PHASE 1 ARCHAEOLOGICAL AND CULTURAL IMPACT ASSESSMENT (AIA) FOR THE PROPOSED 10 MW GROOTFONTEIN AGROVOLTAIC SOLAR ENERGY FACILITY (SEF), SAKHISIZWE LOCAL MUNICIPALITY, EASTERN CAPE PROVINCE

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PHASE 1 ARCHAEOLOGICAL AND CULTURAL IMPACT ASSESSMENT (AIA) FOR THE PROPOSED 10 MW GROOTFONTEIN AGROVOLTAIC SOLAR ENERGY FACILITY (SEF), SAKHISIZWE LOCAL MUNICIPALITY, EASTERN CAPE PROVINCE

NOTE: The phase 1 archaeological and cultural impact assessment was conducted as a requirement of the ECPHRA (Eastern Cape Provincial Heritage Authority) and the National Heritage Resources Act 25 of 1999, Section 38(1):

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;

(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 m^2 in extent,

(d) the re-zoning of a site exceeding 10 000 m^2 in extent,

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 a full Phase 1 Archaeological Impact Assessment (AIA). The Eastern Cape Provincial Heritage Resources (ECPHRA) has been the competent authority in the Eastern Cape Province since 2012. All heritage reports must be uploaded to the South African Heritage Information System (SAHRIS) database and submitted to the Eastern Cape Provincial Heritage Resources Authority (ECPHRA) for comment.

DECLARATION OF INDEPENDENCE

Ms Celeste Booth was appointed on a strictly professional basis to conduct the archaeological and cultural heritage assessment for the proposed 10 MW Grootfontein Agrovoltaic Solar Energy Facility (SEF), near Cala, Sakhisizwe Local Municipality, Eastern Cape Province.

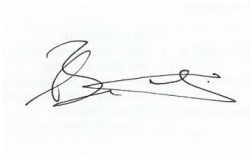
This section confirms a declaration of independence that archaeological heritage specialist, Ms Celeste Booth, does not have and will not have any vested interest (either business, financial, personal or other) in the proposed activity proceeding other than remuneration for work performed in terms of the Amendments to Environmental Impact Assessment Regulations, 2014 as amended.

Ms Celeste Booth further declares that she:

- will act as the independent Specialist in this application;
- will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- will declare that there are no circumstances that may compromise her objectivity in performing such work;
- has expertise in conducting environmental impact assessments, including knowledge of the Act, regulations and any guidelines that have relevance to the proposed activity;
- will comply with the Act, regulations, and all other applicable legislation;
- will take into account, to the extent possible, the matters listed in regulation 8 of the regulations when preparing the application and any report relating to the application;
- has no, and will not engage in, conflicting interests in the undertaking of the activity;
- undertakes to disclose to the applicant and the competent authority all material information in her possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- will ensure that information containing all relevant facts in respect of the application is distributed or made available to interested and affected parties and the public and that participation by interested and

affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced to support the application;

- will ensure that the comments of all interested and affected parties are considered and recorded in reports that are submitted to the competent authority in respect of the application, provided that comments that are made by interested and affected parties in respect of a final report that will be submitted to the competent authority may be attached to the report without further amendment to the report;
- will keep a register of all interested and affected parties that participated in a public participation process; and
- will provide the competent authority with access to all information at her disposal regarding the application, whether such information is favourable to the applicant or not
- confirms that all the particulars furnished by the in this form are true and correct;
- will perform all other obligations as expected from an environmental assessment practitioner in terms of the Regulations; and
- realises that a false declaration is an offence and is punishable in terms of section 24F of the Act.



SUMMARY OF SPECIALIST EXPERTISE

Ms Celeste Booth (BSc Honours: Archaeology) is an archaeologist who has had eighteen (18) years of full-time experience in Cultural Resource Management in the Eastern Cape Province and sections of the Northern Cape and Western Cape Provinces. Ms Booth has conducted several Archaeological Desktop Studies and Phase 1 Archaeological Impact Assessments within the Eastern Cape Province and in the Karoo region across the Eastern Cape, Northern Cape, KwaZulu Natal, and Western Cape Provinces.

EXECUTIVE SUMMARY

Purpose of the Study

The purpose of the study was to conduct a phase 1 archaeological and cultural heritage assessment for the proposed 10 MW Grootfontein Agrovoltaic Solar Energy Facility (SEF), near Cala, Sakhisizwe Local Municipality, Eastern Cape Province.

Brief Summary of Findings

No archaeological heritage materials or other archaeological or historical features were identified within the proposed development footprint. However, subsurface artefacts, cultural deposits, or buried features may still be present despite not being visible during surface inspection. Because both archaeological material and living-heritage values can remain undetected until disturbed, any intrusive ground-altering activities carry an inherent risk of impacting culturally or historically sensitive resources. It is therefore essential that the prescribed chance-find procedures are strictly implemented should any such material or culturally significant indicators be encountered during construction.

Recommendations and Mitigation

The overall area is considered as having a *low archaeological and cultural heritage significance.* The following recommendations and mitigation measures must be implemented prior to the commencement of the construction and during the construction activities once all of the pre-construction mitigation measures have been implemented:

1. Include Heritage Awareness in Contractor Induction:

Contractor teams must be briefed on heritage sensitivities, chance find procedures, and reporting requirements. Heritage awareness should form part of environmental induction and ongoing site compliance monitoring.

2. Implementation of a Chance-Find Procedure (see Appendix D):

A formal chance-find procedure must be implemented for all contractors. If human remains, grave structures, artefacts, or culturally significant features are uncovered, work must stop immediately and ECPHRA must be notified. The procedure must be included in contractor induction training.

3. Documentation and Reporting:

All heritage-related actions, including public participation, consultation, monitoring, chance-find responses, and assessments must be documented and included in the final heritage compliance report submitted to ECPHRA.

4. Management of Pre-Colonial Material and Human Remains:

If concentrations of pre-colonial archaeological heritage material including subsurface dense artefact accumulations, associated cultural deposits, or human remains such as graves or burials are uncovered during construction, all work must cease immediately and the discovery must be reported without delay to the Eastern Cape Provincial Heritage Resources Agency (ECPHRA) at 043 492 1370. No further disturbance may occur until the heritage authority has provided guidance.

Should ECPHRA require further investigation, Phase 2 mitigation may be undertaken in the form of controlled test-pitting, sampling, or systematic excavation and collection of the archaeological or heritage material. The purpose of Phase 2 mitigation is to establish the contextual status, extent, and significance of the site and, where appropriate, to remove the archaeological deposit prior to the continuation of development activities. All costs associated with Phase 2 mitigation, including specialist fees, excavation, documentation, and reporting, will be the responsibility of the developer.

1 INTRODUCTION

1.1 Background Information (courtesy of Abantu Environmental)

iLinge Energy Automation (Pty) Ltd proposes the development of the Grootfontein Agrovoltaic Solar Energy Facility (SEF). The SEF is a grid-connected photovoltaic (PV) power plant designed to generate up to 10 MW of clean electricity at the point of injection into the Eskom distribution network. The project incorporates an agrovoltaic design philosophy, allowing for compatible agricultural activities beneath and between the PV array rows.

The development will consist of the following key components:

Infrastructure Element	Description
SEF	
PV Array Field	11.85 MWdc enclosed within the blue boundary polygon. Single-axis horizontal E-W tracker configuration.
Total Number of Modules	17 793 units
Tracker Type	Single-axis, horizontal East-West axis tracking
Tracker Tilt Range	-/+ 55° from horizontal
Total Module Area	**55 271 m² (5.53 hectares development footprint)**
Total Cell Area	51 788 m²
Associated infrastructure	
O&M Building	Located at the southern edge of the array field, adjacent to the IPP Switching Station. Houses inverter control, SCADA, and maintenance facilities.
IPP Switching Station	On-site IPP-owned 22 kV switching station providing grid isolation, protection and metering for the SEF.
Eskom Macangceni SS	Eskom 22 kV switching station located at the site access road. Point of Common Coupling (PCC) for the project.
Internal Access Road	**Gravel internal access road (5 m wide) circling the site for maintenance vehicle access and security patrol.**
Agrovoltaic Buffer Zone	Clearance maintained between rows to allow compatible agricultural activities (grazing, low crops).

The following civil and structural works are associated with the Grootfontein SEF:

- Site clearing and grading limited to access roads and building pads to minimise land disturbance;
- Driven or screw-pile foundations for single-axis tracker structures (no concrete excavations required for array structure);
- Concrete strip or pad foundations for the O&M building and IPP Switching Station;
- Gravel internal access road (5 m wide) encircling the site perimeter for maintenance and security access;
- Cable trench excavation for underground 22 kV MV cable route from array to IPP SS;
- Stormwater drainage channels at site perimeter and access road interfaces; and
- Security perimeter fencing (2.4 m palisade or electrified game fence) with access control gate.

1.2 Applicant

iLinge Energy Automation (Pty) Ltd

1.3 Environmental Assessment Practitioner (EAP)

Abantu Environmental Services
41 Avon Place
Overbaakens

Gqeberha
6070 Cell: 078 207 8278
Landline: 041 582 2648
Contact person: Mr Sive Mlamla
Contact emails: info@abantuenvironmental.co.za

2 SCOPE OF WORK AND TERMS OF REFERENCE

The purpose of the study was to conduct a phase 1 archaeological and cultural heritage assessment for the proposed 10 MW Grootfontein Agrovoltaic Solar Energy Facility (SEF), near Cala, Sakhisizwe Local Municipality, Eastern Cape Province.

The survey was conducted to:

- Identify and map possible heritage sites and occurrences using published and database resources;
- Provide a description of the archaeology and cultural heritage of the site and identify and map any sites of archaeology or cultural significance that may be impacted by the proposed project;
- Assess the sensitivity and conservation significance of any sites of archaeological or cultural heritage significance affected by the proposed project;
- Identify and assess the significance of the potential impacts of the proposed project on archaeological and cultural heritage;
- Make recommendations on the protection and maintenance of any significant cultural heritage and/or archaeological sites that may occur on site;
- Identify practicable mitigation measures to reduce negative impacts on the archaeological resources and indicate how these can be incorporated into the construction and management of the proposed project;
- Provide guidance for the requirement of any permits from the Eastern Cape Provincial Heritage Resources Authority (ECPHRA) that might become necessary.

Archaeological and historical material remains, features, and sites are 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.

3 HERITAGE LEGISLATIVE AND POLICY FRAMEWORK

The phase 1 archaeological and cultural impact assessment was conducted as a requirement of the ECPHRA (Eastern Cape Provincial Heritage Authority) and National Heritage Resources Act 25 of 1999, Section 38 (1)(8):

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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 a full Phase 1 Archaeological Impact Assessment (AIA). The Eastern Cape Provincial Heritage Resources (ECPHRA) has been the competent authority in the Eastern Cape Province since 2012. All heritage reports must be uploaded to the South African Heritage Information System (SAHRIS) and submitted to the Eastern Cape Provincial Heritage Resources Authority (ECPHRA) for comment.

4. ARCHAEOLOGICAL BACKGROUND

Little systematic archaeological research has been conducted within the immediate area of the proposed 10 MW Grootfontein Agrovoltaic Solar Energy Facility (SEF), near Cala, Sakhisizwe Local Municipality, Eastern Cape Province.

Several relevant archaeological and heritage impact assessments have been conducted within the wider region. These impact assessments have identified several Early, Middle, and Later Stone Age artefact scatters and sites, historical artefacts and built environment structures, as well as evidence of Iron Age agropastoralist occupation and/or interaction by the presence of broken earthenware pot sherds and associated material culture and settlement patterns. Rock art paintings are prolific within the surrounding mountains.

