

**PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT
PROPOSED HOUSING DEVELOPMENT
ERF 149
DWARSKERSBOS
CAPE WEST COAST**

Prepared for
Envirodinamik

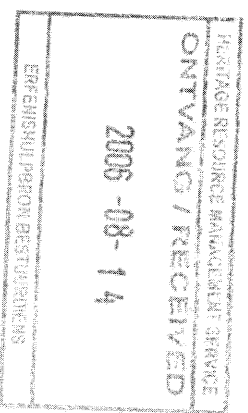
On behalf of
BKS (PTY) LTD

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Executive summary

Envirodinamik on behalf of BKS (Pty) Ltd requested that the Agency for Cultural Resource Management conduct a Phase 1 Archaeological Impact Assessment for a proposed housing development on Erf 149 Dwarskersbos on the Cape West Coast.

The proposed rezoning and subdivision of the subject property is for the purpose of a housing development consisting of 111 single residential erven, public open spaces and streets. The property is currently zoned agriculture.

The extent of the proposed development (nearly 13 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/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 about 1.5 km north of the town of Dwarskersbos on the Cape West Coast. The proposed site is infested with alien vegetation, while the eastern portion is severely degraded. A portion of the property was previously used as the town's dumping site. A slightly raised dune cordon is aligned across the central portion of the property. A modern house and the ruins and foundations of two other modern structures occur in the south eastern corner of the property.

Several low-density scatters of stone tools and some fragmented shellfish were located during the baseline study of the proposed development. These remains occur on the east-facing slopes of the vegetated dune cordon, in open sandy patches. No pottery, bone or ostrich eggshell was found.

The archaeological heritage remains have been graded provisionally low local significance, subject to verification by trial excavation.

It is important to note that large volumes of shelly beach deposits occur over the remainder of the eastern portion of the subject property and are probably features of late Pleistocene, Last Interglacial shoreline deposits. Such deposits have been identified on adjacent properties (at Dwarskersbos) and are of considerable palaeontological importance.

With regard to the proposed development of Erf 149 Dwarskersbos, the following recommendations are made:

- Evaluation of the conservation worthiness of the archaeological sites will require shovel testing, before development takes place. If the sites are found to have depth and undisturbed deposit, they will have to be sampled by way of controlled archaeological excavations
- Bulk earthworks and excavations must be monitored by a professional archaeologist. This task could be undertaken in consultation with an Environmental Control Officer (ECO).
- Vegetation clearing operations must be monitored by a professional archaeologist. This task could also be undertaken in consultation with the ECO.
- Should any human burials be uncovered during excavations, these should immediately be reported to the South African Heritage Resources Agency (Ms Mary Leslie: 462 4502), or Heritage Western Cape (Dr A. Jerardino: 483 9692).
- Should any shipwreck material (such as wooden beams, etc) be uncovered during excavations and bulk earthworks, these should immediately be reported to the Maritime Archaeologist at the South African Heritage Resources Agency (Mr Jonathan Sharfman: 021 462 4502).
- Bulk earthworks and excavations must also be inspected by a professional palaeontologist.

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1. INTRODUCTION

1.1 Background and brief

Envirodinamik¹, on behalf of BKS (Pty) Ltd requested that the Agency for Cultural Resource Management (ACRM) conduct a Phase 1 Archaeological Impact Assessment (AIA) for a proposed housing development on Erf 149 Dwarskorsbos on the Cape West Coast.

The proposed rezoning and subdivision of the subject property entails the construction of approximately 111 single residential units with internal roads and services. Provision is also made for Public Open Space.

The property is currently zoned Agriculture.

The extent of the proposed development (nearly 13 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.

Consulting palaeontologist Dr John Pether has been appointed to undertake a specialist palaeontological assessment of the proposed development.

2. TERMS OF REFERENCE

The terms of reference for the archaeological study were:

- to determine whether there are likely to be any archaeological sites of significance within the proposed site;
- to identify and map any sites of archaeological significance within the proposed site;
- to indicate the sensitivity and conservation significance of archaeological sites potentially affected by the proposed development;
- to assess the status and significance of any impacts resulting from the proposed development; and
- to identify mitigatory measures to protect and maintain any valuable archaeological sites that may exist within the site.

