

**PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT
PROPOSED DEVELOPMENT ON THE REMAINDER OF
THE FARM DROOGFONTEIN NO. 245
MOSSEL BAY**

Prepared for

ENVIROCOR MANAGEMENT SERVICES (PTY) LTD

Att: Mr Aren Van Schalkwyk

PO Box 1710

George

6530

Ph: (044) 874 1864

Fax: (044) 874 3181

By

Jonathan Kaplan

Agency for Cultural Resource Management

P.O. Box 159

Riebeeck West

7306

Ph/Fax: 022 461 2755

Mobile: 082 321 0172

E-mail: acrm@wcaccess.co.za

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Executive summary

Envirocor Management Services (Pty) Ltd requested that the Agency for Cultural Resource Management conduct a Phase 1 Archaeological Impact Assessment (AIA) for a large, mixed-use development on the Remainder of the Farm Droogfontein No. 245 in Dana Bay near Mossel Bay, in the Southern Cape

The proposed development site (currently zoned Agriculture) is about 269 ha in extent. The property lies vacant and is covered in a mix of Fynbos and Thicket vegetation, and heavily infested with Port Jackson and Rooikranz, resulting in extremely poor archaeological visibility.

The aim of the study is to locate and map archaeological 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 Ron Martin has been appointed to undertake a Heritage Impact Assessment of the proposed project. The archaeological assessment forms part of the wider heritage study.

Low density scatters of Later Stone Age, Early Stone Age and Middle Stone Age tools were located during the study, but these are spread very thinly and unevenly over the surrounding landscape. Most of the tools were found in disturbed and degraded areas such as sandy roads and old tracks, but a few isolated finds were made on a series of vegetated parallel-sided dunes in the western portion of the proposed site. Several Early Stone Age and Middle Stone Age flake tools were also found in the Cape St. Blaize hiking trail.

SCATTERS OF
ESA, MSA +
LSA - mostly
+ disturbed
areas

The archaeological heritage remains have been rated as having low local significance.

It is very important to note, however, that large numbers of Early Stone Age and Middle Stone Age tools, including handaxes, retouched flake tools, blade tools, hammerstones, cores and manuports were documented in a large, disturbed and degraded patch of land near the north western corner of the proposed site. The stone artefacts have been uncovered as a result of earthmoving operations, and much of it appears to occur in primary, or close to primary context.

The Phase 1 Archaeological Impact Assessment has identified no significant impacts to pre-colonial archaeological material that will need to be mitigated, prior to the proposed development activities.

Potentially important Early Stone Age and Middle Stone Age artefacts may, however, be exposed or uncovered during vegetation and earthmoving operations during the Construction Phase of the proposed project.

With regard to the proposed development of the Remainder of the Farm Droogfontein No. 245, in Dana Bay, the following recommendations are made

- Vegetation clearing operations and earthmoving activities must be monitored by a professional archaeologist. Archaeological monitoring is a crucial component of conserving, and managing archaeological heritage resources on the site.
- 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), or Heritage Western Cape (Mr N. Ndlovu (021) 483 9692). Burial remains should not be disturbed or removed until inspected by the archaeologist.

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1. INTRODUCTION

1.1 Background and brief

Envirocor Management Services, on behalf of Picture Perfect Trading 88 (Pty) Ltd, requested that the Agency for Cultural Resource Management conduct a Phase 1 Archaeological Impact Assessment (AIA) for a large, mixed-use development on the Remainder of the Farm Droogfontein No. 245 in Dana Bay near Mossel Bay, in the Southern Cape.

The proposed development provides for the construction of approximately 5000 residential erven, two businesses, Public Open Space, Private Open Space, and bulk infrastructure such as internal streets and services.

The property is currently zoned Agriculture, and will be rezoned and subdivided to accommodate the proposed development activities.

The extent of the proposed development (268.91 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 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 Ron Martin has been appointed by Picture Perfect Trading 88 (Pty) Ltd to undertake a Heritage Impact Assessment of the proposed project. The archaeological assessment forms part of the larger heritage study.