4.1 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 Olduwan Industry originating from stone artefacts recorded at Olduvai Gorge, Tanzania. The Acheulian Industry, the predominant southern African Early Stone Age Industry, replaced the Olduwan 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 Kariega (formerly) Uitenhage. 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 former Transkei and Ciskei regions and typically occur on floodplains of perennial rivers and along drainage lines and water courses.

Museum collections contain mixed assemblages of handaxes and other artefacts attributed to the Early Stone Age. According to Derricourt (1977), sites of convincing Early Stone Age date are distributed across much of the former Ciskei and are well represented in the former Transkei districts of Kentani, Gcuwa (formerly Butterworth), Nqamakwe, St Mark's, Engcobo, Matatiele, Mount Frere, Mount Ayliff, Bizana, Dutywa, Lusikisiki, Mount Currie and Mthatha. This regional pattern underscores the widespread presence of Early Stone Age occupation across the eastern seaboard and interior river systems.

Derricourt (1977) notes that ESA and MSA coastal finds are frequently isolated and are hard to attribute satisfactorily to a cultural complex. A widely exposed and eroding donga area of early dunes inland from Nxaxo Mouth, Kentani, as well as a site near Nxaxo Mouth identified by Dr B. Lock contained assemblages of mixed ESA and MSA and included utilised and irregular flakes, a rough handaxe and an unfinished handaxe. Derricourt (1973) notes that museum material and field work confirm the presence of early settlement in the region. Important Early Stone Age (ESA) sites are known from a number of former 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. 500 000 to 50 000 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 Khowa (formerly Elliot) (Smith, A.B 2010).

4.2 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 facetted 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 Makhanda (formerly 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 former Transkei region demonstrated that Middle Stone Age (MSA) material is widely distributed across alluvial deposits at varying depths. Laidler (1934) records that MacLouglin had identified numerous such occurrences, and further notes that at Lutuli, MSA flakes were found both on the surface of deeply eroded rock stream beds and embedded within conglomerate and clay deposits. These sediments formed during a period of river-bed silting, which banked up access to caves and rock surfaces later inhabited by Later Stone Age hunter-gatherers. Hill-wash deposits across many slopes in the region similarly contain MSA artefacts. A cave in the Ngcisininde Valley near Tsomo, excavated by Laidler (1937), yielded MSA implements associated with the Tsolo period of boulder and silt accumulation, further illustrating the depth and variability of Middle Stone Age occupation across the landscape.

Further research by Laidler at an open site near a cave at Ezolo (1934) yielded a Middle Stone Age assemblage that was tentatively attributed to the Fauresmith Industry, a transitional techno-complex between the Early and Middle Stone Ages. The Ezolo assemblage included lance heads as well as a haematite pencil and a yellow ochre pencil, indicating both functional and possibly symbolic use of materials. Derricourt (1977) further notes that Laidler (1935) recorded Middle Stone Age artefacts at a site situated between the Jujuga and Ngadla Rivers in the Willowvale area, reinforcing the widespread distribution of MSA occurrences across the former Transkei landscape.

Derricourt (1973) notes that Middle Stone Age (MSA) industries occur widely as surface finds in the former Ciskei and Transkei. The period, ranging from about 50 000 to 12 000 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 Nqanqarhu (formerly Maclear),

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-Khowa (formerly Elliot)-Ugie-Ekhepini (formerly Barkley East) area which was usually well-known for its painted sites. The only excavations that were previously carried out were at Belleview (Drakensburg), Moshebi's Shelter and Sehonghong (in eastern Lesotho) and Merino Walk within the Ekhepini (formerly Barkley East) region. Below the escarpment two rock shelters were excavated at Bonawe and Te Vrede (Khowa [formerly 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 expect 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 (MSA) stone artefacts are also known to occur within the wider surrounding region, where they have been documented in several archaeological and heritage impact assessments. According to CRM assessments accessed via the South African Heritage Resources Authority (SAHRIS) database, MSA artefacts have been recorded in the Indwe area (Smith 2010; Booth 2020), Dordrecht (Anderson 2019), Khowa [formerly Elliot] and Cala (Van Ryneveld 2011), as well as Cofimvaba and Ngcobo (Van Ryneveld). These assemblages typically comprise flakes, blades and cores manufactured

predominantly from quartzite, and occur as surface scatters, reflecting secondary-context deposition and the widespread distribution of Middle Stone Age material across the northeastern Cape landscape.

4.3 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 Makhanda (formerly 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).

According to Derricourt (1977) open Later Stone Age sites in the former 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 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.

Early Later Stone Age excavations carried out within the wider region include Blythswood Cave situated near Blythswood Mission near Nqamakwe. A few stone artefacts, a glass, bead and bottle fragments, ostrich eggshell fragments, a bone tool fragment and a fine fabric potsherd where uncovered. Blythswood B contained crude paintings in a poor condition. Other excavated sites near Nqamakwe include Ngcisininde and Rwantsana, Izolo. Excavations were carried out Ngcisinde, also referred to as Ezibugwini by Laidler (1937) which contains both LSA and later rock art styles. Two shelters were excavated by Laidler (1933) at Nqamakwe and included Later Stone Age Artefacts and some pottery. McLoughlin excavated material from Rwantsana Cave, Izolo and includes thin potsherds without temper, bone and ostrich eggshell fragments, and stone artefacts.

Excavations conducted by Laidler (1937) at a cave in the Ngcisininde Valley near Tsomo recovered a diverse assemblage of cultural material, including worked clay, bone, shell (both ostrich eggshell and marine), and stone artefacts. The worked stone consisted almost entirely of lydianite, with chalcedonous material being scarce and represented only by a few chips in the upper layers of the deposit. The stratigraphy indicates that the shelter experienced varied and intermittent occupations, reflected in the differing pottery types and the presence of snail shells within otherwise sterile strata. The range of material culture suggests that the site was utilised at different times by Iron Age agropastoralist communities, Khoekhoen herders, and San hunter-gatherers, demonstrating its long-term significance within the broader cultural landscape.

According to Derricourt (1977) open Later Stone Age sites in the former 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 raw material used for manufacture. 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 former Ciskei and in river valleys of the former 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 Khowa (formerly Elliot) and Ugie (Prins & Hall 2010) and Later Stone Age oral histories within the Ngcobo area (Van Ryneveld).

4.4 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 Komani (formerly 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 has been documented at several of the sites mentioned above, forming an important component of the ceramic sequence predating the arrival of Iron Age farming communities. Pottery from Swaziland and the north-eastern Cape dates to between 2 100 and 2 200 years BP, and may be even earlier, predating the arrival of agriculturalist groups by approximately 400 years. No sheep remains have been found in association with this pottery, and its stylistic attributes differ markedly from those of later Iron Age ceramics. Mean wall thicknesses of 7–8 mm have been recorded at Driel Shelter, Clarke's Shelter and Mhlwazini Cave in the northern Drakensberg, with dates ranging between 2 160 ± 50 BP and 1 775 ± 40 BP. Similar dates have been obtained at Collingham Shelter and Good Hope Shelter (2 160 BP – 1 770 BP) and at Moshebi's Shelter in eastern Lesotho (2 180 ± 45 BP). In the Ekhephini (formerly Barkley East) district, pre-agriculturalist pottery documented at Colwinton Shelter and Bonawe Shelter ranges between 2 250 ± 80 BP and 920 ± 50 BP (Mazel 1992), indicating a long and regionally varied ceramic tradition preceding the establishment of Iron Age agropastoralist settlement.

4.5 Last 2 000 Years - The Iron Age

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 owner-ship and their political organization was slightly more hierarchical than that of the Khoekhoen.

Extensive research on the Iron Age across southern Africa has produced well-established chronological, typological and settlement frameworks that underpin current interpretations of Iron Age cultural development (Huffman 2007). The Iron Age sequence is defined primarily through ceramic typology, with phases distinguished by vessel profile, decoration motif and the placement of these motifs. These ceramic traditions provide a reliable basis for identifying cultural affiliations, reconstructing settlement patterns and understanding the economic and social organisation of early agropastoralist communities.

Mackenzie notes that the earliest evidence for Iron Age settlement in the area formerly referred to as the Transkei dates to approximately AD 700 (Cronin 1982). Derricourt (1974) suggests that early Iron Age farming communities were concentrated mainly in the coastal zone between the Umzimvubu and Kei Rivers, while the inland areas and interior basins remained the domain of nomadic San hunter-gatherers. The Nguni-speaking communities who inhabit the former Transkei today may be descendants of these early Iron Age farmers, although Wilson (1969) cautions that their ancestors may alternatively

have moved southwards into the region from Natal. This pattern reflects a dynamic cultural landscape shaped by migration, interaction, and shifting settlement zones over the last two millennia.

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 Komani (formerly 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. Earlier investigations into the Early Iron Age in the former 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 Qumrha (formerly Khomga) (Binneman 1996), 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 areas 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).

Binneman (1992) supported this view noting that the southerly limit of Early Iron Age settlement was thought to be along the former 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 former Transkei into the former 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.

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).

4.6 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 Nqanqarhu (formerly Maclear), Tsolo, Ekhephini (formerly 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 a 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 Khowa (formerly 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, as recorded in the Albany Museum database; however, the exact coordinates were not captured and therefore remain unknown. The site was originally documented by Hewitt and Stapleton in 1928, and tracings and photographs of the paintings are preserved in the museum archive. St Gabriel's Rock Shelter, also recorded by Hewitt and Stapleton in 1928, is situated within the Cala region. Although its precise location is likewise unconfirmed, photographic records of the shelter and its paintings are available. These archival materials provide valuable evidence of the region's rock art heritage despite the absence of verified site coordinates.

The use of rock art sites as sacred and culturally significant places continues in contemporary society, particularly within the context of traditional African rituals. In some communities, the pigments of the paintings are still regarded as possessing spiritual potency, including healing properties and associations with rainmaking. Pinto et al. (2017) note that the rock shelter MAF 1 in the Matatiele area continues to function as a traditional

initiation school for boys, with annual rites held at the site. These ongoing practices demonstrate the enduring cultural relevance of rock art sites and highlight their importance as living heritage spaces within the broader landscape.

During the 1980's a valuable finding was made of a Stone Age manufacturing site on the Farm Crossmaloof. Radiocarbon dates of bone dated the site to be a few thousand years old. Rock art in the area occurs on several farms.

Derricourt (1977) notes that rock art is largely absent on the coastward side of the Amathole Mountain Range, with most sites occurring in the 'midlands' zone inland of the Amatholes and along the Kei River. He also records rare extensions of this distribution into the Tsolo and Mthatha districts. Early documentation of painted sites within the wider region includes Blythswood B near Nqamakwe and Kambi near Mthatha, both recorded as rock-art localities in the early twentieth-century surveys.

4.7 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).

4.8 Historical Background: Cala and the Xhalanga District

Cala and the wider Xhalanga district form part of the historical landscape of the northeastern Cape, reflecting layered histories of abaThembu migration, colonial land administration, frontier infrastructure, political contestation, and evolving rural governance. Their heritage character is shaped by nineteenth-century settlement patterns, twentieth-century political mobilisation, and ongoing debates around land, authority, and identity (Ntsebeza 2006)

Xhalanga was established in the mid-nineteenth century as one of two districts forming what colonial administrators termed Emigrant Thembuland, the other being Southeyville. The district originated when four abaThembu chiefs left Glen Grey in 1865 (Ntsebeza 2006: 27). This movement was part of a longer historical trajectory: abaThembu groups had relocated during the Mfecane upheavals of the 1820s and subsequent conflicts with

amaBhaca and amaMpondo, after previously occupying land between the Bashee and Umzimvubu Rivers (Ntsebeza 2006: 27–28).

By 1852, the Cape colonial government settled abaThembu migrants in Glen Grey and Indwe, an area labelled the "Tambookie Location" by colonial officials (Ntsebeza 2006: 28). The establishment of Xhalanga in 1865 therefore represented a continuation of colonial land-allocation strategies aimed at structuring African settlement under administrative oversight.

