eastern Cape Province.	10.
9. ARCHAEOLOGICAL BACKGROUND	14.
9.1. Early Stone Age (ESA) – 1.5 million to 250 000 years ago	14.
9.2. Middle Stone Age (MSA) – 250 000 – 30 000 years ago	15.
9.3. Later Stone Age (LSA) – 30 000 years – recent (100 years ago)	18.
9.4. Last 2 000 years – Khoekhoen Pastoralism	20.
9.5. Last 2 000 years – The Iron Age	21.
9.6. Unmarked Burials and Exposed Human Remains	24.
9.7. Rock Art (Paintings and Engravings)	24.
10. ASSESSMENT OF IMPACTS ON THE ARCHAEOLOGICAL HERITAGE RESOURCES	25.
11. RECOMMENDATIONS	26.
12. CONCLUSION	27.
13. REFERENCES	27.
14. RELEVANT ARCHAEOLOGICAL AND HERITAGE IMPACT ASSESSMENTS	31.
15. GENERAL REMARKS AND CONDITIONS	32.
APPENDIX A: HERITAGE LEGISLATIVE REQUIREMENTS	34.
APPENDIX B: GRADING SYSTEM	42.

APPENDIX C: IDENTIFICATION OF ARCHAEOLOGICAL FEATURES AND MATERIAL FROM
COASTAL AND INLAND SITES 43.

Figures

Figure 1. Google Earth generated map of the location of the proposed construction of the Siphafeni Access Road, Sakhisizwe Local Municipality, Chris Hani District Municipality, Eastern Cape Province. 11.

Figure 2. View of the location of the proposed construction of the Siphafeni Access Road, Sakhisizwe Local Municipality, Chris Hani District Municipality, Eastern Cape Province. 12.

AN ARCHAEOLOGICAL DESKTOP ASSESSMENT FOR THE PROPOSED CONSTRUCTION OF THE SIPHAFENI ACCESS ROAD, SAKHISIZWE LOCAL MUNICIPALITY, CHRIS HANI DISTRICT MUNICIPALITY, EASTERN CAPE PROVINCE.

NOTE: The archaeological assessment was conducted as a requirement of the National Heritage Resources Act 25 of 1999, Section 38 (1)(a)

38. (1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorized as –

(a) the construction of a road, wall, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300 m in length;

This report follows the minimum standard guidelines required by the South African Heritage Resources Agency (SAHRA) and the Eastern Cape Provincial Heritage Resources Agency (ECPHRA) for compiling an Archaeological Desktop Assessment

1 EXECUTIVE SUMMARY

1.1 Purpose of the Study

The purpose of the study was to conduct an archaeological desktop assessment for the proposed construction of the Siphafeni Access Road, Sakhisizwe Local Municipality, Chris Hani District Municipality, Eastern Cape Province.

A desktop assessment of archaeological sensitivity of the development and wider region was compiled to identify potential and significant archaeological heritage areas that may occur within the proposed development area. The desktop assessment will also attempt to establish the potential impact of the development and make recommendations to minimize possible damage to the archaeological heritage.

1.2 Brief Summary of Findings

The archaeological desktop assessment identified that one rock art site has been recorded within the Siphafeni area known as St Gabriel's Rock Shelter. Although the exact location of the site is unknown, it is possible that traces of archaeological cultural material occur within the cultural landscape proposed for the road construction, most significantly along the major and minor bridge crossings. Consultation with the local community would also be beneficial in their awareness of the rock art site and memory of San hunter-gatherers within the area.

Taking into consideration the research findings and heritage sites encountered during CRM archaeological and heritage impact assessment survey, it is possible that stone artefacts, from the Early, Middle, and Later Stone Ages, may be encountered. It is also possible that

colonial and / or Late Iron Age features as well and graves may be encountered along the route proposed for upgrade.

It is important to note that archaeological and heritage resources are a non-renewable resource that cannot be replaced once lost or destroyed, therefore, every effort should be taken to preserve or conserve the most significant of heritage resources.

It is due to the above factors and that the proposed road will be constructed almost from scratch, that a full phase 1 archaeological impact assessment be conducted prior to the development proceeding. (See Section 1.3. below for further details).

1.3 Recommendations and Mitigation

Development may not proceed until a full Phase 1 Archaeological Heritage Impact Assessment is conducted and comments received from the Eastern Cape Provincial Heritage Resources Authority (ECPHRA) to:

- Make a basic surface assessment of the study site (including a desktop study or brief background assessment of the area) to identify, describe, record the localities;
- Assign a heritage site significance rating to heritage resources protected by law; and
- Make recommendations to the relevant Provincial Heritage Resources Authority (PHRA) regarding the conservation or mitigation thereof for purposes of development.

Archaeological and historical material remains, features, and sites were evaluated and assessed based on the following points:

- Type of site;
- Location and environmental surrounds;
- Site category;
- Context and condition;
- Estimated size and depth of deposit;
- Cultural affinities;
- Record site content;
- Record basic information of finds;
- Estimate relative age of sites from cultural material and other information;
- Record and describe graves, graveyards, and informal burials;
- Assess the importance and significance of material remains, features, and sites; and;
- Significance ratings based on local to international.

2 DECLARATION OF INDEPENDENCE

This section confirms a declaration of independence that archaeological heritage specialist, Ms Celeste Booth, has no financial or any other personal interests in the project for the proposed agricultural development.

Ms Celeste Booth was appointed on a strictly professional basis to conduct a Phase 1 Archaeological Impact Assessment in line with the South African national heritage legislation, the National Heritage Resources Act 25 of 1999 (NHRA 25 of 1999) and in response to the recommendations provided by the Department of Environmental Affairs and according to the environmental impact assessment regulations.

3 SUMMARY OF SPECIALIST EXPERTISE

Ms Celeste Booth (BSc Honours: Archaeology) is an archaeologist who has had twelve (12) years of full-time experience in Cultural Resource Management in the Eastern Cape and sections of the Northern Cape and Western Cape. Ms Booth has conducted several Archaeological Desktop Studies and Phase 1 Archaeological Impact Assessments within the Eastern Cape and in the Karoo region across the Eastern Cape, Northern Cape and Western Cape.

4 INTRODUCTION

4.1 BACKGROUND INFORMATION

4.1.1 Type of Development (Extract from the Background Information Document)

This project will be MIG funded and is aimed at providing basic infrastructure through the construction of the road. Therefore, this project will be managed to ensure that safety and trafficable conditions at all times are maximised, and that employment creation and development of skills to the community are maximised. A basic level of services will be provided. 30% of the construction amount will be spent on local labour putting particular focus on women and youth.

The current status of the road is very poor as the road appeared to be only bladed to open tracks for the villagers. There is no proper road for the rest of the area, but a track founded on partly flat and steep terrain. The road starts on the tee junction next to Roma Church and traverses through bushy areas, passes the village, cross perennial streams and ends at the end of the village. Boulders and rock outcrops exist almost throughout the road. A very steep section was observed, this section will need extra precautions, for example concrete strips to allow the vehicle to have enough grip when pulling up the hill, and guard rails encased in concrete placed for approximately 250m around the bend to prevent vehicles from falling of the carriageway. When it is wet the tracks are very slippery making

it difficult for vehicles and people to travel. Delivery of goods and services is very difficult due to the current state of the access route. Water for construction purposes is also available within the area. Potential borrow pits were identified, which were previously used for the upgrading of a local and district roads. There appears to be sufficient quantities of gravel material from these borrow pits to cater for the proposed roads. However, a permit from the Department of Mineral and Energy will be required. This will be obtained as part of the Environmental Impact Assessment (EIA) process. The geotechnical investigation will be undertaken by professional Geotechnical Engineers to ascertain the quality and quantity of the materials. The roads crosses perennial stream or potential watercourse, major and minor crossings will have to be provided to convey accumulated quantities of water across the road in strategic locations. During dry season, vehicles can cross the stream but during rainy days no vehicles can cross the stream.

After the initial assessment, the activity was found to cross one major stream and minor drainage lines, it also has a portion that passes through indigenous plants but they are invaded by alien vegetation and the rest passing through built up areas. The road has a portion that was once done with the rest existing as earth tracks that were once graded and are being used by vehicles. The road can be regarded as above threshold and will trigger GN 327 Listing Notice 1.

The proposed road is 5.4 km in length. The road is in a very poor condition predominantly tracks. The existing tracks as identified and follows a reasonable alignment, and it is envisaged that this alignment will remain mostly unchanged. However, the alignment may change slightly to improve road geometrics and drainage. Specific attention will be given to the vertical alignment, which may include lifting or having huge cut to the finished road level in some places. The above will allow for the road prism to drain adequately, allow for the installation of pipe culverts, side drains, and mitre drains where required. Specific attention will be given to storm water management. On steep sections, velocity breakers or lined drains will be used.

Transverse drainage to the actual road surface will be achieved by means of a chamber or cross fall, 3% being minimum grade. One borrows pit was identified along in the vicinity of the road, and it is anticipated that the availability of gravel will not be a problem. However, tests will be conducted to ascertain the quality and quantity that will be available for the successful completion of the project.

The proposed construction work consists of the following:

- Earthworks;
- Shaping of the road formation to the required standards as detailed in the specifications;
- Construction of longitudinal V-drains, mitre drains, and berm drains;
- Installation of 600mm Ø pipe culverts;
- Preparation of the road bed to 93% Mod AASHTO density;

- Construction of gravel wearing course 5m width, 150mm thickness and 95% Mod AASHTO density;
- Construction of inlet structures and headwalls;
- Installation of Low-Level Bridges;
- Construction of lined drains;
- Gabions and pitching;
- Sign posting; and
- Finishing works.

The required infrastructure is summarized as follows:

- A total length of 5,4km long Siphafeni access road.
- Erosion Protection works on steeper sections.
- One major stream crossing
- All the associated stormwater drainage.
- Road signs.

Design Strategy

- **Design Standards**

The design strategy would be firstly to finalize the route by investigating alternative routes of linking the desired destinations. The mapping for this will be 1:50 000 topographical maps, and reconnaissance inspections on site. This will be done in consultation with the project steering committee, and the Sakhisizwe Local Municipality Engineer's representative. The route would then be designed using a desired design speed of 60 km/hr, subject to the economic viability according to the terrain. In difficult terrain, the design speed can be further reduced. Arial survey (or orthophotos) will be sourced to aid the design process.

The width of the road shall be limited to 7m formation and 5.0m wide gravel wearing course. All drainage structures will be designed for a 1:5-year flood, with an overtopping stability design criteria for 1:10-year flood. All these aspects will be included in the preliminary design, after which a detailed bill of quantities would be compiled, and the cost of the works estimated in detail.

In particular, drainage and erosion control structures will be constructed utilizing labour and material from the area. The construction specifications will comply with COLTO Standard Specifications for Road and Bridge Works for State Road Authorities. The design will also be such that most of the emerging contractors can easily complete the job without problems.

The following guidelines will be used for the design of the proposed works:

- TRH 20 - Structural Design, Construction and Maintenance of Unpaved Roads;
- TRH 17 Geometric Design of Rural Roads;
- TRH 14 Guidelines for Roads Construction Materials;
- Roads Drainage Manual; and
- Colto or SANS Standardized.

- **Pavement Structures**

The following layer works are proposed in order to achieve required all weather road:

- 150mmx7m *in situ* roadbed preparation compacted to 90% Mod AASHTO
- 150mm selected subgrade compacted to 93% Mod AASHTO (at selected places)
- 150mmx5.0m Gravel Wearing Course compacted at 95% Mod AASHTO

- **Stormwater Drainage**

Crossing pipes will be considered where watercourses cross the road. The side drains will have a minimum depth of 450mm to prevent penetration into layers and will have minimum grades of 1:100. Where the grades are more than 10% and the *in situ* subgrade is of a dispersive nature, the side drains will be lined with cement grouted stone pitching. Transverse drainage to the actual road surface will be achieved by means of a camber or cross fall, 3% being minimum grade.

- **Environmental Conditions**

The design and implementation of the project shall be undertaken so as to avoid a negative impact on the environment. There will be a need for an Environmental Impact Assessment (EIA) since more than 80% of the project entails construction of almost a new access road.

