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Cc Reg. No. 2011/028271/23

PHASE 1 - ARCHAEOLOGICAL IMPACT ASSESSMENT - BEC/217/BA/4

PHASE 1 ARCHAEOLOGICAL IMPACT ASESSMENT OF THE PROPOSED DEVELOPMENT OF THE BOSHOF COMBINED SCHOOL IN THE TOKOLOGO MUNICIPALITY, LEJWELEPUTSWA DISTRICT MUNICIPALITY, FREE STATE PROVINCE

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Document History and Distribution

The phase 1 Archaeological Impact Assessment for the proposed Title:

development of the Boshof Combined School in the Tokologo Local

Municipality, Lejweleputswa District, Free State Province

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Independence

I, Munyadziwa Magoma declare that this report has been prepared independently of any influence as may be specified by all relevant department, institution and organization.

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Abbreviations

EIA Environmental Impact Assessment

EMP Environmental Management Plan/Programme

EAP Environmental Assessment Practitioner

I&AP Interested and Affected Party

LIA Late Iron Age

LSA Late Stone Age

MSA Middle Stone Age

NEMA National Environmental Management Act

NHRA National Heritage Resources Act

SAHRA South Africa Heritage Resource Agency

Glossary

Archaeological sites

- a) Material remains resulting from human activity which are in a state of disuse and are in or on and which are older than 100 years, including artefacts, human and hominid remains and artificial features and structures;
 - b) Rock art, being any form of painting, engraving or other graphic representation on a fixed rock surface or loose rock or stone, which was executed by human agency and which is older than 100 years, including any area whinging 10 m of such representation;
 - Features, structures and artefacts associated with military history which are older than 75 years and the sites on which they are found.

Biodiversity

: The variety of life and its processes; including the variety of living organisms the genetic differences among them, the communities and ecosystems in which they occur, and the ecological and evolutionary processes that keep them functioning, yet ever changing and adapting.

Clearing

: The clearing and removal of vegetation, whether partially or in whole, including trees and shrubs, as specified.

Environment

- : The surroundings within which humans exist and that is made up of:
 - a) The land, water and atmosphere of the earth;
 - b) Micro-organisms, plant and animal life;
 - c) Any part or combination of a) and b) and the interrelationships among and between them; and
 - d) The physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being (*i.e.* the social environment).

Habitat

: A dynamic system of plant, animals and micro-organism communities and their non-living environment interacting as a functional unit.

Heritage resource

: All those heritage resources that are of cultural significance or other special value for present and future generations, and which are accordingly considered part of the National Estate. In this regard, the National Estate includes those items identified in terms of Section 2 of the National Heritage Resources Act (No 25 of 1999).

Natural vegetation

The existing vegetation species, indigenous or otherwise, of trees, shrubs, groundcover, grasses and all other plants found growing on the site.

Site

: The piece of land and any other place on, under, over, in or through which the development activity are to be executed or carried out. The site shall include the activity area, internal roads and access route.

Weeds and invader plants

: Weeds and invader plants, as defined under Section 1 of the Conservation of Agricultural Resources Act, 1983 (Act 43 of 1983) and Government Notice R1048 of 25 May 1984 Part 2, or any list of invaders identified by the Agricultural Research Council and the Plant Protection Research Institute (Handbook No.5 – Plant Invaders of Southern Africa).

Executive Summary

Bophelo Environmental Consultants was appointed to undertake an archaeological impact assessment of the proposed Boshof combined school on Portion of erf 818, Tokolong Local Municipality, Lejweleputswa District in the Boshof administrative region, Free State Province, subject to the SAHRA APM Minimum Standards for the Archaeological & Palaeontological Components of Impact Assessment Reports of 2012, which clearly specifies the required content of a Phase 1 AIA report.

This report focuses on the results from an archaeological survey that was conducted on an area proposed for the combined school. The study was undertaken by Mr Munyadziwa Magomat on the 25th of May 2013. The main aim of the survey was to locate, identify, document sites, objects, sites associated with oral histories, burial grounds, graves and cultural landscapes within the footprint of the area on which the proposed development is to take place. The geographical area surrounding Boshof town represents archaeological sites dating from the Stone Age, Iron Age and Historical Age period. Below is an overview of the findings:

Stone Age

Middle Stone Age materials with a localised density have been documented between Kimberley and Boshof. The only closest Stone Age materials to this site were documented approximately 2km northwest of the proposed site; these scatters were dated to the Middle Iron Age and produced low densities. Furthermore, and about 12km north-west of the proposed area Middle/Late Iron Age scatters were also documented. Thus, although Middle to Late Stone Age material is known to exist in the region of the proposed area, there were no Stone Age tools that were noted during survey.

