March 2023



Empowering sustainability through innovation

Reg No: 2015/452224/07 • VAT No: 4400279347

DOCUMENT SYNOPSIS (EXECUTIVE SUMMARY)

Item	Description	
Proposed development	t Solar PV Park with Battery Energy Storage System on Portion 4 of the farm	
and location	Rheeboksfontein 346, Kouga Local Municipality, Sarah Baartman District	
	Municipality, Eastern Cape Province	
Purpose of the study	The Phase 1 Heritage Impact Assessment is to determine the presence of	
	cultural heritage sites and the impact of the proposed project on these	
	resources within the area demarcated for development	
Coordinates	See Figure 1 and 2	
Municipalities	Kouga Local Municipality, Sarah Baartman District Municipality.	
Predominant land use of	Roads, Wind Farm and agriculture	
surrounding area		
Authors	Trust Mlilo (Professional Archaeologist)	
	Sativa Travel and Environmental Consultants (Pty) Ltd	
	Constantia Park, Building 16-2, 546, 16th Road, Midrand, 1685	
	Cell: 0716859247	
	Fax: 086 652 9774	
	E-mail: info@sativatec.co.za	
Applicant	Kouga Local Municipality	
EAP	EnviroSaint (Pty) Ltd	
Date of Report	25 March 2023	

The purpose of this report is to inform and guide the applicant and contractors about the possible impacts that the proposed development may have on heritage resources (if any) located in the study area. In addition, this heritage report must also inform the South African heritage authorities (SAHRA) about the presence, absence and significance of heritage resources located within the proposed development site. This report is submitted in terms of Section 38 (8) of the National Heritage Resources Act 25 of 1999 as part of the environmental authorisation process.

The purpose of this study is to identify, record and if necessary, salvage the irreplaceable heritage resources that may be impacted upon by the proposed development. In compliance with Section 38 (8) of the NHRA, EnviroSaint (Pty) Ltd retained Sativa Travel and Environmental Consultants (Pty) Ltd (STEC) to conduct a Phase 1 Archaeological and Heritage Impact Assessment (AIA/HIA) for the proposed establishment of a Solar PV Park with Battery Energy Storage System on Portion 4 of the farm Rheeboksfontein 346, Kouga Local Municipality, Sarah Baartman District Municipality, Eastern Cape Province. Desktop studies, drivethroughs and consultations with the landowners were conducted in order to identity heritage sites within the proposed development site. The proposed development site has been altered by mainly agriculture activities in the area as well as wind farms in the greater area. The general study area is known for occurrence of archaeological and Stone Age archaeological sites; however, the study did not identify any significant archaeological sites within the proposed development site. In terms of the built environment there are no buildings which are older than 60 years (no buildings on site). It should be noted that archaeological material and unmarked graves may exist in the area and when encountered during construction, work must be stopped forth-with, and the finds must be reported to the South African Heritage Resource Agency (SAHRA) or the heritage practitioner. This report must be submitted to the SAHRA for review in terms of Section 38 (4) of the NHRA.

The report makes the following observations:

- The findings of this report have been informed by desktop review, site investigations and consultations with landowners and impact assessment reporting which include recommendations to guide heritage authorities in making decisions with regards to the proposed development.
- The immediate project area is predominantly agriculture and wind farm.
- Some sections of the proposed development site are severely degraded from previous and current land use activities.

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

- It is recommended that SAHRA endorse the report as having satisfied the requirements of Section 38 (8) of the NHRA requirements.
- It is recommended that SAHRA make a decision in terms of Section 38 (4) of the NHRA to approve the proposed development on condition that no significant archaeological and heritage sites were identified within the proposed development.
- From a heritage perspective supported by the findings of this study, the proposed development is supported. However, the proposed development should be approved under observation that construction does not extend beyond the area considered in this report.
- Should chance archaeological materials or human remains be exposed during construction on any section of the site, work should cease on the affected area and the discovery must be reported to the heritage authorities immediately so that an investigation and evaluation of the finds can be made. The overriding objective, where remedial action is warranted, is to minimize disruption in construction scheduling while recovering archaeological and any affected cultural heritage data as stipulated by the NHRA regulations.
- Subject to the recommendations herein made and the implementation of the mitigation measures and adoption of the project EMP, there are no significant cultural heritage resources barriers to the proposed development. SAHRA may approve the proposed development planned with special conditions to implement with the recommendations here in made.

This report concludes that the impacts of the proposed development on the cultural environmental values are not likely to be significant on the entire site if the EMP includes recommended safeguard and mitigation measures identified in this report. The project may proceed from a heritage point of view.

NATIONAL LEGISLATION AND REGULATIONS GOVERNING THIS REPORT

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

DECLARATION OF INDEPENDENCE

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

I, <u>Trust Mlilo</u>, do hereby declare that I am financially and otherwise independent of the Applicant and their consultants and that all opinions expressed in this document are substantially my own, even though I have received fair remuneration from the client for preparation of this report.

Expertise:

Trust Mlilo, Ph.D. *cand* (Wits), MA. (Archaeology), BA Hons, PDGE and BA & (Univ. of Pretoria) ASAPA (Professional affiliation member), and more than 15 years of experience in archaeological and heritage impact assessment and management. Mlilo is an accredited member of the Association for Southern African Professional Archaeologists (ASAPA), KwaZulu Natal Amafa and Research Institute, and Eastern Cape Heritage Resources Agency (ECPHRA). He has conducted more than a hundred AIA/HIA Studies, heritage mitigation work, and heritage development projects over the past 15 years of service. The completed projects vary from Phase 1 and Phase 2 as well as heritage management work for the government, parastatals (Eskom), and several private companies such as BHP Billiton and Rhino Minerals.

Independence

The views expressed in this document are the objective, independent views of Mr Trust Milo and the survey was carried out under Sativa Travel and Environmental Consultants (Pty) Ltd (STEC) has no business, personal, financial, or other interest in the proposed development apart from fair remuneration for the work performed.

Conditions relating to this report

The content of this report is based on the author's best scientific and professional knowledge as well as the available information. Sativa Travel and Environmental Consultants (Pty) Ltd (STEC) reserves the right to

modify the report in any way deemed fit should new, relevant, or previously unavailable or undisclosed information becomes known to the author from on-going research or further work in this field, or about this investigation.

This report must not be altered or added to without the prior written consent of the author and Sativa Travel and Environmental Consultants (Pty) Ltd. This also refers to electronic copies of the report which are supplied for the purposes of inclusion as part of other reports, including main reports. Similarly, any recommendations, statements, or conclusions drawn from or based on this report must make reference to this report. If these form part of the main report relating to this investigation or report, this report must be included in its entirety as an appendix or separate section to the main report.

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

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

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

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

The Archaeological and Heritage Impact Assessment Study was carried out within the context of tangible and intangible cultural heritage resources as defined by the SAHRA Regulations and Guidelines as to the authorisation of the proposed establishment of a Solar PV park being proposed by Kouga Local Municipality.

Signed by

27/03/2023

ACKNOWLEDGEMENTS

The author acknowledges EnviroSaint (Pty) Ltd for their assistance with project information, and the associated project Background Information Document (BID) as well as for responding to technical queries related to the project.

TABLE OF CONTENTS

DOCUMENT SYNOPSIS (EXECUTIVE SUMMARY)	2
TABLE OF CONTENTS	8
1. ABBREVIATIONS	11 -
2. KEY CONCEPTS AND TERMS Periodization Definitions Assumptions and disclaimer	12 - 12 -
3. INTRODUCTION Terms of Reference (ToR) Project Location Project Background and description	15 - 16 -
4. LEGISLATIVE CONTEXT	21 -
4.1. Assessing the Significance of Heritage Resources	22 -
4.2. Categories of Significance	23 -
4.3. Aesthetic Value:	23 -
4.4. Historical Value:	23 -
4.5. Scientific Value:	23 -
4.6. Social Value:	24 -
4.7. Formally Protected Sites	24 -
4.8. General Protection	24 -
4.9. Significance Rating Action	24 -
5. METHODOLOGY The Fieldwork survey Visibility and Constraints Consultations	27 - 27 -
6. ARCHAEOLOGICAL CONTEXT	34 -
6.1 Intangible Heritage	36 -
7. RESULTS OF THE FIELD STUDY Archaeology Burial grounds and Graves Public Monuments and Memorials Buildings and Structures Assessment of construction impacts	- 37 - - 37 - - 37 - - 38 - - 38 - - 38 -

M	Nethodology Adapted in Assessing the Impacts	39 -
1	The significance of the impacts will be assessed considering the following descriptors: Cumulative Impacts Impact Statement Mitigation	
8.	ASSESSING SIGNIFICANCE Aesthetic Value Historic Value Scientific value Social Value	44 44 44
9.	DISCUSSION	45
10.	RECOMMENDATIONS	
11.	CONCLUSIONS	
12.	REFERENCES	
RH MU	LAR PV PARK WITH BATTERY ENERGY STORAGE SYSTEM ON THE FARM EEBOKSFONTEIN 346, KOUGA LOCAL MUNICIPALITY, SARAH BAARTMAN DISTRICT INICIPALITY, EASTERN CAPE	
-	ANCE FIND PROCEDURE	-
	roduction	
	finitions	
	ckground	
Pu	rpose	53
СН	ANCE FIND PROCEDURE	54
Ма	nagement of chance finds	55
14. PA	APPENDIX 2: HERITAGE MANAGEMENT PLAN INPUT INTO THE PROPOSED SOLA RK EMP	
15.	APPENDIX 3: HERITAGE MITIGATION MEASURES TABLE	59 -
16. AF	APPENDIX 4: LEGAL PRINCIPLES OF HERITAGE RESOURCES MANAGEMENT IN S RICA	

TABLE OF PLATES [PHOTOGRAPHS]

Plate 1:Showig the proposed development site.

