

**ARCHAEOLOGICAL IMPACT ASSESSMENT
PORTION 7 OF THE FARM DUYKER EILAND NO. 6
ST. HELENA BAY**

Prepared for

CK RUMBOLL & VENNOTE

Client: D. Oosthuizen

By

AGENCY FOR CULTURAL RESOURCE MANAGEMENT

PO Box 159

Riebeeck West

7306

Ph/Fax 022 461 2755

Mobile 082 321 0172

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Executive summary

CK Rumboll & Partners requested that the Agency for Cultural Resource Management conduct a Phase 1 Archaeological Impact Assessment for a proposed housing development on Portion 7 of the Farm Duyker Eiland No. 6 in the St. Helena Bay area.

The proposed rezoning and subdivision of the subject property (currently zoned Agriculture), provides for the development of about 525 single residential units, including associated infrastructure such as roads and services. Provision is also made for Public Open Space.

The extent of the proposed development (about 46 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 Graham Jacobs has been appointed to undertake a Heritage Impact Assessment of the proposed project.

The Archaeological Impact Assessment forms part of the wider heritage study.

The subject property is located immediately inland of Britannia Bay, on the inland side of Golden Mile Drive. Existing or developing urbanization borders the site to the north and northeast, with extensive ploughed farmland to the south, east, and west. At least 70% of the site itself appears to have been ploughed. Deep sandy soils dominate the site, derived from a mix of windblown marine sands and weathered granites further inland. No outcroppings of rock or other significant landscape features occur on site, which is virtually level. A large stand of Port Jackson trees occur in the north eastern portion of the property.

Extensive scatters of shellfish remains and stone tools occur across a large swathe of farmland in the eastern half of the proposed site, and alongside a portion of the southern boundary. Fortunately, most of the lands in this area have not been ploughed and the archaeological remains are relatively well preserved and in-tact. The remains are spread fairly unevenly over the landscape, however, and it is difficult to isolate single occurrences. The area can be treated as virtually a single archaeological site.

Given the range and types of tools located during the study, there is compelling evidence to suggest that the archaeological heritage remains on the property represent traces of occupation left behind by indigenous Khoekhoe herders who occupied the St. Helena Bay area nearly 2000 years ago. The presence of an elliptical grindstone, large numbers of unmodified flakes, few formal tools, and the rare find of a reused piece of porcelain dating to the colonial era, are indicators of a possible herder site.

Given the context, and the state of preservation of the archaeological site, the archaeological heritage remains have been rated high local significance.

The proposed development of Portion 7 of the Farm Duyker Eiland No. 6 and the proposed construction of a new access road (forming part of a proposed new structure plan for Duyker Eiland), will impact negatively on sensitive and fragile archaeological remains on the subject property. The impacts will have to be carefully managed.

With regard to the proposed housing development of Portion 7 of the Farm Duyker Eiland No. 6 (including the proposed construction of a new access road) the following recommendations are made.

- A Conservation Corridor must be established across the eastern portion of the subject property where no (housing) development should be allowed to take place. This would ensure protection of the archaeological heritage remains in this portion of the proposed site.
- It is further proposed that the Conservation Corridor be zoned Public Open Space. The area of land to be zoned POS must be determined by the archaeologist in consultation with the planning consultants and the Provincial Heritage Authority, Heritage Western Cape.
- A Heritage Management Plan must be implemented, one which allows for public access to the protected archaeological site. Small (paved) footpaths, or alternatively raised boardwalks could be carefully constructed among the archaeological remains, avoiding sensitive areas.

Information story boards could also be carefully placed highlighting the importance of the area's local heritage. The archaeological site would therefore become a permanent (and protected) feature of the proposed development.

- Shellfish sampling and (possibly) dating of archaeological deposits in the southern portion of the property is also required. Mitigation will 'free up' land for development, while conserving the bulk of the archaeological heritage remains in the eastern half of the property.
- The proposed access road (planned in the context of the proposed new Structure Plan for Duyker Eiland) will need to be re-routed to avoid impacting on the important archaeological heritage remains in the eastern half of the property.
- Bulk earthworks and excavations must be monitored by a professional archaeologist.
- Should any human remains be disturbed, exposed or uncovered during earthworks, these should immediately be reported to the South African Heritage Resources Agency (Mrs Mary Leslie @ 021 462 4502).