The activities envisaged in this project are listed activity in terms of Activity 19 of Regulation No. R 33306 issued in terms of the National Environmental Management Act. The environmental impact assessment (EIA) process will be conducted.

Community Participation and Project Beneficiaries

A Community Liaison Officer will be appointed during the construction phase of the project to negotiate with the local community to appoint local labour on the project. Local emerging contractors will be given the opportunity to carry out activities not associated with heavy construction plant.

The residents of Siphafeni village and Roma village will be the beneficiaries of this project. These communities have a population of approximately 630. Residents from these two rural villages will be fully involved in the implementation of the project. Also, some of community members will be part of Project Steering Committee (PSC) that will meet at

regular intervals to check progress of work and discuss issues related to the project during its implementation.

According to the 2011 Statistics South Africa Community Survey results, the majority of the households earn less than R 2 000.00 per month, their main source of income is the government's social services grant. The majority of population is categorised as "African".

4.2 Applicant

Sakhisizwe Local Municipality
PO Box 26
Cala
5455
Contact person: Mr SC Mkabile
Tel: 047 877 5318
Email: cmkabile@sakhisizwe.gov.za

4.3 Environmental Assessment Practitioner (EAP)

All Green Environmental Consultant
03 Gately Street
Southernwood
East London
5200
Contact person: Hebert Nemato
Cell: 076 262 9420
Email: nematoht@gmail.com

5 SCOPE OF WORK AND TERMS OF REFERENCE

The purpose of the study was to conduct an archaeological desktop assessment for the Proposed Construction of the Siphafeni Access Road, Sakhisizwe Local Municipality, Chris Hani District Municipality, Eastern Cape Province.

A desktop assessment of archaeological sensitivity of the development and wider region was compiled to identify potential and significant archaeological heritage areas. The desktop assessment includes a literature review of the recorded archaeological and historical (including historical graveyards) heritage sites.

6 LEGISLATIVE AND POLICY FRAMEWORK

An archaeological impact assessment is required as a requisite of the National Heritage Resources Act 25 of 1999, Section 38 (a):

38. (1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorized as –
(a) the construction of a road, wall, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300 m in length;

This report follows the minimum standard guidelines required by the South African Heritage Resources Agency (SAHRA) and the Eastern Cape Provincial Heritage Resources Agency (ECPHRA) for compiling an Archaeological Desktop Assessment.

7 ASSUMPTIONS AND LIMITATIONS

The gathering of information, consultation and research is limited to archaeological heritage data that is known and has been recorded over time. These references include mostly academic and popular publications and Cultural Resource Management archaeological and heritage impact assessment that are digitally accessible. Unpublished information and was made available from the Albany Museum database.

8 DESCRIPTION OF THE PROPERTY

8.1 Location data

Siphafeni Access Road (5.4km) is located in Sakhisizwe Local Municipality. The project area is in Roma and Siphafeni villages of Sakhisizwe Local Municipality which falls under the jurisdiction of Chris Hani District Municipality, and the nearest town is Cala. The site can be accessed via R410 from Cala Town to Queenstown, approximately 3.5 km from Cala CBD towards Queenstown, then take DR08449 to Roma village and the start of the proposed road is 10 km from R410 and DR08449 Tee Junction. (See map above). The road is in built up areas and is existing as earth tracks already used by vehicles.

The project area is in Roma and Siphafeni villages of Sakhisizwe Local Municipality which falls under the jurisdiction of Chris Hani District Municipality, and the nearest town is Cala. The site can be accessed via R410 from Cala Town to Queenstown, approximately 3.5 km from Cala CBD towards Queenstown, then take DR08449 to Roma village and the start of the proposed road is 10 km from R410 and DR08449 Tee Junction.

8.2. Coordinates and sites for the proposed construction of the Siphafeni Access Road, Sakhisizwe Local Municipality, Chris Hani District Municipality, Eastern Cape Province.

REFERENCE	DESCRIPTION	CO-ORDINATE	HERITAGE GRADING
Start_Siphafeni Road Construction	Start of the proposed Siphafeni Road Construction	31°28'51.86"S;27° 40'49.53"E	N/A
Major Stream Crossing	Major stream crossing for the proposed Siphafeni Road Construction	31°28'40.35"S;27° 40'48.70"E	N/A
Minor Stream Crossing	Minor stream crossing for the proposed Siphafeni Road Construction	31°27'30.98"S;27° 40'30.42"E	N/A
End_Siphafeni Road Construction	End of the proposed Siphafeni Road Construction	32°28'25.88"S;27° 41'03.85"E	N/A

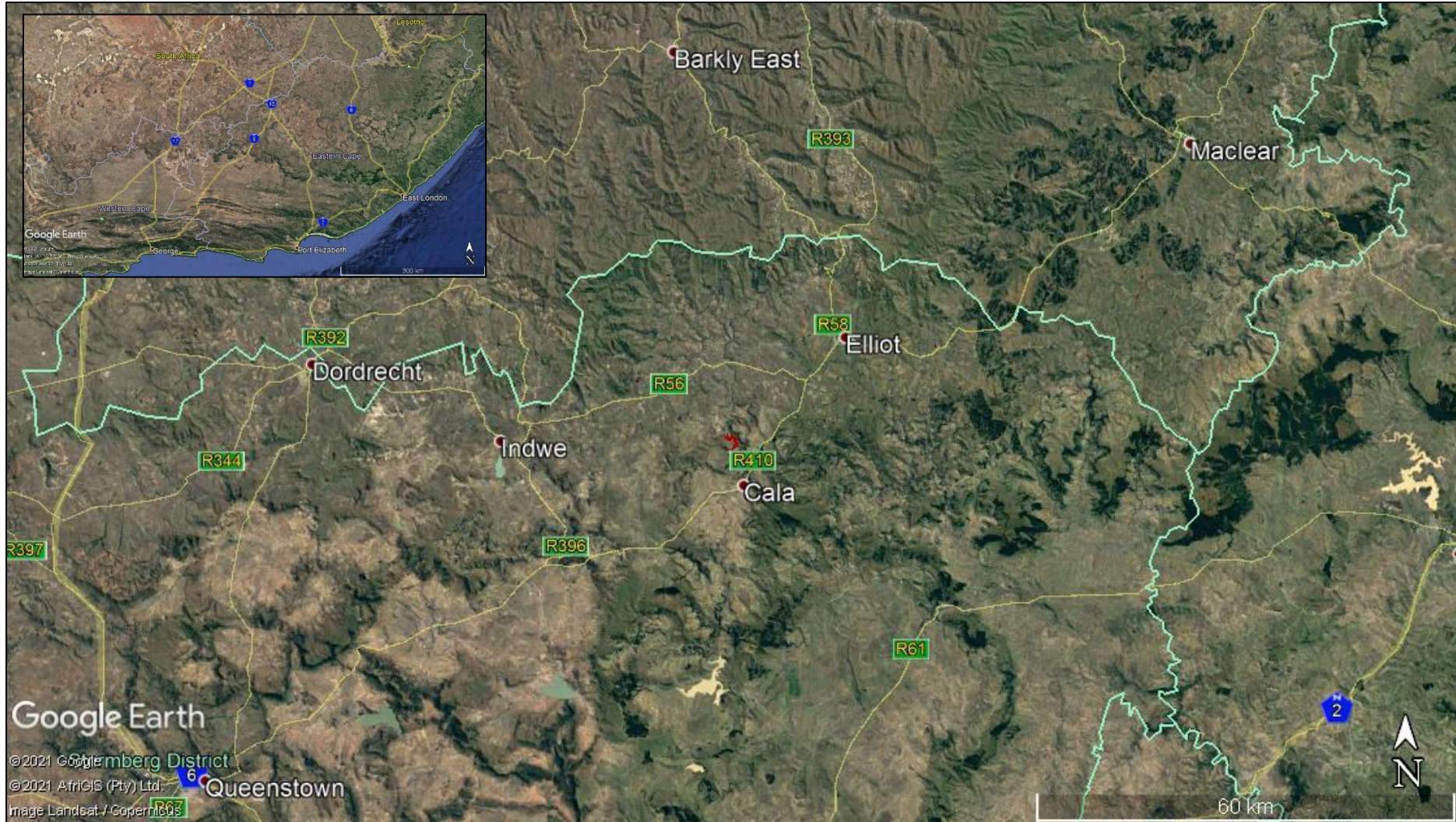


Figure 1. Google Earth generated map of the location of the proposed construction of the Siphafeni Access Road, Sakhisizwe Local Municipality, Chris Hani District Municipality, Eastern Cape Province.



Figure 2. View of the location of the proposed construction of the Siphafeni Access Road, Sakhisizwe Local Municipality, Chris Hani District Municipality, Eastern Cape Province.

9 ARCHAEOLOGICAL BACKGROUND

9.1 Early Stone Age (ESA) - 1.5 million to 250 000 years ago

The Early Stone Age from between 1.5 million and 250 000 years ago refers to the earliest that *Homo sapiens sapiens* predecessors began making stone tools. The earliest stone tool industry was referred to as the Olduvai Industry originating from stone artefacts recorded at Olduvai Gorge, Tanzania. The Acheulian Industry, the predominant southern African Early Stone Age Industry, replaced the Olduvai Industry approximately 1.5 million years ago, is attested to in diverse environments and over wide geographical areas. The hallmark of the Acheulian Industry is its large cutting tools (LCTs or bifaces), primarily handaxes and cleavers. Bifaces emerged in East Africa more than 1.5 million years ago (mya) but have been reported from a wide range of areas, from South Africa to northern Europe and from India to the Iberian coast. The end products were similar across the geographical and chronological distribution of the Acheulian techno-complex: large flakes that were suitable in size and morphology for the production of handaxes and cleavers perfectly suited to the available raw materials (Sharon 2009).

One of the most well-known Early Stone Age sites in southern Africa is Amanzi Springs (Deacon 1970), situated about 10 km north-east of Uitenhage and 45 km south east of the WEF site. The site is situated on a north-facing hill overlooking the Coega River. The earliest reference to the spring was made by an early traveller, Barrow (1801). FitzPatrick first reported stone artefacts in the area in 1924. Ray Inskeep (Inskeep 1965) conducted a small-scale excavation of the site in 1963. It was only in 1964 and 1965 that large scale excavations were conducted by Hilary Deacon. In a series of spring deposits a large number of stone tools were found *in situ* to a depth of 3-4 m. Wood and seed material preserved remarkably very well within the spring deposits, and possibly date to between 800 000 to 250 000 years old.

Other Early Stone Age sites that contained preserved bone and plant material include Wonderwerk Cave in the Northern Province, near Kimberly and Montagu Cave in the Western Cape, near the small town of Montagu (Mitchell 2007). Early Stone Age sites have also been reported in the foothills of the Sneeuberge Mountains (in Prins 2011).

The location of Early Stone Age sites is biased by several factors, the change in land surface, so that the evidence of coastal exploitation is absent, the survival of Early Stone Age material either *in situ* or sealed within Pleistocene deposits is limited by soil and water activities and numerous processes in environmental change over time and research interests of professional archaeologists.

Early Stone Age materials are the earliest evidence for human ancestors occupying the Transkei and Ciskei regions and typically occur on floodplains of perennial rivers and along drainage lines and water courses.

Museum collections have handaxes mixed collections and other collections attributed to the Early Stone Age. Sites of convincing Early Stone Age date are indicated in most areas of the Ciskei and are present in the Transkei districts of Kentani, Butterworth, Nqamakwe, St. Mark's, Engcobo, Matatiele, Mount Frere, Mount Ayliff, Bizana, Idutywa, Lusikisiki, Mount Currie and Umtata (Derricourt 1977).

Derricourt (1973) notes that museum material and our field work confirm the presence of early settlement in the region. Important Early Stone Age (ESA) sites are known from a number of Ciskei sites. Middledrift commonage is an especially important site. In a wide flood plain of the Keiskamma River, streams and erosion channels show ESA material on silcrete sandstone, from within the fluvial deposits. The ESA of South Africa represents a spread from c. 500000 to 50000 years ago; while the technology of the Middledrift finds suggests a phase before the later stages of this, further analysis is needed.