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 assess the sensitivity and conservation significance of archaeological sites within the proposed site;
- 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 proposed site

3. THE STUDY SITE

A locality map is illustrated in Figures 1 and 2.

An aerial photograph of the study site is illustrated in Figure 3.

The subject property (S° 34 11 360 E° 22 01 525 on map datum wgs 84) is located in Dana Bay, about eight kms west of Mossel Bay on the south coast of the Western Cape Province. Access to the site is via the N2 to Mossel Bay. The property is situated between the N2 to the north and the coast to the south. The property lies vacant and is covered in a mix of Sand and Limestone Fynbos and Thicket vegetation, and heavily infested with invasive Port Jackson and Rooikranz, particularly in the eastern and steep coastal portions (Figures 4-23). There are no significant landscape features occurring on the property. A sandy track occurs around the western and northern boundary of the site, while a few small, informal and abandoned sandy tracks intersect the remainder of the property. A series of well-vegetated low, parallel sided dunes are aligned alongside each other in the western portion of the study site.

The property is surrounded by land uses comprising a combination of residential and commercial business activities, resort activities and private nature areas.

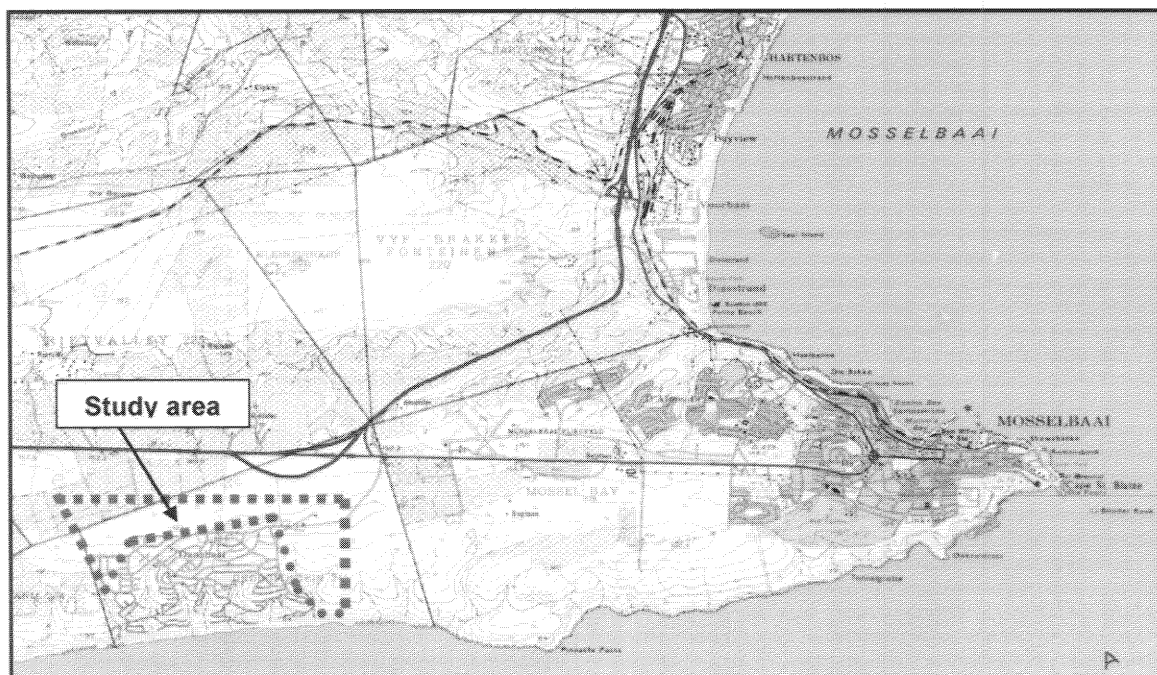


Figure 1. Locality map (3422AA Mossel Bay)