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3. THE STUDY SITE

A locality map is illustrated in Figure 1.

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

Erf 149 is located about 1.5 km north of the town of Dwaraskersbos on the Cape West Coast. The property is situated between the West Coast Road and the north eastern boundary of Erf 276 (i.e. the Kersbosstrand housing development). The fairly flat, rectangular-shaped property is infested with alien vegetation, while the eastern portion is severely degraded. A portion of the site (about 1 ha in extent) alongside the eastern boundary was previously used as the town's dumping site. A number of old sandy tracks cut across the property. Open spaces do occur on the site, which is characterised by deep sandy soils. A slightly raised dune cordon is aligned across the central portion of the proposed site, which slopes slightly to the east (Figures 3-10). A modern house and the ruins and foundations of two other (modern) structures occur alongside Hoof Straat in the south eastern corner of the property, near the northern entrance to the Kersbosstrand development (Figure 6). There are no significant landscape features on the property. The surrounding land use comprises marginal agricultural lands to the north and east and housing development to the south and the west (refer to Figure 2).

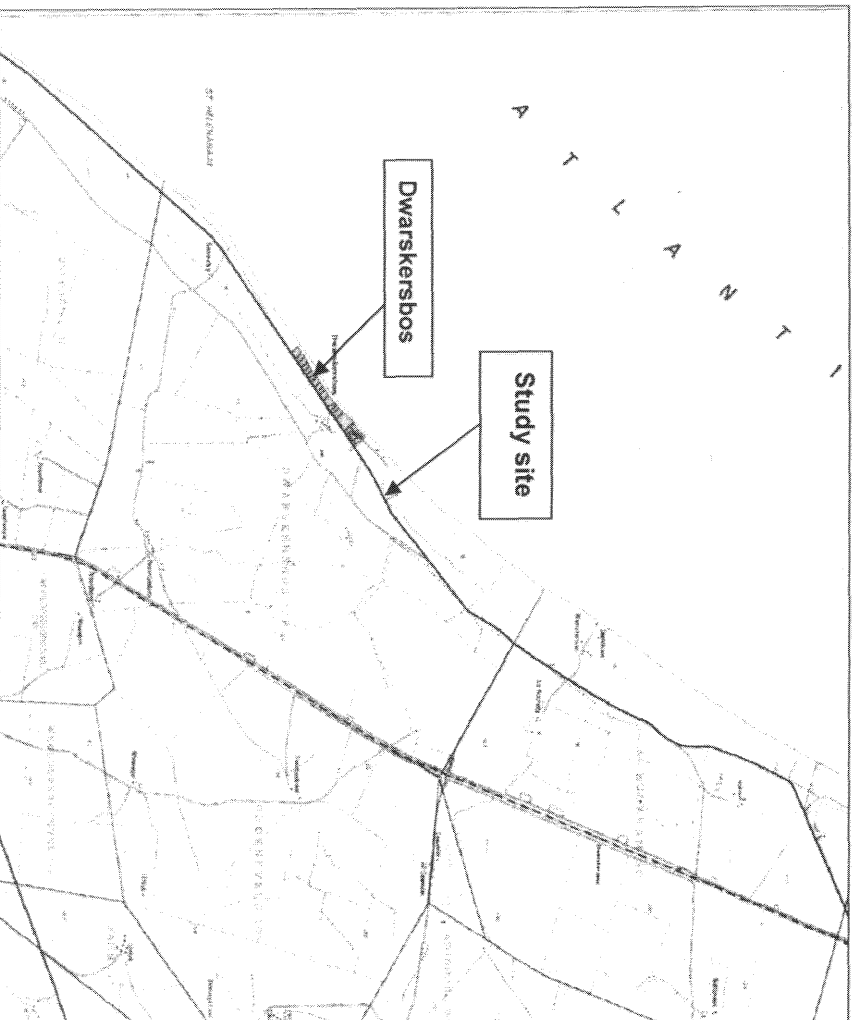


Figure 1. Locality Map (3218 CB & CA Aurora)