From the CRM archaeological and heritage assessments accessed from the South African Heritage Resources Authority SAHRIS database, ESA stone artefacts have been documented near Elliot situated north-east of the proposed development area (Smith, A.B 2010).

9.2 Middle Stone Age (MSA) – 250 000 – 30 000 years ago

The Middle Stone Age spans a period from 250 000 - 30 000 years ago and focuses on the emergence of modern humans through the change in technology, behaviour, physical appearance, art and symbolism. Various stone artefact industries occur during this time period, although less is known about the time prior to 120 000 years ago, extensive systemic archaeological research is being conducted on sites across southern Africa dating within the last 120 000 years (Thompson & Marean 2008). The large handaxes and cleavers were replaced by smaller stone artefacts called the Middle Stone Age flake and blade industries. Surface scatters of these flake and blade industries occur widespread across southern Africa although rarely with any associated botanical and faunal remains. It is also common for these stone artefacts to be found between the surface and approximately 50-80 cm below ground. Fossil bone may in rare cases be associated with Middle Stone Age occurrences (Gess 1969). These stone artefacts, like the Earlier Stone Age handaxes are usually observed in secondary context with no other associated archaeological material.

The Middle Stone Age is distinguished from the Early Stone Age by the smaller-sized and distinctly different stone artefacts and *chaîne opératoire* (method) used in manufacture, the introduction of other types of artefacts and evidence of symbolic behaviour. The prepared core technique was used for the manufacture of the stone artefacts which display a characteristic faceted striking platform and includes mainly unifacial and bifacial flake blades and points. The Howiesons Poort Industry (80 000 - 55 000 years ago) is distinguished from the other Middle Stone Age stone artefacts: the size of tools is generally smaller, the range of raw materials include finer-grained rocks such as silcrete,

chalcedony, quartz and hornfels, and include segments, backed blades and trapezoids in the stone toolkit which were sometimes hafted (set or glued) onto handles. In addition to stone artefacts, bone was worked into points, possibly hafted, and used as tools for hunting (Deacon & Deacon 1999).

Other types of artefacts that have been encountered in archaeological excavations include tick shell (*Nassarius kraussianus*) beads, the rim pieces of ostrich eggshell (OES) water flasks, ochre-stained pieces of ostrich eggshell and engraved and scratched ochre pieces, as well as the collection of materials for purely aesthetic reasons. Although Middle Stone Age artefacts occur throughout the Eastern Cape, the most well-known Middle Stone Age sites include the type-site for the Howiesons Poort stone tool industry, Howiesons Poort (HP) rock shelter, situated close to Grahamstown, and Klasies River Mouth Cave (KRM), situated along the Tsitsikamma coast. Middle Stone Age sites are located both at the coast and in the interior across southern Africa.

Early research in the (now former) Transkei region found that MSA material is found in most alluvial deposits at various depths. Laidler (1934) notes that MacLouglin had described many such sites. Laidler (ibid) also notes that at Lutuli that MSA flakes are found on the surface of old, deeply eroded rock stream beds and embedded in conglomerate and clay which were deposited at a period of silting up of the river bed, which banked up and gave access to caves and rock surface which were later inhabited by Later Stone Age hunter-gatherers. The hill wash of many hills in the region contains MSA material. A cave situated in the Ngcisininde Valley, near Tsomo (Laidler 1937) contained MSA implements from the Tsolo period of the buildup of boulder and silt deposits.

Other research conducted by Laidler at open site near a cave at Ezolo (1934)) yielded Middle Stone Age stone tools. The assemblage at Ezolo was assumed to belong to the Fauresmith Industry, an industry which was believed to be transitional between the Early and Middle Stone Ages. The assemblage included lance heads as well as a haematite pencil and yellow ochre pencil.

Derricourt (1973) notes that Middle Stone Age (MSA) industries occur widely as surface finds in the Ciskei and Transkei. The period, ranging from about 50000 to 12000 years before the present, is now seen to contain much variability between contemporary groups within South Africa, and the simple attribution of distinct culture names is being replaced.

Systematic archaeological research has been conducted on several sites yielding evidence of Middle Stone Age occupation occurring within the foothills of the Drakensburg situated west of the proposed development area and extending into Lesotho and KwaZulu Natal. Strathalan Cave B situated about 10 km north-east of Maclear and about 100 – 110 km east of the proposed development area, shows evidence of human behaviour between 29 000 and 22 000 years ago. This period highlights the final years of the Middle Stone Age and is considered transient between the Middle and Late Stone Ages. Excavations at the site revealed that the small cave may have been used as a camp site during cold winter

nights and that the people occupying the cave behaved like Late Stone Age hunter-gatherers in some respects, but not all (Opperman, 1996; Opperman & Heydenrych 1990). During 1978 an archaeological research programme was initiated in the north-eastern Cape to gain information on the end Pleistocene and Holocene hunter-gatherer populations and the palaeoecology along a gradient transecting the extension of the Drakensberg escarpment into the Cape. Excavations were conducted at a series of sites in the Dordrecht-Elliot-Ugie-Barkley East area which was usually well-known for its painted sites. The only excavations that were previously carried were at Belleview (Drakensburg), Moshebi's Shelter and Sehonghong (in eastern Lesotho) and Merino Walk within the Barkley East region. Below the escarpment two rock shelters were excavated at Bonawe and Te Vrede (Elliot and Ugie Districts) above the escarpment excavations have been undertaken in the Barkley East District at Colwinton, Prospect, Wartrail and Ravenscraig. In addition to this an excavation has been conducted at a site on the farm Grassridge near Dordrecht. All sites included end-Pleistocene and Holocene material except Wartrail (entirely Holocene) and Grassridge (Earlier late Pleistocene occupation). Additional sites that also contain late / terminal Pleistocene and Holocene deposits in the eastern highlands of South Africa and Lesotho include Rose Cottage Cave and Melikane, Ha Soloja Shelter does not show evidence of any Late Stone Age occupation (Plug 1996).

Several archaeological research projects are currently ongoing within the wider former Transkei and north-eastern Cape / southern Drakensburg region. In 2011, the Pondoland Paleoenvironment, Paleoclimate, Paleoecology, and Paleoanthropology Project (P5) began a search for new research areas along South Africa's coast (the eastern seaboard and Pondoland) where long-term and continuous records of modern human evolution and coastal foraging may be found (Fischer *et al.* 2013). In the Stormberg Mountains near Dordrecht, renewed excavations and investigation into Grassridge site, with particular interest in the Middle Stone Age sequence, are currently ongoing. An underlying Middle Stone Age (MSA, ~300-30 ka) sequence containing abundant typologically MSA lithic material, well-preserved faunal remains, and charcoal was identified during the 1979 excavations which focused primarily on the Later Stone Age sequence (Collins & Ames 2015).

Scatters of Middle Stone Age stone artefacts are also known to occur within the surrounding area where these have been recorded in archaeological and heritage impact assessments within the region. From the CRM archaeological and heritage assessments accessed from the South African Heritage Resources Authority SAHRIS database, MSA stone artefacts have been documented within the Indwe (Smith 2010, Booth 2020), Dordrecht (Anderson 2019), Elliot and Cala (Van Ryneveld 2011), Cofimvaba (Van Ryneveld 2011) and Ngcobo (Van Ryneveld). The stone artefacts comprised mostly flakes, blades and cores manufactured from quartzite as raw material. The stone artefacts occurred as surface scatters.

9.3 Later Stone Age (LSA) – 30 000 years ago – recent (100 years ago)

The Later Stone Age (LSA) spans the period from about 20 000 years ago until the colonial era, although some communities continue making stone tools today. The period between 30 000 and 20 000 years ago is referred to as the transition from the Middle Stone Age to Later Stone Age; generally, there is a lack of crucial sites and evidence that represent this change, however, several sites to the west of the proposed development in the eastern Cape Highlands, north in eastern Lesotho and the Drakensburg in KwaZulu Natal have been dated to this time period. By the time of the Later Stone Age the genus *Homo*, in southern Africa, had developed into *Homo sapiens*, and in Europe, had already replaced *Homo neanderthalensis*.

The Later Stone Age is marked by a series of technological innovations, new tools and artefacts, the development of economic, political and social systems, and core symbolic beliefs and rituals. The stone toolkits changed over time according to time-specific needs and raw material availability, from smaller microlithic Robberg (20/18 000-14 000 ya), Wilton (8 000-the last 500 years) Industries and in between, the larger Albany/Oakhurst (14 000-8 000ya) and the Kabeljous (4 500-the last 500 years) Industries. Bored stones were used as part of digging sticks, grooved stones for sharpening and grinding, and stone tools fixed to handles with mastic also become more common. Fishing equipment such as hooks, gorges and sinkers also appear within archaeological excavations. Polished bone tools such as eyed needles, awls, linkshafts and arrowheads also become a more common occurrence. Most importantly bows and arrows revolutionized the hunting economy. It was only within the last 2 000 years that earthenware pottery was introduced, before then tortoiseshell bowls were used for cooking and ostrich eggshell (OES) flasks were used for storing water. Decorative items like ostrich eggshell and marine/fresh water shell beads and pendants were made.

Hunting and gathering made up the economic way of life of these communities; therefore, they are normally referred to as hunter-gatherers. Hunter-gatherers hunted both small and large game and gathered edible plantfoods from the veld. For those that lived at or close to the coast, marine shellfish and seals and other edible marine resources were available for gathering. The political system was mainly egalitarian, and socially, hunter-gatherers lived in bands of up to twenty people during the scarce resource availability dispersal seasons and aggregated according to kinship relations during the abundant resource availability seasons. Symbolic beliefs and rituals are evidenced by the deliberate burial of the dead and in the rock art paintings and engravings scattered across the southern African landscape.

The majority of hunter-gatherer archaeological sites found usually date from the past 10 000 years where San hunter-gatherers inhabited the landscape living in rock shelters and caves as well as on the open landscape. These latter sites are difficult to find because they are in the open veld and often covered by vegetation and sand. Sometimes these sites are only represented by a few stone tools and fragments of bone. The preservation

of these sites is poor and it is not always possible to date them (Deacon and Deacon 1999). Caves and rock shelters, however, in most cases, provide a more substantial preservation record of pre-colonial human occupation.

Later Stone Age sites occur both at the coast (caves, rock shelters, open sites and shell middens) and in the interior (caves, rock shelters and open sites) across southern Africa. There are more than a few significant Later Stone Age sites in the Eastern Cape. The most popular are the type-sites for the above-mentioned stone artefact industries, namely Wilton (for the Wilton Industry), Melkhoutboom (for the Albany Industry), both rock shelters situated to the west of Grahamstown, and Kabeljous Rock Shelter (for the Kabeljous Industry) situated just north of Jeffreys Bay. Caves and rock shelters that were occupied by the San during the Later Stone Age sometimes contain numerous paintings along the walls.

Several cave and rock shelter sites have been recorded west of the proposed development area into the north-eastern Cape and the foothills of the southern Drakensberg. Several of the sites mentioned in the Middle Stone Age section show evidence of Later Stone Age occupation. Later Stone Age deposits dating from the terminal Pleistocene to 100BP include Rose Cottage Cave (eastern Free State) and Melikane, Sehonghong and Moshebi's Shelter in eastern Lesotho. In the foothills of the Drakensberg recent Later Stone Age assemblages have been documented in the Phuthiatsana-ea-Thaba Basin and include 17 large rock shelters, 32 small rock shelters and cliff edge, 8 large rocks and 8 open sites. Later Stone Age assemblages have also been documented at Mhlwazini Cave and Collingham Shelter (Plug 1996). Colwinton's formal stone tool assemblage was dominated by the scrapers which is consistent with a majority of Later Stone Age assemblages in southern Africa. Potsherds and bone fish hooks were also recorded at the site as well as at Belleview and Driel (Opperman 1982). Strathalan Cave B situated about 10 km north-east of Maclear and about 100 – 110 km east of the proposed development area, shows evidence of human behaviour between 29 000 and 22 000 years ago. However, radiocarbon dating indicates a hiatus of 10 000 years between the final Middle Stone Age date and first Later Stone Age occupation of the adjacent Strathalan Cave A. Ravenscraig was noted for the occurrence of chalcedony bladelets and stone artefacts resembling the Robberg Industry of the southern and eastern Cape. The lowest stratigraphic layer at Colwinton contained stone artefacts resembling those of the Albany Industry of the southern and eastern Cape (Opperman 1982).

raw material. He also notes that it is possible that Later Stone Age open sites may be distinguished by those containing pottery and those without.