Plate 2: showing the prposed development site is withn a disturbed landscape. Note the power distribution lines. - 29

Plate 3: showing the proposed development site	- 29 -
Plate 4: Showing the proposed development been previously cleared and trees cut down.	- 30 -
Plate 5: Showing the proposed development site.	- 30 -
Plate 6: showing the proposed development site is heavily distrubed area.	- 31 -
Plate 7: showing the proposed development site.	- 31 -
Plate 8:showing proposed development site.	- 32 -
Plate 9:showing proposed development site.	- 32 -
Plate 10:showing proposed development site.	- 33 -
Plate 11:showing proposed development site within powerline servitude.	- 33 -
Plate 12:showing the proposed development site.	- 34 -

TABLE OF FIGURES

Figure 1: Location of the proposed project site. Note the red polygon (Google Earth, 2023.)	17 -
Figure 2: Location of the proposed project site (Google Earth 2023.)	18 -
Figure 3: Layout plan for the proposed Solar PV Park	20 -

LIST OF TABLES

Table 1: Evaluation of the proposed Solar PV Park development as guided by the criteria in NHRA and NEMA	- 26 -
Table 2: Summary of Findings	- 38 -
Table 3: Criteria Used for Rating of Impacts	- 39 -
Table 4: Criteria for Rating of Classified Impacts	- 40 -
Table 5: Operational Phase	- 41 -

1. ABBREVIATIONS

AIA	Archaeological Impact Assessment
ASAPA	Association of South African Professional Archaeologists
EIA	Environmental Impact Assessment
EIA	Early Iron Age (EIA refers to both Environmental Impact Assessment and the Early Iron Age but, in both cases, the acronym is internationally accepted. This means that it must be read and interpreted within the context in which it is used.)
EIAR	Environmental Impact Assessment Report
ESA	Early Stone Age
GPS	Global Positioning System
HIA	Heritage Impact Assessment
ICOMOS	International Council of Monuments and Sites
LIA	Late Iron Age
LSA	Late Stone Age
MIA	Middle Iron Age
MSA	Middle Stone Age
NEMA	National Environmental Management Act 107 of 1998
NHRA	National Heritage Resources Act 25 of 1999
SAHRA	South African Heritage Resources Agency
STEC	Sativa Travel and Environmental Consultants
ToR	Terms of Reference

2. KEY CONCEPTS AND TERMS

Periodization

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

Early Stone Age (~ 2.6 million to 250 000 years ago)

Middle Stone Age (~ 250 000 to 40-25 000 years ago)

Later Stone Age (~ 40-25 000, to recently, 100 years ago)

Early Iron Age (~ AD 200 to 1000)

Late Iron Age (~ AD1100-1840)

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

Definitions

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

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

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

Value is related to concepts such as worth, merit, attraction or appeal, concepts that are associated with the (current) usefulness and condition of a place or an object. Although significance and value are not mutually

exclusive, in some cases the place may have a high level of significance but a lower level of value. Often, the evaluation of any feature is based on a combination of a balance between the two.

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

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

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

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

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

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

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

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

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

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

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

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

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

Assumptions and disclaimer

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

3. INTRODUCTION

Sativa Travel and Environmental Consultants (Pty) Ltd was tasked by EnviroSaint (Pty) Ltd. to carry out a Phase 1 Heritage Impact Assessment for the proposed establishment of a Solar PV Park with Battery Energy Storage System on the farm Rheeboksfontein 346, Kouga Local Municipality, Sarah Baartman District Municipality, Eastern Cape Province. The proposed Solar Park PV development is gazetted in terms of Section 38 (1) of the NHRA (see Figure 1). The overall purpose of this heritage report is to identify, assess any heritage resources that may be located in the study area, and evaluate the positive and negative impacts of the proposed development on these resources to make recommendations for their appropriate management. To achieve this, we conducted background research of published literature, maps, and databases (desktop studies) which was then followed by ground-truthing by means of drive-through surveys and field walking. Desktop studies revealed that the general project area is rich in the Late Stone Age (LSA) and historical sites such as historical farmsteads. It should be noted that while heritage resources may have been located in the greater study area, formal and informal developments, agriculture and other land use activities have either obliterated these materials or reduced them to isolated finds that can only be identified as chance finds during construction. The proposed development may be permitted subject to adopting recommendations and mitigation measures proposed in this report. Based on the findings of the study, there is no archaeological and heritage reason why the development cannot be approved, taking full cognizance of clear procedures to follow in the event of chance findings.

Terms of Reference (ToR)

The author was requested by Sativa Travel and Environmental Consultants (Pty) Ltd to conduct an AIA/HIA study addressing the following issues:

- Archaeological and heritage potential of the development site including any known data on affected areas;
- Provide details on methods of study; potential and recommendations to guide the SAHRA to make an informed decision in respect of authorisation of the proposed Solar PV Park development project
- Identify all objects, sites, occurrences, and structures of an archaeological or historical nature (cultural heritage sites) located within the development site;
- Assess the significance of the cultural resources in terms of their archaeological, historical, scientific, social, religious, aesthetic and tourism value;
- Describe the possible impact of the proposed construction on these cultural remains, according to a standard set of conventions;
- Propose suitable mitigation measures to minimize possible negative impacts on cultural resources; and
- Review applicable legislative requirements.

Project Location

The proposed development site is on Portion 4 of the farm Rheeboksfontein 346, Kouga Local Municipality, Sarah Baartman District Municipality, Eastern Cape Province. The proposed project has a footprint of 19.8 Ha in extent. Approximate center of the study site is 33°59'56.20"S 24°47'21.90"E

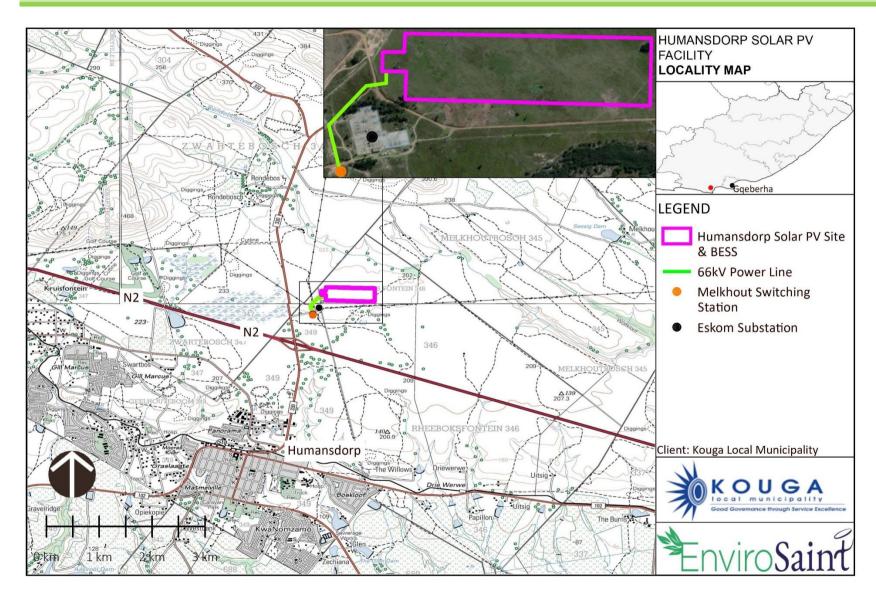




Figure 2: Location of the proposed project site (Google Earth 2023.)

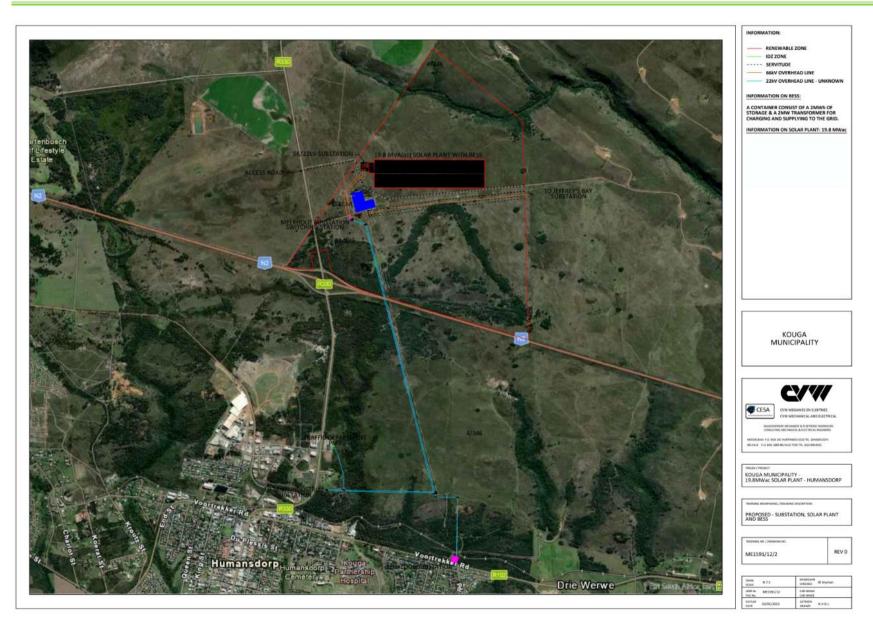




Figure 3: Layout plan for the proposed Solar PV Park.

Project Background and description

Kouga Local Municipality wants to establish a 19.8MW Solar PV park with Battery Energy Storage system to feed into their internal grid at Humansdorp. The PV Park will connect into the existing Melkhout switching station (municipality controlled) via a short 66KV line (500m) (its right next to the Eskom substation to the south east).