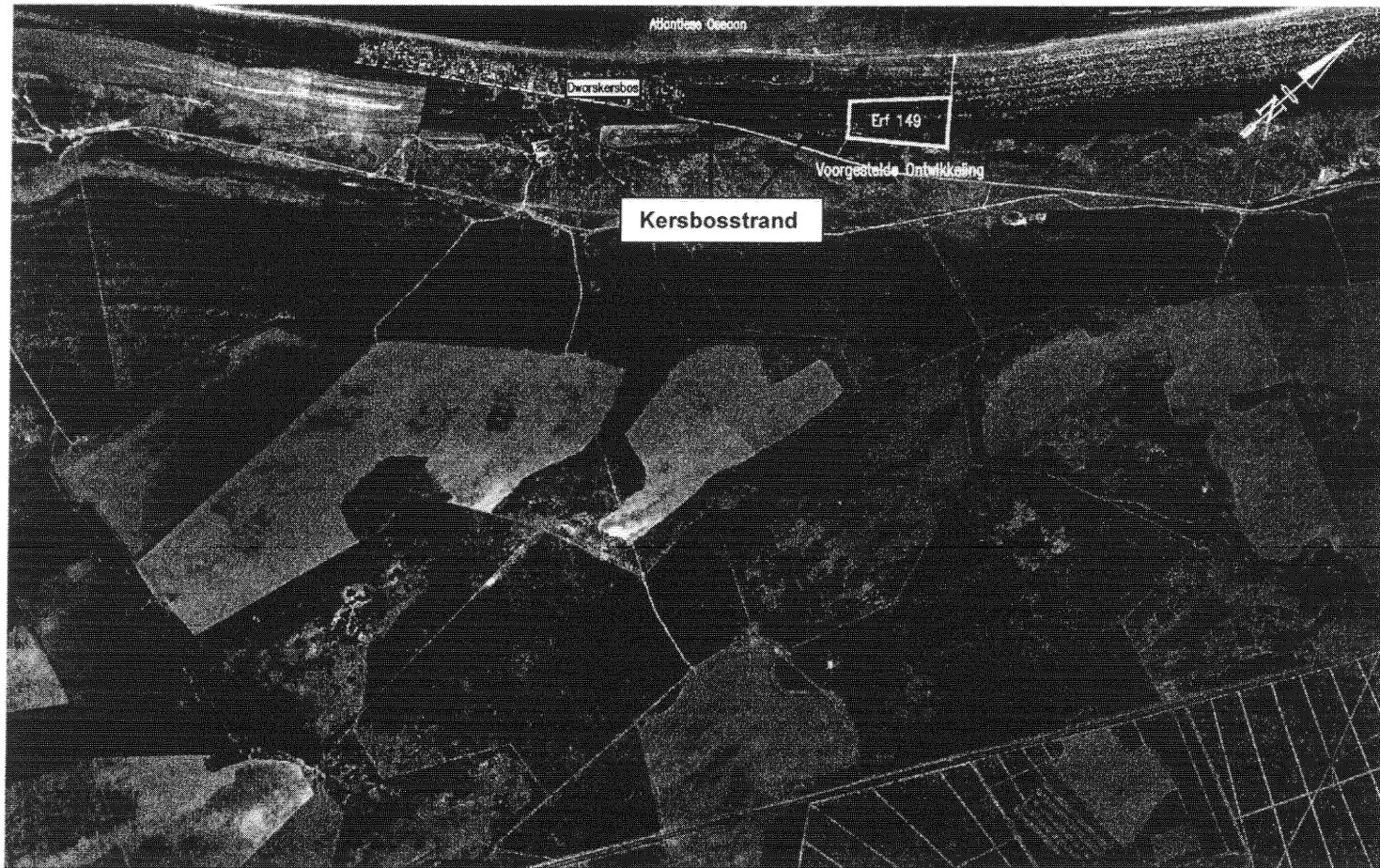


Figure 2. Aerial photograph of Erf 149 Dwarskersbos



Figure 3. View of the site facing south. The road marks the eastern boundary of the property

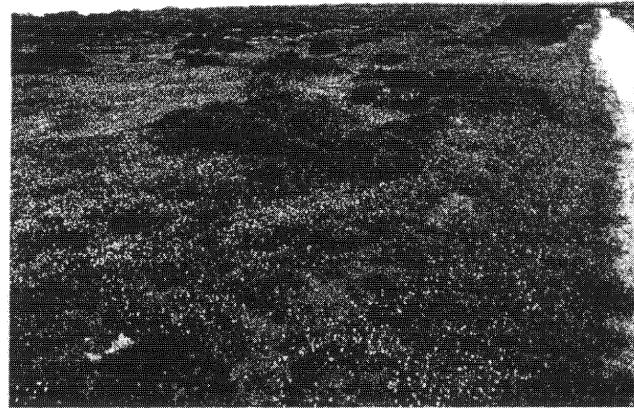


Figure 4. View of the site facing north. The road marks the eastern boundary of the property.