Cultural material recovered from excavations by Laidler (1937) at cave in the Ngcisininde Valley, near Tsomo, included worked clay, bone, shell (ostrich eggshell and marine) and stone. The worked stone is lydianite, almost to the exclusion of any other; chalcedonous material being scarce and limited to a few chips in the upper layer of the deposits. There is no doubt that this shelter during its latter days was the scene of varied and interrupted

occupations, indicated as well by the pottery types, as by the snail shells in the sterile strata. Iron Age communities, Khoekhoen, and San hunter-gatherers would have made use of the site.

According to Derricourt (1977) open Later Stone Age sites in the Transkei and Ciskei are mostly located close to water regardless of whether it may be seasonal or perennial and water courses and notes that lydianite (indurated shale / hornfels) is predominant as a Derricourt (1973) also notes that a large number of LSA remains are known from the area, ranging through open-site chipped stone artefact assemblages, painted rock shelters, chance finds such as bored stones. Best known LSA sites are the painted rock shelters found in the hilly areas of the Ciskei and in river valleys of the Transkei. These are frequently associated with occupation deposits, if these have not been eroded away. Faunal associations of food waste have survived until the later stages of the sequence and permit some dietary reconstruction. Pottery occurs in the highest and latest levels and perhaps the final activity in the shelter is geometric paintings, higher than more conventional LSA ones, and presumably done by Nguni individuals.

The Matatiele Archaeology and Rock Art (MARA) Research programme initiated in 2011 conducted excavations at a rock shelter, MAF 1, near Matatiele (Pinto et al. 2017). Their research findings include a continuous, well stratified cultural sequence dating from the early Holocene up to 2400 cal. BP. Ages obtained from these deposits are suggestive of hunter-gatherer occupation pulses at MAF 1, with possible abandonment of the site over the course of two millennia in the middle Holocene. The presence of a lithic artefact assemblage from this latter phase of occupation at MAF 1 indicates the continued use of the site by hunter-gatherers, with the presence of pottery and in particular the construction of a putative rectilinear dwelling and associated animal enclosure pointing to occupation of the shelter by agropastoralists.

Scatters of Later Stone Age stone artefacts are also known to occur within the surrounding area where these have been recorded in archaeological and heritage impact assessments within the region. From the CRM archaeological and heritage assessments accessed from the South African Heritage Resources Authority SAHRIS database, LSA stone artefacts have been documented within the areas of Dordrecht (Anderson 2019) and Elliot and Ugie (Prins & Hall 2010) and Later Stone Age oral histories within the Ngcobobo area (Van Ryneveld).

9.4 Last 2 000 years – Khoekhoen Pastoralism

Until 2 000 years ago, hunter-gatherer communities traded, exchanged goods, encountered and interacted with other hunter-gatherer communities. From about 2 000 years ago the social dynamics of the southern African landscape started changing with the immigration of two 'other' groups of people, different in physique, political, economic and social systems, beliefs and rituals. One of these groups, the Khoekhoen pastoralists or herders entered southern Africa with domestic animals, namely fat-tailed sheep and goats,

travelling through the south towards the coast. Khoekhoen pastoralist sites are often found close to the banks of large streams and rivers. They also introduced thin-walled pottery common in the interior and along the coastal regions of southern Africa. Their economic systems were directed by the accumulation of wealth in domestic stock numbers and their political make-up was more hierarchical than that of the hunter-gatherers.

The most significant Khoekhoen pastoralist sites in the Eastern Cape include Scott's Cave near Patensie (Deacon 1967), Goedgeloof shell midden along the St. Francis coast (Binneman 2007) and Oakleigh rock shelter near Queenstown (Derricourt 1977). Often, these archaeological sites are found close to the banks of large streams and rivers. It is much more difficult to locate Khoekhoen open sites, owing to their settlement pattern and lack of stone artefacts, makes evidence of occupation almost 'invisible'.

Earlier research excavations conducted by Laidler (1937) at a cave in the Ngcisininde Valley, near Tsomo, revealed pottery in the upper layers, which included Iron Age pottery as well as evidence of Khoekhoen pottery. The pottery assemblage included an externally applied lug, a broad bridged, internally reinforced lug, a red burnished neck-body junction with roughly incised, criss-cross pattern, and other fragments of thin, red burned, and with string patterned neck, overlapped and consolidated lips.

Pre-agriculturalist pottery have been documented at some of the sites mentioned above. Pottery from Swaziland to the north-eastern Cape, dates between 2 100 and 2 200 years and could possibly be earlier, predating the arrival of the of the agriculturalists by 400 years. No sheep remains have been found in association with the pottery which is stylistically different from those of the later agriculturalists (Iron Age populations) and a mean thickness of 7-8 mm pottery has been documented at Driel Shelter, Clarke's Shelter and Mhlwazini Cave in the northern Drakensberg with dates ranging between of 2 160 ± 50BP and 1 775 ±40BP; at Collingham Shelter and Good Hope Shelter with dates ranging between 2 160 BP and 1 770 BP; and at Moshebi's Shelter in eastern Lesotho with a date of 2 180 ±45BP. To the west of the proposed development area in the Barkley East district the dates for the pottery documented at Colwinton Shelter and Bonawe Shelter in the north-eastern Cape, Barkley East District, range between 2 250 ±80BP and 920 ±50BP (Mazel 1992).

9.5 Last 2 000 Years - The Iron Age

According to Huffman (2004) multiple strands of evidence help to clarify ancient Nguni history such as linguistics, anthropology and archaeology indicate an Early Iron Age homeland in East Africa. Nguni speakers starting moving south out of East Africa from around AD 1000, probably because of widespread drought and concomitant social disruptions. Once in southern Africa, they continued to live in small political units and to employ similar strategies in the face of drought and social disruptions. They built defensive walling between AD 1300 and 1500, and they moved out of KwaZulu-Natal at least three

times. The scale of the last disruption, known as the Mfecane or Difaqane, was significantly greater, and it created the first Nguni Empire in southern Africa.

The Nguni-speaking agropastoralists or 'first-farming communities' or Iron Age communities entered southern Africa along the east coast within the last 2 000 years. They owned domestic stock, namely goats, sheep and cattle. Their pottery was different to that of the Khoekhoe, in the shape, thickness, heavy decoration and variety of the vessels. First farming communities lived a relatively sedentary way of life, they planted sorghum and millet, and were therefore limited to settle in the summer rainfall areas. In addition, first farming communities possessed the skill of metal working, having the ability to mine and work iron, copper, tin and even gold. Their economic systems were also based on the accumulation of wealth through ownership and their political organization was slightly more hierarchical than that of the Khoekhoen.

Much research has been conducted on the Iron Age (IA) across southern Africa, therefore resulting in well-established chronological and typological frameworks and settlement and economic patterns for the Iron Age sequence (Huffman 2007).

Mackenzie notes that the earliest date for Iron Age settlement in the geographical area formerly referred to as the Transkei is about AD 700 (Cronin, 1982). It has been suggested by Derricourt (1974) that tribes of Iron Age farmers were concentrated mainly in the coastal zone between the Umzimvubu and Kei Rivers. The inland areas and interior basins were the domain of the nomadic hunter-gatherer San and that Iron Age farmers were mainly concentrated in the coastal zone between the Umzimvubu and Kei Rivers. The Nguni people who inhabit Transkei today may be the descendants of these Iron Age farmers, 'although it is possible that their ancestors moved south into Transkei from Natal (Wilson, 1969)

The Iron Age sequence is based on ceramic phases determined by vessel profile and decoration motif and placement. According to Huffman (2007) an eastern migration stream, known as the Chifumbaze Complex spread southwards from East Africa south into southern Africa during the period of about AD 200—300 where several KwaZulu-Natal and north-Eastern Cape sites were occupied. The Early Iron Age sites in the Eastern Cape dates to between circa AD 600 to AD 900 and can be divided into the following ceramic facies (Maggs 1989; Huffman 2007):

- Msuluzi (AD 500-700);
- Ndondondwane (AD 700 – 800);
- Ntshekane (AD 800 – 900).

Thicker and decorated pottery sherds, kraals, possible remains of domesticated animals, upper and lower grindstones, storage pits, metal and iron implements are associated with identifying Early Iron Age sites. The sites are generally large settlements, but the archaeological visibility may in most cases be difficult owing to the organic nature of the homesteads. Additional evidence of these agropastoralist groups derives from rock

paintings of cattle painted by hunter-gatherer groups who encountered or interacted with these communities. The bones of cattle and sheep excavated at Oakleigh Shelter near Queenstown may be an indication of possible stock theft (Derricourt 1977). The Early Iron Age (EIA) first-farming communities during the first millennium AD generally preferred to occupy river valleys within the eastern half of southern Africa owing to the summer-rainfall climate that was conducive for growing millet and sorghum.

In comparison to other areas containing Iron Age sites only a small amount of Iron Age research has been conducted in the Eastern Cape thus far. Binneman (1992) supported this view noting that the southerly limit of Early Iron Age settlement was thought to be along the Transkei coast, with Mpame dating back to as early as AD 640 (Cronin 1982). There has been some speculation, however, that Early Iron Age (EIA) populations may have spread well south of the Transkei into the Ciskei, possibly up to the Great Fish River. These areas are on the very outer limits of the summer rainfall region on which the EIA people were dependent for cultivating their crops. It is commonly accepted that an ecological boundary restricted these populations in their southward migration.

Earlier investigations into the Early Iron Age in the Transkei and Ciskei includes work at Buffalo River Mouth (Wells 1934; Laidler 1935), at Chalumna River Mouth (Derricourt 1977) and additional research by Feely (1987) and Prins (1989). Early Iron Age Sites (EIA) sites also include Kulubele situated in the Great Kei River Valley near Khomga (Binneman 1996) which provided a date of 1250 ± 40 BP (Pta-5865), with a most probable calibrated age of AD 799 (Vogel, pers. Comm in Binneman et al. 1992), Ntsitsana situated in the interior Transkei, 70 km west of the coast, along the Mzimvubu River (Prins & Granger 1993), and Canasta Place situated on the west bank of the Buffalo (Qonce) River (Nogwaza 1994). Along the coast, near Coffee Bay, Early Iron Age sites have been dated from AD 670 and includes the sites of Mpame and Mqanduli. Early Iron Age pottery scatters have been documented along several area of the Wild Coast coastline including Zig-Zag Cave near Port St Johns (Derricourt 1977). The first- millennium site, Ntsitsana, was excavated and two occupational phases dated to ca. AD 660 and AD 770 have been identified. Ceramics associated with these phases are typologically similar to coeval ceramics of early farming settlement in Natal, although local differences are evident (Prins & Granger).

Iron Age associated cultural material recovered from excavations by Laidler (1937) at cave in the Ngcisininde Valley, near Tsomo, included a fragment of early Iron Age pottery at the back of the cave. The ash produced a crude taper 'lip,' black, no visible admix; fragment of neck body junction of a small drinking bowl; the greater part of a pot with a vertical channelled externally applied lug, which may have been a link between Iron Age and hunter-gatherer communities, and few fragments of typical Bantu pre-burning burnished pottery; and a fragment of stone with slag on it at the surface. Most of the Bantu pottery was found towards the back of the cave, and in a slightly earthy layer that there was superimposed on the ash. Implements included an Iron Age upper millstone.

Hilltop settlement is mainly associated with Later Iron Age (LIA) settlement patterns that occurred during the second millennium AD. The Later Iron Age communities later moved from settlement in river valleys to the hilltops. Later Iron Age settlements have been formally recorded by the Albany Museum. With the exception of the Tembu, stone buildings which characterizes the Iron Age sites of Sotho areas, is absent in the Transkei and Ciskei, and a pattern of some mobility without, it is presumed, a stone working technology of significance, makes the allocation of sites a major problem (Derricourt 1973).

