

**PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT
ERF 377 JACOBSBAAI
VREDENBURG-SALDANHA**

Prepared for

ANDRE VAN NIEKERK

By

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Executive summary

Mr Andre van Niekerk requested that the Agency for Cultural Resource Management conduct a Phase 1 Archaeological Impact Assessment for a proposed Retirement Village in Erf 377 Jacobsbaai, in Vredenburg-Saldanha Bay.

The proposed subdivision of the subject property provides for the construction of about 300 residential units, including associated infrastructure such as roads and services, to be built over 14 phases. The property is already zoned Residential for a Retirement Village development.

The extent of the proposed development (16 ha) falls within the requirements for an archaeological impact assessment as required by Section 38 of the South African Heritage Resources Act (No. 25 of 1999).

The aim of the study is to locate and map archaeological heritage sites and remains that may be negatively impacted by the planning, construction and implementation of the proposed project, to assess the significance of the potential impacts and to propose measures to mitigate against the impacts.

The subject property is located in Jacobsbaai, on the left hand side, as one enters the township from Vredenburg. The fairly level, vacant site is covered with a mix of bush, scrub and trees, on unconsolidated sands. Several tracks cut across the property, while piles of (relocated) calcrete and dumping of building rubble is evident. No significant landscape features occur over the property, but some slightly elevated rises, associated with small outcroppings of calcrete occur in the eastern portion of the property. A concrete dam and drinking trough is located alongside the eastern boundary of the property. Dune mole rat and animal burrowing is extensive.

Heritage consultant Mr Graham Jacobs has been appointed to undertake a Heritage Assessment of the proposed development. The archaeological assessment forms part of the heritage study.

Archaeological heritage remains are visible on the property, but occur mainly in the north western portion of the proposed site. The heritage remains comprise relatively large numbers of Later Stone Age tools, spread thinly and unevenly over the surrounding landscape. Fragments of surface shellfish are present, but are also very thinly dispersed, comprising mainly Black Mussel and Cymbula and Scutellastra species. The archaeological heritage remains occur in a fairly disturbed and degraded context, however.

A thin, surface scatter, of highly fragmented shellfish (mainly Black Mussel, Cymbula and Scutellastra), also occurs alongside the tarred road in the western portion of the study site. A small piece of glass from a case bottle and a large piece of Blue and White ceramic-ware was found among the scatter of shell, suggesting a possible colonial-era archaeological occurrence, possibly relating to an early 19th century, shepherd-based subsistence economy in the Vredenburg Peninsula.

The archaeological heritage remains located during the study have been graded low local significance, subject to shovel testing in order to determine the significance of possible below ground archaeological deposits.

With regard to the proposed development of a Retirement Village in Erf 377 Jacobsbaai, the following recommendations are made.

- Shovel testing of archaeological heritage remains are required in order to determine the significance of below ground deposits. If some of the surface scatters are found to have depth and undisturbed deposits, they will have to be sampled by way of controlled archaeological excavation.
- Bulk earthworks and excavations must be monitored by a professional archaeologist. Subject to training, these activities could be undertaken by an Environmental Control Officer should one be appointed for the project. If any archaeological remains are uncovered during these operations, shovel testing (and possibly) systematic archaeological sampling may be required.
- Should any human remains be disturbed, exposed or uncovered during excavations and earthworks for the proposed project, these should immediately be reported to the South African Heritage Resources Agency (Mrs Mary Leslie @ 021 462 4502). Burial remains should not be disturbed or removed until inspected by the archaeologist.
- A specialist palaeontologist 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 on the site. Dr Dave Roberts of the Council for Geoscience (021 948 4754), or Ms Pippa Haarhof of the West Coast Fossil Park (022 766 1606) can be contacted in this regard.

1. INTRODUCTION

1.1 Background and brief

Mr Andre van Niekerk requested that the Agency for Cultural Resource Management conduct a Phase 1 Archaeological Impact Assessment for a proposed Retirement Village development in Erf 377 Jacobsbaai, in Vredenburg-Saldanha Bay, in the Western Cape Province.

The proposed subdivision of the subject property provides for the construction of about 300 residential units, including associated infrastructure such as roads and services, to be built over 14 phases. The property is already zoned Residential for a Retirement Village.