1. INTRODUCTION

1.1 Background and brief

CK Rumboll and Vennote Town Planners¹, on behalf of Mr D. Oosthuizen, requested that the Agency for Cultural Resource Management conduct a Phase 1 Archaeological Impact Assessment of a proposed housing development on Portion 7 of the Farm Duyker Eiland No. 6 in the St. Helena Bay area on the Cape West Coast.

The proposed rezoning and subdivision of the subject property (currently zoned Agriculture), provides for the development of about 525 single residential units, including associated infrastructure such as roads and services. Provision is also made for Public Open Space.

The extent of the proposed development (46 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 Graham Jacobs has been appointed to undertake a Heritage Impact Assessment of the proposed project.

The Archaeological Impact Assessment forms part of the wider heritage study.

2. TERMS OF REFERENCE

The terms of reference for the study were:

- to determine whether there are likely to be any archaeological sites of significance within the proposed site;
- to identify sites of archaeological significance within the proposed site;
- to assess the sensitivity and conservation significance of archaeological sites potentially affected by the proposed subdivision and development;
- to assess the 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 proposed site.

¹ CK Rumboll & Partners is represented by Ms Anelia Coetzee. 16 Rainier Street, Malmesbury, 7300. Fax (022) 487 1661

3. THE STUDY SITE AND DESCRIPTION OF THE AFFECTED ENVIRONMENT

A locality map indicating the study area is illustrated in Figure 1.

An aerial photograph of the subject property and a proposed layout plan is illustrated in Figure 2.

The subject property is located immediately inland of Britannia Bay, on the inland side of Golden Mile Drive. Existing or developing urbanization borders the site to the north and northeast, with extensive ploughed farmland to the south, east, and west. At least 70% of the site itself appears to have been ploughed, of which a large portion is now covered in low scrub and bush. Deep sandy soils dominate the site, derived from a mix of windblown marine sands and weathered granites further inland. No outcropping of rock, or other significant landscape features occur on the site, which is virtually level (Figures 3-5). A large stand of alien vegetation (Port Jackson) occurs in the north eastern portion of the property, while some disturbance and illegal sand mining occurs in the extreme western portion.

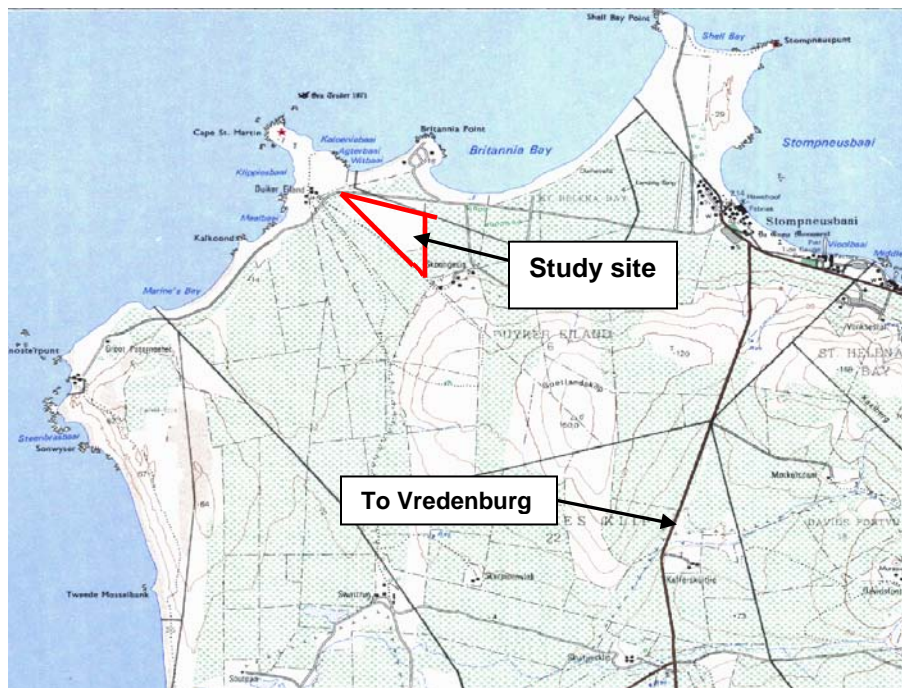


Figure 1. Locality map (3217 DB & DD Vredenburg)