4. LEGISLATIVE CONTEXT

Three main pieces of legislations are relevant to the present study. The proposed project is conducted in terms of the National Environmental Management Act, 1998 as amended (NEMA). Therefore, this is in fulfilment of the assessment of the impact to heritage resources as required by section 24(4)(b)(iii) of NEMA and section 38(8) of the National Heritage Resources Act, Act 25 of 1999 (NHRA). An AIA or HIA is required as a specialist sub-section of the Basic Assessment (BA) process. This study was conducted in terms of Section 38(8) as part of environmental authorisation.

Section 38 (2) (a) of the same act also requires the submission of a heritage impact assessment report for authorization purposes to the responsible heritage resources agencies (SAHRA/PHRAs). Because the proposed development will change the character of a site exceeding 5000 m², then an HIA is required according to this section of the Act.

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

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

4.1. Assessing the Significance of Heritage Resources

The appropriate management of cultural heritage resources is usually determined on the basis of their assessed significance as well as the likely impacts of any proposed developments. Cultural significance is defined in the Burra Charter as meaning aesthetic, historic, scientific, or social value for past, present, or future generations (Article 1.2). Social, religious, cultural, and public significance are currently identified as baseline elements of this assessment, and it is through the combination of these elements that the overall cultural heritage values of the site of interest, associated place or area are resolved.

Not all sites are equally significant and not all are worthy of equal consideration and management. The significance of a place is not fixed for all time, and what is considered of significance at the time of assessment may change as similar items are located, more research is undertaken, and community values change. This does not lessen the value of the heritage approach but enriches both the process and the long-term outcomes for future generations as the nature of what is conserved and why, also changes over time (Pearson and Sullivan 1995:7). This assessment of the Indigenous cultural heritage significance of the Site of Interest as its environments of the study area will be based on the views expressed by the traditional authority and community representatives, consulted documentary review and physical integrity.

African indigenous cultural heritage significance is not limited to items, places or landscapes associated with pre-European contact. Indigenous cultural heritage significance is understood to encompass more than ancient archaeological sites and deposits, broad landscapes, and environments. It also refers to sacred places and story sites, as well as historic sites, including mission sites, memorials, and contact sites. This can also refer to modern sites with particular resonance to the indigenous community.

Archaeological sites, as defined by the NHRA are places in the landscape where people once lived in the past – generally more than 60 years ago – and have left traces of their presence behind. In South Africa, archaeological sites include hominid fossil sites, places where people of the Earlier, Middle and Later Stone Age lived in open sites, river gravels, rock shelters and caves, Iron Age sites, graves, and a variety of historical sites and structures in rural areas, towns and cities. Palaeontological sites are those with fossil remains of plants and animals where

people were not involved in the accumulation of the deposits. The basic principle of cultural heritage conservation is that archaeological and other heritage sites are valuable, scarce and non-renewable. Many such sites are unfortunately lost on a daily basis through infrastructure developments such as powerlines, roads and other destructive economic activities such as agriculture existing soccer field construction and associated activities. It should be noted that once archaeological sites are destroyed, they cannot be replaced as site integrity and authenticity is permanently lost. Archaeological heritage contributes to our understanding of the history of the region and of our country and continent at large. By preserving links with our past, we may be able to appreciate the role past generations have played in the history of our country and the continent at large.

4.2. Categories of Significance

Rating the significance of archaeological sites, and consequently grading the potential impact on the resources is linked to the significance of the site itself. The significance of an archaeological site is based on the amount of deposit, the integrity of the context, the kind of deposit and the potential to help answer present research questions. Historical structures are defined by Section 34 of the NHRA while other historical and cultural significant sites, places and features, are generally determined by community preferences. The guidelines as provided by the NHRA in Section 3, with special reference to subsection 3 are used when determining the cultural significance or other special value of archaeological or historical sites. In addition, ICOMOS (the Australian Committee of the International Council on Monuments and Sites) highlights four cultural attributes, which are valuable to any given culture:

4.3. Aesthetic Value:

Aesthetic value includes aspects of sensory perception for which criteria can and should be stated. Such criteria include consideration of the form, scale, colour, texture and material of the fabric, the general atmosphere associated with the place and its uses and also the aesthetic values commonly assessed in the analysis of landscapes and townscape.

4.4. Historical Value:

Historic value encompasses the history of aesthetics, science and society and therefore to a large extent underlies all of the attributes discussed here. Usually, a place has historical value because of some kind of influence by an event, person, phase or activity.

4.5. Scientific Value:

The scientific or research value of a place will depend upon the importance of the data involved, on its rarity, quality and on the degree to which the place may contribute further substantial information.

4.6. Social Value:

Social value includes the qualities for which a place has become a focus of spiritual, political, national or other cultural sentiment to a certain group. It is important for heritage specialist input in the impact assessment process to take into account the heritage management structure set up by the NHRA. It makes provision for a 3-tier system of management including the SAHRA at a national level, PHRAs at a provincial and the local authority. The NHRA makes provision for two types or forms of protection of heritage resources; i.e. formally protected and generally protected sites:

4.7. Formally Protected Sites

- Grade 1 or national heritage sites, which are managed by SAHRA.
- Grade 2 or provincial heritage sites, which are managed by the PHRAs.
- Grade 3 or local heritage sites.

4.8. General Protection

- Human burials older than 60 years.
- Archaeological and palaeontological sites.
- Shipwrecks and associated remains older than 70 years.
- Structures older than 60 years.

The certainty of prediction is definite, unless stated otherwise and if the significance of the site is rated high, the significance of the impact will also result in a high rating. The same rule applies if the significance rating of the site is low. The significance of archaeological sites is generally ranked into the following categories:

4.9. Significance Rating Action

No significance: sites that do not require mitigation.

Low significance: sites, which may require mitigation.

2a. Recording and documentation (Phase 1) of site; no further action required.

2b. Controlled sampling (shovel test pits, auguring), mapping and documentation (Phase 2 investigation); permit required for sampling and destruction.

Medium significance: sites, which require mitigation.

3. Excavation of representative sample, C14 dating, mapping and documentation (Phase 2 investigation); permit required for sampling and destruction [including 2a & 2b]

High significance: sites, where disturbance should be avoided.

4a. Nomination for listing on Heritage Register (National, Provincial or Local) (Phase 2 & 3 investigation); site management plan; permit required if utilised for education or tourism.

High significance: Graves and burial places

4b. Locate demonstrable descendants through social consulting; obtain permits from applicable legislation, ordinances and regional by-laws; exhumation and reinternment [including 2a, 2b & 3]

Furthermore, the significance of archaeological sites was based on six main criteria:

- Site integrity (i.e. primary vs. secondary context),
- Amount of deposit, range of features (e.g., stonewalling, stone tools and enclosures),
- Density of scatter (dispersed scatter),
- Social value,
- Uniqueness, and
- Potential to answer current and future research questions.

An important aspect in assessing the significance and protection status of a heritage resource is often whether or not the sustainable social and economic benefits of a proposed development outweigh the conservation issues at stake. When, for whatever reason the protection of a heritage site is not deemed necessary or practical, its research potential must be assessed and mitigated in order to gain data /information, which would otherwise be lost.

Table 1: Evaluation of the proposed Solar PV Park development as guided by the criteria in NHRA and NEMA

ACT	Stipulation for developments	Requirement details
NHRA Section 38	Construction of the road, wall, power line, pipeline,	Yes
	canal or another linear form of development or barrier	
	exceeding 300m in length	
	Construction of bridge or similar structure exceeding	No
	50m in length	
	Development exceeding 5000 sq m	Yes
	Development involving three or more existing erven or	No
	subdivisions	
	Development involving three or more erven or divisions	No
	that have been consolidated within the past five years	
	Rezoning of site exceeding 10 000 sq m	No
	Any other development category, public open space,	No
	squares, parks, recreation grounds	
NHRA Section 34	Impacts on buildings and structures older than 60 years	No
NHRA Section 35	Impacts on archaeological and palaeontological	No
	heritage resources	
NHRA Section 36	Impacts on graves	No
NHRA Section 37	Impacts on public monuments	No
Chapter 5	HIA is required as part of an EIA	Yes
(21/04/2006) NEMA		
Section 39(3)(b) (iii)	AIA/HIA is required as part of an EIA	Yes
of the MPRDA		

5. METHODOLOGY

This document falls under the Environmental Authorisation process and EMPr of the proposed Solar PV Park establishment therefore, this study aims at providing an informed heritage-related opinion about the proposed development. This is usually achieved through a combination of a review of any existing literature and a basic site inspection. As part of the desktop study, published literature and cartographic data, as well as archival data on heritage legislation, the history, and archaeology of the area were studied. The desktop study was followed by field surveys. The field assessment was conducted according to generally accepted AIA/HIA practices and aimed at locating all possible objects, sites, and features of cultural significance on the development footprint. Initially, a drive-through was undertaken around the proposed development site as a way of acquiring the archaeological impression of the general area. This was then followed by a walk down survey in the study area, with a handheld Global Positioning System (GPS) for recording the location/position of each possible site. The detailed photographic recording was also undertaken where relevant. The findings were then analysed in relation to proposed construction activities. The result of this investigation is a report indicating the presence/absence of heritage resources within the proposed development site and how to manage them in the context of the proposed development.

The Fieldwork survey

The fieldwork survey was undertaken on the 18th of March 2023. The desktop studies were followed by intensive and extensive field walking to verify the situation on the ground. The main focus of the survey involved a pedestrian survey which was conducted within the proposed development site. The pedestrian survey focused on parts of the project area where it seemed as if disturbances may have occurred in the past, for example, bald spots in the grass veld; stands of grass which are taller than the surrounding grass veld; the presence of exotic trees; evidence for building rubble, existing buildings and ecological indicators such as invader weeds.