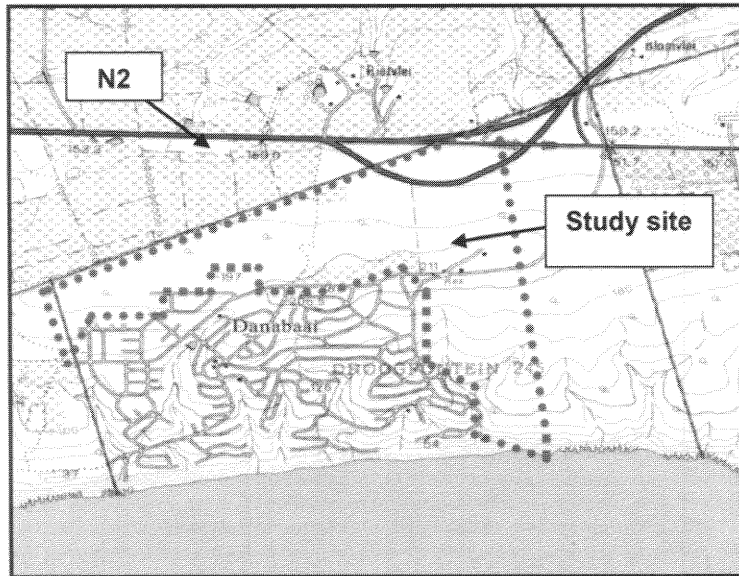


Figure 2. Close up the study site

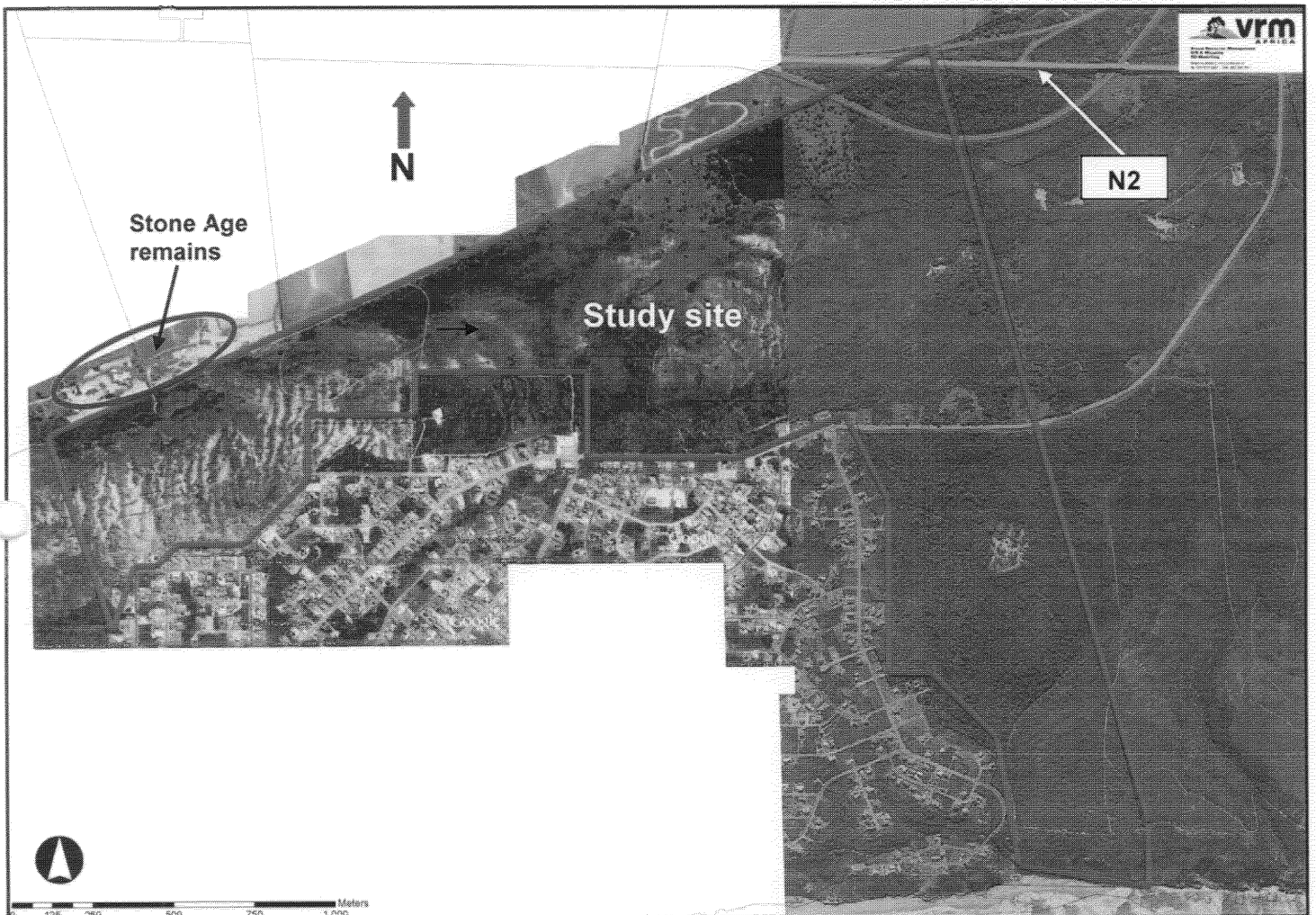


Figure 3. Aerial photograph of the study site

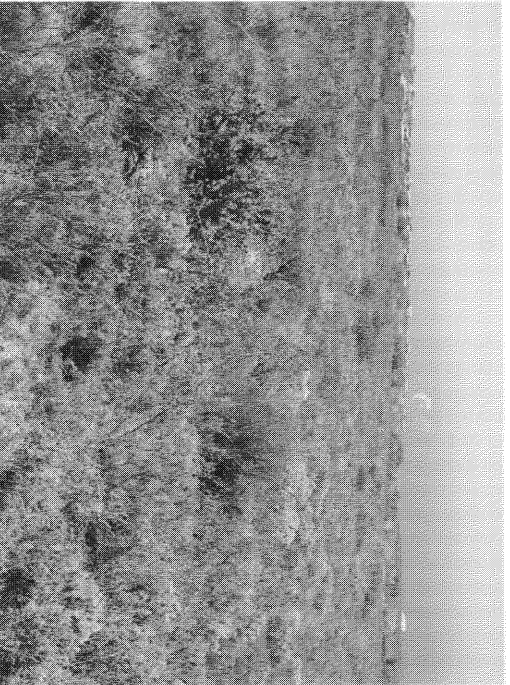


Figure 4. View of the site facing south east. Dana Bay is in the foreground



Figure 6. View of the site facing north west



Figure 5. View of the site facing north west



Figure 7. View of the site facing south west