Iron Age

No Iron Age artefacts, structures, features or settlements that were identified during the survey of the proposed development.

Historic

There were no sites related to the historic period in the proposed area.

Graves

The area is vehemently disturbed by past development related to farming, as such, there were no noted graves in the footprint of the proposed area. The only graveyard in the area is approximately 200m from the proposed site, this active graveyard is fenced. Hence, it will not be affected by this proposed development, since is known.

Recommendations and Conclusion

The developer is made aware that archaeological material (e.g. pottery, remains of stone-walling, graves, etc) are often located underground. Thus, unavailability of archaeological material does not mean absentee, archaeological material might be hidden underground as such the client is reminded to take precautions during the development of the proposed development.

Should any archaeological material be unearthed accidentally during the course of construction, SAHRA should be alerted immediately and construction activities stopped.

We recommend to SAHRA to approve the project to proceed as planned.

1 Introduction

Bophelo Environmental Consultants was appointed by Crane Registered Quantity Surveyors to undertake an archaeological impact assessment for the proposed establishment of the new Boshof Combined School located on a portion of erf 818 (±5 ha), Seretse suburb in Boshof Town, Boshof Administrative region in the Free State Province.

The assessment is subject to the SAHRA (APM) Minimum Standards for the Archaeological & Palaeontological Components of Impact Assessment Reports of 2012, which clearly specifies the required content of a Phase 1 AIA report. This report focuses on the results from an archaeological survey that was conducted on an area proposed for a school. The proposed development constitutes an activity, which may be harmful to the heritage resources that could occur in the demarcated area. The management and protection of heritage resources is a requirement of the National Environmental Management Act No.107 of 1998 (NEMA) as amended in terms of the NEMA 2010 regulations and Section 38 of the National Heritage Resources Act (NHRA - Act No. 25 of 1999).

The purpose of the AIA procedures is to identify and describe the following:

- Description of the activity and its location;
- Description of affected environment;
- Identify heritage sites;
- Identify archaeological sites;
- Determine whether the heritage or archaeological remains will be affected by the proposed development;
- Methods used to asses risk;
- Summary of heritage risk assessment;
- Mitigation and/or precautionary measures.

The purpose of the report is to inform the applicant/client about the heritage resources and their significance, while making appropriate recommendations with regard to the management thereof. It is also essential in that it provides SAHRA with the necessary information regarding for them to make an informed decision regarding the following:

- Whether it has objections with regard to the development;
- The conditions upon which such developments might proceed;
- The sites to which permits for destruction is required;
- Whether the sites require mitigation and what it should comprise of;
- The measures that should/can be put in place to protect sites that should be conserved.

1.1 Project objective and scope

The purpose of the study was to conduct a detailed site survey and have a holistic understanding of the sensitivity of the proposed area for a school establishment. This report will be referred to as archaeological impact assessment (AIA), and this assessment is used to integrate cultural heritage management with the impact of planning proposals prepared to provide a detailed and holistic framework for decision making, and for the implementation of a coherent set of appropriate actions for the conservation of cultural heritage sites if found. Impact assessments highlight the many issues facing sites in terms of site management, conservation, monitoring and maintenance and the environment in and around the site.

2 Archaeological Impact Assessment Report

This Phase 1 Archaeological report fulfils the requirement of the NHRA of 1999 (Act 25 of 1999). The structure of this report has been based on *SAHRA APM Guidelines: Minimum Standards for the Archaeological & Palaeontological Components of Impact Assessment Reports* of 2012, which clearly specifies the required content of a Phase 1 AIA report.

2.1 Full Particulars of Heritage Specialist

Company:Bophelo Environmental Consultants

Heritage Assessment Practitioner: Mr. Munyadziwa Magoma

Qualifications: BA (UNISA). Hons (UNIVEN). Archaeology: [ASAPA CRM Member].