The literature survey suggests that before the 20th century modern residential and on-going infrastructure developments; the general area where the proposed development is located would have been a rewarding region to locate heritage resources related to the Stone Age and particularly Iron Age and historical sites (Bergh 1999: 4). However, the situation today is completely different. The study area now lies in a modified landscape that is dominated by urban developments and agricultural fields.

Visibility and Constraints

Most sections of the proposed development site are visible because of the type of vegetation cover. It is conceded that due to the subterranean nature of cultural remains this report should not be construed as a record of all archaeological and historic sites in the area.

Consultations

The Public Participation process is conducted by the EAP. The project archaeologist and heritage practitioner consulted residents about any heritage resources within the proposed development site. This process helped in understand the heritage character of the site. The Public Participation Process will also invite and address comments from affected communities and any registered heritage bodies on any matter related to the proposed project including heritage concerns that may arise as a result of the proposed development project. The issues raised by the public concerning the proposed development will also be included in the Final Basic Impact Assessment Report and EMPr.

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



Plate 1:Showing the proposed development site.



Plate 2: showing the proposed development site is within a disturbed landscape. Note the power distribution lines.



Plate 3: showing the proposed development site



Plate 4: Showing the proposed development been previously cleared and trees cut down.



Plate 5: Showing the proposed development site.



Plate 6: showing the proposed development site is heavily distrubed area.



Plate 7: showing the proposed development site.



Plate 8:showing proposed development site.



Plate 9: showing proposed development site.



Plate 10:showing proposed development site.



Plate 11:showing proposed development site with powerlines in the background.



Plate 12:showing the proposed development site with invasive trees.

6. ARCHAEOLOGICAL CONTEXT

The archaeological footprint of the region is largely represented by rock art sites, Stone Age cave deposits and open sites. Rock paintings are numerous in the region, but are primarily restricted to sandstone cliffs, caves and overhangs. Rock paintings have been recorded at a number of cave sites between Sterkspruit and Herschel (Van Riet Lowe 1941)

The earliest residents of the Eastern Cape region were the hunter-gatherers associated with Early, Middle and Late Stone Age Traditions. Stone Age sites are generally identifiable by stone artefacts found scattered on the ground surface, as deposits in caves and rock shelters as well as in eroded gully or river sections. Archaeological sites such as the Klasies River Mouth main site recorded in the project region confirms the existence of Stone Age sites that conform to the generic South African periodization split into the Early Stone Age (ESA) (2.5 million years ago, to 250 000 years ago,), the Middle Stone Age (MSA) (250 000 years ago, to 22 000 years ago,) and the Late Stone Age (LSA) (22 000 years ago, to 300 years ago,). Stone Age sites in the region are also associated with rock

painting sites. Cave sites also exist on the landscape south west of the project area. About 2000 years ago, the Khoekhoe herders moved into the region introducing first animal husbandry in the area.

From an archaeological perspective, the project area, like most of Eastern Cape region has potential to yield Stone Age period sites (also see Deacon and Deacon, 1997; 1999). Little specific is known about the archaeology of the specific powerline routes, mainly because no systematic research has been conducted on the area. However, the specific affected project-receiving environment has low potential for Stone Age sites since the affected areas consists of previously open velds which does not usually yield such sites. Stone Age sites are usually associated with caves and rock shelters some of which contain rock art paintings. Another class of common archaeological heritage associated with Stone Age periods are coastal shell middens that were campsites and cooking platforms (Binneman 2001, 2005).

In general, little systematic archaeological research and regional surveys/recordings have been conducted in the Sundays River Valley area (Binneman 2016). The oldest evidence of the early inhabitants identified in the area are large stone tools such as hand axes and cleavers, which mainly occur river valleys and in old spring deposits in the region. These large stone tools belong to the Earlier Stone Age (ESA) which date between 1,5 million and 250 000 years old. Large numbers of stone tools were found in situ to a depth of 3-4 metres in spring deposits of Amanzi Spring near Addo. Remarkably, wood and seed material preserved in the spring deposits dating between 250 000 to 800 000 years old (Inskeep 1965; Deacon 1970).

The large hand axes and cleavers were replaced by smaller stone tool kit industry referred to as the Middle Stone Age (MSA) flake and blade industries. Evidence of MSA sites occur throughout the region and date between 250 000 and 30 000 years old. These stone artefacts, like the Earlier Stone Age tools are also found in the gravels along the banks of the Sunday's River and these are often found in their secondary deposition sites. Fossil bone may in be found in association with MSA occurrences such as the Klassies River Mouth. Most archaeological sites found in the area date from the past 10 000 years (called the Later Stone Age) and are associated with the campsites of San hunter-gatherers and Khoi pastoralists. These sites are often difficult to find because they occur in the open veld and often concealed by vegetation and sand. Sometimes these sites are only represented by a few stone tools and fragments of bone (Deacon & Deacon 1999). It was observed that preservation of MSA sites is poor, and the sites are often difficult to date especially considering the fact that most remains are found in secondary deposition sites.

Several San hunter-gatherer sites were recorded in the nearby Suurberg and adjacent mountains (Binneman 2016). The San occupied caves and rock shelters during the Later Stone Age (LSA) and they are left well-preserved archaeological deposits and paintings on the rock shelter walls (Deacon 1976).

The Khoi pastoralists occupied the region and lived mainly in small settlements approximately 2 000 years ago. They were the first food producers in South Africa and introduced domesticated animals (sheep, goat and cattle) and ceramic vessels to southern Africa. Often archaeological sites are found close to the banks of large streams and rivers. Large piles of freshwater mussel shell (called middens) usually mark these sites. Prehistoric groups collected the freshwater mussel from the muddy banks of the rivers as a source of food. Mixed with the shell and other riverine and terrestrial food waste are also cultural materials. It is important to note that human remains are often found buried in the middens in this area (Binneman (2016).

Records indicate that the Igua, Damasgua, and Gonugua Khoekhoen originally lived in the greater Addo area, many of which were wiped out by a smallpox epidemic in the 1700s, coined with tribal wars of southern moving Xhosa tribes, the Gqunukhwebe of Chief Cungwa and the Dange of Chief Habana. In the late 1800s Colonial Period farmers started to move into the area. The Addo Elephant National Park was originally proclaimed in 1931 (a mere then 2.000ha). with the aim to protect the eleven (11) remaining Addo elephant (https://www.sanparks.org/parks/addo/tourism/history.pnp). The name 'Addo' is of Khoekhoen origin, meaning 'euphorbia ravine' (https://en.wikipedia.org/wiki/Addo,_Eastern_Cape).

Enon originates from colonial villages dating to mid-1800s. Eventually, this effectively ushered in new era of colonial occupation by succeeding Afrikaans and British colonial administration authorities through the last half of the 1800s and into the late 1900s. By 1850s the region witnessed the influx of more settler communities, which triggered settler wars between the African chiefdoms and the incoming settlers. Some of these colonial wars and battles lasted into Anglo-Boer wars of 1899-1902. The later effectively led to complete subjugation of African communities to settler administration starting as part of the British Cape colony. There after the region was subsequently annexed by the British and effectively placed the majority of African communities under the Union of South Africa in 1910, which eventually ended with the establishment of the new South Africa in 1994.

6.1 Intangible Heritage

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

7. RESULTS OF THE FIELD STUDY

Archaeology

The general project area is well known for occurrence of Middle Stone Age and Later Stone Age sites most of which occur along the coast line. Several sell middens have been recorded along the coastline. Several archaeological impact assessment conducted in the project area revealed that some areas are highly sensitive while other areas such as the project site have low sensitivity (Binneman 2006, Binneman 2011, Anderson 2010,

The proposed project site seems to be of low archaeological sensitivity. No significant archaeological remains were found during the survey. Based on the field study results and field observations, the receiving environment for the proposed development is <u>low</u> to yield previously unidentified archaeological sites during subsurface excavations and work associated with the proposed development. The impact of the proposed development on archaeology is limited. The literature review also revealed that no Stone Age sites are shown on a map contained in a historical atlas of this area. This, however, should rather be seen as a lack of research in the area and not as an indication that such features do not occur.

Burial grounds and Graves

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

The field survey did not identify any graves within the proposed Solar PV Park development site. It should be noted that burial grounds and grave sites are accorded the highest social significance threshold (see Appendix 3). They have both historical and social significance and are considered sacred. Also, graves are important in providing evidence for communities seeking land restitution. Wherever they exist or not, they may not be tampered with or interfered with during any development without a permit from SAHRA. It is also borne in mind that the possibility of encountering human remains during subsurface earth moving works anywhere on the landscape is ever present.

Although the possibility of encountering previously unidentified burial sites is low within the proposed Solar PV park establishment site, should such sites be identified during subsurface construction work, they are still protected by applicable legislation, and they should be protected.

Public Monuments and Memorials

The study did not record any public memorials and monuments within the proposed Solar PV Park establishment site.

Buildings and Structures

There are structures that exist in greater project area and not within the proposed development site. Therefore, the proposed Solar PV Park establishment does not trigger Section 34 of the NHRA which protects buildings, and structures older than 60 years.

Table 2: Summary of Findings

Heritage resource	Status/Findings
Buildings, structures, places and equipment	None exist within the proposed development site.
of cultural significance	
Areas to which oral traditions are attached or	None exist
which are associated with intangible heritage	
Historical settlements and townscapes	None survives in the proposed area
Landscapes and natural features of cultural	None
significance	
Archaeological sites	None recorded within the proposed development site
Graves and burial grounds	None recorded
Movable objects	None
Overall comment	The surveyed area has no confirmable archaeological
	resources on the surface, but sub-surface chance finds are still
	possible.

Assessment of construction impacts

An impact can be defined as any change in the physical-chemical, biological, cultural, and/or socio-economic environmental system that can be attributed to human activities related to the project site under study for meeting a project need. The significance of the impacts of the process will be rated by using a matrix derived from Plomp

(2004) and adapted to some extent to fit this process. These matrixes use the consequence and the likelihood of the different aspects and associated impacts to determine the significance of the impacts.