The extent of the proposed development (16 ha) falls within the requirements for an archaeological impact assessment as required by Section 38 of the South African Heritage Resources Act (No. 25 of 1999).

The aim of the study is to locate and map archaeological heritage sites and remains that may be negatively impacted by the planning, construction and implementation of the proposed project, to assess the significance of the potential impacts and to propose measures to mitigate against the impacts.

Heritage consultant Mr Graham Jacobs has been appointed to undertake a Heritage Assessment of the proposed development.

The Phase 1 archaeological assessment forms part of the heritage study.

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 survey of the subject property.

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

A desktop study was also undertaken.

3.3 Limitations

There were no limitations or constraints associated with the proposed project. However the southern portion of the subject property is infested with vegetation, resulting in poor archaeological visibility.

3.4 Results of the desk top study

The Vredenburg Peninsula is exceptionally rich in archaeological sites (Kaplan 1993; Sadr *et al* 1992). In the study area, sites have been recorded at Tabakbaai, Tooth Rock, Mauritzbaai and Jacobsbaai (Thackeray & Cronin 1975; Parkington & Poggenpoel 1987; Avery 1987; Kaplan 2003a, b, 2004a, 2005a,b; Yates & Henshilwood n.d.). 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, substantial concentrations of shell middens are clustered inshore of the rocky shoreline. 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.

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

Archaeological shovel testing in Erf 85 and Erf 86 Jacobsbaai, has shown that fairly substantial shellfish deposits, and modest amounts of bone, stone tools, ostrich eggshell and pottery occur in the intertidal zone (Kaplan 2004b; 2005 b). A single radiocarbon date of 3300 ± 50 (BP) calibrated to 1604 - 1489 BC, was obtained from a shellfish sample from Erf 6 Jacobsbaai (Kaplan 2005c). The date is the first to have been obtained from an archaeological deposit in Jacobsbaai.

It is also well established that vertebrate fossils and archaeological occurrences in the Langebaan Limestone (calcrete) formations in the Vredenburg-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).

200-250 000 year old vertebrate fossil remains, including a possible human humerus, have also been found by the archaeologist embedded in limestone deposits in the shoreline area at Swartriet, a few kilometers north of Jacobsbaai.

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 377.

The reasons for the abundance of fossil archaeological and palaeontological remains in the Saldanha - 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

A locality map is illustrated in Figure 1.

An aerial photograph of the proposed site is illustrated in Figure 2.

The subject property is located in Jacobsbaai, on the left hand side, as one enters the township from Vredenburg. The fairly level, vacant site is covered with a mix of bush, scrub and trees, on unconsolidated sands (Figures 3-8). Several tracks cut across the property, while piles of (relocated) calcrete and dumping of building rubble is evident. No significant landscape features occur over the property, but some slightly elevated rises, associated with small outcroppings of calcrete occur in the eastern portion of the property. A concrete dam and drinking trough is located alongside the eastern boundary of the property. Dune mole rat and animal burrowing is extensive.



Figure 1. Locality Map (3217 DB & DD Vredenburg)



Figure 2. Aerial photograph of Jacobsbaai indicating the approximate boundary (in red) of Erf 377.



Figure 3. View of the site facing west, taken from the concrete reservoir.



Figure 4. View of the site facing south west.



Figure 5. View of the site facing south taken from alongside the main road.



Figure 6. View of the site facing east taken from the main road.



Figure 7. View of the site facing north.



Figure 8. View of the site facing north east taken from the main road.

5. LEGISLATIVE REQUIREMENTS

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

... any development or other activity which will change the character of a site exceeding 5 000m², or the rezoning or change of land use of a site exceeding 10 000 m², requires an archaeological impact assessment in terms of the National Heritage Resources Act (No. 25 of 1999).

5.1.1 Structures (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 Heritage Western Cape (HWC), the responsible provincial resources authority.

5.1.2 Archaeology (Section 35 (4))

No person may, without a permit issued by HWC, destroy, damage, excavate, alter or remove from its original position, or collect, any archaeological material or object.

5.1.3 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 may likely impact negatively on important archaeological heritage sites in Erf 377.