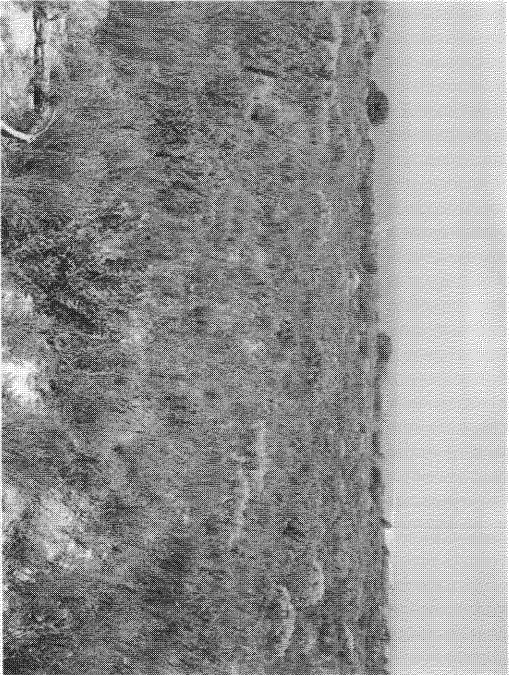


Figure 8. View of the site facing south west

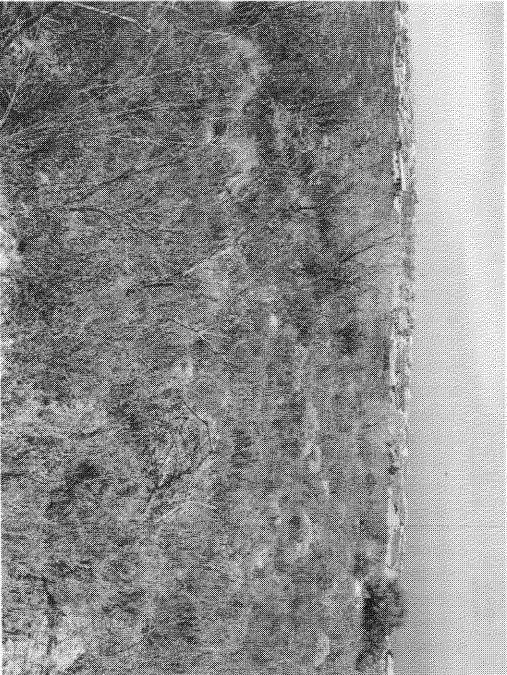


Figure 9. View of the site facing south east. Dana Bay is in the background

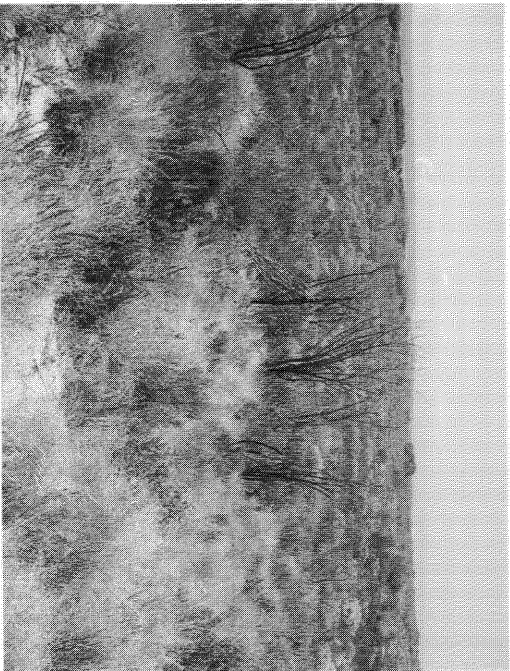


Figure 10. View of the site facing north east



Figure 11. View of the site facing north



Figure 12. View of the site facing east



Figure 13. View of the site facing north east



Figure 14. View of the site facing north