Figure 2. Aerial photograph of the study area and proposed site layout plan.



Figure 3. View of the site facing west.



Figure 4. View of the site facing west.



Figure 5. View of the site facing east from the Main Road.

4. APPROACH TO THE STUDY

4.1 Method of survey

The approach followed in the archaeological study entailed a detailed foot survey of the proposed site. The assessment took place on the 6th of April 2006.

Archaeological heritage sites located during the study have been recorded using a Garmin Gecko 201 GPS unit set on map datum WGS 84.

A desktop study was also undertaken.

4.2 Constraints and limitations

There were no constraints or limitations associated with the study.

4.3 Results of the desk-top study

Archaeological research has shown that the majority of coastal sites in South Africa are located within 300 m of the shoreline, although sites do occur further inland (Kaplan 1993). As development spreads in the coastal areas, archaeological sites have come under increasing threat and many sites have already been destroyed completely. From an archaeological perspective, the coastal zone is highly sensitive and threatened by development.

Planning for the coastal zone must therefore take account of this rich archaeological heritage. With the increased pressure to develop the shoreline area, new settlements are often built on top of much older (pre-colonial) settlements, resulting in the permanent loss of archaeological material. This is very apparent in the St. Helena Bay area, for example the development at Shelly Point.

Research undertaken by Kaplan (1993), on behalf of the Department of Environment Affairs and Tourism, identified large numbers of archaeological sites in the St. Helena Bay area. Sites have been recorded at Steenbrasbaai, Marines Bay, Maalbaai, Klippiesbaai, Kaloenibaai, Shelly Point and Britannia Bay (see also Rudner 1968).

Duyker Eiland/Cape St. Martin for example, has been subjected to some specific archaeological research in the past. Extensive complexes of shell middens were first recorded by Thackeray and Cronin (1975), some of which were later sampled by Robertshaw (1979).

With its rocky shoreline, the St. Helena Bay region acted as foci that attracted both LSA hunter-gatherers and later Khoekhoe herders as it offered greater opportunities for the exploitation of marine foods, particularly shellfish, while the local shales and granites provided vital nutrients for domestic stock. Shellfish meat was either cooked in pots or on open fires, but there is also evidence to suggest that meat was dried and smoked. Other marine resources exploited included sea birds, fish, crayfish, seal, dolphin, and even occasionally whales.

Research focussing on the Khoekhoe herder economy around 2000 years ago in the Vredenburg Peninsula has, significantly, identified large numbers of sites up to several

kilometres from the shoreline (Sadr *et al* 1992). Many of these sites, comprising substantial shellfish deposits with pottery and stone tools, are centred round the many large granite outcroppings that are ubiquitous in Vredenburg, Paternoster and the St. Helena Bay area.

Since the advent of contract archaeology in the late 1980's/early 1990's, several AIA's have also been undertaken in the St. Helena Bay area. Most of these assessments have focussed on the immediate shoreline area, where mainly housing and infrastructure development has taken place (Halkett & Hart 1995; Kaplan 2002, 2005 a,b,c).

5. IDENTIFICATION OF POTENTIAL RISKS

The following project actions will impact negatively on archaeological heritage remains in the study area. The impacts will most likely be felt during the Construction Phase of the proposed project.

- Bulk earthworks and excavations will impact negatively on archaeological remains in the eastern half and alongside the southern boundary of the proposed site.
- Construction of a proposed new access road will impact negatively on important archaeological heritage remains in the eastern portion of the site.
- Human burials may be uncovered or exposed during earthworks and excavations.