By the early 1870s, Xhalanga's population was socially and politically diverse. Although clan identities such as amaGcina and amaMfengu were present, the most significant division was between the "school people"—Western-educated residents whom colonial administrators labelled "civilised natives"—and the "red people", who adhered to customary practices and traditional authority structures. Magistrate Cumming's 1879 description emphasised the "school people's" perceived independence from chiefs, their material prosperity, and their alignment with colonial notions of civilisation (Ntsebeza 2006: 29). These internal divisions shaped local politics, land tenure arrangements, and governance disputes well into the twentieth century, influencing how authority was negotiated and contested within the district.

The history of Xhalanga is deeply intertwined with the evolution of traditional authority under colonial rule. Ntsebeza's (2006) *Democracy Compromised* provides a detailed account of how chiefs in Xhalanga derived authority through state support, how this authority was contested, and how land allocation became a central arena of political struggle. Between 1883 and 1924, colonial administrators attempted to regulate land tenure through district councils, often undermining hereditary leaders. This period saw conflicts over land rights, occupation, and the balance between traditional authority and state-appointed structures (Ntsebeza 2006: 45–60).

The subsequent District Council era intensified these tensions. Chiefs became increasingly dependent on state recognition, while Western-educated African elites challenged chiefly authority and advocated for more democratic forms of rural governance (Ntsebeza 2006: 61–85). Under apartheid, Xhalanga experienced the imposition of Bantu Authorities, which Ntsebeza (2006: 86–120) characterises as a form of "decentralised despotism" that entrenched state-controlled chieftaincy and limited community autonomy. In the post-1994 period, traditional leadership structures were revived, with chiefs regaining influence in land allocation and rural governance under democratic reforms—often generating renewed tensions around authority, legitimacy, and community representation (Ntsebeza 2006: 121–150).

Cala, located on the Tsomo River within the Sakhisizwe Local Municipality, developed as a small frontier town west of the Drakensberg. The name *Cala* derives from isiXhosa meaning "adjacent to", referring to its position relative to the mountain range (South African History Online 2024). The town retains several colonial-era structures, most

notably the Cala Stone Bridge, designed by master bridge builder Joseph Newey and completed in 1890 (South African History Online 2024). The bridge served as the main road crossing until 2008 and remains a significant heritage landmark. Other surviving features include colonial buildings and a dilapidated Victorian jail, typical of Eastern Cape frontier towns and reflective of nineteenth-century administrative and infrastructural development.

Cala's modern history is marked by political mobilisation and resistance, particularly during the apartheid era. On 24 September 1985, Batandwa Ndondo, a student leader expelled from the University of Transkei for organising a Sharpeville commemoration, was arrested at his home in Cala and later shot and killed by security forces (South African History Online 2024). His death profoundly shaped local political consciousness and became a symbol of resistance within the region. In 1998, the Methodist-established Matanzima Secondary School was renamed Batandwa Ndondo Senior Secondary School in his honour, reflecting the enduring legacy of his activism and the community's recognition of his role in the struggle against apartheid (South African History Online 2024).

The combined history of Cala and Xhalanga contributes to a rich heritage landscape characterised by:

- Nineteenth-century abaThembu settlement patterns and colonial land allocation;
- Frontier-era infrastructure, including the Cala Stone Bridge;
- Deep social divisions between Western-educated communities and traditionalist groups;
- Complex governance histories, including district councils, Bantu Authorities, and post-1994 traditional leadership reforms;
- Political resistance, exemplified by the death of Batandwa Ndondo;
- Cultural continuity, expressed through clan identities, customary practices, and community memory.

These elements provide essential context for heritage assessments, land-use planning, and community engagement in the Cala/Xhalanga region.

Cala and Xhalanga's historical trajectory reflects broader themes in Eastern Cape history: migration, colonial intervention, contested authority, and political struggle. Their heritage significance lies not only in physical structures and archaeological landscapes but also in the social, political, and cultural narratives that continue to shape community identity.

4.8.1 History of Cala Pass

Cala Pass is a high-altitude mountain pass situated on the R410 between Cala and Khowa (formerly Elliot), traversing a deep cleft in the Stormberg Mountains and forming part of a chain of passes linking Komani (formerly Queenstown) to the highland districts around Khowa (formerly Elliot). The pass rises 335 m over 7.3 km to a summit of 1 517 m above sea level, reflecting its long-standing role as a steep but strategically important route through the Stormberg landscape (Mountain Passes South Africa n.d.).

Although Cala Pass itself is a modern engineered road, its historical significance is tied to the broader Cala region's role in frontier administration and military defence. During the Anglo-Boer War (1899–1902), Cala formed a key defensive position for the native territories of Tembuland. British authorities feared Boer incursions into these fertile districts, which could have destabilised the region and provoked wider conflict. In response, Sir Henry Elliot organised local levies in December 1899, deploying a Tembuland field force of 500 men between Cala and Indwe to secure the frontier and deter Boer movement from the Wodehouse and Ekhephini (formerly Barkly East) borders (Cronin 1982). These defensive measures proved effective: Boer commandos avoided entering the native districts, treating them as neutral territory, and the strengthened British presence prevented unrest among local communities and discouraged Dutch farmers on the northern fringes from joining the republican cause (Cronin 1982).

In the broader regional context, Cala Pass forms part of a long-standing movement corridor between the interior basins and the Drakensberg foothills, later formalised through colonial road-building and modern infrastructure upgrades. Today, the pass remains an important transport link known for its dramatic scenery and challenging weather conditions, including winter snowfalls, summer electrical storms, and frequent mountain mists (Mountain Passes South Africa n.d.).

5 DESCRIPTION OF THE PROPERTY

5.1 Location data

The proposed development area is situated at the summit of the Cala Pass (R410 regional road) on the Farm Grootfontein 1121, between the towns of Cala and Khowa (formerly Elliot). The site can be accessed from the R410.

5.2 Maps

The mapping suite illustrates the location, landscape context and survey coverage of the proposed 10 MW Grootfontein Agrovoltaic Solar Energy Facility (SEF), near Cala in the Sakhisizwe Local Municipality.

Figures 1 and 2 present both modern (2015) and historical (1966) 1:50 000 topographic maps (sheets 3127BC Kuzikonkwane and 3127BD Elliot), showing the SEF footprint in relation to regional terrain, drainage lines and transport routes.

Figures 3 and 4 provide Google Earth-generated maps depicting the SEF location and its proximity to surrounding towns and villages.

Figure 5 offers a close-up view of the SEF area situated along Cala Pass, while Figure 6 illustrates the general landscape setting of the proposed development.

Figure 7 displays the conceptual design layout of the 10 MW facility (courtesy of Abantu Environmental), and Figure 8 provides an additional close-up of the proposed SEF area.

Figure 9 shows the survey tracks recorded during the field assessment.

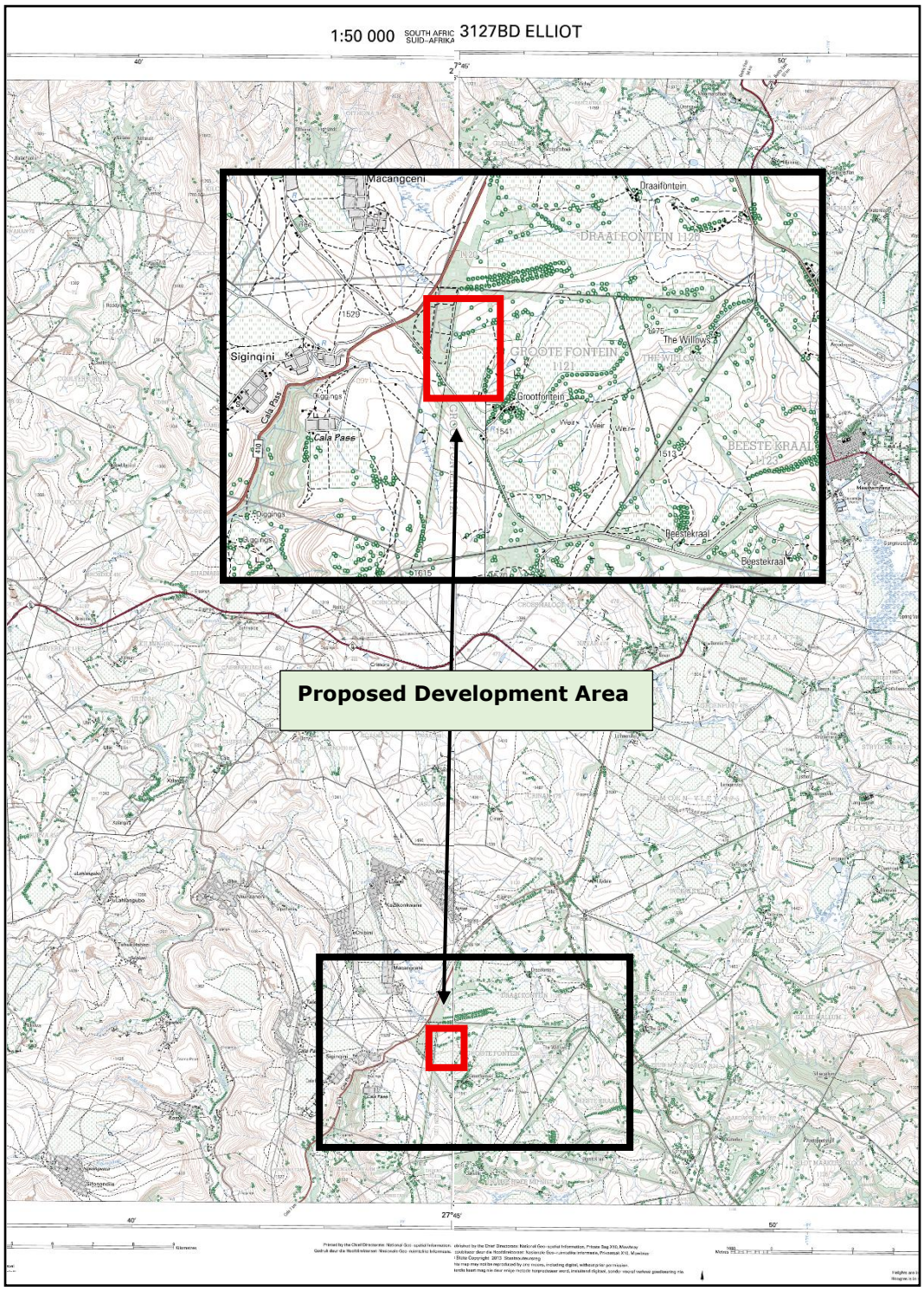


Figure 1. 1:50 000 topographic maps 3127BC KUZIKONKWANE and 3127BD ELLIOT showing the location of the proposed 10 MW Grootfontein Agrovoltaic Solar Energy Facility (SEF), near Cala, Sakhisizwe Local Municipality, Eastern Cape Province.