Figure 15. View of the site facing north east

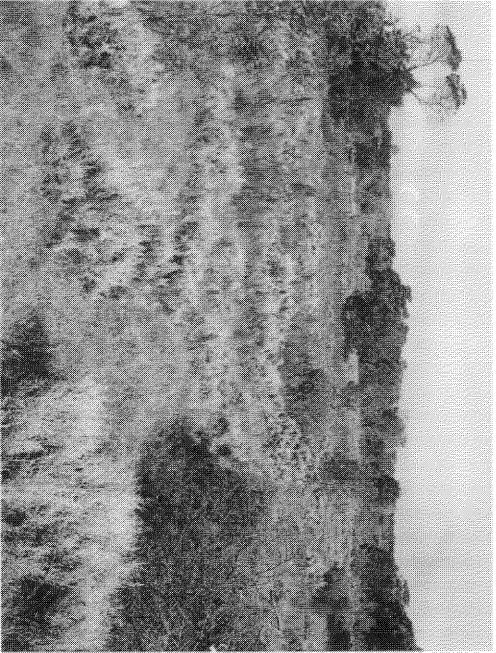


Figure 16. View of the site facing south east

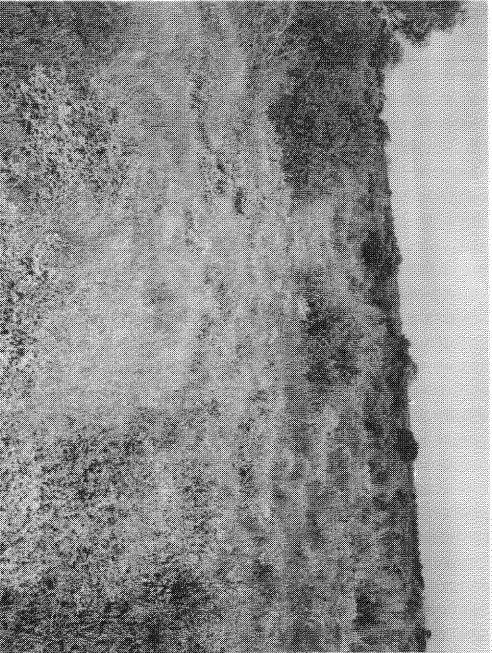


Figure 17. View of the site facing south east



Figure 18. View of the site facing south east from Dana Bay Main Road



Figure 19. View of the site facing south east from Dana Bay Main Road

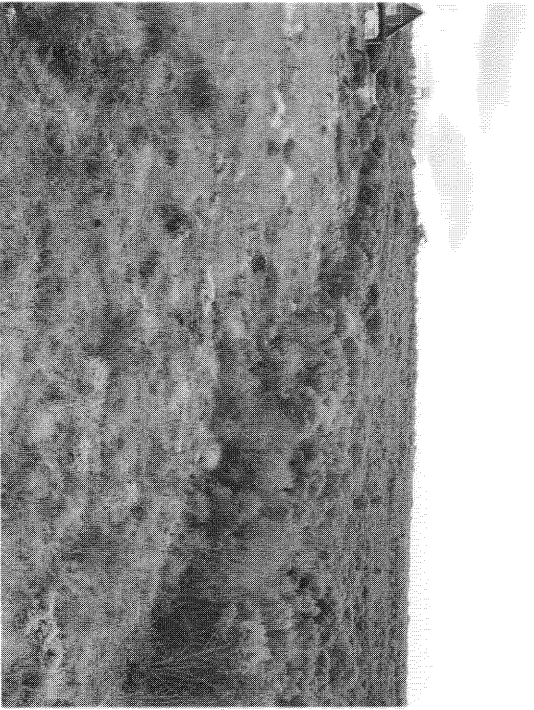