Huffman's (2004) ceramic sequence among the Nguni groups contains three facies:

- Blackburn (AD 1 050 – 1 300): along north and south coasts of KwaZulu Natal;
- Moor Park (AD 1 300 – 1 700): first recorded in Estcourt Midlands then along Transkei coast where it was called Umgazana Ware. Appears south of the Mtamvuma River and it is suggested that it was the beginning of the division between southern and northern Nguni people and probably continued into the nineteenth century;
- Nqabeni (AD 1 700 – 1 850): style centres on KwaZulu Natal.

Early Iron Age findings during CRM archaeological and heritage impact assessment surveys are not common. Due to the biodegradable materials used to construct dwellings and the use of natural materials for kraals in comparison to the use of stone in other parts of the country, Iron Age sites are usually identified by the presence of pottery fragments on the landscape. Colonial and Later Iron dwellings and stock enclosures are more prolific during surveys (Booth 2014, Kruger 2020, 2021; Van Ryneveld 2010, 2011, Prins & Hall 2010).

9.6 Unmarked Burials and Exposed Human Remains

It is difficult to detect the presence of archaeological human remains on the landscape as these burials, in most cases, are not marked at the surface. Human remains are usually observed when they are exposed through erosion or construction activities for development. In some instances, packed stones or rocks may indicate the presence of informal pre-colonial burials. Recent and historical stone packed burials may also occur within the area.

Cultural Resource Management practitioners whilst conducting archaeological heritage impact assessments have also recorded formal historical and contemporary cemeteries, isolated graves within the boundary of the homestead, and informal burials within the wider region (Booth 2014; Van Ryneveld 2010, 2011; Kruger 2020, 2021).

9.7 Rock Art (Paintings and Engravings)

Rock art is generally associated with the Later Stone Age period mostly dating from the last 5 000 years to the historical period. It is also the most visible form of archaeological evidence. It is difficult to accurately date the rock art without destructive practices. The southern African landscape is exceptionally rich in the distribution of rock art which is

determined between paintings and engravings. Rock paintings occur on the walls of caves and rock shelters across southern Africa and are prolific in the Southern Drakensberg, north-eastern Cape extending the entire Drakensberg range into KwaZulu-Natal and Lesotho. Rock engravings are limited to the Karoo and Northern Cape Regions and do not generally occur within the north-eastern Cape region and Transkei region.

Rock art research within the Southern Drakensberg has been conducted by several researchers and students from the Rock Art Research Institute, University of the Witwatersrand, over a period of 25 years, with a well-established database of site from Maclear, Tsolo, Barkly East, Ugie, Dordrecht and the wider region and extent of the Drakensberg range and Maluti Mountains. The South African Rock Art Database established by the Rock Art Research Institute is a useful source for rock art site information across southern Africa.

The Kei River valley was route of movements by Stone Age hunters. Stow (Stow & Bleek 1930) and Frobenius (1931) reproduced material from the Kei Basin, Huss and Otto (1925) carried out exploration further down the Kei Valley (in Derricourt 1997). Derricourt also notes that Hewitt and Stapleton (1931) reported shelters with paintings near Cala. Rock paintings have been recorded on at least 20 farms in the Indwe district (Van Riet Lowe 1941). San rock paintings – especially in the foothills of the Drakensberg near Elliot and Ugie (Blundell 2004; Mallen 2008; White 2010). From 2011, more than 200 rock art sites have been recorded in the Matatiele area as part of a systematic survey conducted as part of the Matatiele Archaeology and Rock Art (MARA) research programme (Pinto et al. 2017).

Three rock art sites are known from the Rebbelskloof area (Albany Museum database); however, the exact coordinates have not been captured in the database. The site was recorded by Hewitt and Stapleton in 1928 and tracings and photographs are available.

St Gabriel's Rock Shelter, also recorded by Hewitt and Stapleton in 1928, is situated within the Cala region. The exact location is also not known; however, photographs of the site are available.

The use of rock art sites as sacred sites continues in contemporary society as part of traditional African rituals. The pigments of paintings are still considered as containing spiritual powers for healing in some cases and rain-making. Pinto et al (2017) note that the site MAF 1 within the Matatiele area continues to be used as a traditional initiation school for boys held annually at the site.

10 ASSESSMENT OF IMPACTS ON THE ARCHAEOLOGICAL HERITAGE SOURCES.

The archaeological desktop assessment is limited to available information. Consultation and research are limited to archaeological heritage data that is known and has been recorded over time. These references include mostly academic and popular publications and Cultural Resource Management archaeological and heritage impact assessments that are digitally accessible. The state of archaeological remains can only be determined by surface observation which in itself is limited and does not expose the true state of

archaeological evidence. However, a physical survey observation is able to assess the environment where a desktop assessment cannot do justice in determining the significance of the archaeological sensitivity of the proposed development area.

Most importantly, archaeological and heritage resources are a non-renewable resource that cannot be replaced once lost or destroyed, therefore, every effort should be taken to preserve or conserve the most significant of heritage resources. Mitigation measures have been recommended by the author and should be respected and implemented prior to the commencement of the proposed development.

11 RECOMMENDATIONS

Development may not proceed until a full Phase 1 Archaeological Heritage Impact Assessment is conducted and comments received from the Eastern Cape Provincial Heritage Resources Authority (ECPHRA) to:

- Make a basic surface assessment of the study site (including a desktop study or brief background assessment of the area) to identify, describe, record the localities;
- Assign a heritage site significance rating to heritage resources protected by law; and
- Make recommendations to the relevant Provincial Heritage Resources Authority (PHRA) regarding the conservation or mitigation thereof for purposes of development.

Archaeological and historical material remains, features, and sites were evaluated and assessed based on the following points:

- Type of site;
- Location and environmental surrounds;
- Site category;
- Context and condition;
- Estimated size and depth of deposit;
- Cultural affinities;
- Record site content;
- Record basic information of finds;
- Estimate relative age of sites from cultural material and other information;
- Record and describe graves, graveyards, and informal burials;
- Assess the importance and significance of material remains, features, and sites; and;
- Significance ratings based on local to international.

12 CONCLUSION

Development may not proceed until a full Phase 1 Archaeological Heritage Impact Assessment is conducted and comments received from the Eastern Cape Provincial Heritage Resources Authority (ECPHRA).

One rock art site has been recorded within the Siphafeni area known as St Gabriel's Rock Shelter. Although the exact location of the site is unknown, it is possible that traces of archaeological cultural material occur within the cultural landscape proposed for the road construction, most significant along the major and minor bridge crossings. Consultation with the local community would also be beneficial in their awareness of the rock art site and memory of San hunter-gatherers within the area.

Taking into consideration the research findings and heritage sites encountered during CRM archaeological and heritage impact assessment survey, it is possible that stone artefacts, from the Early, Middle, and Later Stone Ages, may be encountered. It is also possible that colonial and / or Late Iron Age features as well and graves may be encountered along the route proposed for upgrade.

It is important to note that archaeological and heritage resources are a non-renewable resource that cannot be replaced once lost or destroyed, therefore, every effort should be taken to preserve or conserve the most significant of heritage resources.

It is due to the above factors that a full phase 1 archaeological impact assessment be conducted prior to the development proceeding.

13 REFERENCES

- Beinart, W. 2003. *The rise of conservation in South Africa*. Oxford University Press.
- Binneman, JNF. 1996. The symbolic construction of communities during the Holocene Later Stone Age in the south-eastern Cape. Unpublished D.Phil. thesis: University of the Witwatersrand.
- Binneman, JNF. 1997. Results from a test excavation at The Havens Cave, Cambria, South-Eastern Cape. *Southern African Field Archaeology* 6: 93-105.
- Binneman, JNF. 1998. Results from a test excavation at Kleinpoort Shelter in the Baviaanskloof, Eastern Cape Province. *Southern African Field Archaeology* 7: 90-97.
- Binneman, JNF. 1999a. Results from a test excavation at Groot Kommandokloof Shelter in the Baviaanskloof / Kouga region, Eastern Cape Province. *Southern African Field Archaeology* 8: 100-107.
- Binneman, JNF. 1999b. Mummified human remains from the Kouga Mountains, Eastern Cape. *The Digging Stick* 16: 1-12.
- Binneman, JNF. 2000. Results from two test excavations in the Baviaanskloof Mountains, Eastern Cape Province. *Southern African Field Archaeology* 9: 81-92.

- Binneman, JNF. 2001. An introduction to a Later Stone Age coastal research project along the south-eastern Cape coast. *Southern African Field Archaeology* 10: 75-87.
- Binneman, JNF. 2005. Archaeological research along the south-eastern Cape coast part 1: open-air shell middens. *Southern African Field Archaeology* 13 & 14: 49-77. 2004 / 2005.
- Binneman, JNF. 2007. Archaeological research along the south-eastern Cape Coast part 2, caves and shelters: Kabeljous River Shelter 1 and associated stone tool industries. *Southern African Field Archaeology* 15 & 16: 57-74.
- Binneman, J. & Hall, S. 1993. The context of four painted stones from the south-eastern Cape and Eastern Cape. *Southern African Field Archaeology*, 2:89-95.
- Deacon, H.J. 1970. The Acheulean occupation at Amanzi Springs, Uitenhage district, Cape Province. *Annals of the Cape Provincial Museums* 6:141-169.
- Collins, B. & Ames, C. 2015. Revisiting Grassridge Rockshelter in the Eastern Cape province of South Africa: results of the 2014 field season. Presented at the 80th Annual Meeting of the Society for American Archaeology, San Francisco, California. 2015 (tDAR ID: 396031)
- Deacon, H.J. 1995. Two late Pleistocene-Holocene Archaeological Depositories from the Southern Cape, South Africa. *Southern African Archaeological Bulletin*, 5:121-131.
- Deacon, J. 1965. Part 1: Cultural Material from the Gamtoos Valley Shelter (Andrieskraal). *The Southern African Archaeological Bulletin*, 20(80): 193-200.
- Deacon, H.J. 2008. The Context of the 1967-68 sample of human remains from Cave 1 KRM Main Site. *South African Archaeological Society, Goodwin Series*, 10: 143-149.
- Derricourt, R. M. 1977. *Prehistoric Man in the Ciskei & Transkei*. Johannesburg: C. Struik (Pty) Ltd.
- Dewar, G. & Pfeiffer, S. 2004. Postural Behaviour of Later Stone Age People in South Africa. *The South African Archaeological Bulletin*, 59(180): 52-58.
- Feely, J.M. 1987. The Early Farmers of Transkei, Southern Africa. *Bar International Series* 378, Cambridge Monographs in African Archaeology 24.
- Feely, J. M. & Bell-Cross, S. M. 2011. The Distribution of Early Iron Age Settlement in the Eastern Cape: Some Historical and Ecological Implications. *South African Archaeological Bulletin* 66(194): 105-112.
- Fischer, E. C.; Albert, R.; Botha, G.; Cawthra, H. C.; Esteban, I.; Harris, J.; Jacobs, Z.; Marean, C.; Neumann, F. H.; Partridge, J.; Poupart, M. & Venter, J. 2013. Archaeological Reconnaissance for Middle Stone Age Sites along the Pondoland Coast, South Africa. *Palaeoanthropology* 2013: 104 – 137.
- Gess, W.H.R. 1969. Excavations of a Pleistocene bone deposit at Aloes near Port Elizabeth. *South African Archaeological Bulletin* 24:31-32.
- Hall, S. & Binneman, J. 1987. Later Stone Age Burial Variability in the Cape: A Social Interpretation. *The South African Archaeological Bulletin*, 42(146): 140-142.
- Henderson, Z. 1992. The context of some MSA hearths at Klasies River Shelter 1 B: Implications for understanding human behaviour. *Southern African Field Archaeology*, 1:14-26.