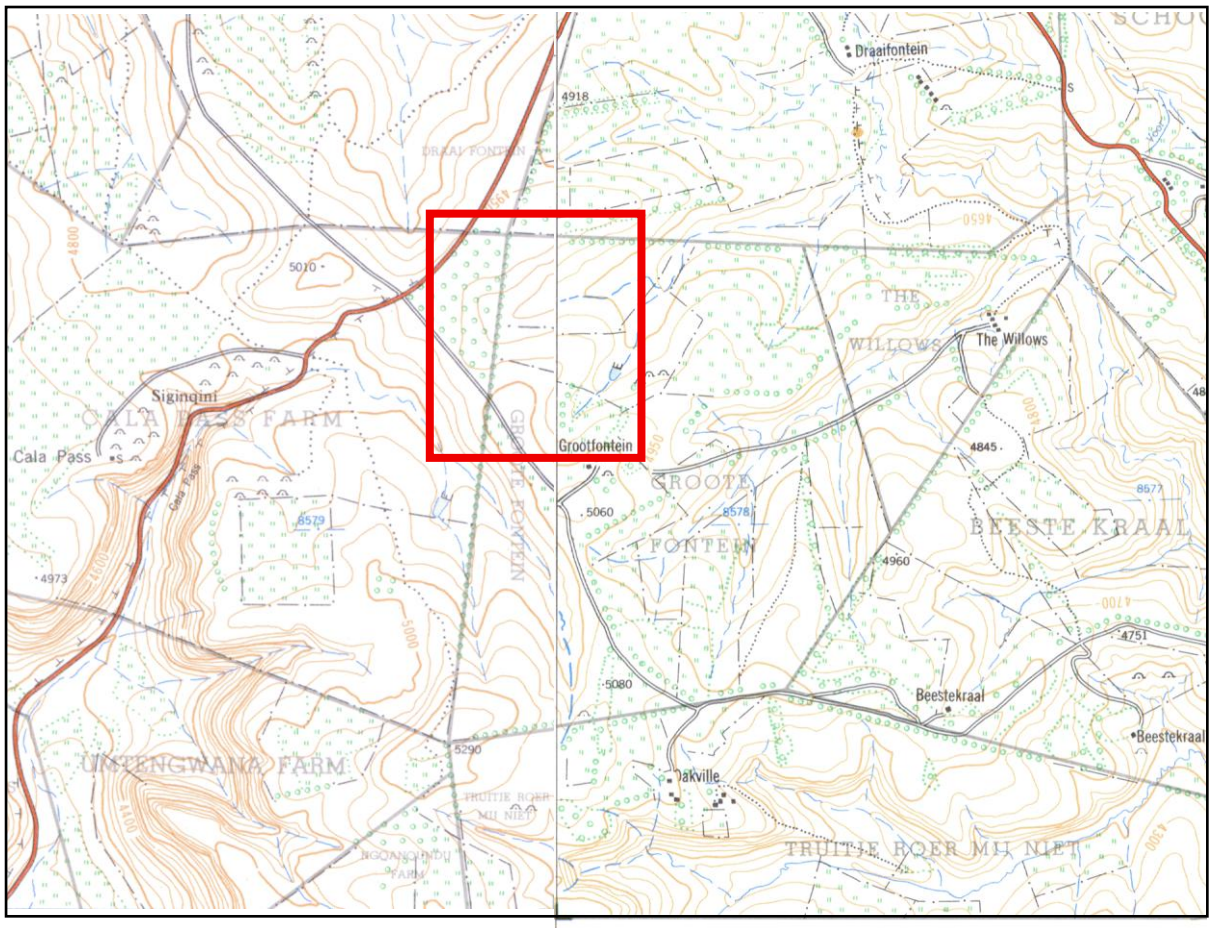


Figure 2. Historical 1:50 000 topographic maps 3127BC KUZIKONKWANE (1966) and 3127BD ELLIOT (1966) showing the location of the proposed 10 MW Grootfontein Agrovoltaic Solar Energy Facility (SEF), near Cala, Sakhisizwe Local Municipality, Eastern Cape Province.

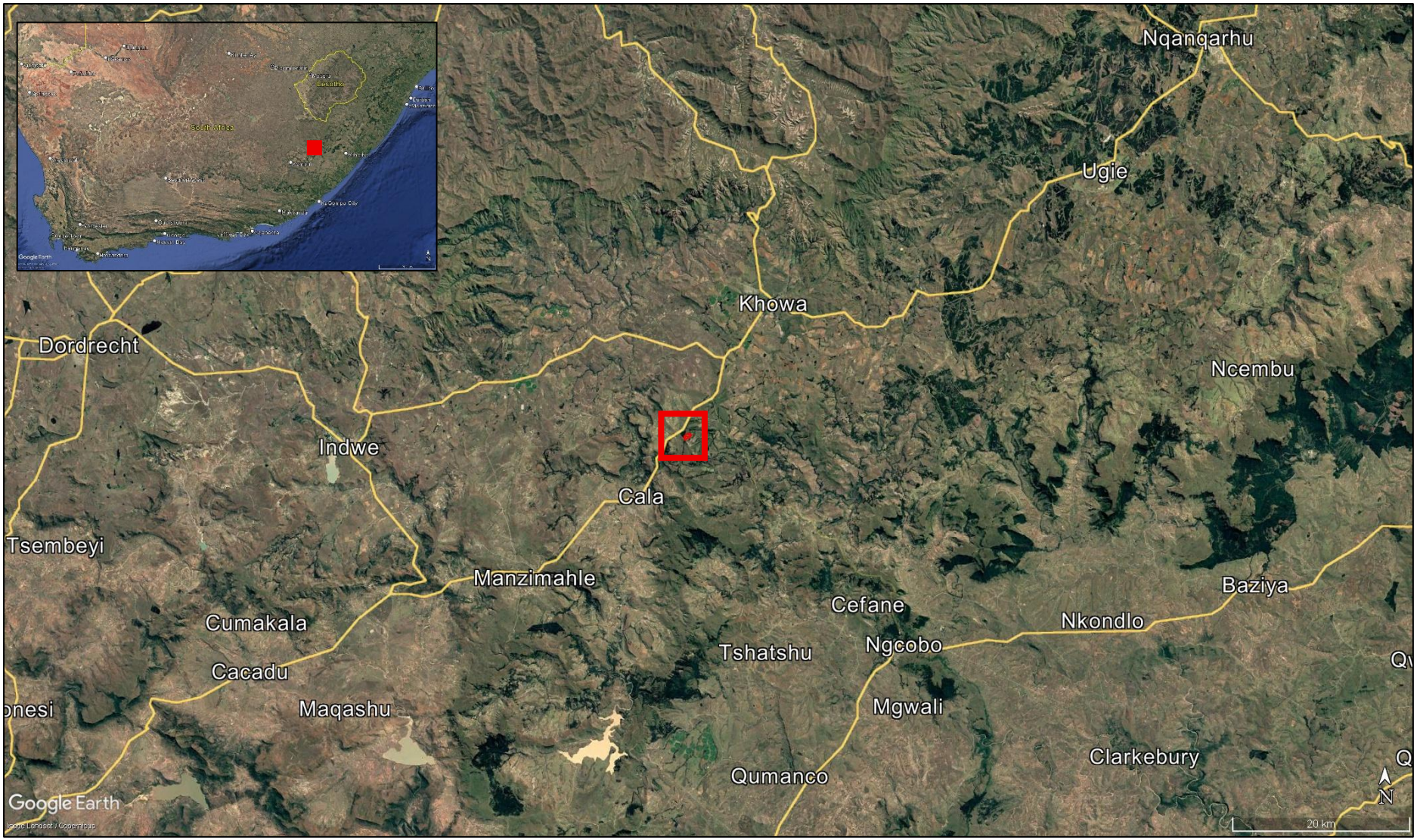


Figure 3. Google Earth generated map of the location of the proposed 10 MW Grootfontein Agrovoltaic Solar Energy Facility (SEF), near Cala, Sakhisizwe Local Municipality, Eastern Cape Province.

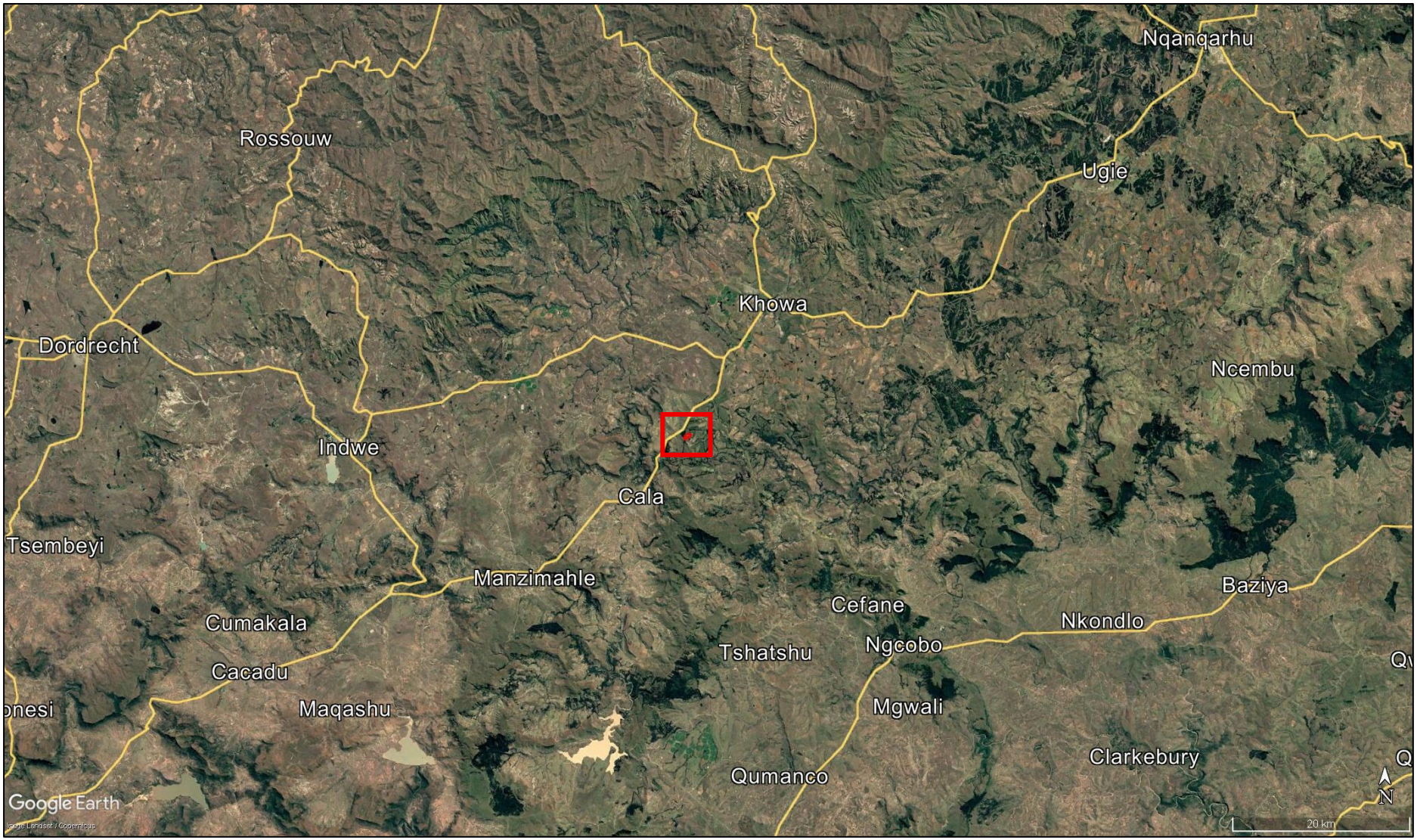


Figure 4. Google Earth generated map of the proposed 10 MW Grootfontein Agrovoltaic Solar Energy Facility (SEF), near Cala, showing the surrounding towns and villages.