6. LEGISLATIVE REQUIREMENTS

6.1 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).

...the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development exceeding 300 m in length, requires an archaeological impact assessment in terms of Section 38 of the National Heritage Resources Act (No. 25 of 1999).

6.1.2 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.

6.1.3 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.

7. IMPACT ASSESSMENT AND DESCRIPTION

DE 1 (GPS reading S° 32 43 696/685 E° 17 56 112/129)
(GPS reading S° 32 43 742 E° 17 56 160)
(GPS reading S° 32 43 688 E° 17 56 189)
(GPS reading S° 32 43 615 E° 17 56 272)
(GPS reading S° 32 43 593 E° 17 56 347)

Extensive scatters of shellfish remains and a range of stone artefacts occur across a large swathe of farmland in the eastern half, and alongside the southern boundary of the proposed site, on loose, unconsolidated sands (refer to Figure 6). Fortunately, the lands in this area have not been ploughed, and the archaeological heritage remains are relatively well preserved and in-tact. The remains are spread fairly unevenly over the landscape, however, and it is difficult to isolate single sites or occurrences. The area can be treated as virtually a single archaeological site (Figures 7-10).

Across the site, the shellfish is dominated by Scutellastra and Cymbula species and Black Mussel (Choromytilus meridionalis). The shellfish comprises mainly fragments, but some whole shell (almost exclusively S. argenvillei and C. granatina) is also present.

Although the archaeological remains are distributed across a wide area, dense scatters of shell and stone tools are visible on the site (see above GPS readings).

Alongside the southern boundary of the subject property (at S° 32 43 696 E° 17 56 112), for example, shellfish scatters are extensive (but also partially disturbed), measuring more than 80 m in extent. A range of stone artefacts were counted, including many large unmodified flakes, blade tools, large chunks (some of which have been flaked), cores, hammerstones, upper grindstones, manuports, edge-ground cobbles and miscellaneous ground cobbles, all in locally available fine-grained beach quartzite. A few tools in silcrete were also counted, including several flakes (one utilized) and two small round cores.

Activity areas also appear to be present on the site. At (S° 32 43 720 E° 17 56 267) for example, a discreet scatter of 21 elliptical (or sausage-shaped) quartzite beach cobbles were counted in an area of about 5 m in extent. These include hammer stones (at least 2 are double sided), upper (or partially worked) grindstones, and tip flaked and snapped/broken cobbles. Very little shell is present in the immediate surrounding area, but several unmodified flakes (in quartzite and one in silcrete) are scattered about.

A wide scatter of shellfish occurs about 30 m northwest of the above scatter of stone. Here, large quartzite chunks (several of which are flaked), unmodified flakes, manuports, several hammer stones, split/broken/snapped cobbles and miscellaneous (or partially) ground quartzite cobbles lie scattered about on soft loose sands close to a lone bush and a small isolated Port Jackson tree.

A relatively large scatter of shellfish is also visible about 75 m south west of the above Port Jackson tree (at S° 32 43 688 E° 17 56 189), close to the southern boundary of the property. Numerous quartzite stone flakes, large (flaked) chunks of quartzite, an anvil, one lower grindstone, one hammerstone, one upper grindstone, manuports, a silcrete flake, a large piece of undecorated blackened pottery, ostrich eggshell, and a piece of red haematite, were also counted.