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

- Development activities will impact negatively on archaeological heritage remains in the north-western portion of the subject property.
- Bulk earthworks and excavations for services may expose or uncover buried shell middens and human burial remains.

7. FINDINGS

377/1 (GPS reading S° 32 57 932 E° 17 53 608)

The site comprises a very thin surface scatter (about 15 x 15 m² in extent) of fragmented shellfish, and a handful of stone tools, alongside the north-western boundary of the subject property, and about 150 m east of the tar road (refer to Figure 2). The site spills over into the adjacent property. The shellfish is made up of mainly fragments of Scutellastra argenvillei, S. granularis and Black Mussel (Choromytilus meridionalis), while a few whole bleached shell (S. argenvillei) were also counted. A small range of stone tools were also found, including one retouched quartzite chunk, two small silcrete cores, one quartz core, one silcrete chip, one limestone flake, one shale flake, and one fine-grained quartzite adze (refer to Table 1).

Significance: Provisionally low subject to verification by trial excavation.

In addition to the above site, a low density scatter of LSA tools was also located in the north-western portion of the subject property but is spread very thinly and unevenly over the surrounding environment. Some of the tools occur in a clearly disturbed context such as in old tracks and trampled and burrowed areas.

Table 1 lists the number and types of stone tools identified during the study.

Several MSA flakes were also counted on an elevated rise in the eastern portion of the subject property. The tools are all in rough-grained quartzite.

No pottery or other cultural items were noted during the baseline study.

Tools	Silcrete	Quartz	Quartzite	Limestone	Ind. shale	TOTAL
Chips	1	1	-	-	-	2
Chunks	2	5	2	-	-	9
Flakes	8	9	7	4	3	31
Cores	4	3	-	-	-	6
Utilized	2	-	-	-	-	2
Scrapers	1	1	-	-	-	2
Adzes	-	-	1	-	-	1
Misc. retouched	-	-	2	1	-	3
MSA	-	-	3	-	-	3

Table 1. Stone tools and raw material frequencies Erf 377 Jacobsbaai.

377/2 (GPS reading S° 32 58 003 E° 17 53 543)

A thin, surface scatter (about 10 m² in extent), of highly fragmented shellfish (mainly Black Mussel, Cymbula and Scutellastra species), occurs about 30 m east of the tarred road in the north western portion of the study area (refer to Figure 2). A few whole whelk, were also noted. A small piece of glass from a case bottle and a large piece of Blue and Whit ceramic-ware was found suggesting a colonial-era occurrence, possibly relating to an early 19th century shepherd-based subsistence economy in the Vredenburg Peninsula. Such archaeological occurrences, sometimes associated with the ruins of a shepherds hut (veewagterhuis) have been recorded elsewhere in the region (Kaplan 1998, 2005d, e). In addition to the above, one utilized silcrete flake and one quartzite chunk were also counted, but are most likely unrelated to the main archaeological occurrence.

Significance: Provisionally low subject to verification by trial excavation.

8. IMPACT STATEMENT

The impact of the proposed development of a retirement village in Erf 377 Jacobsbaai on archaeological heritage remains is likely to be high. The impacts will most likely be felt in the north-western portion of the subject property.

The significance of the impact can only be determined by trial excavations, however.

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 a Retirement Village in Erf 377 Jacobsbaai, the following recommendations are made.

- Shovel testing of archaeological heritage remains is required in sites 377/1 & 377/2 in order to determine the significance of below ground deposits. If some of the surface scatters are found to have depth and undisturbed deposits, they will have to be sampled by way of controlled archaeological excavation.
- Bulk earthworks and excavations must also be monitored by a professional archaeologist. Subject to training, and if appointed, these activities could also be undertaken by an Environmental Control Officer. Should any archaeological remains be uncovered during these operations, shovel testing (and possibly) systematic archaeological sampling may be required.
- Should any human remains be disturbed, exposed or uncovered during excavations and earthworks for the proposed project, these should immediately be reported to the South African Heritage Resources Agency (Mrs Mary Leslie @ 021 462 4502). Burial remains should not be disturbed or removed until inspected by the archaeologist.

- 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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