Methodology Adapted in Assessing the Impacts

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

Table 3: Criteria Used for Rating of Impacts

Negative - The impact will not be beneficial to the environment (a cost). Weutral 0 Where a negative impact is offset by a positive impact, or mitigation measures, to have no overall effect. Magnitude(M) - Negligible effects on heritage or social functions/processes. Includes areas / environmental aspects which have already been altered significantly and have little to no conservation importance (negligible sensitivity*). Low 4 Minimal effects on heritage or social functions/processes. Includes areas / environmental aspects which have been largely modified, and / or have a low conservation importance (low sensitivity*). Moderate 6 Notable effects on heritage or social functions/processes. Includes areas / environmental aspects which have been alreely been moderately modified and have a medium conservation importance (medium sensitivity*). High 8 Considerable effects on heritage or social functions/processes. Includes areas / environmental aspects which have already been moderately modified and have a medium conservation importance (medium sensitivity*). Very high 10 Severe effects on heritage or social functions/processes. Includes areas / environmental aspects which have nore previously been impacted upon and are pristine, thus of very high conservation importance (very high sensitivity*). Extent (E) Severe effects on a regional scale. Site only 1 Effect limited to the site and its immediate surroundings. Local 2 </th <th>Nature of the in</th> <th>npact (N</th> <th>)</th>	Nature of the in	npact (N)
Neutral 0 Where a negative impact is offset by a positive impact, or mitigation measures, to have no overall effect. Magnitude(M) Negligible effects on heritage or social functions/processes. Includes areas / environmental aspects which have already been altered significantly and have little to no conservation importance (negligible sensitivity*). Low 4 Aspects which have been largely modified, and / or have a low conservation importance (low sensitivity*). Moderate 6 Notable effects on heritage or social functions/processes. Includes areas / environmental aspects which have been largely modified, and / or have a low conservation importance (low sensitivity*). Moderate 6 Sepects which have already been moderately modified and have a medium conservation importance (medium sensitivity*). High 8 Considerable effects on heritage or social functions/processes. Includes areas / environmental aspects which have been slightly modified and have high conservation importance (high sensitivity*). Very high 10 Severe effects on heritage or social functions/processes. Includes areas / environmental aspects which have no previously been impacted upon and are pristine, thus of very high conservation importance (very high sensitivity*). Extent (E) Severe effects on heritage or social functions/processes. Includes areas / environmental aspects which have an impact on a regional scale. National 1 Effect limited to the site and its immediate surroundings. <th>Positive</th> <th>+</th> <th>The impact will be beneficial to the environment (a benefit).</th>	Positive	+	The impact will be beneficial to the environment (a benefit).
Veutral U overall effect. Magnitude(M) Vinor 2 Negligible effects on heritage or social functions/processes. Includes areas / environmental aspects which have already been altered significantly and have little to no conservation importance (negligible sensitivity*). Low 4 Minimal effects on heritage or social functions/processes. Includes areas / environmental aspects which have been largely modified, and / or have a low conservation importance (low sensitivity*). Moderate 6 aspects which have already been moderately modified and have a medium conservation importance (medium sensitivity*). High 8 Considerable effects on heritage or social functions/processes. Includes areas / environmental aspects which have already been moderately modified and have a medium conservation importance (medium sensitivity*). Very high 10 Severe effects on heritage or social functions/processes. Includes areas / environmental aspects which have not previously been impacted upon and are pristine, thus of very high conservation importance (very high sensitivity*). Extent (E) Severe effect limited to the site and its immediate surroundings. Cocal 2 Effect limited to within 3-5 km of the site. Regional 3 Activity will have an impact on a national scale. Duration (D) International 5 Activity will have an impact on an international scale. Duration (D	Negative	-	The impact will not be beneficial to the environment (a cost).
Minor Negligible effects on heritage or social functions/processes. Includes areas / environmental aspects which have already been altered significantly and have little to no conservation importance (negligible sensitivity*). Low 4 Minimal effects on heritage or social functions/processes. Includes areas / environmental aspects which have been largely modified, and / or have a low conservation importance (low sensitivity*). Moderate 6 Notable effects on heritage or social functions/processes. Includes areas / environmental aspects which have already been moderately modified and have a medium conservation importance (medium sensitivity*). High 8 Considerable effects on heritage or social functions/processes. Includes areas / environmental aspects which have been slightly modified and have high conservation importance (high sensitivity*). Very high 10 Severe effects on heritage or social functions/processes. Includes areas / environmental aspects which have not previously been impacted upon and are pristine, thus of very high conservation importance (very high sensitivity*). Extent (E) 1 Effect limited to the site and its immediate surroundings. Local 2 2 Effect limited to within 3-5 km of the site. Regional 3 3 Activity will have an impact on a rational scale. National 4 Activity will have an impact on a national scale. Duration (D) Immed	Neutral	0	
Minor 2 environmental aspects which have already been altered significantly and have little to no conservation importance (negligible sensitivity*). Low 4 Minimal effects on heritage or social functions/processes. Includes areas / environmental aspects which have been largely modified, and / or have a low conservation importance (low sensitivity*). Moderate 6 Notable effects on heritage or social functions/processes. Includes areas / environmental aspects which have already been moderately modified and have a medium conservation importance (medium sensitivity*). High 8 Considerable effects on heritage or social functions/processes. Includes areas / environmental aspects which have been slightly modified and have a medium conservation importance (ingligible sensitivity*). Very high 10 Severe effects on heritage or social functions/processes. Includes areas / environmental aspects which have not previously been impacted upon and are pristine, thus of very high conservation importance (very high sensitivity*). Extent (E) Severe effect limited to the site and its immediate surroundings. Local 2 Effect limited to within 3-5 km of the site. Regional 3 Activity will have an impact on a national scale. National 4 Activity will have an impact on an international scale. Duration (D) Immediate 1 Effect loccurs periodically throughout the life of the activity. Shor	`Magnitude(M)		
Low4aspects which have been largely modified, and / or have a low conservation importance (low sensitivity*).Moderate6Notable effects on heritage or social functions/processes. Includes areas / environmental aspects which have already been moderately modified and have a medium conservation importance (medium sensitivity*).High8Considerable effects on heritage or social functions/processes. Includes areas / environmental aspects which have been slightly modified and have high conservation importance (high sensitivity*).Very high10Severe effects on heritage or social functions/processes. Includes areas / environmental aspects which have not previously been impacted upon and are pristine, thus of very high conservation importance (very high sensitivity*).Extent (E)Site only1Effect limited to the site and its immediate surroundings. LocalLocal2Effect limited to within 3-5 km of the site.Regional3Activity will have an impact on a national scale.National4Activity will have an impact on an international scale.Duration (D)Immediate1Effect lasts for a period of 0 to 5 years.	Minor	2	environmental aspects which have already been altered significantly and have little to no
Moderate 6 aspects which have already been moderately modified and have a medium conservation importance (medium sensitivity*). High 8 Considerable effects on heritage or social functions/processes. Includes areas / environmental aspects which have been slightly modified and have high conservation importance (high sensitivity*). Very high 10 Severe effects on heritage or social functions/processes. Includes areas / environmental aspects which have not previously been impacted upon and are pristine, thus of very high conservation importance (very high sensitivity*). Extent (E) Site only 1 Effect limited to the site and its immediate surroundings. Local 2 Effect limited to within 3-5 km of the site. Regional National 4 Activity will have an impact on a regional scale. International Duration (D) Effect occurs periodically throughout the life of the activity. Short term 2 Effect lasts for a period of 0 to 5 years.	Low	4	aspects which have been largely modified, and / or have a low conservation importance
High8environmental aspects which have been slightly modified and have high conservation importance (high sensitivity*).Very high10Severe effects on heritage or social functions/processes. Includes areas / environmental aspects which have not previously been impacted upon and are pristine, thus of very high conservation importance (very high sensitivity*).Extent (E)Site only1Effect limited to the site and its immediate surroundings. LocalLocal2Effect limited to within 3-5 km of the site.Regional3Activity will have an impact on a regional scale.National4Activity will have an impact on a national scale.International5Activity will have an impact on an international scale.Duration (D)Immediate1Effect lests for a period of 0 to 5 years.	Moderate	6	aspects which have already been moderately modified and have a medium conservation
Very high10aspects which have not previously been impacted upon and are pristine, thus of very high conservation importance (very high sensitivity*).Extent (E)Site only1Effect limited to the site and its immediate surroundings.Local2Effect limited to within 3-5 km of the site.Regional3Activity will have an impact on a regional scale.National4Activity will have an impact on a national scale.International5Activity will have an impact on an international scale.Duration (D)Immediate1Effect lasts for a period of 0 to 5 years.	High	8	environmental aspects which have been slightly modified and have high conservation
Site only1Effect limited to the site and its immediate surroundings.Local2Effect limited to within 3-5 km of the site.Regional3Activity will have an impact on a regional scale.National4Activity will have an impact on a national scale.International5Activity will have an impact on an international scale.Duration (D)Immediate1Effect lasts for a period of 0 to 5 years.	Very high	10	aspects which have not previously been impacted upon and are pristine, thus of very high
Local2Effect limited to within 3-5 km of the site.Regional3Activity will have an impact on a regional scale.National4Activity will have an impact on a national scale.International5Activity will have an impact on an international scale.Duration (D)Immediate1Effect occurs periodically throughout the life of the activity.Short term2Effect lasts for a period of 0 to 5 years.	Extent (E)		
Regional3Activity will have an impact on a regional scale.National4Activity will have an impact on a national scale.International5Activity will have an impact on an international scale.Duration (D)Immediate1Effect occurs periodically throughout the life of the activity.Short term2Effect lasts for a period of 0 to 5 years.	Site only	1	Effect limited to the site and its immediate surroundings.
National 4 Activity will have an impact on a national scale. International 5 Activity will have an impact on an international scale. Duration (D) Immediate 1 Effect occurs periodically throughout the life of the activity. Short term 2 Effect lasts for a period of 0 to 5 years.	Local	2	Effect limited to within 3-5 km of the site.
International 5 Activity will have an impact on an international scale. Duration (D) Immediate 1 Effect occurs periodically throughout the life of the activity. Short term 2 Effect lasts for a period of 0 to 5 years.	Regional	3	Activity will have an impact on a regional scale.
Duration (D) Immediate 1 Effect occurs periodically throughout the life of the activity. Short term 2 Effect lasts for a period of 0 to 5 years.	National	4	Activity will have an impact on a national scale.
Immediate1Effect occurs periodically throughout the life of the activity.Short term2Effect lasts for a period of 0 to 5 years.	International	5	Activity will have an impact on an international scale.
Short term 2 Effect lasts for a period of 0 to 5 years.	Duration (D)		
	Immediate	1	Effect occurs periodically throughout the life of the activity.
Medium term 3 Effect continues for a period between 5 and 15 years.	Short term	2	Effect lasts for a period of 0 to 5 years.
	Medium term	3	Effect continues for a period between 5 and 15 years.