Experience in Archaeological

Assessments: 7 Years

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2.2 The Relevant Authorities

As the proposed activity will take place within the jurisdiction of the Free State Province, the relevant agency in this case is:

South African Heritage Resources Agency (SAHRA)

The Chief Executive Officer

111 Harrington Street

Cape Town

8001

Tel: (021) 462 4502 Fax: (021) 462 4509

E-mail: info@sahra.org.za

3 Methodology

- A desktop study was first undertaken to better understand the nature of the activity, this study involve the investigation of the history of the area through internet search and consultation with relevant authorities, as well as SAHRIS database. In addition, E-journal platforms such as J-stor and History Resource Centre were searched. The University of Pretoria's Library was also visited. These investigations were conducted to determine if there are any known sites around the proposed area.
- ➤ The area was inspected on 25th of May 2013.
- ➤ To make solid defensible judgment a ground survey through acceptable archaeological standard was undertaken with no attempt to alter with the environment, the survey lasted approximately three hours and it require a detailed foot survey of the proposed area, area that could yield information were given a closer look.
- ➤ Photographs were taken with a 10.1 mega-pixel Sony Cybershot Digital Camera and coordinates were taken with a handheld Garmin etrex Venture HC.
- The visibility of the soil was moderate; it is important to note that there was no research which was undertaken on the subsurface, since a permit is required from SAHRA to tamper with a site.

The client is reminded that heritage material might be hidden underground and the Act requires that a developer cease all work immediately and notify relevant provincial heritage resource authority (in this case SAHRA)

4 Proposed Activity

4.1 Locality

The study area falls within the jurisdiction of the Tokolong Local Municipality, Lejweleputswa District in the Boshof administrative region, Free State Province. The proposed development site is situated on a portion of erf 818 (±5 ha), Seretse suburb in Boshof Town.

The general coordinates of the site:

S 28°548707; E 25°254371

Current Land Use

The site is currently vacant. It was previously used for farming purposes, and currently is utilised for livestock foraging (e.g. horses) and also for recreational purposes by local children.

Oral Interview

Limited oral interview was conducted with locals; they indicated that the proposed area has been significantly farmed in the past.

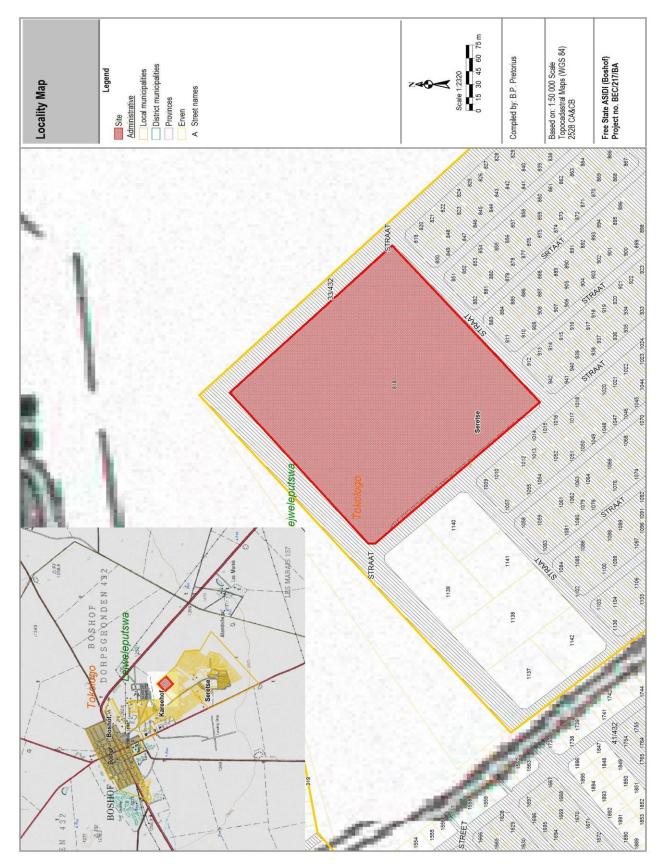


Figure 1: Topographical map of the proposed development area



Figure 2: Google map of the proposed development area

5 Description of Affected Environment

The property on which the proposed project is to take place on erf 818, Boshof administrative region which total about 5ha in extent. The site is currently vacant. It was previously used for farming purposes, and currently is utilised for livestock foraging (e.g. horses) and also for recreational purposes by local children.



Figure 3: An overview of the northern section of the proposed area.