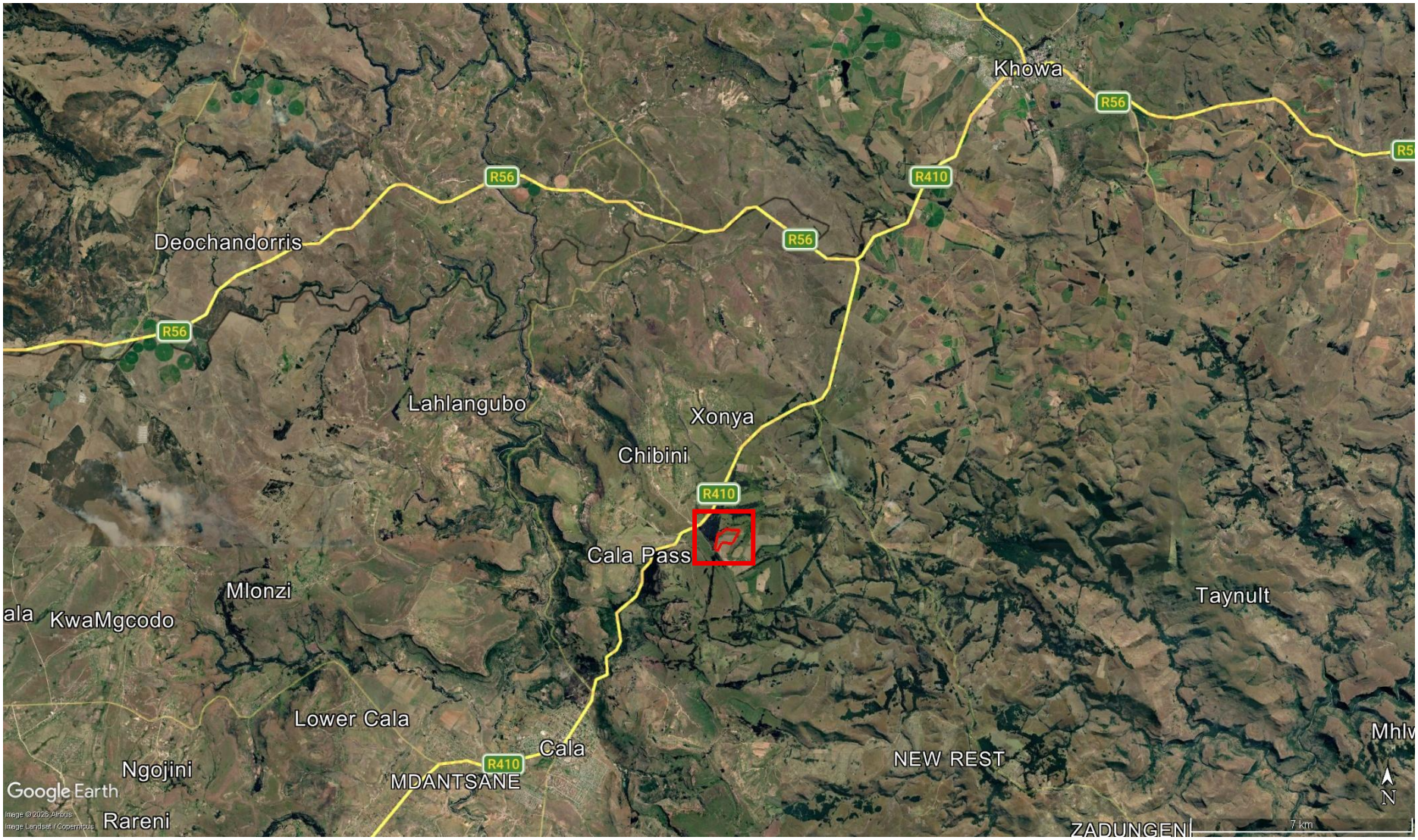


Figure 5. Close-up view of the proposed 10 MW Grootfontein Agrovoltaic Solar Energy Facility (SEF) situated along the Cala Pass, near Cala.

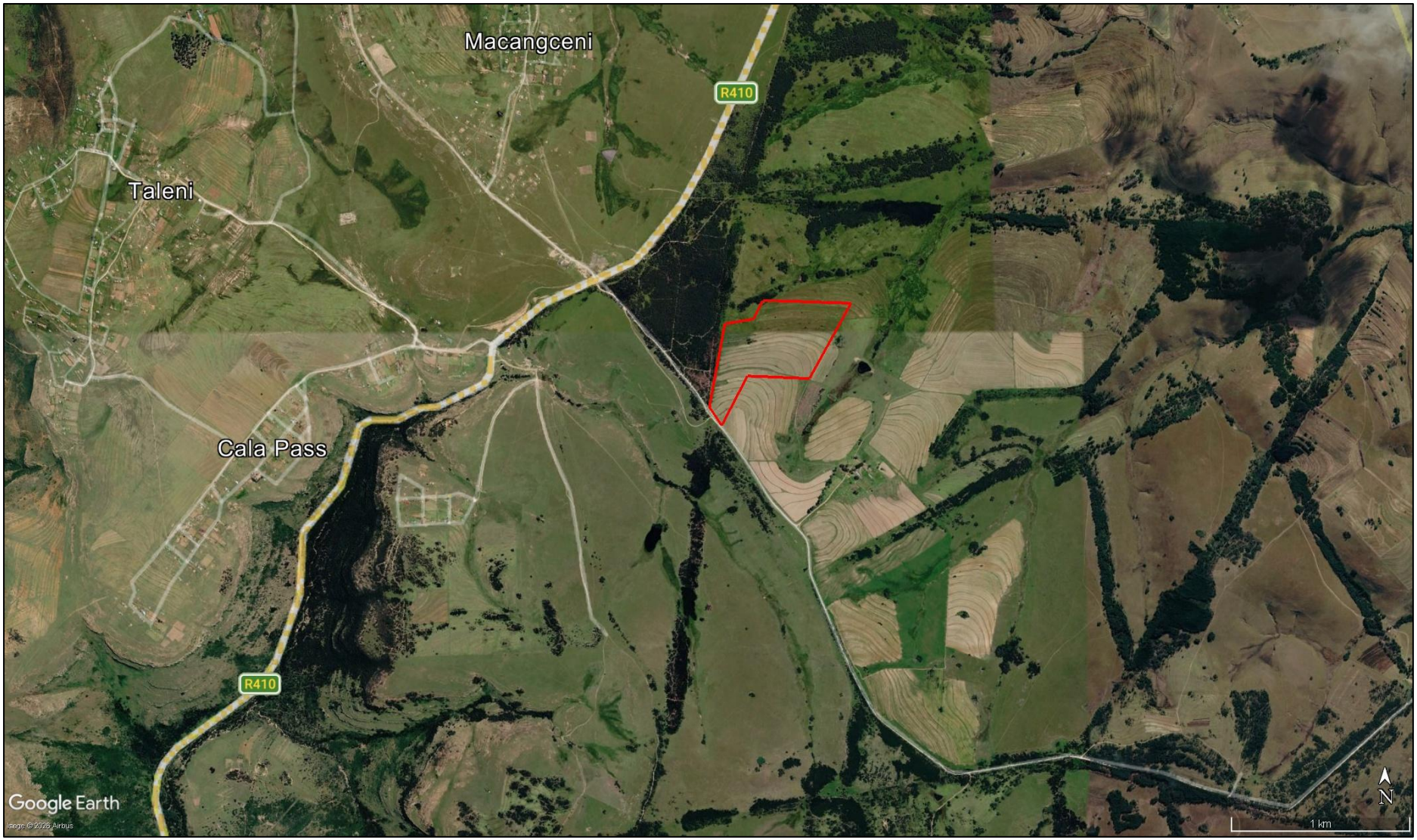


Figure 6. Close-up view showing the general landscape surrounding the area proposed for the 10 MW Grootfontein Agrovoltaic Solar Energy Facility (SEF), near Cala.

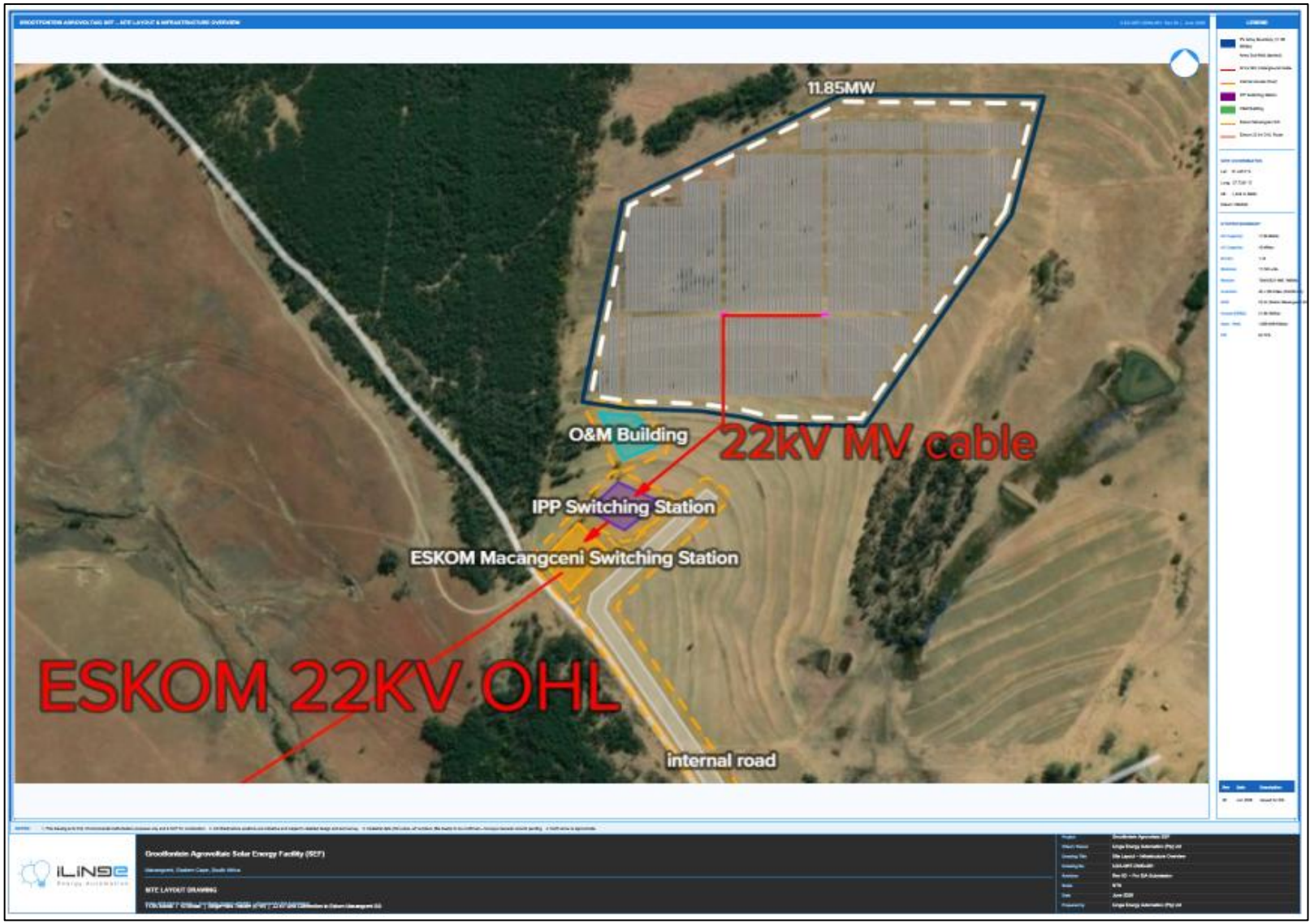


Figure 7. View of the conceptual design layout of the proposed 10 MW Grootfontein Agrovoltaic Solar Energy Facility (SEF) (courtesy of Abantu Environmental).



Figure 8. Close-up view showing the proposed 10 MW Grootfontein Agrovoltaic Solar Energy Facility (SEF), near Cala.