Long term	4	Effect will cease after the operational life of the activity either because of a natural process or by human intervention.
Permanent	5 Where mitigation either by natural process or by human intervention will not occur in such a way or such a period that the impact can be considered transient.	
Probability of oc	curren	ce (P)
Improbable	1	Less than 30% chance of occurrence.
Low	2	Between 30 and 50% chance of occurrence.
Medium	3	Between 50 and 70% chance of occurrence.
High	4	Greater than 70% chance of occurrence.
Definite	5	Will occur, or where applicable has occurred, regardless of or despite any mitigation measures.

Once the impact criteria have been ranked for each impact, the significance of the impacts will be calculated using the following formula:

Significance Points (SP) = (Magnitude + Duration + Extent) x Probability

The significance of the heritage impact is therefore calculated by multiplying the severity rating with the probability rating. The maximum value that can be reached through this impact evaluation process is 100 SP (points). The significance for each impact is rated as High (SP \geq 60), Medium (SP = 31-60), and Low (SP<30) significance as shown below.

Table 4: Criteria for Rating of Classified Impacts

Significanc	e of predict	ed NEGATIVE impacts
Low	0-30	Where the impact will have a relatively small effect on the environment and will require
2011	0.00	minimal or no mitigation and as such have a limited influence on the decision
Medium	31-60	Where the impact can have an influence on the environment and should be mitigated
		and as such could have an influence on the decision unless it is mitigated.
		Where the impact will definitely influence the environment and must be mitigated,
High	61-100	where possible. This impact will influence the decision regardless of any possible
		mitigation.
Significanc	e of predict	ed POSITIVE impacts
Low	0-30	Where the impact will have a relatively small positive effect on the environment.
Medium	31-60	Where the positive impact will counteract an existing negative impact and result in an
Medium	51-00	overall neutral effect on the environment.
High	61-100	Where the positive impact will improve the environment relative to baseline conditions.

Table 5: Operational Phase

	Impacts and Mitigation measures relating to the proposed project during the Operational Phase													
Activity/Aspect	Impact /	Aspect	Nature	Magnitude	Extent	Duration	Probability	Significanc e before mitigation	before Mitigation measures		Significanc e after mitigation			
	Destruction of archaeological remains	Cultural heritage	-	2	1	1	2	8	Mitigation not required because the study did not record any archaeological sites, Chance find procedure applies.	2	1	1	1	4
Clearing and construction	Disturbance of graves	Cultural heritage	-	2	1	1	2	8	Mitigation not required because the site did not yield any graves	4	1	1	1	4
Construction	Disturbance of buildings and structures older than 60 years old	Operational	-	2	1	1	1	4	Mitigation not required, buildings and structures younger than 60 years do not exist within the project area	4	1	1	1	4
Excavation and haulage	Destruction of public monuments and plaques	Operational	-	2	1	1	1	4	Mitigation is not required because there are no public monuments within the proposed site	2	1	1	4	4

Cumulative Impacts

The European Union Guidelines define cumulative impacts as "Impacts that result from incremental changes caused by other past, present or reasonably foreseeable actions together with the project. Therefore, the assessment of cumulative impacts for the proposed development is considered the total impact associated with the proposed energy development when combined with other past, present, and reasonably foreseeable future development projects. An examination of the potential for other projects to contribute cumulatively to the impacts on heritage resources from this proposed development was undertaken during the preparation of this report. The total impact arising from the proposed development (under the control of the applicant), other activities (that may be under the control of others, including other developers, local communities, government) and other background pressures and trends which may be unregulated.

The impacts of the proposed energy development were assessed by comparing the post-project situation to a pre-existing baseline. Where projects can be considered in isolation, this provides a good method of assessing a project's impact. However, in this case, the site has been previously disturbed by previous agricultural activities which affected baselines, the proposed development will contribute to the existing impacts in the project area. As such increased development in the project area will have several cumulative impacts on heritage resources whether known or covered in the ground. For example, during clearance they will be an increase in human activity and movement of heavy construction equipment and vehicles that could change, alter or destroy heritage resources within and outside the development sites given that archaeological remains occur on the surface. Cumulative impacts that could result from a combination of the proposed development and other actual or future developments in the broader study area include site clearance and the removal of topsoil could result in damage to or the destruction of heritage resources that have not previously been recorded.

Heritage resources such as burial grounds and graves, archaeological as well as historical sites are common occurrences within the greater study area. These sites are often not visible and as a result, can be easily affected or lost. Furthermore, many heritage resources in the greater study area are informal, unmarked, and may not be visible, particularly during the wet season when grass cover is dense. As such, construction team may not see these resources, which results in an increased risk of resource damage and/or loss. Earthmoving and earthmoving work have the potential to interact with archaeology, architectural, and cultural heritage. Sites of archaeological significance were not specifically identified, and cumulative effects are not applicable.

The nature and severity of the possible cumulative effects may differ from site to site depending on the characteristics of the sites and variables.

A significant cumulative impact that needs attention is related to stamping by especially construction vehicles during clearance and excavation work within the site. No significant cumulative impacts, over and above those already considered in the impact assessment, are foreseen at this stage of the assessment process. Cumulative impacts can be significant if construction vehicles are not monitored to avoid driving through undetected heritage resources.

Impact Statement

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

Similarly, the clearing of access road will impact material that lies buried in the topsoil although the chances are limited. Since heritage sites, including archaeological sites, are non-renewable, they must be identified, and their significance assessed before construction. It is important to note that due to the localised nature of archaeological resources, that individual archaeological sites could be missed during the survey, although the probability of this is very low within the proposed Solar PV Park establishment site. Further, archaeological sites and unmarked graves may be buried beneath the surface and may only be exposed during surface clearance and excavation. The purpose of the AIA is to assess the sensitivity of the area in terms of archaeology and to avoid or reduce the potential impacts of the proposed development employing mitigation measures (see appended Chance Find Procedure).

Mitigation

Mitigation is not required because they survey did not record any heritage sites within the proposed development site. However, the Chance Find procedure is required to cater for any accidental finds during construction.

8. ASSESSING SIGNIFICANCE

The Guidelines to the SAHRA Guidelines and the Burra Charter define the following criterion for the assessment of cultural significance:

Aesthetic Value

Aesthetic value includes aspects of sensory perception for which criteria can and should be stated. Such criteria may include consideration of the form, scale, colour, texture, and material of the fabric; a sense of place, the smells and sounds associated with the place and its use.

Historic Value

Historic value encompasses the history of aesthetics, science, and society, and therefore to a large extent underlies all the terms set out in this section. A place may have historic value because it has influenced, or has been influenced by, an historic figure, event, phase, or activity. It may also have historic value as the site of an important event. For any given place, the significance will be greater where evidence of the association or event survives in situ, or where the settings are substantially intact than where it has been changed or evidence does not survive. However, some events or associations may be so important that the place retains significance regardless of subsequent treatment.

Scientific value

The scientific or research value of a place will depend upon the importance of the data involved, on its rarity, quality, or representativeness, and on the degree to which the place may contribute further substantial information. Scientific value is also enshrined in natural resources that have significant social value. For example, pockets of forests and bushvelds have high ethnobotany value.

Social Value

Social value embraces the qualities for which a place has become a focus of spiritual, religious, political, local, national, or another cultural sentiment to a majority or minority group. Social value also extends to natural resources such as bushes, trees, and herbs that are collected and harvested from nature for herbal and medicinal purposes.

9. DISCUSSION

Several Phase 1 Heritage studies for various infrastructure developments were conducted since 2000. The studies noted that significant Stone Age sites occur in and around project area and on adjacent farms. The current site did not yield any archaeological remains as confirmed. The lack of confirmable archaeological sites recorded during the current survey is thought to be a result of two primary interrelated factors:

1. That proposed development site is located within a heavily degraded area and have reduced sensitivity for the presence of high significance physical cultural site remains, be they archaeological, historical or burial sites, due to extensive land use activities.

2. Limited ground surface visibility on sections of the proposed Solar PV Park site that were not cleared at the time of the study may have impended the detection of other physical cultural heritage site remains or archaeological signatures within the proposed development site.

The absence of confirmable and significant archaeological cultural heritage site is not evidence in itself that such sites did not exist in the proposed development area. It may be that, given the dense development in most sections of the development site, if such sites existed before, changing earth-moving activities may have destroyed their evidence on the surface. Significance of the sites of Interest is not limited to presence or absence of physical archaeological sites. These discoveries that were made testifies to the significance of the project area as a cultural landscape of note, which has discernible links to local oral history and folk stories, environmental and ethnobotanical aesthetics, popular memories etc. associated with significance emanating from intangible heritage of the region.