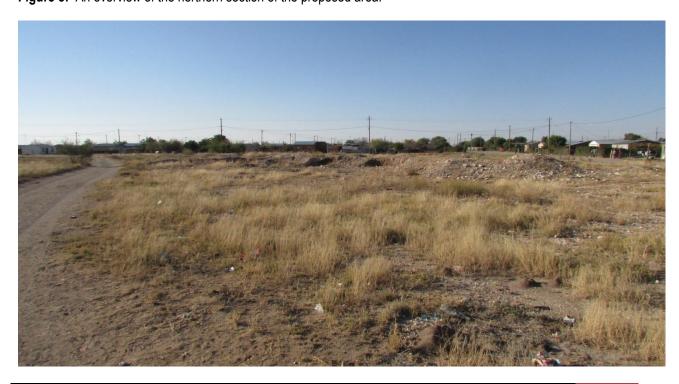


Figure 4: View of the western section of the proposed area, note the discarded deposit.



Figure 5: View of field which was noted in the area proposed for development, this field is on the further south of the proposed area.



Figure 6: View of the cemetery which is approximately 200m from the proposed area.

6 Legal Requirements

The activity is listed under Section 38 (1) of the National Heritage Resources Act NHRA of 1999 (Act 25 of 1999) and therefore requires a Phase 1 AIA to be conducted. The following activities are listed under the Act and require a AIA to be conducted:

- (a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;
- (b) the construction of a bridge or similar structure exceeding 50 m in length; and
- (c) any development or other activity which will change the character of an area of land, or water -
 - (i) exceeding 5 000 m² in extent;
 - (ii) involving three or more existing erven or subdivisions thereof; or
 - (iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or
 - (iv) the costs of which will exceed a sum set in terms of regulations by SAHRA or a Provincial Heritage Resources Authority;
- (d) the re-zoning of a site exceeding 10 000 m² in extent; or
- (e) any other category of development provided for in regulations by SAHRA or a Provincial Heritage Resources Authority, must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.

Section 3 of the national heritage resource Act (25 of 1999) lists a wide range of national resources that qualify as part of South Africa national estate. When conducting a Archaeological Impact Assessment (AIA) the following heritage resources had to be identified:

- (a) Places, buildings structures and equipment of cultural significance
- (b) Places to which oral traditions are attached or which are associated with living heritage
- (c) Historical settlements and townscapes
- (d) Landscapes and natural features of cultural significance
- (e) Geological sites of scientific or cultural importance
- (f) Archaeological and paleontological sites
- (g) Graves and burial grounds including-

- (i) ancestral graves
- (ii) royal graves and graves of traditional leaders
- (iii) graves of victims of conflict
- (iv) graves of individuals designated by the Minister by notice in the Gazette
- (v) historical graves and cemeteries; and
- (vi) other human remains which are not covered by in terms of the Human Tissue Act, 1983 (Act No. 65 of 1983)
- (h) Sites of significance relating to the history of slavery in South Africa
- (i) moveable objects, including -
 - (i) objects recovered from the soil or waters of South Africa, including archaeological and paleontological objects and material, meteorites and rare geological specimens
 - (ii) objects to which oral traditions are attached or which are associated with living heritage
 - (iii) ethnographic art and objects
 - (iv) military objects
 - (v) objects of decorative or fine art
 - (vi) objects of scientific or technological interest; and
 - (vii) books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1 of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996).

Other sections of the Act with relevance are the following:

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

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

 destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite

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

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 formal cemetery administered
by a local authority; or

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

Other relevant legislation includes:

- The Constitution of South Africa Act of 1996 (Act No. 108 of 1996);
- The National Environmental Management Biodiversity Act of 2004 (Act No. 10 of 2004);
- The National Environmental Management Act of 1998 (Act No. 107 of 1998);
- The National Environmental Management Biodiversity Act of 2004 (Act No. 10 of 2004) and the regulations and lists regarding threatened and protected species;
- White Paper on Integrated Pollution and Waste Management for South Africa.

7 Site Significance

The *significance* of the sites and artefacts are determined by means of their historical, social, aesthetic, technological and scientific value in relation to their uniqueness, condition of preservation and research potential. It must be kept in mind that the various aspects are not mutually exclusive, and that the evaluation of any site is done with reference to any number of these.

(a) Historic value

- (i) Is it important in the community, or pattern of history?
- (ii) Does it have strong or special association with the life or work of a person, group or organisation of importance in history?
- (iii) Does it have significance relating to the history of slavery?

(b) Aesthetic value

Is it important in exhibiting particular aesthetic characteristics valued by a community or cultural group?

(c) Scientific value

- (i) Does it have potential to yield information that will contribute to an understanding of natural or cultural heritage?
- (ii) Is it important in demonstrating a high degree of creative or technical achievement at a particular period?

(d) Social value

Does it have strong or special association with a particular community or cultural group for social, cultural or spiritual reasons?