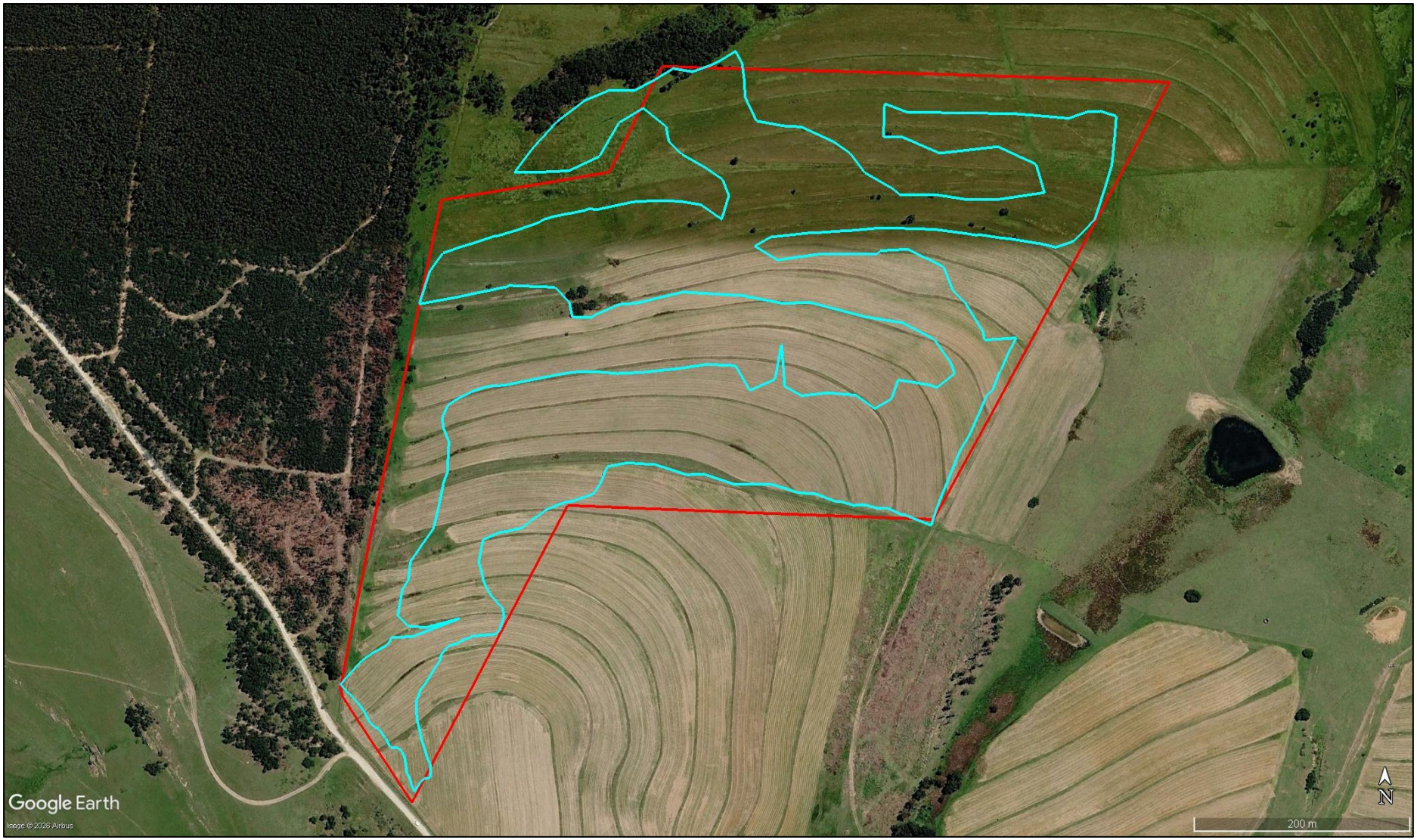


Figure 9. View of the survey tracks recorded during the field assessment.

6 ARCHAEOLOGICAL AND CULTURAL HERITAGE INVESTIGATION

6.1 Methodology

A literature review was conducted prior to the field survey to establish the potential archaeological and cultural heritage sites that may be encountered within the proposed area and provide insight into the archaeological background of the wider region.

The area was surveyed on foot by the author of this report accompanied by a field assistant. GPS co-ordinates, the survey tracks, and sites were plotted using the Avenza Maps application (Figure 9). The photographs were taken using the author's personal cell phone.

Note: ECPHRA has formally issued comments previously requesting that selfies be taken as proof of fieldwork; however, this practice is not supported by the Protection of Personal Information Act (POPIA) and introduces unnecessary privacy and data-handling risks. A selfie is not required by any heritage legislation and constitutes personal information containing biometric identifiers (such as facial features, body characteristics, and embedded location metadata). Selfies may also unintentionally capture individuals who have not provided consent, expose sensitive locations or private property, and require secure storage, transmission, and archiving under POPIA's conditions for lawful processing. Given these risks, selfies should not be used as a default or required method of demonstrating field presence. Standard, POPIA-compliant evidence, such as geotagged site photographs, GPS tracklogs, and time-stamped field notes, provides verifiable proof of fieldwork without processing unnecessary personal data.

6.2 Results of the Archaeological Investigation

The area has been under cultivation since before 1966, as indicated by the earliest available 1:50 000 topographic maps (Figure 2). Although historical aerial photography could not be accessed at the time of compiling this report, the prolonged and continuous cultivation of the land over more than five decades would have resulted in substantial bioturbation and disturbance of any archaeological stone-artefact occurrences within the plough zone.

Archaeological surface visibility was obscured in several areas by dense grass cover and, more extensively, by the recently harvested mielie fields. The exposed surface strips between the cultivated plots were systematically inspected for any stone-artefact material that may have been churned up during soil preparation or harvesting activities. Figures 10–20 provide a series of landscape views from multiple vantage points within the proposed development area, illustrating the general terrain and vegetation conditions encountered during the field assessment.

The property is privately owned, and the landowner confirmed that no graves are present within the proposed development area. No mention by the landowner was made of the area being used for spiritual, ritual, or living heritage spaces by themselves or the community.

No archaeological or historical heritage materials, sites, or features, including stone-packed structures, were identified during the field assessment. Although stone artefacts may occur between the surface and approximately 80 cm below ground, the likelihood of uncovering archaeological and/or historical heritage resources during construction is low. Unmarked human burials may occur between the surface and up to 150 cm below ground; therefore, if any human remains or other heritage materials are encountered, all work in the immediate area must cease and the chance-find procedures outlined in this report must be implemented. These include securing the find, notifying the Environmental Control Officer and the relevant heritage authority, and ensuring that no further disturbance occurs until appropriate mitigation measures have been authorised.



Figure 10. View of the general landscape of the proposed development area, facing north-west.



Figure 11. View of the general landscape of the proposed development area, facing north-west.



Figure 12. View of the general landscape of the proposed development area, facing south-east.



Figure 13. View of the general landscape of the proposed development area, facing north-west.



Figure 14. View of the general landscape of the proposed development area, facing north-east.



Figure 15. View of the general landscape of the proposed development area, facing west.



Figure 16. View of the general landscape of the proposed development area, facing south.



Figure 17. View of the general landscape of the proposed development area, facing west.



Figure 18. View of the general landscape of the proposed development area, facing north.



Figure 19. View of the general landscape of the proposed development area, facing north-east.



Figure 20. View of the general landscape of the proposed development area, facing south-west.

7 CULTURAL LANDSCAPE

Cultural landscapes are increasingly becoming a significant considering factor when conducting various archaeological and heritage impact assessments for proposed developments. This section gives a brief introduction to the concept of cultural landscape and its relation to various aspects of the dynamic interaction of humans as cultural agents and the landscape as a medium. A description of the interwoven relationships of humans with the landscape over time will be given including the archaeological, historical, and contemporary connections. Lastly, the living heritage makes up a small part of the study undertaken; its significance will be highlighted in relation to the communities who still identify with the area and retain a sense of identity to the landscape.

7.1 Concept of Cultural Landscape

Cultural landscapes can be interpreted as complex and rich extended historical records conceptualised as organisations of space, time, meaning, and communication moulded through cultural process. The connections between landscape and identity and, hence, memory is fundamental to the understanding of landscape and human sense of place. Cultural landscapes are the interface of culture and nature, tangible and intangible heritage, and biological and cultural diversity. They represent a closely woven net of relationships, the essence of culture and people's identity. They are symbol of the growing recognition of the fundamental links between local communities and their heritage, human kind, and its natural environment. In contemporary society, particular landscapes can be understood by taking into consideration the way in which they have been settled and modified including overall spatial organisation, settlement patterns, land uses, circulation networks, field layout, fencing, buildings, topography, vegetation, and structures. The dynamics and complex nature of cultural landscapes can be regarded as text, written and read by individuals and groups for very different purposes and with very many interpretations. The messages embedded in the landscape can be read as signs about values, beliefs, and practices from various perspectives. Most cultural landscapes are living landscapes where changes over time result in a montage effect or series of layers, each layer able to tell the human story and relationships between people and the natural processes.

The impact of human action of the landscape occurs over time so that a cultural landscape is the result of a complex history and creates the significance of place in shaping historical identities by examining a community's presence or sense of place. The deeply social nature of relationships to place has always mediated people's understanding of their environment and their movements within it, and is a process which continues to inform the construction of people's social identity today. Social and spatial relationships are dialectically interactive and interdependent. Cultural landscape reflects social relations and institutions and they shape subsequent social relations.

Cultural landscapes tell the story of people, events, and places through time, offering a sense of continuity, a sense of the stream of time. Landscapes reflect human activity and are imbued with cultural values. They combine elements of space and time, and represent political as well as social and cultural constructs. Culture shapes the landscape through day-to-day routine and these practices become traditions incorporated with a collective memory the ultimate embodiments of memorial consciousness', examples such as monuments, annual events and archives. As they have evolved over time, and as human activity has changed, they have acquired many layers of meaning that can be analysed through archaeological, historical, geographical, and sociological study.

Indigenous people, European explorers, missionaries, pastoralists, international and domestic travellers all looked or look at similar landscapes and experience different versions of reality. Regardless of the power of different cultural groups, however, all groups create cultural landscape and interpret them from their own perspectives. This gives rise to tensions and contradictions between groups, invariably expressed in landscape forms as well.

Most cultural landscapes are living landscapes where changes over time result in a montage effect or series of layers, each layer able to tell the human story and relationships between people and the natural processes. A common theme underpinning the concept of ideology of landscape itself it the setting for everything we do is that of the landscape as a repository of intangible values and human meaning that nurture our very existence. Intangible elements are the foundation of the existence of cultural landscapes, and that are still occupied by contemporary communities, Landscape, culture and collective memory of a social group are intertwined and that this binds the individuals to their community. Culture shapes their everyday life, the values bind gradually, change slowly, and transfer from generation to generation – culture is a form of memory. We see landscapes as a result of our shared system of beliefs and ideologies. In this way landscape is a cultural construct, a mirror of our memories and myths encoded with meanings which can be read and interpreted. Pivotal to the significance of cultural landscapes and the ideas of the ordinarily sacred is the realisation that it is the places, traditions, and activities of ordinary people that create a rich cultural tapestry of life, particularly through our recognition of the values people attach to their everyday places and concomitant sense of place and identity.

Living heritage means cultural expressions and practices that form a body of knowledge and provide for continuity, dynamism, and meaning of social life to generations of people as individuals, social groups, and communities. It also allows for identity and sense of belonging for people as well as an accumulation of intellectual capital current and future generation in the context of mutual respect for human, social and cultural rights.

Protection of these cultural landscapes involves some management issues such as successful conservation is based on the continuing vital link between people and their landscapes. This link can be disrupted or affected by for instance economic reasons. Other

threats can also be attributed to urban expansion and development, tourism, war and looting and something beyond our human intervention: natural disasters and climate change. Cultural landscape management and conservation processes bring people together in caring for their collective identity and heritage, and provide a shared local vision within a global context. Local communities need, therefore, to be involved in every aspect of identification, planning and management of the areas as they are the most effective guardians of landscape heritage.

Most elements of living heritage are under threat of extinction due to neglect, modernisation, urbanisation, globalisation, and environmental degradation. Living heritage is at the centre of people's culture and identity, it is important to provide space for its continued existence. Living heritage must not be seen as merely safeguarding the past, but it must be seen as safeguarding the logic of continuity of what all communities or social groups regard as their valuable heritage, shared or exclusive.