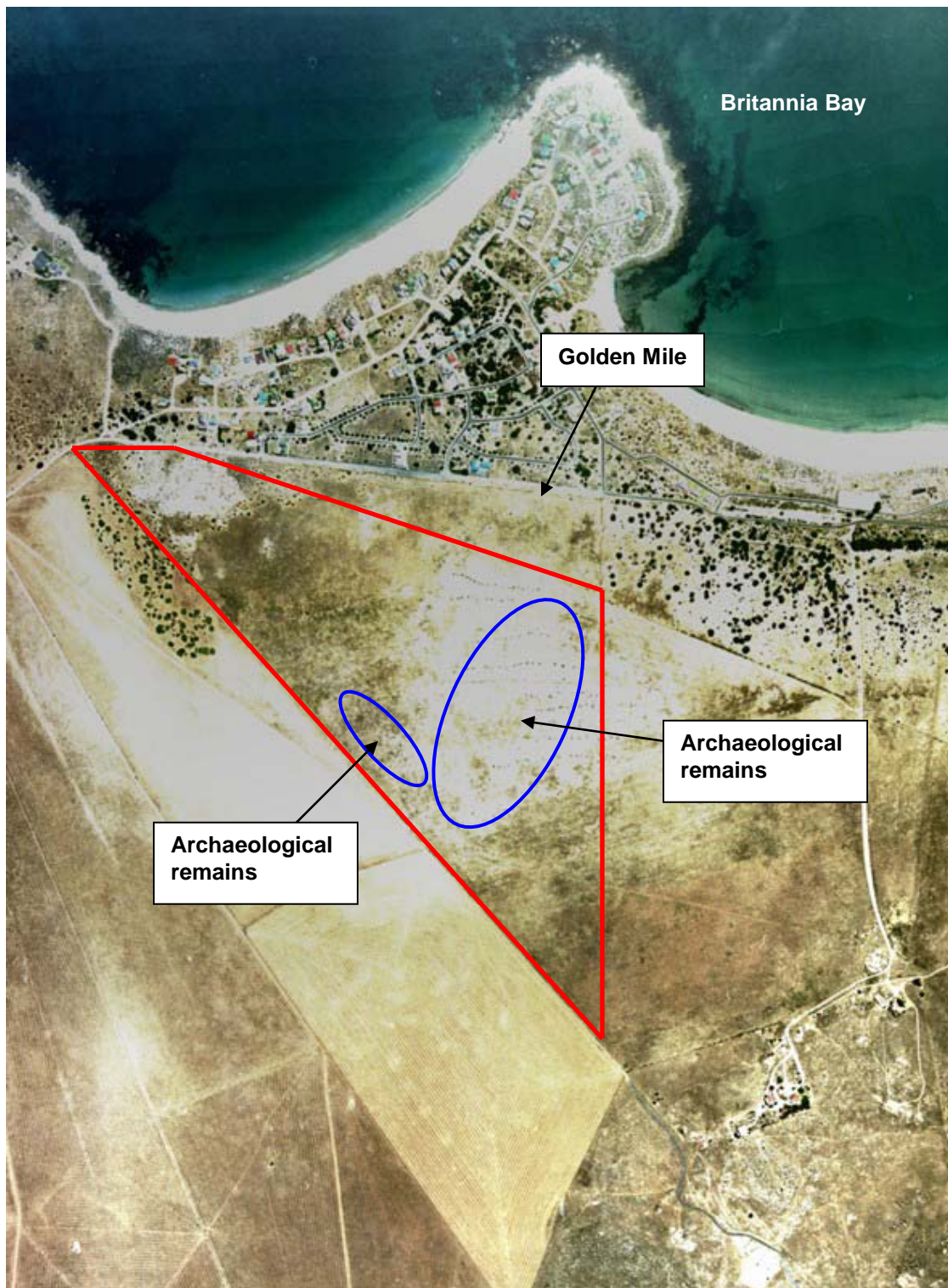


Figure 6. Aerial photograph of the site illustrating the location of archaeological heritage remains.

S° 32 43 615 E° 17 56 272 comprises an extensive scatter (several 100 m in extent) of shellfish located in a large, slightly deflated grassy and sandy area in the far north eastern portion of the study site, about 150 m south east of the high security fence of the adjacent private development. Shellfish is also visible amongst a fairly dense stand of Port Jackson trees and several isolated trees in the surrounding landscape.

