PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT ERF 299 JACOBSBAAI VREDENBURG-SALDANHA MUNICIPALITY WESTERN CAPE PROVINCE

Prepared for

BKS (PTY) LTD

By

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EXECUTIVE SUMMARY

A Phase 1 Archaeological Impact Assessment (AIA) of Erf 299 Jacobsbaai has identified potentially significant impacts to pre-colonial archaeological material that will need to be mitigated prior to development activities.

Shovel testing, as a means of determining the significance of the archaeological remains, is recommended.

Alternative mitigation measures include creating a permanent shell midden corridor in the northern portion of the affected property in order to protect important archaeological heritage remains.

The recommendations are subject to the approval of the Archaeology Palaeontology and Meteorites Committee of Heritage Western Cape, the delegated Provincial Heritage Authority.

1. INTRODUCTION

1.1 Background and brief

BKS (Pty) Ltd requested that the Agency for Cultural Resource Management undertake a Phase 1 Archaeological Impact Assessment of Erf 299 Jacobsbaai, in Vredenburg-Saldanha Bay, in the Western Cape Province.

The proposed rezoning and subdivision of Erf 299 Jacobsbaai is for the purpose of a residential housing development. 132 single residential units are envisaged. A Group Housing component and a small business node is also planned

The size of the property is about 41 ha in extent.

The aim of the study is to locate, identify and map archaeological sites/remains that may be negatively impacted by the planning and construction of the proposed development, and to propose measures to mitigate against the impact.

2. TERMS OF REFERENCE

The terms of reference for the archaeological study were:

1. to determine whether there are likely to be any archaeological sites within the proposed site;

2. to identify any sites of archaeological significance within the proposed site;

3. to assess the sensitivity and conservation significance of archaeological sites;

4. to assess the status and significance of any impacts resulting from the proposed development; and

5. to identify mitigatory measures to protect and maintain any valuable archaeological sites that may exist within the proposed site.

3. STUDY APPROACH AND DOCUMENTATION OF ARCHAEOLOGICAL SITES

3.1 Assumptions

Since the receiving environment is located within a known archaeologically sensitive area (Kaplan 1993), the assessment assumes that:

 damage to archaeological heritage resources potentially will occur in the proposed development.

3.2 Method

The approach used in the archaeological study entailed a detailed ground survey of Erf 299 Jacobsbaai.

A desktop study was also undertaken.

The Vredenburg Peninsula is exceptionally rich in archaeological sites (Kaplan 1993). Sites have been recorded at Tabakbaai, Tooth Rock, Mauritzbaai and Jacobsbaai (Thackeray & Cronin 1975; Parkington & Poggenpoel 1987; Avery 1987; Kaplan 2003a, b, 2004a). Its richness is determined largely by its unique rocky shoreline formation which was favoured by both Later Stone Age¹ (LSA) hunter-gatherers and Khoi herders in the past, as it offered greater opportunities for the exploitation of marine foods, while the local shales and granites provided vital nutrients for domestic stock.

At Jacobsbaai/Mauritzbaai for example, substantial concentrations of shell middens are clustered inshore of the rocky shoreline in the intertidal zone (Avery 1987; Parkington & Poggenpoel 1987; Kaplan 2003a, 2004a). It is here that large quantities of shellfish species were stripped from the rocks, or collected at low tides, processed, and consumed by LSA hunter-gatherers.

An ancient tidal fish trap has also been reported in Mauritzbaai (Avery 1987).

Severe disturbance of archaeological sites at Jacobsbaai and Mauritzbaai has taken place over the last few years, unfortunately, due mainly to an increase in residential development in the area, and related physical and human pressures (Kaplan 2004b).

The majority of the Jacobsbaai/Mauritzbaai archaeological sites have already been severely disturbed and damaged as a result of these activities.

Archaeological shovel testing at Erf 85 Jacobsbaai in Mauritzbaai (immediately west of Erf 299), has shown that fairly substantial shellfish deposits, and modest amounts of bone, stone tools, ostrich eggshell and pottery occur in the immediate surrounding (Kaplan 2004b).

¹ A term referring to the last 20 000 years of precolonial history in southern Africa.

It is also well established that vertebrate fossils and archaeological occurrences in the Langebaan Limestone (calcrete) formations in the Saldanha Bay region are valuable sources of information on the sedimentary, chronological, palaeoenvironmental and palaeoecological context of the development of modern human behaviour during the Middle Stone Age² (MSA) and perhaps even the Early Stone Age³ (ESA) (Avery 1997).

Middle Pleistocene occurrences and the recovery of human remains in the Langebaan Limestone deposit at Sea Harvest, in Saldanha Bay, for example, has provided some of the earliest evidence we have in the world for the human exploitation of coastal resources, more than 100 000 years ago (Grine & Klein 1993; Volman 1978).

Beside evidence of well preserved bone, ostrich eggshell, ochre and MSA stone implements, the Hoedjiespunt limestone sediments in Saldanha Bay also contains evidence of early modern human about 125 000 years ago (Berger & Parkington 1995).