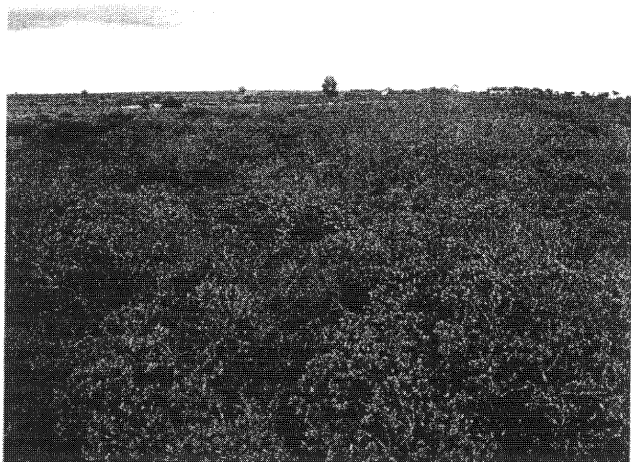


Figure 5. View of the dune cordon facing south.



Figure 6. View of the site facing north. Note the modern dwelling and ruins.



Figure 7. Road leading to the dumping site.



Figure 8. View of the dump site facing east.



Figure 9. View of the western portion of the site facing north.

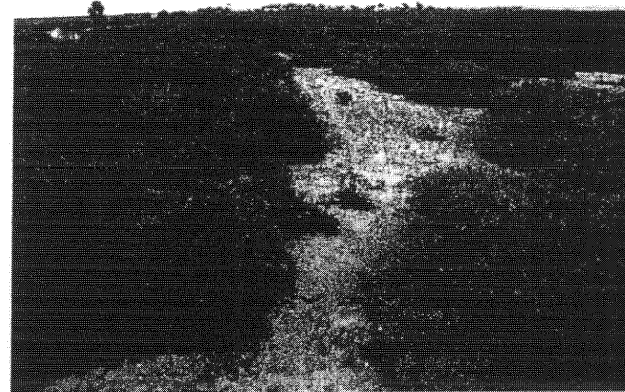


Figure 10. View of the western portion of the site facing south (toward Dwarskersbos)

4. STUDY APPROACH

4.1 Method of survey

The approach followed in the archaeological study entailed a foot survey of Erf 149 Dwarskersbos.

The archaeological assessment took place on the 2nd of August, 2006.

Archaeological heritage remains located during the study were recorded using a Garmin Geko 201 GPS unit set on map datum WGS 84.

A desktop study was also undertaken.

4.2 Constraints and limitations

A large portion of the property is infested with alien vegetation, resulting in very poor archaeological visibility.

4.3 Identification of risk sources

Human burials and shipwreck material may be exposed or uncovered during bulk earthworks and excavations.

Palaeontological heritage remains may also be exposed during bulk earthworks and excavations (Pether 2006)

4.4 Results of the desk top study

Archaeological research on the Cape West Coast, between Elands Bay and Draaihoek (north of Dwarskersbos), has established that there was human occupation present in the sandy dune areas adjacent the coastline over the last 3000 years (Jerardino 2003). Most of the archaeological sites consist of thin scatters of dispersed shell, associated with bone, ostrich eggshell stone artefacts and pottery. Similar-type Later Stone Age (LSA) sites, containing shell, ostrich eggshell, stone artefacts and decorated pottery have also been recorded south of Draaihoek (Kaplan 2005). Jerardino (2003) has suggested that most of these sites, in the low, deflated sandy areas adjacent the shoreline, appear to result from brief, episodic occupations.