10. RECOMMENDATIONS

- The footprint impact of the proposed development and associated infrastructure should be kept to a minimum to limit the possibility of encountering chance finds.
- Construction teams must be inducted on the possibility of encountering archaeological resources that may be accidentally exposed during subsurface clearance before the commencement of work on the site to ensure appropriate mitigation measures and that course of action is afforded to any chance finds.
- Should chance archaeological materials or human remains be exposed during subsurface construction work on any section of the proposed development site, work should cease on the affected area and the discovery must be reported to the heritage authorities immediately so that an investigation and evaluation of the finds can be made. The overriding objective, where remedial action is warranted, is to minimize disruption in construction scheduling while recovering archaeological and any affected cultural heritage data as stipulated by the NHRA regulations.
- Subject to the recommendations herein made and the implementation of the mitigation measures and adoption of the project EMP, there are no significant cultural heritage resources barriers to the proposed development. SAHRA may approve the proposed project to proceed as planned with special commendations to implement the recommendations herein made.

11. CONCLUSIONS

Sativa Travel and Environmental Consultants (Pty) Ltd was tasked by EnviroSaint (Pty) Ltd to carry out HIA for the proposed establishment of a Solar PV Park with Battery Energy Storage System on Portion 4 of the farm Rheeboksfontein 346, Kouga Local Municipality, Sarah Baartman District Municipality, Eastern Cape Province. In terms of archaeology and heritage in respect of the Solar PV Park establishment, there are no obvious 'Fatal Flaws' or 'No-Go' areas. However, the potential for chance finds, remains and the developer and contractors are advised to be diligent and observant during the construction of the land site. The procedure for reporting chance finds has been laid out and if this report is adopted by SAHRA, then there are no archaeological reasons why the proposed development cannot be approved.

12. REFERENCES

Binnerman, J.N.F. 1997. Results from a test excavation at the Havens Cave, Cambria, south-eastern cape. Southern African Field Archaeology6: 93-105.

Binnerman, J.N.F. 1998.Results from a test excavation at Kleinpoort Shelter in the Baviaanskloof, Eastern Cape Province. Southern African Field Archaeology 7:90-97.

Binnerman, J.N.F. 199a. Results from a test excavation at Groot Kommandokloof Shelter in the Baviaaskloof/Kouga region, Eastern Cape Province. Southern African Field Archaeology 8: 100-107.

Binnerman, J.N.F. 199b. Mummified human remains from Kouga mountains, Eastern Cape. The Digging Stick 6:1-2.

Binnerman, J.N.F. 2000. Results from test excavations in the Baviaanskloof Mountains, Eastern Cape. Southern African Field Archaeology. 9:81-92.

Booth, C. 2019. Phase 1 Archaeological Impact Assessment for the proposed road upgrade – Sterkspruit to Mlamli Hospital (Road DR08606), +1-12km) and three associated Borrow Pits, Senqu Local Municipality, Joe

Qabi District Municipality, Eastern Cape Province. Unpublished Report. Eastern Cape.

Deacon, H.J. and Deacon, J. 2000. Human beings in South Africa: Uncovering the secretes of Stone Age. Cape Town: David Phillip Publishers.

Deacon, H.J. and Wurz, S. 1996. Klasies River main site, Cave 2: A Howiesonspoort occurrence. In Pwiti, G and Soper, R. eds. *Aspects of African Archaeology*. 213-218. Harare: University of Zimbabwe Publications.

Deacon. H.J. 1992. Southern Africa and modern human origins. Philosophical Transactions of the Royal Society, London. 337: 177-83.

Deacon. H.J. 1993. Southern Africa and modern human origins. In Aitken, M.J., Stringer, C.B. and Mellars, C.A. eds. *The origins of modern humans and impact of chronometric dating* .104-117. Princeton: Princeton University Press.

Deacon. H.J. 2001. Modern human emergency: An African archaeological perspective

Dreyer, C., 2005. Archaeological and Cultural Heritage Assessment of the Proposed Installation of a Sewer Plant at Herschel, Eastern Cape. Unpublished report. Bloemfontein.

Dreyer, C., 2008. First Phase Archaeological and Cultural Heritage Investigation of the Proposed New Solid Waste Landfill Site at Sterkspruit, Eastern Cape. Unpublished report. Bloemfontein.

Fourie, W.& Kito J. 2013. Proposed establishment of a new Solid Waste Landfill Site, Rossouw, Senqu Municipality, Joe Gqabi District Municipality, Eastern Cape Province

Kitto, J. 2013a. Phase 1-Heritage Impact Assessment. Proposed establishment of a New Solid Waste Landfill Site, Rhodes Village, Senqu Municipality, Joe Gqabi District Municipality, Eastern Cape Province. Unpublished report. PGS Heritage. Totiusdal.

Kitto, J. 2013b. Heritage Impact Report. Proposed Establishment of a New Solid Waste Landfill Site, Rossouw, Senqu Municipality, Joe Gqabi District Municipality, Eastern Cape Province. Unpublished report. PGS Heritage. Totiusdal

Klein, R.G. 1976. The mammalian fauna from th Klasies River sites. Southern Cape Province of South Africa. The South African Archaeological Bulletin. 3: 75-98.

Kruger, N. 2015. Archaeological Impact Assessment (AIA) of areas demarcated for the Barkly East Bulk Water Supply Upgrade Project, Barkly East, Joe Gqabi District Municipality, Eastern Cape Province. Unpublished report. Exigo. Pretoria.

Kruger, N. 2017. Archaeological Impact Assessment (AIA) for the proposed Herschel Regional Landfill Site Development Project, Herschel, Joe Gqabi District Municipality, Eastern Cape Province. Unpublished report. Exigo. Pretoria.

Ktuger, N. 2017. Archaeological Impact Assessment for Proposed Herschel Regional Landfill Site Development Project, Herschel, Joe Gqabi District Municipality, Eastern Cape Province

Laidler, P.W. 1974. The evolution of the Middle Paleolithic technique at Geelhoutbourn near Kareedouw. Transactions of the Royal Society of South Africa.

Mngomezulu. M. 2014. Application for Exemption on the Construction of Further Education Training (FET) Colleges in Sterkspruit, Eastern Cape Province.

NORTJE, K. 2006. Land as a Site of Remembrance: An Ethnographic Study in Barkly East. A thesis submitted in fulfilment of the requirements for the degree of Master of Arts. University of the Witwatersrand. Department of Social Anthropology.

Rightmire, G.P and Deacon, H.J. 1991. Comparative studies of Late Pleistocene human remains from Klasies River Mouth, South Africa. Journal of Human Evolution. 20: 131-156.

Rossouw, L. 2021. Phase 1 Heritage Impact Assessment of the proposed new construction of a new Waste Water Treatment Works (WWTW) and associated pipe line infrastructure in the town of Sterkspruit, EC Province.

Rossouw, L., 2014. Phase 1 Heritage Impact Assessment of the proposed new construction of a new Wastewater Treatment Works (WWTW) and associated pipeline infrastructure in the town of Sterkspruit, EC Province. Unpublished report. Paleo Field Services. Bloemfontein.

Rossouw, L., 2015. Phase 1 Archaeological Impact Assessment of two borrow pits on the communal ground near Musong, Herschel District, EC Province. Unpublished report. Archaeological Impacts Unit. National Museum of Bloemfontein.

Sadien, Y. 2020. The uncomfortable conversation Desecration of graves during course of development, a movement towards finding a solution. South African Heritage Resource Agency.

Singer, R. and Wymer, J. 1982. The Middle Stone Age at Klasies River Mouth IN South Africa. Chicago: Chicago University Press.

Van Riet Lowe, C. 1941. Prehistoric Art in South Africa. Archaeological Series No. V. Bureau of Archaeology, Dept. of the Interior. Pretoria.

Van Ryneveld, K. 2017. Phase 1 AIA for Zachtevlei Dam Long Term Water Supply Project, Lady Grey, Joe Gqabi District Municipality Drought Relief Programme, Eastern Cape

Van Ryneveld, K. 2017. Phase 1 Archaeological & Cultural Heritage Impact Assessment – Lady Grey Bulk Water Supply – Zachtevlei Dam Long Term Water Supply Project, Lady Grey, Joe Gqabi District Municipality Drought Relief Programme, Eastern Cape. Unpublished report. ArchaeoMaps: Eastern Cape.

Van Schalkwyk, J. 2011. Heritage scoping report with preliminary impact assessments for the N6/N2 Fibre Optic Cable: Aliwal North to George via East London and Port Elizabeth. Unpublished report. Pretoria.

Van Schalkwyk, J. 2015. Preliminary draft. Cultural heritage impact assessment for the proposed Eastern Free State, Lesotho Border Road Development, Free State Province. Unpublished report. Pretoria

Webley, L. 2002. (Albany Museum). Proposed Kaboega Dam – Phase 1 Heritage Impact Assessment.

13. APPENDIX 1: CHANCE FIND PROCEDURE FOR THE PROPOSED ESTABLISHMENT OF A SOLAR PV PARK WITH BATTERY ENERGY STORAGE SYSTEM ON THE FARM RHEEBOKSFONTEIN 346, KOUGA LOCAL MUNICIPALITY, SARAH BAARTMAN DISTRICT MUNICIPALITY, EASTERN CAPE

MARCH 2023

ACRONYMS

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

CHANCE FIND PROCEDURE

Introduction

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

Definitions

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

Background

The proposed development is on the farm Rheeboksfontein 346, Kouga Local Municipality, Sarah Baartman District Municipality, Eastern Cape . The site is subject to heritage survey and assessment at the planning stage following the NHRA. These surveys are based on surface indications alone and it is therefore possible that sites or significant archaeological remains can be missed during surveys because they occur beneath the surface. These are often accidentally exposed in the course of construction or any associated construction work and hence the need for a Chance Find Procedure to deal with accidental finds. In this case,

an extensive Archaeological Impact Assessment was completed by T. Mlilo (2023) on the development site. The AIA/HIA conducted was very comprehensive covering the entire site. The current study (Mlilo 2023) did not record any significant archaeological or heritage resources within the proposed development site.