The younger Mid Pleistocene (~ 250 000 years) Elandsfontein site near Langebaan, a hominid butchery site where ESA and MSA artefacts are found, is also associated with a large and diverse fossil fauna. The partial skull of `Saldanha Man', probably an archaic from of Homo sapiens, was also discovered at this locality (Singer & Wymer 1968).

A 10 million year old vertebrate fossil of a Civathere (a large, short-necked giraffe) found recently by a Jacobsbaai resident in a nearby borrow pit suggests that other important vertebrate fossils may occur in the limestone deposits which cap and underlie some of the large vacant properties in the Jacobsbaai area, including Erf 299.

Possible 200-250 000 year old vertebrate fossil remains, including a possible human humerus, have also recently been found embedded in limestone deposits in the shoreline area at Swartriet, a few kilometers north of Jacobsbaai (Dr Dave Roberts Council for Geoscience pers. comm.).

With regard to other ancient fossil sites, the Varswater quarry near Langebaanweg has yielded Mio-Pliocene (~ 5 million years) fossils of great diversity and quantity (Hendey 1982). Earthworks at the Saldanha Steel Project also exposed rare and previously unknown crocodilian and other fossil remains from the Miocene Period, from deposits underlying calcareous formations during excavations for descaling pits (Roberts 1997a).

Several fossil hyena lairs have also provided glimpses of past Pleistocene (1.6 million – 200 000 years) faunas, including herbivores and carnivores, at Hoedjiespunt, Sea Harvest, and Besans Klip in Vredenburg (Roberts 1997a). An EIA for the proposed Alpha Saldanha Cement Project in Saldanha Bay/Vredenburg also revealed the presence of an unusual Mid-Miocene (~ 11-12 million years) fauna, including the shell of a giant extinct ostrich like bird (Roberts 1997b).

The reasons for the abundance of fossil archaeological and palaeontological remains in the Saldanha – Langebaan - Vredenburg area is in part related to the highly calcareous character of the aeolianites (fossil dunes) and shallow marine sediments. Bones and implements are readily preserved by the rapid carbonate cementation of the strata in which they become entombed.

 $^{^{2}}$ A term referring to the period between 200 000 and 20 000 years ago.

³ A term referring to the period between 2 million and 200 000 years ago.

4. THE STUDY SITE

The study area for the proposed development is illustrated in Figure 1.

An aerial photograph of Jacobsbaai indicating the boundary of Erf 299 is illustrated in Figure 2.

A proposed site development plan is illustrated in Figure 3.

Erf 299 Jacobsbaai is located south of Jacobsbaai, at Mauritzbaai, on the Cape West Coast (Figures 4-7). The large, vacant site is located immediately behind (i.e. east of) Erf 85 Jacobsbaai, the site of recent archaeological shovel testing (Kaplan 2004b). A portion of Erf 299 is also located adjacent to Erf 86 Jacobsbaai (Kaplan 2004a).

Overall, the affected property is fairly flat, and well vegetated, resulting in low archaeological visibility. Some larger open areas on the property suggest overgrazing (or agricultural activities) has taken place in the past. Piles of calcrete chunks have also been stacked further inland. A number of tracks, gravel roads and footpaths cross the site, but overall, the site appears to be relatively undisturbed.

5. LEGISLATIVE REQUIREMENTS

5.1 The National Heritage Resources Act (Act No. 25 of 1999)

5.1.1 Archaeology (Section 35 (4))

No person may, without a permit issued by Heritage Western Cape (the provincial heritage authority), destroy, damage, excavate, alter or remove from its original position, or collect, any archaeological material or object.

5.1.2 Burial grounds and graves (Section 36 (3))

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.

6. IDENTIFICATION OF POTENTIAL RISKS

The following project actions will likely impact negatively on archaeological sites.

The actions are most likely to occur during the Construction Phase of the proposed development.

- Proposed development in Erf 299 will impact negatively on shell midden remains in the northern portion of the affected property.
- Bulk earthworks and excavations for services may expose or uncover buried shell middens and human burial remains.



Figure 1. The study area.



Figure 2. Aerial photograph of Jacobsbaai indicating the boundary of Erf 299. Erf 85 and Erf 86 are also indicated.



Figure 3. Erf 299 proposed site development plan.



Figure 4. The site facing west.



Figure 5. The site facing south.



Figure 6. The site facing west



Figure 7.The site facing north with Jacobsbaai in the distance.

7. FINDINGS

The archaeological finds were recorded and given a co-ordinate using a Garmin Gecko 201 GPS set on map datum WGS 84.

Other than a few fragments of shellfish (mainly limpets), and one silcrete miscellaneous retouched flake, no coherent archaeological heritage remains were located in the strip of land adjacent to Erf 86 (see Figure 2). Large open areas in this portion of the property indicate heavy overgrazing (or agricultural activities) in the past. Large piles of calcrete have also been stacked further inland. Some dune mole rat activity is present, but no shellfish remains were noted, suggesting that below-ground archaeological deposits do not occur in this portion of the property.