Along the alignment of the now-tarred West Coast Road, between the Berg River and Rocher Pan, there are a number of deflated hollows in the veld inland of the shoreline area, which contain small numbers of stone artefacts, a few potsherds and occasional pieces of ostrich eggshell (Parkington & Manhire 1988).

Archaeological sites have also been recorded in the dune cordon at Rocher Pan and Die Duine (Kaplan 1998, 1997), while Rudner (1968) described LSA shell middens among the dunes at Duinefontein and Die Vlei. These sites typically consist of large scatters of white sand mussel (Donax serra) with bones and occasional pieces of ostrich eggshell and stone artefacts.

At Dwarskersbos itself, low density scatters of LSA tools and pottery have been located east of the main road running through the town (Kaplan 2006), while several LSA shell middens have also been recorded between Laaipek and Dwarskersbos (Hart & Miller 1994). Ancient tidal fishtraps (*visvuywers*) have been described at Swartpunt, south of the mouth of the Berg River (Hart & Halkett 1992). This group of fishtraps is one of the best known examples on the west coast.

In addition to the pre-colonial archaeological heritage remains described above, extensive sets of well-preserved shelly beach deposits at Dwarskersbos are features of late Pleistocene, Last Interglacial shoreline deposits that occur widely in the area, for example in the adjacent Erf 276 (Kaplan 2005b; Pether 2004) and Farm 109 (Kaplan 2006).

These beach deposits are of considerable palaeontological importance, as they provide a record of changes in faunal communities with time, record historical sea-level changes, as well as preserve fossil remains. Another significance of these types of coastal deposits, of increasing importance to date, is in the evaluation of geohazards and evidence of earth tremors (John Pether pers. comm.).

4.4.1 Shipwrecks

It is important to note that a number of shipwrecks are known to occur in the St Helena Bay area, including the Dutch East India Company (VOC) Gouden Buys (1693) which went down near the mouth of Berg River, at Laaipek. To date, no shipwreck material has been recovered from the eastern shores of St. Helena Bay.

Below is a list of the known shipwrecks in the St. Helena Bay area².

| SHIP | AREA | DATE |
|------------------|------------------|------|
| Columbus | Berg River mouth | 1885 |
| Friends Goodwill | St Helena Bay | 1840 |
| Good Hope | St Helena Bay | 1910 |
| Huis te Vlotter | St Helena Bay | 1731 |
| Reflector | St Helena Bay | 1851 |
| Gouden Buys | St Helena Bay | 1693 |
| Perinnede | Dwarskersbos | 1860 |
| Barbara | Berg River mouth | 1868 |
| Paparoa | St Helena Bay | 1926 |

² Shipwreck information made available by Mr John Gribble, until recently, the maritime archaeologist at the South African Heritage Resource Agency (SAHRA)

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 the South African Heritage Resources Agency (SAHRA), or Heritage Western Cape.

5.1.2 Archaeology (Section 35 (4))

No person may, without a permit issued by the SAHRA or Heritage Western Cape, 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 SAHRA or Heritage Western Cape, 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. IMPACT ASSESSMENT AND DESCRIPTION

Several low-density scatters of stone tools and fragmented shellfish were located during the baseline study of the proposed development.

149/1 (GPS reading S° 32 40 92.5 E° 18 14 90.4)

Five quartz chunks, four quartz flakes, one quartz irregular core and one quartz single platform core were located in some open space surrounded by thick bush on the east facing slopes of the dune cordon in the far northern portion of the site. Fragments of shellfish (mainly Black Mussel and Scutellastra and Cymbula sp.) also occur, as well as whole White Mussel (*Donax serra*), *Venerupis corrugate* (Venus clams), large Trough Shell (*Lutraria lutraria*) and some Ribbed Mussel (*Aulacomya ater*), that are spread fairly widely over the surrounding area. The latter shell probably represents features of late Pleistocene, Last Interglacial shoreline deposits. The site measures about 7 m in extent. No pottery or other cultural and biological remains were found in the surrounding area.

The archaeological heritage remains have been graded provisionally low local significance, subject to verification by trial excavation.