In some instances, villages may capitalise on local landscape assets in order to promote tourism. Travel and tourism activities are built around the quest for experience, and the experience of place and landscape is a core element of that quest. It is a constant desire for new experiences that drives tourism, rather than a quest for authenticity. It is, therefore, important to engage actively with the tourism industry so that aspects of life and landscape important to cultural identity, including connection with place are maintained.

7.2 Archaeological Cultural Landscape

The archaeological landscape presents a challenge to interpretation as the landscape is wholly read by encountering pre-colonial artefacts on the landscape. As no pre-colonial archaeological heritage resources were encountered during the survey it is difficult to determine what exactly happened on the area proposed for the mining right application, archaeologically. This however does not intend that no pre-colonial activity took place within the area. Owing to the interaction of later population with the landscape and the historical establishment of the area as conducive to farming activities, these disturbance in addition to climate change and natural weathering effects, changes to the organic layout once inhabited by the pre-colonial populations may have 'hidden' the material and organic material remains. Therefore, it is necessary to find and use the archaeological evidence available from the wider region to piece together and predict the possible movements and dynamics of the particular cultural landscape.

The archaeological cultural landscape of the Cala–Xhalanga region reflects a deep time sequence of human occupation, technological innovation, and cultural interaction extending from the Early Stone Age to the recent historical period. The broader landscape contains evidence of Early, Middle, and Later Stone Age hunter-gatherer activity, including surface scatters of flakes, blades, cores, and large cutting tools, as well as rock shelters and caves with stratified deposits. As noted in the attached document, *"Little systematic*

archaeological research has been conducted within the immediate area of the proposed 10 MW Grootfontein Agrovoltaic Solar Energy Facility (SEF), near Cala…", yet regional studies consistently demonstrate a long record of human presence. Early Stone Age artefacts—handaxes, cleavers, and large flakes—occur along river floodplains and drainage lines, forming the earliest evidence for hominin occupation in the former Transkei and Ciskei. Middle Stone Age material is widespread across hill-wash deposits, eroded streambeds, and rock shelters, marking the emergence of modern human behaviour, symbolic expression, and refined flake-and-blade technologies. Later Stone Age hunter-gatherer communities left a rich archaeological signature in the form of microlithic toolkits, bone implements, ostrich eggshell beads, and prolific rock art paintings in the surrounding mountains. As your document notes, *"Rock art paintings are prolific within the surrounding mountains."*

From approximately 2 000 years ago, Khoekhoen pastoralists entered the region, introducing domestic livestock and thin-walled pottery, often found near riverbanks and open pastoralist camps. Their presence is reflected in distinctive ceramic styles and occasional occupation layers within rock shelters. The arrival of Nguni-speaking Iron Age agropastoralists further transformed the cultural landscape through the establishment of homesteads, livestock enclosures, sorghum and millet cultivation, and decorated ceramic traditions associated with the Msuluzi, Ndondondwane, and Ntshekane facies. These communities contributed to a more settled pattern of land use, metalworking, and social organisation, leaving behind pottery, metal artefacts, and settlement traces across the interior basins and river valleys.

Together, these archaeological signatures form a multi-layered cultural landscape that illustrates long-term human adaptation, mobility, and interaction within the Cala–Xhalanga region. The landscape embodies the cumulative imprint of hunter-gatherer lifeways, pastoralist expansion, Iron Age settlement, and later historical developments, providing essential context for assessing archaeological sensitivity, interpreting heritage significance, and guiding responsible land-use planning within the proposed development area.

7.3 Historical Cultural Landscape

The archaeological interpretation of the cultural landscape relies solely on the presence and surface visibility of artefacts left behind on the landscape by the populations who occupied and migrated through the proposed development area. A more comprehensive historical layer is able to be fitted onto the cultural landscape owing to the availability of written documents and the continuing existence of the traces left behind by European Settlers and the moulding of these traces used to shape the contemporary communities that occupies and regards itself attached to its present cultural landscape.

The contemporary cultural landscape is the product of centuries of human interaction, more so when the European Settlers entered the area. Remnants of these cultural

interactions remain on the landscape, such as the built environment, features, artefacts, and marked and unmarked graves / burials with only oral histories and stories handed down from one generation to the next to remain in the collective memory of the community/ies living on the landscape.

Cala and the Xhalanga district form a historically layered cultural landscape shaped by abaThembu migration, colonial land administration, frontier settlement, and evolving systems of rural governance. Xhalanga was established in 1865 when four abaThembu chiefs left Glen Grey, continuing earlier movements linked to the Mfecane and regional conflicts. By the 1850s, colonial authorities had already settled abaThembu communities in the "Tambookie Location," and the formation of Xhalanga reflected ongoing efforts to structure African settlement under colonial oversight.

During the nineteenth century, Xhalanga's population became socially and politically diverse, divided between Western-educated "school people" and traditionalist "red people," a distinction that shaped local politics and land-tenure disputes. Governance in the district evolved through phases of colonial intervention, district councils, and later the apartheid-era Bantu Authorities, which entrenched state-controlled chieftaincy. After 1994, traditional leadership structures regained influence, generating renewed debates around authority and land allocation.

Cala developed as a frontier town on the Tsomo River, retaining notable colonial-era infrastructure such as the 1890 Cala Stone Bridge and other administrative buildings. In the twentieth century, Cala became associated with political resistance, most notably through the killing of student activist Batandwa Ndondo in 1985, an event that significantly shaped local political consciousness.

Collectively, the region's heritage significance lies in its nineteenth-century settlement patterns, frontier infrastructure, complex governance history, political resistance, and enduring cultural continuity expressed through clan identities and customary practices. These elements provide essential context for heritage assessments, land-use planning, and community engagement in the Cala–Xhalanga area.

7.4 Contemporary Cultural Landscape

The contemporary landscape remains very much rural. Although some of the farms are no longer occupied by their original inhabitants' agricultural activities, such as stock farming and agriculture, continue. Over the past few years, the change from agriculture activities to game farming and the establishment of game reserves has also become popular, for tourism and conservation. The change of the socio-political landscape over the last 20 years has also influenced the ownership and use of land.

Intangible elements are the foundation of the existence of cultural landscapes, and that are still occupied by contemporary communities. Landscape, culture and collective

memory of a social group are intertwined and that this binds the individuals to their community.

The contemporary cultural landscape of Cala and the wider Xhalanga district is shaped by the ongoing interaction between rural livelihoods, traditional authority, post-apartheid governance structures, and community identity. The area remains predominantly rural, characterised by dispersed homesteads, smallholder agriculture, communal grazing lands, and settlement patterns that reflect long-standing abaThembu spatial organisation. Customary leadership continues to play an important role in land allocation, dispute resolution, and community representation, operating alongside municipal governance in a dual system that often requires negotiation and collaboration. Cultural identity is expressed through clan affiliations, ancestral practices, and the continued use of natural spaces for social gatherings, rituals, and everyday activities. The legacy of political mobilisation remains visible in community memory, local institutions, and commemorative practices, particularly those associated with figures such as Batandwa Ndondo. Contemporary residents maintain strong connections to the landscape through farming, livestock keeping, and seasonal resource use, while also engaging with modern infrastructure, education, and administrative systems. These overlapping cultural, social, and political dynamics create a living cultural landscape in which historical continuities and contemporary transformations coexist, informing present-day heritage sensitivities and land-use considerations in the Cala–Xhalanga region.

8 COORDINATES AND SITES FOR THE PHASE 1 ARCHAEOLOGICAL AND CULTURAL IMPACT ASSESSMENT (AIA) FOR THE PROPOSED 10 MW GROOTFONTEIN AGROVOLTAIC SOLAR ENERGY FACILITY (SEF), SAKHISIZWE LOCAL MUNICIPALITY, EASTERN CAPE PROVINCE

Table 1. Coordinates and sites for the proposed 10 MW Grootfontein Agrovoltaic Solar Energy Facility (SEF), near Cala, Sakhisizwe Local Municipality, Eastern Cape Province.

REFERENCE	DESCRIPTION	CO-ORDINATE	HERITAGE GRADING
Proposed Development	Centre point of the proposed development	31°28'0.50"S; 27°44'55.34"E	N/A

9 DESCRIPTION AND GRADING OF SITES (see Appendix B)

No archaeological, historical, or other heritage resources were identified during the survey. Dense vegetation across the proposed development area obscured surface visibility and limited the effectiveness of the field assessment.

Although it is unlikely that in-situ archaeological material will be encountered, it is noted that archaeological and historical material may occur between the surface and approximately 80 cm below ground, while unmarked human burials may occur up to 150 cm below ground. Should any such material be uncovered during construction activities, all work in the immediate area must cease and the chance-find procedures outlined in this report must be implemented. These include securing the find, notifying the Environmental Control Officer and the relevant heritage authority, and ensuring that no further disturbance occurs until appropriate mitigation measures have been authorised.

10 ASSESSMENTS OF IMPACTS ON THE ARCHAEOLOGICAL AND CULTURAL HERITAGE RESOURCES

10.1 Archaeological Heritage Resources

Unseen archaeological heritage resources, those not visible on the surface but potentially present below ground, represent a significant risk factor within the proposed development area. These resources may include subsurface artefacts, cultural deposits, isolated finds, or buried features associated with past occupation, land-use practices, or ritual activity. Because such material cannot be identified through surface inspection alone, any intrusive development activities carry inherent potential for disturbance.

- Direct Impacts

Direct impacts may occur through excavation, trenching, foundation installation, service-line placement, or any earthmoving activity that penetrates the soil profile. These actions may inadvertently damage or destroy subsurface archaeological deposits, including artefacts, structural remains, or cultural features. The risk is elevated in areas where informal burial practices, ritual features, or historical land-use indicators have already been identified.

- Indirect Impacts

Indirect impacts include changes to soil stability, drainage, erosion patterns, and vegetation cover that may expose or degrade unseen archaeological resources over time. Construction-related vibration, compaction, or hydrological alteration may also affect fragile subsurface deposits, even if no direct excavation occurs in those areas.

- Cumulative Impacts

Cumulative impacts arise from successive phases of development that gradually reduce the integrity of the archaeological landscape. Even small-scale disturbances, when repeated across the site, may collectively result in the loss of contextual information essential for interpreting archaeological material. The presence of known heritage features (e.g., informal graves, ritual spaces, stone-packed features) increases the likelihood that additional unseen resources may be present.

- Landscape and Contextual Impacts

Unseen archaeological resources contribute to the broader cultural landscape, even when not visible. Their disturbance may weaken the interpretive value of associated heritage features, disrupt spatial relationships, and diminish the ability to understand past human activity within the area.

- Social and Cultural Impacts

If unseen archaeological resources include human remains, ritual deposits, or culturally sensitive materials, disturbance may cause significant social harm, cultural offence, or conflict with affected communities. The risk is heightened in areas where informal burial practices or ritual features have already been recorded.

- Long-Term Management Impacts

Failure to identify and manage unseen archaeological resources may result in future compliance issues, reputational risk, and the need for emergency heritage interventions during construction. Without a robust chance-find procedure, contractors may inadvertently disturb sensitive material, leading to project delays and statutory non-compliance.

11 LIMITATIONS AND GAPS IN KNOWLEDGE

11.1 Literature Review

The literature review undertaken for this assessment is subject to several limitations and gaps in knowledge that constrain the completeness of the archaeological and heritage baseline. The information available for this assessment is limited to archaeological and heritage data that has been formally recorded to date. Very little systematic archaeological research has been carried out in the immediate area of the proposed development, which means that the local heritage baseline is incomplete. Only a small number of heritage or archaeological assessments have been undertaken in the wider region, providing general context but not detailed site-specific information.