Large numbers of stone artefacts are scattered about the site. These include numerous unmodified quartzite flakes, relatively large numbers of quartzite chunks (of which several are heavily flaked), hammer stones, cores, manuports, grindstone fragments, upper grindstones, and at least two anvils. One quartzite end-scraper was also found. Several quartz cores, chunks and flakes were counted, as well as a small number of silcrete tools, including flakes, chunks, a small side scraper and two small cores. Several limestone flakes were found. Some bone, including tortoise and seal, was identified.

Two significant finds include a large elliptical lower grindstone half buried in the sand (refer to Figure 10), as well as a piece of white porcelain, retouched on the inside rim.

Finds of re-used European artefacts in a possible Stone Age Herder context are virtually unknown from the Vredenburg area, the equivalent being a flaked brick tile from a 15-17th Century kraal from the northern end of the Vredenburg Peninsula (Karim Sadr pers. comm.). A recent study, however, located a retouched piece of glass from a case bottle, and a large retouched piece of refined annular earthenware at the Die Kop quarry near Veldriff (Kaplan 2005d).

Given the range and types of tools located during the study, there is compelling evidence to suggest that the archaeological heritage remains in Portion 7 represent traces of occupation left behind by indigenous Khoekhoe herders who occupied the St. Helena Bay area nearly 2000 years ago. The presence of an elliptical grindstone (large numbers of these occur at the known herder site at Kasteelberg – Sadr pers. comm.), large numbers of unmodified flakes, few formal tools, and the rare find of a reused piece of porcelain dating to the colonial era, are indicators of a possible herder site.

Given the context and state of preservation of the site, the archaeological heritage remains have been rated high local significance.



Figure 7. Archaeological remains alongside the southern boundary of the property. View of the site facing west. Note the shellfish in the open spaces in the foreground of the plate



Figure 9. Archaeological remains in the eastern portion of the property. View of the site facing south west. Note the shellfish in the open spaces in the foreground of the plate.



Figure 8. Archaeological remains in the eastern portion of the property. View of the site facing south west. Note the shellfish in the open spaces in the foreground of the plate



Figure 10. Archaeological remains in the north eastern portion of the property. View of the site facing south west. Note the elliptical grindstone in the foreground of the plate

8. IMPACT STATEMENT

The proposed development of Portion 7 of the Farm Duyker Eiland No. 6, St. Helena Bay including the construction of a proposed access road (forming part of the proposed Duyker Eiland Structure Plan), will impact negatively on important archaeological heritage remains in the eastern half, and alongside the southern boundary, of the subject property (refer to Figure 6).

Bulk earthworks and excavations may also expose or uncover human burials.

9. RECOMMENDATIONS

With regard to the proposed housing development on Portion 7 of the Farm Duyker Eiland No. 6, St. Helena Bay, the following recommendations are made:

- A Conservation Corridor must be established across the eastern portion of the subject property, where no (housing) development should be allowed to take place. This would ensure protection of the archaeological heritage remains in this portion of the proposed site.
- It is further proposed that the Conservation Corridor be zoned Public Open Space. The area of land to be zoned POS must be determined by the archaeologist in consultation with the planning consultants and the Provincial Heritage Authority, Heritage Western Cape.
- A Heritage Management Plan must be implemented, one which allows for public access to the protected archaeological site. Small (paved) footpaths, or alternatively raised boardwalks could be carefully constructed among the archaeological remains, avoiding sensitive areas.

Information story boards could also be carefully placed highlighting the importance of the area's local heritage. The archaeological site would therefore become a permanent (and protected) feature of the proposed development.

- Shellfish sampling and (if possible) dating of archaeological deposits in the southern portion of the property is also required. Mitigation will 'free up' land for development, while conserving the bulk of the archaeological heritage remains in the eastern half of the property.
- The proposed access road (planned in the context of the proposed new Structure Plan for Duyker Eiland) will need to be re-routed to avoid impacting on the important archaeological heritage remains in the eastern half of the property.
- Bulk earthworks and excavations must be monitored by a professional archaeologist.
- Should any human remains be disturbed, exposed or uncovered during earthworks, these should immediately be reported to the South African Heritage Resources Agency (Mrs Mary Leslie @ 021 462 4502).

10. REFERENCES

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