- Hine, P. Sealy, J. Halkett, D. & Hart, T. 2010. Antiquity of Stone Walled Tidal Fish Traps on the Cape Coast, South Africa. *The South African Archaeological Bulletin*, 65 (191): 35-44.
- Hollman, J. 2005. Using Behavioural Postures and Morphology to Identify Hunter-Gatherer Rock Paintings of Therianthropes in Western and Eastern Cape Provinces, South Africa. *The Southern African Archaeological Bulletin*, 60(182): 84-95.
- Huffman, T. N. 2004. The Archaeology of the Nguni Past. *Southern African Humanities* 16: 79-111.
- Klein, R. 1986a. A provisional statement on terminal Pleistocene Mammalian extinctions in the Cape Biotic Zone, Southern Cape Province, South Africa. *Goodwin Series*, No. 2, Progress in Later Cenozoic Studies in South Africa, pp 39-45.
- Klein, R.G. 1986b. The Prehistory of the Stone Age Herders in the Cape province of South Africa. *Goodwin Series*, Vol. 5, Prehistoric Pastoralism in Southern Africa, pp 5-12.
- Maggs, T. 1977. Some recent radiocarbon dates from Eastern and Southern Africa. *The Journal of African History*, 18(2): 161-191.
- Maggs, T. 1993. Three decades of Iron Age Research in South Africa: Some Personal Reflections. *South African Archaeological Bulletin* 48(158): 70-76.
- Mazel, A. D. 1992. Early Pottery from the East of Southern Africa. *South African Archaeological Bulletin* 47: 3-7.
- Mitchell, P.J. 1996. Prehistoric Exchange and Interaction in South-Eastern Southern Africa: Marine Shells and Ostrich Eggshell. *The African Archaeological Review*, 13(1): 36-76.
- National Heritage Resources Act 25 of 1999.
- Parkington, J. & Hall, M. 1987. Patterning in recent radiocarbon dates from Southern Africa as a reflection of prehistoric settlement and interaction. *The Journal of African History*, 28(1): 1-25.
- Pearce, D.G. 2005. Iconography and Interpretation of the Tierkloof Painted Stone. *Goodwin Series*, 9, Further Approaches to Southern African Rock Art, pp 45-53.
- Pfeiffer, S. & Harrington, L. 2011. Bioarchaeological evidence for the basis of small adult stature in Southern Africa. *Growth, mortality and small stature*. *Current Anthropology*, 52(3).
- Phillips, A. 1998. The nature of cultural landscapes – a nature conservation perspective. *Landscape Research* 23:1, 21-38.
- Plug, I. 1997. Late Pleistocene and Holocene hunter-gatherers in the Eastern Highlands of South Africa and Lesotho: A Faunal Interpretation. *Journal of Archaeological Science* 24: 715 – 727.
- Opperman, H. 1982. Some research results of excavations at Colwinton Rock Shelter, North-Eastern Cape. *South African Archaeological Bulletin* 37, 136: 51-56.
- Opperman, H. 1996. Strathalan Cave B, North Eastern Cape Province, South Africa: Evidence for human behaviour 29,000 – 26,000, *Quaternary International*, Vol 33 pp 45-53.
- Opperman, H. Hydenrych, B. 1990. A 22000-year-old Middle Stone Age Camp Site with Plant Food Remains from the North-Eastern Cape. *South African Archaeological Bulletin* 45: 93-99, 1990.

- Prins, F. E. & Lewis, H. 1992. Bushmen as mediators in Nguni cosmology. *Ethnology* 31(2): 133-147.
- Prins, F. 1993. Aspects of Iron Age Ecology in Transkei. Master of Arts Thesis.
- Prins, F. E. & Granger, J. E. 1993. Early Farming Communities in Northern Transkei: The Evidence from Ntsitsana and Adjacent Areas. *Natal Museum Journal of Humanities* 5: 153-74.
- Prins, F. E. & Hall, S. 1994. Expressions of Fertility in the Rock Art of Bantu-speaking Agriculturalists. *African Archaeological Review* 12: 171-203.
- Prins, F. 1996. African Perceptions of Rock Paintings in the KwaZulu Natal and the Eastern Cape Provinces. *The Digging Stick* 13(1).
- Rapoport, A. 1992. On cultural landscapes. *TDSR* 3:3, 33-47.
- Rudner I J. 1968. Strandloper pottery from South and South West Africa. *Annals of the South African Museum* 49(2). Cape Town.
- Rudner, J. 1979. The use of stone artefacts and pottery among the Khoisan peoples in historic and protohistoric times. *The South African Archaeological Bulletin*, 34(129): 3-17.
- Sealy, J. & Pfeiffer, S. 2000. Diet, Body Size, and Landscape Use among Holocene People in the Southern Cape, South Africa. *Current Anthropology* 41(4): 642-655.
- Shrubsall, F. 1899. A Study of A-Bantu Skulls and Crania. *The Journal of the Anthropological Institute of Great Britain and Ireland*, Vol. 28, No. 1/2, pp. 55-94
- Steyn, M.; Binneman, J & Loots, M. 2007. The Kouga Mummified Human Remains. *South African Archaeological Bulletin*, 62(185): 3-8.
- South African Heritage Resources Agency (SAHRA): Minimum Standards for Archaeological Impact Assessments.
- Sparrman, A. 1785. *A voyage to the Cape of Good Hope towards the Antarctic polar circle and around the world, but chiefly into the country of the Hottentots and Caffres, from the year 1772 to 1776*. Vol. 1. London: Robinson.
- Steele, J. 2011. Potshards of Zig-Zag cave at Port St Johns, Eastern Cape, South Africa. Department of Fine Art, Walter Sisulu University, East London, Eastern Cape.
- Tankard, A.J. & Roger, J. 1978. Late Cenozoic palaeoenvironments on the west coast of Southern Africa. *Journal of Biogeography*, 5: 319-337.
- Taylor, K. 2008. Landscape and Memory: cultural landscapes, intangible values and some thoughts on Asia. In: 16th ICOMOS General Assembly and International Symposium: 'Finding the spirit of place between the tangible and intangible', 29 September – 4 October 2008, Quebec, Canada.
- Thackeray, F. & Feast, E.C. 1974. A Midden Burial from Cape St Francis, Eastern Cape Province. *The South African Archaeological Bulletin*, 29(115/116): 92.
- Turner, M. 1970. A Search for the Tsitsikamma Shelters. *The South African Archaeological Bulletin*, 28(98): 67-70.
- Vogel, J. C. & Fuls, A. Spatial Distribution and Radiocarbon Dates for the Iron Age in Southern Africa. *South African Archaeological Bulletin* 54(170): 97-101.
- Whitelaw, G. 2006. An archaeology of colonization: excavations at a stonewalled site near Rosetta, KwaZulu-Natal. *Southern African Humanities* 26: 83–100

Wurz, S. 2008. Modern Behaviour at Klasies River. *Goodwin Series*, 10, Current Themes in MSA Research, pp 150-156.

14 RELEVANT ARCHAEOLOGICAL AND HERITAGE IMPACT ASSESSMENTS

Very little systematic archaeological research has been conducted within the immediate and surrounding areas for the proposed project, therefore, Cultural Resource Management (CRM) Reports, such as archaeological and heritage impact assessments, assist in attempting to predict the archaeological and heritage resources that may be found within the proposed development areas. The following reports are considered relevant to the current project:

Anderson, G. 2007. The Archaeological Survey of the Elitheni Mine, Indwe, Eastern Cape.
Anderson, G. 2019. Heritage Survey of the Dordrecht Water & Sanitation Services Upgrades, Dordrecht, Eastern Cape.

Anderson, G. 2020. A Letter of Recommendation for Exemption for Dordrecht Sports Field Upgrade.

Booth, C. 2014. A Phase 1 Archaeological Impact Assessment (AIA) for the Proposed Road Upgrade of the DR 08376 from the R61 at St Marks to Sabalele Village and associated Borrow Pits, near Cofimvaba, Intsika Yethu Local Municipality, Eastern Cape Province.

Cedar Towers. 2016. Heritage Screener: Dordrecht Immediate Water Supply Upgrades, Dordrecht, Eastern Cape.

Kruger, N. 2020. Archaeological Impact Assessment of Areas Demarcated for the Proposed Cluster 6 Manzimdaka Village Water Supply Scheme Project, Kumbeke Area, CHDM, Eastern Cape Province.

Kruger, N. 2020. Archaeological Impact Assessment of Areas Demarcated for the Proposed Cluster 6 Gqaga Bulk Rising Main West Water Supply Scheme Project, Lixeni and Natyana Areas, CHDM, Eastern Cape Province.

Kruger, N. L. R. 2021. Archaeological Impact Assessment of Area Demarcated for the Proposed Cluster 6 Mnyolo and Julisa Bulk Reticulation Project, Mnyolo Area, CHDM, Eastern Cape Province.

Prins, F. & Hall, S. 2010. Cultural Heritage Impact Assessment of the Proposed 132kV Eskom Powerline from Sappi to Elliot and Ugie Substations, Eastern Cape.

Roussouw, L. 2019. Phase 1 Heritage Impact Assessment of a Proposed New Bitumen Emulsion Plant at an Existing Gravel Quarry near Indwe, Eastern Cape Province.

Smith, A.B. 2010. Archaeological Impact Assessment of the Proposed AB's Wind Energy Facility (WEF), near Indwe, Eastern Province.

Van Ryneveld, K. 2010. Phase 1 Archaeological Impact Assessment: Water Supply Backlog in CHDM: Cluster 2, Phase 1, Schemes 27, 28, and 29, Cofimvaba, Eastern Cape, South Africa.

Van Ryneveld, K. 2011. Phase 1 Archaeological Impact Assessment: Gqaga Villages Reticulation Water Supply Scheme – Bulk Water Supply Backlog, Ngcobo Cluster 6, Eastern Cape, South Africa.

- Van Ryneveld, K. 2011. Phase 1 Archaeological Impact Assessment: Bulk Rising Main East, Ngcobo Cluster 6, Eastern Cape, South Africa.
- Van Ryneveld, K. 2011. Manzimdaka Villages Water Supply Backlog: Ngcobo Cluster 6, Eastern Cape, South Africa.
- Van Ryneveld, K. 2011. Phase 1 Archaeological Impact Assessment: Expansion of the Cala Landfill Site, Closure of the Elliot Landfill Site and Establishment of a Waste Transfer Station at Each Site, Calla and Elliot, Eastern Cape, South Africa.
- Van Ryneveld, K. 2011. Phase 1 Archaeological Impact Assessment: Water Supply Backlog in CHDM: Regional Scheme 5 (near Cofimvaba) Eastern Cape, South Africa.
- Van Ryneveld, K. 2011. Archaeological Impact Assessment: Utilisation of Borrow Pits, CHDM, Eastern Cape, South Africa.
- Van Ryneveld, K, 2011. Archaeological Impact Assessment: CHDM: Cluster and Bulk Water Supply Backlog Amendment – Tsomo, Eastern Cape, South Africa.
- Van Ryneveld, K. 2013. Mahlubini Residential Area Development (Portion of) Erf 1, Cofimvaba, Eastern Cape, South Africa.
- Van Ryneveld, K. Phase 1 Archaeological Impact Assessment: The Qamanco Borrow Pit, near Engcobo, CHDM, Eastern Cape, South Africa.
- Van Ryneveld, K. Phase 1 Archaeological Impact Assessment: Qutubeni Villages Water Reticulation Scheme: Bulk Water Supply Backlog – Ngcobo Cluster 6, Chuqolweni, Marellani, Sidindi, Expindweni, Engxangxasi, Silindini and Hala Villages), Qutubeni, Eastern Cape, South Africa.
- Van Schalkwyk, L. 2010. Heritage Impact Assessment of Aggregate Mining on Unregistered State Land AA17 (Goso), Ngcobo Local Municipality, Eastern Cape Province, South Africa.
- Van Schalkwyk, L. & Wahl, E. 2008. Heritage Impact Assessment of Qoboshane Road, Bridge & Borrow Pits, Indwe, Eastern Cape Province, South Africa.

15 GENERAL REMARKS AND CONDITIONS

NOTE: This report is a phase 1 archaeological impact assessment (AIA) only and does not include or exempt other required specialist assessments as part of the heritage impact assessments (HIAs).

The National Heritage Resources Act (Act No. 25 of 1999, Section 35 [Brief Legislative Requirements]) requires a full Heritage Impact Assessment (HIA) in order that all heritage resources including all places or objects of aesthetics, architectural, historic, scientific, social, spiritual, linguistic, or technological value or significance are protected. Thus, any assessment should make provision for the protection of all these heritage components including archaeology, shipwrecks, battlefields, graves, and structures older than 60 years, living heritage, historical settlements, landscapes, geological sites, palaeontological sites and objects.