Figure 20. View of the site taken from top of the cliffs

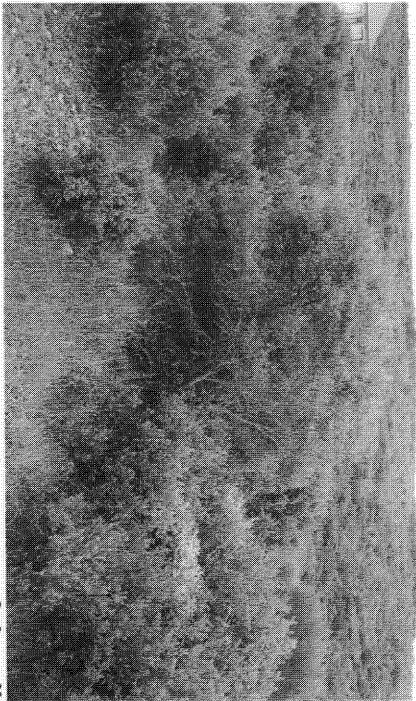


Figure 22. View of the site taken from top of the cliffs

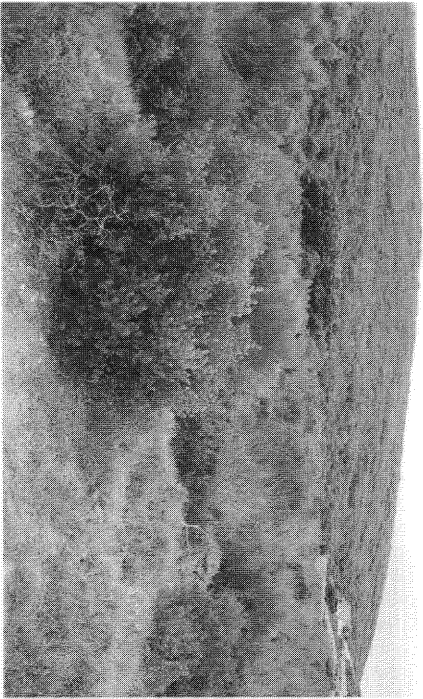


Figure 21. View of the site taken from top of the cliffs



Figure 23. View of the site taken from top of the cliffs

4. STUDY APPROACH

4.1 Method of survey

The approach followed in the archaeological study entailed a foot survey of the proposed site.