The central portion of Erf 299 is well vegetated, but small open spaces do occur in places. Calcrete beds occur close to the surface while large amounts of loose and eroding surface calcrete occur all over this portion of the site. No archaeological remains were found here.

Substantial shell midden remains however occur in the northern portion of the site. The bulk of the remains are aligned more or less along a slightly elevated well vegetated relict sand dune that runs from Mauritzbaaiweg in the west, till the eastern boundary of the site (see Figure 2 Area A). The shell midden remains are mostly `hidden' under thick dune vegetation, and the archaeological deposits appear intact and undisturbed. Limpets (mainly Patella argenvillei, Patella tabularis, Patella longicosta, Patella ochulus and Patella cochlear) dominate the shellfish remains, while smaller amounts of Black Mussel (Choromytilus meridionalis), Whelk and Perlemoen (Haliotis midae) also occur in places. The shell midden remains occur sporadically across the relict dunes, but are fairly thick and substantial in places (Figure 8).

Some of the shell midden deposits are also associated with several small flat outcroppings of granite, which occur alongside a row of proposed houses in (to be proclaimed) Bamboesbaaiweg. Two such granite locations were noted (Figure 9).

The density and extent of the archaeological shellfish remains, its location on possibly older, mid Holocene dunes, and the absence of any pottery, may suggest a date closer to 3000 or 4000 years ago. Most of the relict dune is covered in thick bush, resulting in low archaeological visibility, but it is very likely that more shell midden remains occur in this area as well.

Overall, very few cultural items were located in the northern portion of the property. Two quartz flakes, several quartz and quartzite chunks, and two silcrete flakes were found on the vegetated dunes across the northern portion of the site. The quartz and quartzite was likely obtained locally, but the source of the silcrete is unknown.

The following GPS readings indicate the location of the more substantial archaeological deposits in the northern portion of Erf 299 Jacobsbaai.

S 32° 58 595 E 17° 53 344 S 32° 58 546 E 17° 53 402 S 32° 58 508 E 17° 53 361 S 32° 58 503 E 17° 53 360



Figure 8. Substantial shell midden remains are aligned along a slightly elevated relict dune in the northern portion of the site.



Figure 9. Granite outcrop. Note the shell midden remains in the foreground.

Ephemeral scatters of shellfish remains also occur in the northern portion of the site, within the planned Group Housing node (Figure 10 & see Figure 2 Area B). Limpets (genus <u>Patella</u>) dominate the shellfish remains, with very small amounts of Black Mussel also occurring, mainly small fragments. Shellfish remains are also associated with extensive dune mole rat activity in this node, suggesting that below ground shell midden deposits also occur. Two quartz flakes and one quartzite chunk was also found.

The following GPS readings indicate the location of some of the more substantial archaeological remains within the proposed Group Housing Node in the northern portion of the property.

S 32° 58 689 E 17° 53 389 S 32° 58 559 E 17° 53 412 S 32° 58 508 E 17° 53 361



Figure 10. Shell midden remains in the proposed Group Housing area.

8. IMPACT STATEMENT

The impact of the proposed development of Erf 299 Jacobsbaai on archaeological heritage remains is likely to be very high.

The impacts will most likely be felt in the northern portion of the site.

Bulk earthworks and excavations for services on the property may also expose buried shell middens and human burials.

9. RECOMMENDATIONS

With regard to the proposed development of Erf 299 Jacobsbaai, the following recommendations are made.

- Shovel testing of archaeological deposits in the northern portion of the property must take place, as a means of determining the depth and variability of archaeological remains (both subsistence and cultural) on the site. This is in order to determine the extent of further archaeological investigations that may be required on the site.
- Alternatives to shovel testing (but perhaps unrealistic given the high value of residential property in Jacobsbaai), may include the creation of a shell midden corridor running west to east from Mauritzbaaiweg till the gravel road in the north eastern portion of the north, either side of Bamboesbaaiweg, thus creating a permanent `no development area'.
- Human burials or human burial remains uncovered or disturbed during bulk earthworks and excavations during the Construction Phase of the project should not be removed or disturbed until inspected by a professional archaeologist.
- Should any human remains be exposed or uncovered during earthworks, these should immediately be reported to a professional archaeologist, and the South African Heritage Resources Agency (SAHRA) (Mrs Mary Leslie 021 4624502).
- Should an Environmental Control Officer (ECO) be appointed, he/she must be briefed by a professional archaeologist what to look out for during the Construction Phase of the project.
- A specialist must be appointed by the developers to inspect excavations for possible fossil archaeological and palaeontological remains during the Construction Phase of the project, if excavations penetrate underlying calcrete/limestone and associated deposits. Dr Dave Roberts of the Council for Geoscience (021 948 4754), or Ms Pippa Haarhof at the West Coast Fossil Park (022 766 1606) can be contacted in this regard.

10. REFERENCES

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