Purpose

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

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

CHANCE FIND PROCEDURE

General

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

- All construction/clearance activities in the vicinity of the accidental find/feature/site must cease immediately to avoid further damage to the find site.
- Briefly note the type of archaeological materials you think you have encountered, and their location, including, if possible, the depth below the surface of the find
- Report your discovery to your supervisor or if they are unavailable, report to the project ECO who will provide further instructions.
- If the supervisor is not available, notify the Environmental Control Officer immediately. The Environmental Control Officer will then report the find to the Site Manager who will promptly notify the project archaeologist and SAHRA.
- Delineate the discovered find/ feature/ site and provide a 25m buffer zone from all sides of the find.
- Record the find GPS location, if able.
- All remains are to be stabilised in situ.
- Secure the area to prevent any damage or loss of removable objects.
- Photograph the exposed materials, preferably with a scale (a yellow plastic field binder will suffice).
- The project archaeologist will undertake the inspection process in accordance with all project health and safety protocols under the direction of the Health and Safety Officer.
- Finds rescue strategy: All investigation of archaeological soils will be undertaken by hand, all finds, remains, and samples will be kept and submitted to a Museum as required by the heritage legislation.
 If any artefacts need to be conserved, the relevant permit will be sought from the SAHRA.
- An on-site office and finds storage area will be provided, allowing storage of any artefacts or other archaeological material recovered during the monitoring process.
- In the case of human remains, in addition to the above, the SAHRA Burial Ground Unit will be contacted and the guidelines for the treatment of human remains will be adhered to. If skeletal remains are identified, an archaeological will be available to examine the remains.
- The project archaeologist will complete a report on the findings as part of the permit application process.

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

Management of chance finds

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

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

- a. Heritage Specialist to inspect, evaluate, and document the exposed burial or skeletal remains and determine further action in consultation with the SAPS and Traditional authorities:
- b. Heritage specialist will investigate the age of the accidental exposure to determine whether the find is a burial older than 60 years under the jurisdiction of SAHRA or that the exposed burial is younger than 60 years under the jurisdiction of the Department of Health in terms of the Human Tissue Act.
- c. The local SAPS will be notified to inspect the accidental exposure to determine where the site is a scene of crime or not.
- d. Having inspected and evaluated the accidental exposure of human remains, the project Archaeologist will then track and consult the potential descendants or custodians of the affected burial.
- The project archaeologist will consult with the traditional authorities, local municipality, and SAPS to seek endorsement for the rescue of the remains. Consultation must be done in terms of NHRA (1999) Regulations 39, 40, 42.

- f. Having obtained consent from affected families and stakeholders, the project archaeologist will then compile a Rescue Permit application and submit to SAHRA Burial Ground and Graves Unit.
- g. As soon as the project archaeologist receives the rescue permit from SAHRA he will in collaboration with the company/contractor arrange for the relocation in terms of logistics and appointing an experienced undertaker to conduct the relocation process.
- h. The rescue process will be done under the supervision of the archaeologist, the site representative, and affected family members. Retrieval of the remains shall be undertaken in such a manner as to reveal the stratigraphic and spatial relationship of the human skeletal remains with other archaeological features in the excavation (e.g., grave goods, hearths, burial pits, etc.). A catalogue and bagging system shall be utilised that will allow ready reassembly and relational analysis of all elements in a laboratory. The remains will not be touched with the naked hand; all Contractor personnel working on the excavation must wear clean cotton or non-powdered latex gloves when handling remains to minimise contamination of the remains with modern human DNA. The project archaeologist will document the process from exhumation to reburial.
- i. Having fulfilled the requirements of the rescue/burial permit, the project archaeologist will compile a mitigation report which details the whole process from discovery to relocation. The report will be submitted to SAHRA and the company.

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

14. APPENDIX 2: HERITAGE MANAGEMENT PLAN INPUT INTO THE PROPOSED SOLAR PV PARK EMP

Objectiv	 Protection of archaeological sites and land considered to be of cultural value. Protection of known physical cultural property sites against vandalism, destruction and theft; and The preservation and appropriate management of new archaeological finds should these be discovered during construction. 									
No.	Activit y	Mitigation Measures	Duration	Frequency	Responsibility	Accountable	Contacted	Inform ed		
Pre-	Construct	on Phase								
1	Planni ng	Ensure all known sites of cultural, archaeological, and historical significance are demarcated on the site layout plan and marked as no-go areas.	Throughout Project	Weekly Inspection	Contractor [C] CECO	SM	ECO	EA EM PM		
Cons	struction F	Phase								
		Should any archaeological or physical cultural property heritage resources be exposed during excavation for the purpose of construction, construction in the vicinity of the finding must be stopped until heritage authority has cleared the development to continue.	N/A	Throughout	C CECO	SM	ECO	EA EM PM		
1		Should any archaeological, cultural property heritage resources be exposed during excavation or be found on the development site, a registered heritage specialist or PHRA official must be called to site for inspection.		Throughout	C CECO	SM	ECO	EA EM PM		
	esponse	Under no circumstances may any archaeological, historical or any physical cultural property heritage material be destroyed or removed from the site;		Throughout	C CECO	SM	ECO	EA EM PM		
	Emergency Response	Should remains and/or artefacts be discovered on the development site during earthworks, all work will cease in the area affected and the Contractor will immediately inform the Construction Manager who in turn will inform PHRA.		When necessary	C CECO	SM	ECO	EA EM PM		

	Should any remains be found on site that is potentially human remains, the PHRA and South African Police Service should be contacted.	When necessary	C CECO	SM	ECO	EA EM PM
Rehabilitation	Phase					
	Same as the construction phase.					
Operational Pl	hase					
	Same as the construction phase.					

15. APPENDIX 3: HERITAGE MITIGATION MEASURES TABLE

SITE REF	HERITAGE ASPECT	POTENTIAL IMPACT	MITIGATION MEASURES	RESPONSIBLE PARTY	PENALTY	METHOD STATEMENT REQUIRED
Chance Archaeologic al and Burial Sites	General area where the proposed project is situated in a historic landscape, which may yield archaeological, cultural property, remains. There are possibilities of encountering unknown archaeological sites during subsurface construction work which may disturb previously unidentified chance finds.	 Possible damage to previously unidentified archaeological and burial sites during the construction phase. Unanticipated impacts on archaeological sites where project actions inadvertently uncovered significant archaeological sites. Loss of historic cultural landscape. Destruction of burial sites and associated graves Loss of aesthetic value due to construction work Loss of sense of place 	 construction scheduling while recovering archaeological data. Where necessary, implement emergency measures to mitigate. Where burial sites are accidentally disturbed during construction, the affected area should be demarcated as a no-go zone by the use of fencing during construction, and access thereto by the construction team must be denied. 	 Contractor / Project Manager Archaeologi st Project EO 	Fine and or imprisonment under the PHRA Act & NHRA	Monitoring measures should be issued as instruction within the project EMP. PM/EO/Archaeologists Monitor construction work on sites where such development projects commence within the farm.

Loss of intangible heritage value due to change in land use	relevant heritage and health authorities permit for possible relocation of affected graves accidentally encountered during construction work.		
---	---	--	--

16. APPENDIX 4: LEGAL PRINCIPLES OF HERITAGE RESOURCES MANAGEMENT IN SOUTH AFRICA

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

General principles for heritage resources management

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

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

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

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

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

(2) To ensure that heritage resources are effectively managed

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

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

(3) Laws, procedures, and administrative practices must

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

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

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

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

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

(6) Policy, administrative practice, and legislation must promote the integration of heritage resources conservation in urban and rural planning and social and economic development.

(7) The identification, assessment, and management of the heritage resources of South Africa must

(a) take account of all relevant cultural values and indigenous knowledge systems;

(b) take account of material or cultural heritage value and involve the least possible alteration or loss of it;

(c) promote the use and enjoyment of and access to heritage resources, in a way consistent with their cultural significance and conservation needs;

(d) contribute to social and economic development;

(e) safeguard the options of present and future generations; and

(f) be fully researched, documented, and recorded.

Burial grounds and graves

36. (1) Where it is not the responsibility of any other authority, SAHRA must conserve and generally care for burial grounds and graves protected in terms of this section, and it may make such arrangements for their conservation as it sees fit.

(2) SAHRA must identify and record the graves of victims of conflict and any other graves which it deems to be of cultural significance and may erect memorials associated with the grave referred to in subsection (1) and must maintain such memorials.

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

(a) destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of the conflict, or any burial ground or part thereof which contains such graves;

(b) destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or

(c) bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation equipment, or any equipment which assists in the detection or recovery of metals.

(4) SAHRA or a provincial heritage resources authority may not issue a permit for the destruction or damage of any burial ground or grave referred to in subsection (3)(a) unless it is satisfied that the applicant has made satisfactory arrangements for the exhumation and re-interment of the contents of such graves, at the cost of the applicant and in accordance with any regulations made by the responsible heritage resources

authority.

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

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

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

(6) 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 accordance with regulations of the responsible heritage resources authority

(a) investigate 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 a 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.

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

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

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

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

General policy

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

(a) must, within three years after the commencement of this Act, adopt statements of general policy for the management of all heritage resources owned or controlled by it or vested in it; and

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

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

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

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

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

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

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