(e) Rarity

Does it possess uncommon, rare or endangered aspects of natural or cultural heritage?

(f) Representivity

- (i) Is it important in demonstrating the principal characteristics of a particular class of natural or cultural places or objects?
- (ii) What is the importance in demonstrating the principal characteristics of a range of landscapes or environments, the attributes of which identify it as being characteristic of its class?
- (iii) Is it important in demonstrating the principal characteristics of human activities (including way of life, philosophy, custom, process, land-use, function, design or technique) in the environment of the nation, province, region or locality.

(g) Sphere of Significance

This category requires a broad, but detailed knowledge of the various disciplines that might be involved. Large sites, for example, may not be very important, but a small site, on the other hand, may have great significance as it is unique for the region. Such a region can transcend international boundaries.

7.1 Methodology for Assessing Significance

This category relates to the actual artefact or site in terms of its actual value as it is found today, and refers more specifically to the condition that the item is in. For example, an archaeological site may be the only one of its kind in the region, thus its regional significance is high, but there is heavy erosion of the greater part of the site, therefore its significance rating would be medium to low. Generally speaking the following are guidelines for the nature of the mitigation that must take place as Phase 2 of the project.

Table 1: Description of significant ratings

High

This is a do not touch, leave entirely alone situation. Alternative areas or routes must be sought for the project, be it a pipeline, mine, power line, road, township development or any other form in which the proposed development may be. Examples would be natural and cultural landscapes like the Mapungubwe Cultural Landscape World Heritage Site, or the house in which Nelson Mandela grew up in.

Certain sites or features may be exceptionally important, but do not warrant leaving entirely alone. In such cases, detailed mapping of the site and all its features is imperative, as is the collection of diagnostic artefactual material on the surface of the site. Extensive excavations must be done to retrieve as much information as possible before destruction. Such excavations might cover more than half the site and would be mandatory.

In the above mentioned case study (2), it would also be advisable to negotiate with the client to see what mutual agreement in writing could be reached, whereby part of the site is left for future research.

Medium

Sites of medium significance require detailed mapping of all the features and the collection of diagnostic artefactual material from the surface of the site. A series of test trenches and test pits should be excavated to retrieve basic information before destruction.

Low

These sites require minimum or no mitigation. Minimum mitigation recommended could be a collection of all surface materials and/or detailed site mapping and documentation. No excavations would be considered to be necessary. Where no mitigation is required, then the site can be destroyed.

In all the above scenarios permits will be required from the National Heritage Resources Agency (SAHRA) as per the relevant law, namely the National Heritage Resources Act (Act 25 of 1999). Destruction of any heritage site may only take place when a permit has been issued by SAHRA or its provincial equivalent should this exist.

8 Findings and Discussions

Stone Age Period

The first and longest part of human history is the Stone Age, which began with the appearance of early humans between 3-2 million years ago. Stone Age people were hunters, gatherers and scavengers who did not live in permanently settled communities. Their stone tools preserve well and are found in most places in South Africa and elsewhere. In fact, the first scientific evidence of hominid habitation in the region dates to the Middle Stone Age (MSA) and there are several sites of the MSA in the region. However, none of these are in close proximity to the proposed area. There is a noticeable gap in the region between tool types of the MSA and that of LSA origin, leading to the conclusion that the region may have been without human life for tens of thousands of years. LSA occupation might have commenced around the twelfth century AD. It is possible that the main period of semi-permanent settlement of the region by LSA corresponds to the movement of Iron Age into this area, this joint immigration seems counter-intuitive. The LSA people have also left us with a rich legacy of rock art, which is an expression of their complex social and spiritual believes.

Early Stone Age 2 000 000 - 150 000 Before Present

Middle Stone Age 150 000 - 30 000 BP

Late Stone Age 30 000 - until c. AD 200

Boshof administrative region have evidence of Stone Age hunter-gatherers, specifically dating from the middle to the later period. Surface scatters of Later Stone Age and Middle Stone Age artefacts have been documented by previous archaeological studies in the region. However, up to so far, only one Stone Age site have been identified in the area surrounding Boshof, this site dated to the Later Stone Age (Ouzman, 1996), and is situated on the southern bank of the Vaal River. It is mainly known for its rock art engravings on the natural boulders scattered throughout the area. These engravings include images of

the indigenous animals as well as geometric motifs. According to Ouzman (1996), this site also presented LSA lithics, although they have a low concentration.

 There was <u>no</u> material dating to this period which was noted on the proposed area, the area is disturbed to yield any Stone Age materials.