149/2 (GPS reading S° 32 40 98.5 E° 18 14 82.0)

A low density scatter of stone tools occurs in a fairly large, open sandy space surrounded by thick dune vegetation, on the east-facing slopes of the dune cordon, directly behind the old municipal dumping site (Figure 11). Large fragments of Black Mussel, small fragments of Cymbula and Scutellastra sp. and a few small whelks are present. No Pleistocene shell deposits occur in the immediate surrounding area. Five, quartz cores, nine quartz flakes, (including one blade) about 10 quartz chunks, and three unworked quartz nodules, were counted in an area measuring about 10 m in extent.

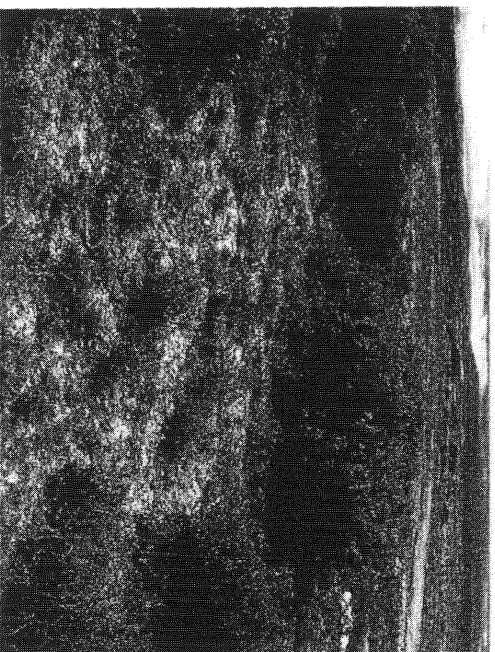


Figure 11. 149/2

The archaeological heritage remains have been graded provisionally low local significance, subject to verification by trial excavation.

Occasional pieces of stone (all quartz) were counted over the remainder of the site, mostly occurring on the east-facing slopes of the dune cordon. Only three pieces of quartz were counted on the west-facing slopes.

It is important to note that shelly beach deposits also occur over most of the eastern portion of the subject property, despite its disturbed and severely degraded nature. Large amounts of crushed and fragmented shell can be seen in the gravel tracks alongside the eastern and northern boundaries of the property and in the gravel road leading to the dumping site. Several large plies of fossil shellfish occur alongside the road at the entrance of the dump. Shellfish is also associated with extensive dune-mole rat activity in the area, indicating that below ground deposits occur over the site. Shell is also widely dispersed in open sandy spaces in the vegetated veld.

It is interesting to note that shellfish densities are quantitatively much lower in the western portion of the study site. However, this area is infested with alien vegetation.

The shell deposits are most probably features of late Pleistocene, Last Interglacial shoreline deposits (Pether 2006). Similar deposits have been identified at Dwarskerbos and are of considerable palaeontological importance (Kaplan 2006; Pether 2004).

7. IMPACT STATEMENT

Proposed development activities will impact negatively on several thin scatters of stone tools and shellfish fragments in the eastern portion of the study site.

Human burials and shipwreck remains may also be uncovered or exposed during bulk earthworks and excavations.

Excavations for services may likely expose shelly beach deposits of Holocene and Late Pleistocene significance.

8. RECOMMENDATIONS

With regard to the proposed development of Erf 149 Dwaraskersbos, the following recommendations are made.

- Evaluation of the conservation worthiness of the archaeological sites will require shovel testing, before development takes place. If the sites are found to have depth and undisturbed deposit, they will have to be sampled by way of controlled archaeological excavations
- Bulk earthworks and excavations must be monitored by a professional archaeologist. Alternatively, this task could be undertaken in consultation with an Environmental Control Officer (ECO).
- Vegetation clearing operations must be monitored by a professional archaeologist. This task could also be undertaken in consultation with the ECO.
- Should any human burials be uncovered during excavations, these should immediately be reported to the South African Heritage Resources Agency (Ms Mary Leslie: 462 4502), or Heritage Western Cape (Dr A. Jerardino: 483 9692). Human burials should be treated sensitively at all times.
- Should any shipwreck material (such as wooden beams, etc) be uncovered during excavations and bulk earthworks, these should immediately be reported to the Maritime Archaeologist at the South African Heritage Resources Agency (Att: Mr Jonathan Sharfman: 462 4502).
- Bulk earthworks and deep excavations must be inspected by a professional palaeontologist (Pether 2006).

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