Because of these gaps, some heritage resources—particularly low-visibility features, informal graves, or community-defined living-heritage spaces—may remain unrecorded. Contractors and the ECO must therefore treat the area with caution and apply the required chance-find procedures if any heritage material, human remains, or culturally sensitive features are encountered during construction.

Collectively, these limitations highlight the need for cautious interpretation, the incorporation of community-based knowledge, and the application of adaptive management strategies during development. They also underscore the importance of ongoing documentation, monitoring, and consultation to address gaps that cannot be resolved through literature alone.

11.2 Field Assessment

A full foot-survey of the entire proposed development area is ideal, especially in locations that have not been researched previously. However, fieldwork was limited by dense vegetation and restricted visibility, which meant that only disturbed or partially exposed surface areas could be inspected. Surface surveys can only identify heritage resources visible above ground; they cannot reveal the true condition, extent, or presence of subsurface archaeological material.

Although surface inspection provides essential environmental context that desktop studies cannot achieve, it remains inherently limited. Buried artefacts, informal graves, cultural deposits, and low-visibility heritage features may remain undetected. These gaps in field coverage mean that some heritage resources may still be present even though none were observed during the survey.

Because archaeological and heritage resources are non-renewable and cannot be replaced once damaged, all contractors and the ECO must exercise caution during construction. The mitigation and chance-find procedures recommended in this report must be implemented immediately if any heritage material, bone fragments, or culturally sensitive features are uncovered during earthworks or vegetation clearing.

12 RECOMMENDATIONS AND MITIGATION

The overall area is considered as having a *low archaeological and cultural heritage significance.* The following recommendations and mitigation measures must be implemented prior to the commencement of the construction and during the construction activities once all of the pre-construction mitigation measures have been implemented:

1. Include Heritage Awareness in Contractor Induction:

Contractor teams must be briefed on heritage sensitivities, chance find procedures, and reporting requirements. Heritage awareness should form part of environmental induction and ongoing site compliance monitoring.

2. Implementation of a Chance-Find Procedure (see Appendix D):

A formal chance-find procedure must be implemented for all contractors. If human remains, grave structures, artefacts, or culturally significant features are uncovered, work must stop immediately and ECPHRA must be notified. The procedure must be included in contractor induction training.

3. Documentation and Reporting:

All heritage-related actions, including public participation, consultation, monitoring, chance-find responses, and assessments must be documented and included in the final heritage compliance report submitted to ECPHRA.

4. Management of Pre-Colonial Material and Human Remains:

If concentrations of pre-colonial archaeological heritage material including subsurface dense artefact accumulations, associated cultural deposits, or human remains such as graves or burials are uncovered during construction, all work must cease immediately and the discovery must be reported without delay to the Eastern Cape Provincial Heritage Resources Agency (ECPHRA) at 043 492 1370. No further disturbance may occur until the heritage authority has provided guidance.

Should ECPHRA require further investigation, Phase 2 mitigation may be undertaken in the form of controlled test-pitting, sampling, or systematic excavation and collection of the archaeological or heritage material. The purpose of Phase 2 mitigation is to establish the contextual status, extent, and significance of the site and, where appropriate, to remove the archaeological deposit prior to the continuation of development activities. All costs associated with Phase 2 mitigation, including specialist fees, excavation, documentation, and reporting, will be the responsibility of the developer.

13 CONCLUSION

The purpose of the study was to conduct a phase 1 archaeological and cultural heritage assessment for the proposed 10 MW Grootfontein Agrovoltaic Solar Energy Facility (SEF), near Cala, Sakhisizwe Local Municipality, Eastern Cape Province.

The proposed development area has been under continuous cultivation since at least 1966, resulting in extensive disturbance of any shallow archaeological material. Field visibility was limited by vegetation and harvested mielie fields, but all accessible exposed surfaces were inspected. No archaeological sites, heritage features, graves, or living-heritage uses were identified, and the landowner confirmed no cultural or spiritual significance attached to the area. The likelihood of encountering archaeological or historical resources during construction is low; however, unmarked human burials may occur at depth. Should any human remains or heritage materials be uncovered, all work must stop and the prescribed chance-find procedures must be implemented.

The recommendations and mitigation measures must be implemented prior to the commencement of construction activities and during the construction activities (if any archaeological and/or historical materials and/or unmarked human burials are uncovered).

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16 GENERAL REMARKS AND CONDITIONS

NOTE: This report is a phase 1 archaeological and cultural heritage impact assessment 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 amen 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 and 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 response 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 amen 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 agent's 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 assists other State Departments in identifying graves in a foreign country of victims of conflict connected with the liberation struggle and, following negotiations with the next of kin, or relevant authorities, it may re-inter the remains of that person in a prominent place in the capital of the Republic.

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 m^2 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 m^2 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 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 those 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) are 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 fie 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, stone artefacts 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 layperson 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)



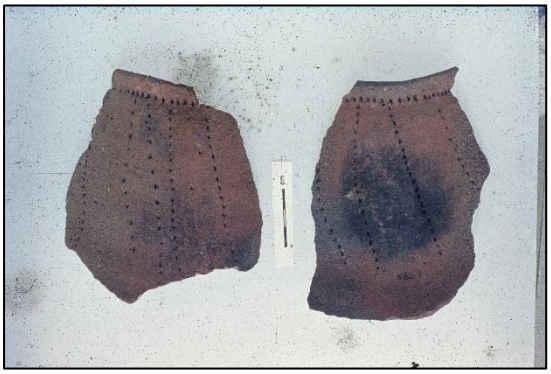


Later Stone Age stone artefacts
(30 000 years ago – historical times)

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 layperson and should be reported.



Khoekhoen earthenware pottery (last 2 000 years)



Iron Age earthenware pottery (last 2 000 years)







Examples of 19th century European ceramics

3. Historical artefacts and features

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 m^2 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

APPENDIX D: CHANCE FINDS PROTOCOL

SITES UNCOVERED DURING THE PRE-CONSTRUCTION / CONSTRUCTION / POST-CONSTRUCTION PHASES OF THE DEVELOPMENT UNDER SECTIONS 34, 35, AND 36 OF THE NATIONAL HERITAGE RESOURCES ACT (NHRA) 25 OF 1999

The Chance Finds Protocol may include but not be limited to the following:

- A heritage practitioner should be appointed to develop a heritage induction program and conduct training for the ECO, as well as team leaders, in the identification of heritage resources and artefacts.

- The project / monitoring archaeologist should be called upon if any possible heritage resources or artefacts or exposed burial are identified.

- Should an archaeological site or cultural material be discovered during construction (or operation), the area should be demarcated, and construction activities be halted.

- The project / monitoring archaeologist will then need to come out to the site and evaluate the extent and importance of the heritage resources and make the necessary recommendations for mitigating the find and impact on the heritage resource.

- The contractor therefore should have some sort of contingency plan so that operations could move elsewhere temporarily while the material and data are recovered.

- Should the heritage consultant conclude that the find is a heritage resource protected in terms of the NHRA (1999) Sections 34, 35, 37 and NHRA (1999) Regulations (Regulation 38, 39, 40), he or she should notify the relevant PHRA. In this case the Eastern Cape Provincial Heritage Resources Authority (ECPHRA) –

  Ms Lungiswa Mzazi - lungiswam@ecphra.org.za - (043) 492 1940/1/2 or 081 434 3544 /

  OR

  Ms Ayanda Mncwabe-Mama - Ayanda.mncwabe-mama@ecsrac.gov.za / (043) 492 1370 / 077 603 3035.

- Based on the comments received from the ECPHRA, the heritage consultant would present the relevant terms of reference to the client for implementation.

- Phase 2 mitigation in the form of test-pitting/sampling or systematic excavations and collections of the archaeological / heritage site may then be conducted to establish the contextual status of the sites and possibly remove the archaeological deposit before development activities continue. The project / monitoring / newly appointed professional archaeologist will make all the necessary permit applications to the ECPHRA. The costs for the phase 2 mitigation will be on the onus of the developer.

- Construction/Operational activities can commence as soon as the site has been cleared and signed off by the archaeologist.

Trigger / Discovery	Potential Impact	Required Action (Chance-Find Procedure)	Responsibility
Possible archaeological material (artefacts, cultural deposits, stone tools, pottery, buried features)	Disturbance or destruction of archaeological heritage	• **Stop work immediately** and demarcate the area. • Notify the ECO. • ECO contacts the project/monitoring archaeologist for assessment. • No handling, removal, or cleaning of material. • Await specialist recommendations and PHRA guidance.	Contractor; ECO; Archaeologist; ECPHRA
Historical structures or material (older than 60 years)	Contravention of NHRA Section 34; loss of historical significance	• Halt work and secure the area. • Notify ECO and heritage authority. • Assessment by heritage practitioner to determine Section 34 relevance.	Contractor; ECO; Heritage Practitioner; ECPHRA
Human remains or burial-related material	Severe cultural, legal, and ethical impact; contravention of Section 36	• **Immediate cessation of work** and secure a minimum 20 m buffer zone. • Notify ECO, SAPS, and ECPHRA. • No disturbance until formal instructions are issued. • Follow Section 36 procedures for investigation, exhumation, and re-interment.	Contractor; ECO; SAPS; ECPHRA
		• Stop work and secure the area.	

Living-heritage indicators (ritual materials, offerings, beads, cloth, ash deposits, prayer spaces, ancestral points)	Disturbance of culturally sensitive or spiritually significant spaces	• Notify ECO. • ECO consults heritage authority and, where applicable, community representatives. • No removal or handling of materials.	Contractor; ECO; ECPHRA; Community Representatives
Intangible or community-identified living-heritage spaces (ritual areas, remembrance sites, spiritual pathways)	Disruption of intangible heritage values and community-defined significance	• Halt work in the identified area. • ECO initiates consultation with heritage authority and affected communities. • Implement avoidance or culturally guided mitigation.	Contractor; ECO; ECPHRA; Community Representatives
Notification of PHRA	Ensures legal compliance with NHRA Sections 34, 35, 36	• Heritage consultant must notify ECPHRA if the find is protected under NHRA Sections 34, 35, 37 or Regulations 38–40. • Use official ECPHRA contacts listed in the document.	Heritage Consultant; ECO
Phase 2 mitigation required	Need for excavation, sampling, or recovery of material	• Conduct test-pitting, sampling, or systematic excavation as directed. • Archaeologist to obtain necessary permits from ECPHRA. • Developer bears the cost of mitigation.	Archaeologist; Developer; ECPHRA

Resumption of construction	Risk of premature disturbance	• Construction may resume only once the site has been cleared and signed off by the archaeologist.	ECO; Contractor; Archaeologist

SECTIONS 34, 35, AND 36 OF THE NATIONAL HERITAGE RESOURCES ACT (NHRA) 25 OF 1999 RELEVANT TO THE CHANCE FINDS PROTOCOL

S34. Structures

(11) 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.

(12) 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.

(13) 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.

(14) 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 amen a notice under subsection (3).

S35. Archaeology, palaeontology and meteorites

(6) 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.

(7) 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.

(8) 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.

(9) No person may, without a permit issued by the responsible heritage resources authority—

(e) destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;

(f) destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;

(g) 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

(h) 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 –

(e) 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;

(f) Carry out and investigation for the purpose of obtaining information on whether or not an archaeological or palaeontological site exists and whether mitigation is necessary;

(g) 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

(h) 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.

(10) 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 response 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 amen 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

(8) 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.

(9) 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.

(10) 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.

(11) 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 -

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

(d) Reached agreements with such communities and individuals regarding the future of such grave or burial ground.

(12) 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 –

(d) 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

(e) 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 agent's provocateur and which, after a process of public consultation, it believes should be included among those protected under this section.

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

(13) 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.

(14) SAHRA must assists 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 re0inter the remains of that person in a prominent place in the capital of the Republic.