It must be emphasized that the conclusions and recommendations expressed in this phase 1 archaeological impact assessment (AIA) are based on the visibility of archaeological

remains, features and, sites and may not reflect the true state of affairs. Many archaeological remains, features and, sites may be covered by soil and vegetation and will only be located once this has been removed. In the event of such archaeological heritage being uncovered (such as during any phase of construction activities), archaeologists or the relevant heritage authority must be informed immediately so that they can investigate the importance of the sites and excavate or collect material before it is destroyed. The onus is on the developer to ensure that this agreement is honoured in accordance with the National Heritage Resources Act No. 25 of 1999 (NHRA 25 of 1999).

Archaeological Specialist Reports (desktops and AIA's) will be assessed by the relevant heritage resources authority. The final comment/decision rests with the heritage resources authority that may confirm the recommendations in the archaeological specialist report and grant a permit or a formal letter of permission for the destruction of any cultural sites.

APPENDIX A: HERITAGE LEGISLATIVE REQUIREMENTS

Sections 3, 34, 35, 36, 38, 48, 49 and 51 of the National Heritage Resources Act 25 of 1999 apply:

S3. National estate

(1) For the purposes of this Act, those heritage resources of South Africa which are of cultural significance or other special value for the present community and for future generations must be considered part of the national estate and fall within the sphere of operations of heritage resources authorities.

(2) Without limiting the generality of subsection (1), the national estate may include –

- (a) places, buildings, structures and equipment of cultural significance;
- (b) places to which oral traditions are attached or which are associated with living heritage;
- (c) historical settlements and townscapes;
- (d) landscapes and natural features of cultural significance;
- (e) geological sites of scientific or cultural importance;
- (f) archaeological and palaeontological sites;
- (g) graves and burial grounds, including –
 - (i) ancestral graves;
 - (ii) royal graves and graves of traditional leaders;
 - (iii) graves and victims 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 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) objects recovered from the soil or waters of South Africa, including archaeological and palaeontological 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) objects of scientific or technological interest; and
 - (vii) books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1(xiv) of the National Archives of South Africa Act (Act No. 43 of 1996).

(3) Without limiting the generality of subsections (1) and (2), a place or object is to be considered part of national estate if it has cultural significance or other special value because of –

- (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 the life or work of a person, group or organisation of importance in the history of South Africa; and
- (i) sites of significance relating to the history of slavery in South Africa.

S34. Structures

- (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.
- (2) Within three months of the refusal of the provincial heritage resources authority to issue a permit, consideration must be given to the protection of the place concerned in terms of one of the formal designations provided for in Part 1 of this Chapter.
- (3) The provincial heritage resources authority may at its discretion, by notice in the Provincial Gazette, make an exemption from the requirements of subsection (1) within a defined geographical area, provided that it is satisfied that heritage resources falling into the defined area or category have been identified and adequately provided for in terms of the provisions of Part 1 of this Chapter.
- (4) Should the provincial heritage resources authority believe it to be necessary if by, following a three-month notice period published in the Provincial Gazette, withdraw or amend a notice under subsection (3).

S35. Archaeology, palaeontology and meteorites

- (1) Subject to the provisions of section 8, the protection of archaeological and palaeontological sites and material and meteorites is the responsibility of a provincial heritage resources authority: Provided that the protection of any wreck in the territorial waters and maritime cultural zone shall be the responsibility of SAHRA.
- (2) Subject to the provisions of subsection (8)(a), all archaeological objects, palaeontological material and meteorites are the property of the State. The responsible heritage authority must, on behalf of the State, at its discretion ensure that such objects are lodged with a museum or other public institution that has a collation policy acceptable to the heritage resources authority and may in doing so establish such terms and conditions as it sees fit for the conservation of such objects.
- (3) Any person who discovers archaeological or palaeontological objects or material or a meteorite in the course of development or agricultural activity must immediately report the find to the responsible heritage resources authority, or to the nearest local authority or museum, which must immediately notify such heritage resources authority.
- (4) No person may, without a permit issued by the responsible heritage resources authority—
 - (a) destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;
 - (b) destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;
 - (c) trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or palaeontological material or object, or any meteorite; or
 - (d) bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment which assist in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.
- (5) When the responsible heritage resources authority has reasonable cause to believe that any activity or development which will destroy, damage or alter any archaeological or palaeontological site is under way, and where no application for a permit has been submitted and not heritage resources management procedure in terms of section 38 has been followed, it may –
 - (a) 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;
 - (b) Carry out an investigation for the purpose of obtaining information on whether or not an archaeological or palaeontological site exists and whether mitigation is necessary;
 - (c) 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
 - (d) Recover the costs of such investigation from the owner or occupier of the land on which it is believed an archaeological or palaeontological 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.

- (5) The responsible heritage resources authority may, after consultation with the owner of the land on which archaeological or palaeontological site or a 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.
- (6)(a) Within a period of two years from the commencement of this Act, any person in possession of any archaeological or palaeontological material or object or any meteorite which was acquired other than in terms of a permit issued in terms of this Act, equivalent provincial legislation or the National Monuments Act, 1969 (Act No. 28 of 1969), must lodge with the responsible heritage resources authority lists of such objects and other information prescribed period shall be deemed to have been recovered after the date on which this Act came into effect.
 - (b) Paragraph (a) does not apply to any public museum or university.
 - (c) The responsible authority may at its discretion, by notice in the Gazette or the Provincial Gazette, as the case may be, exempt any institution from the requirements of paragraph (a) subject to such conditions as may be specified in the notice, and may by similar notice withdraw or amend such exemption.
- (8) and object or collection listed under subsection (7) –
 - (a) remains in the ownership of the possessor for the duration of his or her lifetime, and SAHRA must be notified who the successor is; and
- (9) must be regularly monitored in accordance with regulations by the responsible heritage authority.

S36. Burial grounds and graves

- (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.
- (3) SAHRA or 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.
- (4) 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 grave or burial ground.
- (5) Subject to the provision 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) Carry out an investigation for the purpose of obtaining information on whether or not such grave is protected in terms of this Act or is of significance to any community; and
 - (b) If such grave is protected or is of significance, assist any person who or community which is the direct descendant to make arrangements for the exhumation and re-interment of the contents of such grave or, in the absence of such person or community, make any such arrangements as it deems fit.

(6)(a) SAHRA must, over a period of five years from the commencement of this Act, submit to 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 provocateur and which, after a process of public consultation, it believes should be included among those protected under this section.

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

(6) 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.

(7) 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 reinter the remains of that person in a prominent place in the capital of the Republic.

S.37 Public monuments and memorials

Public monuments and memorials must, without the need to publish a notice to this effect, be protected in the same manner as places which are entered in a heritage register referred to in section 30.

S38. Heritage resources management

(1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorized as –

(a) the construction of a road, wall, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300 m in length;

(b) the construction of a bridge or similar structure exceeding 50 m in length;

(c) any development or other activity which will change the character of the site –

(i) exceeding 5 000 m² in extent, or

(ii) involving three or more erven or subdivisions thereof; or

(iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or

(iv) the costs of which will exceed a sum set in terms of regulations by SAHRA, or a provincial resources authority;

(d) the re-zoning of a site exceeding 10 000 m² in extent; or

(e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority, must as the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.

(2) The responsible heritage resources authority must, within 14 days of receipt of a notification in terms of subsection (1) –

(a) if there is a reason to believe that heritage resources will be affected by such development, notify the person who intends to undertake the development to submit an impact assessment report. Such report must be compiled at the cost of the person proposing the development, by a person or persons approved by the responsible heritage resources authority with relevant qualifications and experience and professional standing in heritage resources management; or

(b) notify the person concerned that this section does not apply.

(3) The responsible heritage resources authority must specify the information to be provided in a report required in terms of subsection (2)(a): Provided that the following must be included:

(a) The identification and mapping of all heritage resources in the area affected;

(b) An assessment of the significance of such resources in terms of the heritage assessment criteria set out in section 6(2) or prescribed under section 7;

(c) An assessment of the impact of development on such heritage resources;

(d) An evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development;

(e) The results of consultation with communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources;

- (f) If heritage resources will be adversely affected by the proposed development, the consideration of alternative; and
 - (g) Plans for mitigation of any adverse effects during and after the completion of the proposed development.
- (4) The report must be considered timeously by the responsible heritage resources authority which must, after consultation with the person proposing the development, decide –
- (a) whether or not the development may proceed;
 - (b) any limitations or conditions to be applied to the development;
 - (c) what the general protections in terms of this Act apply, and what formal protections may be applied, to such heritage resources;
 - (d) whether compensatory action is required in respect of any heritage resources damaged or destroyed as a result of development; and
 - (e) whether the appointment of specialists is required as a condition of approval of the proposal.
- (5) A provincial heritage resources authority may not make any decision under subsection (4) with respect to any development with impacts on a heritage resource protected at national level unless it has consulted SAHRA.
- (6) The applicant may appeal against the decision of the provincial heritage resources authority to the MEC, who –
- (a) must consider the views of both parties; and
 - (b) may at his or her discretion –
 - (i) appoint a committee to undertake an independent review of the impact assessment report and the decision of the responsible heritage resources authority;
 - And
 - (ii) consult SAHRA; and
 - (c) must uphold, amend or overturn such decision.
- (7) The provisions of this section do not apply to a development described in subsection (1) affecting any heritage resource formally protected by SAHRA unless the authority concerned decides otherwise.
- (8) 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 impact of such development of 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 Environmental Affairs and Tourism, or the Mineral 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 with regards to such development have been taken into account prior to the granting of the consent.
- (9) The provincial heritage resources authority, with the approval of the MEC, may, by the notice in the Provincial Gazette, exempt from the requirements of this section any place specified in the notice.
- (10) Any person who has complied with the decision of a provincial heritage resources authority in subsection (4) or of the MEC in terms of subsection (6) or other requirements referred to in subsection (8), must be exempted from compliance with all other protections in terms of this part, but any existing heritage agreements made in terms of section 42 continue to apply.

S48. Permits

- (1) A heritage resources authority may prescribe the manner in which an application is made to it for any permit in terms of this Act and other requirements for permit applications, including –
- (a) any particulars or information to be furnished in the application and any documents, drawings, plans, photographs and fees which should accompany the application;
 - (b) minimum qualifications and standards of practice required of persons making application for a permit to perform specified actions in relation to particular categories of protected heritage resources;
 - (c) standards and conditions for the excavation and curation of archaeological and palaeontological objects and material and meteorites recovered by authority of a permit;

- (d) the conditions under which, bore a permit is issued, a financial deposit must be lodged and held in trust for the duration of the permit or such period as the heritage resources authority may specify, and conditions of forfeiture of such deposit;
 - (e) conditions for the temporary export and return of objects under section 32 or section 35;
 - (f) the submission of reports on work done under authority of a permit; and
 - (g) the responsibilities of the heritage resources authority regarding monitoring of work done under authority of a permit.
- (2) On application by any person in the manner prescribed under subsection (1), a heritage resources authority may in its discretion issue to such person a permit to perform such actions at such time and subject to such terms, conditions and restrictions or directions as may be specified in the permit, including a condition –
- (a) that the applicant give security in such form and such amount determined by the heritage resources authority concerned, having regard to the nature and extent of the work referred to in the permit, to ensure the satisfactory completion of such work or the curation of objects and material recovered during the course of the work; or
 - (b) providing for the recycling or deposit in a materials bank of historical building materials; or
 - (c) stipulating that design proposals be revised; or
 - (d) regarding the qualifications and expertise required to perform that actions for which the permit is issued.
- (3) A heritage resources authority may at its discretion, in respect of any heritage resource protected by it in terms of the provisions of Chapter II, by notice in the Gazette or the Provincial Gazette, as the case may be, grant an exemption from the requirement to obtain a permit from it for such activities or class of activities by such persons or class of persons in such circumstances as are specified in the notice.