Iron Age Period

Iron Age is the period covering the last 1800 years, when new people brought a new way of life to southern Africa. These people established settled villages, cultivated domestic crops such as sorghum, millet and beans, and they were skilled herders, cattle, sheep and goats are among the animals they herded. According to archaeological evidence, they spoke early variations of the Bantu Language. Because they produced their own iron tools, archaeologists call them Iron Age people. The initial stages of contact between LSA people and Iron Age people appears to have been co-operative, LSA people made rain and prepared animal skins for the farmers in exchange for a variety of items, when land and resources became scarce, with the arrival of large-scale Middle/ Late Iron Age people, tensions appears to have arose between the two, as such LSA way of life was displaced, from this time forward Iron Age farmers may have conducted most of their own rain-making ceremonies, even though they may have continued to utilize painted shelters, Iron Age people even began to paint depictions of animals for themselves.

Early Iron Age AD 200 - AD 900 Middle Iron Age AD 900 - AD 1300 Late Iron Age AD 1300 - AD 1830

According to Huffman (2007), Iron Age sites which are found in this part of the Free State are represented by Middle Iron Age sites of the Moloko branch - Urewe tradition. These sites date to AD 1500 - AD 1700. Conversely, Late Iron Age sites are represented by the Thabeng facies of the Moloko branch - Urewe tradition. These sites date to AD 1700 - AD 1840.

The area is vehemently disturbed and there was <u>no</u> Iron age artefacts or settlement noted on the proposed site. This finding is synonymous with other studies in the region.

Historical Period

Since the arrival of the white settlers - c. AD 1840 - in this part of the country. These settlers were largely self-sufficient, relying on cattle/sheep farming and also hunting. Few towns were established and farming remains the most dominant economy. Boshof was stablished in 1856 by Dr Andrew Murray on the farm Van Wyksvlei that was purchased from a Griqua, Dawid Danster by a farmer, D S Fourie in 1839 and sold to the DR Church in 1855.

President J. N Boshoff agreed to act as godfather for the town, hence the name Boshof. Volkspele, the traditional dance of Afrikaans speaking South Africans, originated in Boshof. It was the realisation of the ambition of Mr S. H Pellissier, at the time vice-principal of Rooidak School. Boshof is a farming community and the main activity is sheep, cattle and game farming.

No historical structure or settlement was noted on the area proposed for development.

Grave yard/ Burial ground

Although no burial sites or graves were identified in the area proposed for development, there is always the possibility of encountering previously unidentified burial sites in any landscape in South Africa.

There was <u>no</u> place of burial or grave yard noted in the area proposed for development. In addition, no grave is anticipated in the proposed site since there is a formal cemetery in the area. This cemetery is north-east and about 200m from the proposed area, it is active and fenced, hence, it will not be affected by the proposed development.

9 Recommendations

In accordance with the National Heritage Legislation, no development activity was conducted by prior to this archaeological assessment.

The developer should avoid conveying duty during the time when there are activities at the cemetery. In the absence of confirmable archaeological or physical cultural resources along the larger project receiving environment, and also confirmed by similar studies in the wider area, it is recommended that the project be exempted from any further archaeological assessment studies.

The Environmental Control Officer or any person responsible for site management should be aware of the indicators of sub-surface sites, this may include the following:

- Bone concentrations, either animal or human,
- Ash deposits (unnaturally grey appearance of soil compared to the surrounding substrate),
- Ceramic fragments, including potsherds,
- Bone concentrations,
- Stone concentrations that appear to be formally arranged (may indicate the presence of an underlying burial),
- Fossilised remains of fauna and flora, including trees.

All construction within a radius of at least 10m of such indicator should cease and the area be demarcated by a danger tape. Accordingly, a professional archaeologist or SAHRA officer should be contacted immediately. In the meantime, it is the responsibility of the Environmental officer and the contractor to protect the site from publicity (i.e., media) until a mutual agreement is reached. It is mandatory to report any incident of human remains encountered to the South African Police Services, SAHRA staff member and professional archaeologist.

Noteworthy that any measures to cover up the suspected archaeological material or to collect any resources is illegal and punishable by law. In the same manner, no person may exhume or collect such remains, whether of recent origin or not, without the endorsement by SAHRA or a professional archaeologist.

10 Conclusion

A thorough background study and survey of the proposed area were conducted and findings were recorded in line with SAHRA guidelines. Thus, it is recommended that SAHRA approve the proposed project to proceed as planned.

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