S49. Appeals

- (1) Regulations by the Minister and the MEC must provide for a system of appeal to the SAHRA Council for a provincial heritage resources council against a decision of a committee or other delegated representative of SAHRA or a provincial heritage resources body authority.
- (2) Anybody wishing to appeal against a decision of the SAHRA Council or the council of a provincial heritage resources authority must notify the Minister or MEC in writing within 30 days. The Minister or MEC, must have due regards to –
- (a) the cultural significance of the heritage resources in question;
 - (b) heritage conservation principles; and
 - (c) any other relevant factor which is brought to its attention by the appellant or the heritage resources authority.

S51. Offences and penalties

- (1) Notwithstanding the provisions of any other law, any person who contravenes –
- (a) sections 27(18), 29(10), 32(13) OR 32(19) is guilty of an offence and liable to a fine or imprisonment or both such fine and imprisonment as set out in item 1 of the Schedule;
 - (b) sections 33(2), 35(4) is guilty of an offence and liable to a fine or imprisonment or both such fine and imprisonment as set out in item 2 of the Schedule;
 - (c) sections 28(3) or 34(1) is guilty of an offence and liable to a fine or imprisonment or both such fine and imprisonment as set out in item 3 of the Schedule;
 - (d) sections 27(22), 32(15), 35(6), or 44(3) is guilty of an offence and liable to a fine or imprisonment or both such fine and imprisonment as set out in item 4 of the Schedule;
 - (e) sections 27(23)(b), 32(17), 35(3) or 51(8) is guilty of an offence and liable to a fine or imprisonment or both such fine and imprisonment as set out in item 5 of the Schedule;
 - (f) sections 32(13), 32(16), 32(20), 35(7)(a), 44(2), 50(5) or 50(12) is guilty of an offence and liable to a fine or imprisonment or both such fine and imprisonment as set out in item 6 of the Schedule.
- (2) The Minister, with the concurrence of the relevant MEC, may prescribe a penalty of a fine or of imprisonment for a period not exceeding six months for any contravention or failure to comply with regulations by heritage resources authorities or by-laws by local authorities.
- (3) The Minister or the MEC, as the case may be, may make regulations in terms of which the magistrate of the district concerned may –

- (a) levy admission of guild fines up to a maximum amount of R10 000 for infringement of the terms of this Act for which such heritage resources authority is responsible; and
 - (b) serve a notice upon a person who is contravening a specified provision of this Act or has not complied with the terms of a permit issued by such authority, imposing a daily fine of R50 for the duration of the contravention, subject to a maximum period of 365 days.
- (4) The Minister may from time to time by regulation adjust the amounts referred to in subsection (3) in order to account for the effect of inflation.
- (5) Any person who-
- (a) fails to provide any information that is required to be given, whether or not on the request of a heritage resources authority, in terms of this Act;
 - (b) for the purpose of obtaining, whether for himself or herself or for any other person, any permit, consent or authority in terms of this Act, makes any statement or representation knowing it to be false or not knowing or believing it to be true;
 - (c) fails to comply with or perform any act contrary to the terms, conditions, restrictions or directions subject to which any permit, consent or authority has been issued to him or her in terms of this Act;
 - (d) obstructs the holder of a permit in terms of this Act in exercising a right granted to him or her by means of such a permit;
 - (e) damages, takes, or removes, or causes to be damaged, taken or removed from a place protected in terms of this Act any badge or sign erected by a heritage authority or a local authority under section 25(2)(j) or section 27(17), any interpretive display or any other property or thing.
 - (f) receives any badge, emblem or any other property or thing unlawfully taken or removed from a place protected in terms of this Act; and
 - (g) within the terms of this Act, commits or attempts to commit any other unlawful act, violates any prohibition or fails to perform any obligation imposed upon him or by its terms, or who counsels, procures, solicits or employs any other person to do so.
- shall be guilty of an offence and upon conviction shall be liable to such maximum penalties, in the form of a fine or imprisonment or both such fine and such imprisonment, as shall be specified in the regulations under subsection (3).
- (6) Any person who believes that there has been an infringement of any provision of this Act, may lay a charge with the South African Police Service or notify a heritage resources authority.
- (7) A magistrate's court shall, notwithstanding the provisions of any other law, be competent to impose any penalty under this Act.
- (8) When any person has been convicted of any contravention of this Act which has resulted in damage or to alteration of a protected heritage resource the court may -
- (a) order such person to put right the result of the act of which he or she was guilty, in the manner so specified and within such period as may be so specified, and upon failure of such person to comply with the terms of such order, order such person to pay to the heritage resources authority responsible for the protection of such resource a sum equivalent to the cost of making good; or
 - (b) when it is of the opinion that such a person is not in a position to make good damage done to a heritage resources by virtue of the offender not being the owner or occupier of a heritage resources or for any other reason, or when it is advised by the heritage resources authority responsible for the protection of such resource that it is unrealistic or undesirable to require that the results of the act be made good, order such person to pay the heritage resources authority a sum equivalent to the cost of making good.
- (9) In addition to other penalties, if the owner of a place has been convicted of an offence in terms of this Act involving the destruction of, or damage to, the place, the Minister on the advice of SAHRA or the MEC on the advice of a provincial heritage resources authority, may serve on the owner an order that no development of such place may be undertaken, except when making good the damage and maintaining the cultural value of the place, or for a period not exceeding 10 years specified in the order.
- (10) Before making the order, the local authority and any person with a registered interest in the land must be given a reasonable period to make submissions on whether the order should be made and for how long.
- (11) An order of no development under subsection (9) attaches to the land and is binding not only on the owner as at the date of the order, but also on any person who becomes an owner of the place while the order remains in force.
- (12) The Minister on the advice of SAHRA, may reconsider an order of no development and may in writing amend or repeal such order.

(13) In any case involving vandalism, and whenever else a court deems it appropriate, community service involving conservation of heritage resources may be substituted for, or instituted in addition to, a fine or imprisonment.

(14) Where a court convicts a person of an offence in terms of this Act, it may order for forfeiture to SAHRA or the provincial heritage resources authority concerned, as the case may be, of a vehicle, craft, equipment or any other thing used or otherwise involved in the committing of the offence.

(15) A vehicle, craft, equipment or other thing forfeited under subsection (14) may be sold or otherwise disposed of as the heritage resources authority concerned deems fit.

APPENDIX B: GRADING SYSTEM

The National Heritage Resources Act 25 of 1999 stipulates the assessment criteria and grading of archaeological sites. The following categories are distinguished in Section 7 of the Act and the South African Heritage Resources Agency:

- National: This site is suggested to be considered of Grade 1 significance and should be nominated as such. Heritage resources with qualities so exceptional that they are of special national significance.
- Provincial: This site is suggested to be considered of Grade II significance and should be nominated as such. Heritage resources which, although forming part of the national estate, can be considered to have special qualities which make them significant within the context of a province or a region
- Local: This site is suggested to be Grade IIIA significance. This site should be retained as a heritage register site (High significance) and so mitigation as part of the development process is not advised.
- Local: This site is suggested to be Grade IIIB significance. It could be mitigated and (part) retained as a heritage register site (High significance).
- 'General' Protection A (Field Rating IV A): This site should be mitigated before destruction (usually High/Medium significance).
- 'General' Protection B (Field Rating IV B): This site should be recorded before destruction (usually Medium significance).
- 'General' Protection C (Field Rating IV C): This site has been sufficiently recorded (in the Phase 1). It requires no further recording before destruction (usually Low significance).

APPENDIX C: IDENTIFICATION OF ARCHAEOLOGICAL FEATURES AND MATERIAL FROM COASTAL AND INLAND AREAS: guidelines and procedures for developers

1. Stone artefacts

Stone artefacts are the most common and identifiable precolonial artefacts occurring on the South Africa landscape. Early Stone Age, Middle Stone Age and Later Stone Age stone artefacts occur in various concentrations on the South Africa landscape. Stone artefacts are very commonly found occurring on flat floodplains in a mostly secondary or disturbed context. However, they can be also be found in an *in situ* or undisturbed context in areas where little human or animal impact happens such as open sites mostly near rocky outcrops, amongst boulders and caves.

These may be difficult for the layman to identify. However, large accumulations of flaked stones which do not appear to have been distributed naturally should be reported. If the stone tools are associated with bone remains, development should be halted immediately and archaeologists notified.



Early Stone Age (ESA) stone artefact
(1.5 million years ago – 250 000 years ago)



Middle Stone Age stone artefacts
(250 000 – 30 000 years ago)



Later Stone Age stone artefacts
(30 000 years ago – historical times)



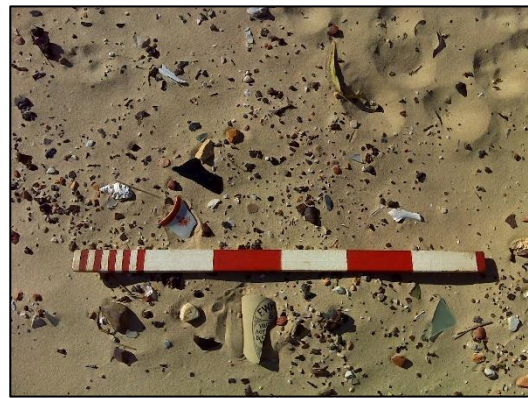
2. Pottery scatters

Pottery scatters can be associated with either Khoekhoen pastoralists, the Nguni first farming communities (referred to as the South African Iron Age) or colonial settlement and can be dated to within the last 2 000 years which occur both at the coast and inland. Pottery associated with Bushmen / hunter-gatherers is generally thought to occur in the Karoo region. The most obvious difference between Khoekhoen and Nguni pottery are the decorations, shapes, sizes and wall thickness. Khoekhoen pottery is generally thinner than the thicker walled and robust Nguni pottery. Colonial ceramics ranges from earthenware, stoneware, porcelain and European glazed and unglazed ceramics.

Precolonial pottery and Colonial ceramics are more easily identifiable by the layman and should be reported.



**Khoekhoen earthenware pottery
(last 2 000 years)**



3. Historical artefacts and features

**Iron Age earthenware pottery
(last 2 000 years)**



Examples of 19th century European ceramics

These are easy to identify and include colonial artefacts (such as ceramics, glass, metal, etc.), foundations of buildings or other construction features and items from domestic and military activities associated with early travellers' encounters on the landscape and European settlement.



**Example of a Fortified Structure
(Fort Double Drift)**



Ruin of stone packed dwelling



Glass artefacts

4. Shell middens (marine and freshwater)

Shell middens can be defined as an accumulation of marine or freshwater shell deposited by past human populations rather than the result of natural or animal activity. Marine shell middens occur all along the coast and may extend within 5 km of the coastline. This area is generally regarded as being archaeologically sensitive. The shells are concentrated in a specific locality above the high-water mark and frequently contain various edible and sometimes inedible marine shells, stone tools, pottery, bone (fish and animal) and occasionally also human remains. Shell middens may be of various sizes and depths, but an accumulation which exceeds 1 m² in extent, should be reported to an archaeologist. Freshwater shell middens occur along river banks and comprise freshwater shell, fish and animal bone, stone tools, pottery, and sometimes human remains.



Examples of the occurrence of coastal shell middens

5. Large stone features

They come in different forms and sizes, but are easy to identify. The most common are roughly circular stone walls (mostly collapsed) and may represent stock enclosures, remains of wind breaks or cooking shelters. Others consist of large piles of stones of different sizes and heights and are known as *isisivane*. They are usually near river and mountain crossings. Their purpose and meaning are not fully understood; however, some are thought to represent burial cairns while others may have symbolic value.



Examples of stone packed features

6. Graves, Burials and Human Skeletal material

Formal historical graves are easily identifiable as they are in most cases fenced off or marked with engraved headstones. Informal stone packed graves in several instances also occur within these fenced off areas.

It is difficult to detect the presence of archaeological human remains on the landscape as these burials, in most cases, are not marked at the surface. Human remains are usually observed when they are exposed through erosion or construction activities for development. Several human remains have been rescued eroding out of the dunes along this coastline and dongas in inland areas. In some instances, packed stones or rocks may indicate the presence of informal pre-colonial burials.

Human remains, whether the complete remains of an individual buried during the past, or scattered human remains resulting from disturbance of the grave, should be reported. In general, the remains are buried in a flexed position on their sides, but are also found buried in a sitting position with a flat stone capping and developers are requested to be on the alert for this.



Exposed human remains eroding out a coastal shell midden.



Exposed human remains eroding out an inland donga