The site visit and assessment took place over two days on the 27th and 28th of February, 2007.

A desktop study was undertaken.

Dr Peter Nilssen, currently directing archaeological monitoring of earthmoving operations at the nearby Pinnacle Point Hotel and Casino development, was also consulted.

4.2 Constraints and limitations

The field study was constrained and severely compromised by the presence of invasive alien and thick natural vegetation across most of the study site, resulting in very low archaeological visibility. In the eastern portion of the property and on the steep coastal cliffs below the Main Road, invasive and Thicket vegetation is so dense it is impenetrable.

4.3 Identification of potential risks

The following project actions will likely impact negatively on archaeological heritage remains.

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

- Vegetation clearing operations, bulk earthworks and excavations will very likely expose important archaeological heritage remains such as Early and Middle Stone Age tools.
- Unmarked pre-colonial human remains may be also exposed or uncovered during earthmoving operations.

4.4 Results of the desk top study

Apart from early archaeological investigations of the Cape St. Blaize Cave (Leith 1888; Goodwin & van Riet Lowe 1935; Kaplan 1993), very little systematic archaeological work has been carried out in the Mossel Bay area. It has taken several archaeological impact assessments, particularly at Pinnacle Point (Kaplan 1997), to focus attention on the critical importance of the area in the study of early modern humans in Southern Africa (Marean & Nilssen 2002).

Up to 70 000, Early Stone Age (ESA) tools have been documented and collected during monitoring of earthmoving operations at Pinnacle Point (Nilssen 2005 and pers. comm.). ESA and Middle Stone Age (MSA) artefacts are located in both the top soil and underlying sandy deposits in stratigraphic sequence, although it does appear as if the bulk of the artefacts are derived from the sand layer. The artefacts recovered also show

little evidence of abrasion and polish, suggesting that they were not rolled or transported by natural agents. It therefore appears likely that many of the artefacts were located in primary or close to primary context (Nilssen 2005:4).

No artefacts appear to be present in the underlying clay and calcrete deposits. However, it is interesting to note that a carnivore (probably hyena) lair and an accumulation of well-preserved fossil bone were documented in limestone deposits nearly 3 m below the surface (Nilssen pers. comm.).

The key point is that the archaeology below the surface is undisturbed and it is precisely the context of the finds that is so important for conservation purposes.

Baseline archaeological studies have also documented large numbers of ESA and MSA tools at Paradise Beach Golf Estate in Dana Bay (Portion 1 of the Farm Droogfontein No. 245), situated adjacent to the subject property (Kaplan 2003).

Well preserved shell middens and many open sites have also been recorded among the sand dunes, and on the steep coastal cliffs at Nautilus Bay, a large residential development situated to west of Dana Bay (Kaplan 2005).

5. LEGISLATIVE REQUIREMENTS

The following section provides a brief overview of the relevant legislation with regard to the archaeology of the study area.

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

The National Heritage Resources (NHR) Act requires that "...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"

The relevant sections of the Act are briefly outlined below.

5.2 Archaeology (Section 35 (4))

Section 35 (4) of the NHR stipulates that 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.

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

Section 36 (3) of the HHR stipulates that 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. IMPACT ASSESSMENT AND DESCRIPTION

A low density scatter of Later Stone Age (LSA), MSA tools, and a few ESA tools were located during the baseline study, but these are spread very thinly and unevenly over the surrounding landscape. Most of the tools were found on loose sands in the sandy road in western portion of the study site. The tools comprise a large broken retouched ESA flake (Figures 24) and smaller LSA and MSA tools, including flakes, blades, cores and chunks (Figures 25 & 26). Three of four LSA tools were found on the series of vegetated dunes in the western portion of the property. Several ESA and MSA flake tools were also found in the footpath of the Cape St. Blaize hiking trail, where it ends at Malva Road. Most of tools are in locally available quartzite, although several LSA tools in silcrete were also noted.

*Cape St. Blaize
Hiking trail*

The archaeological heritage remains have been rated as having low local significance.

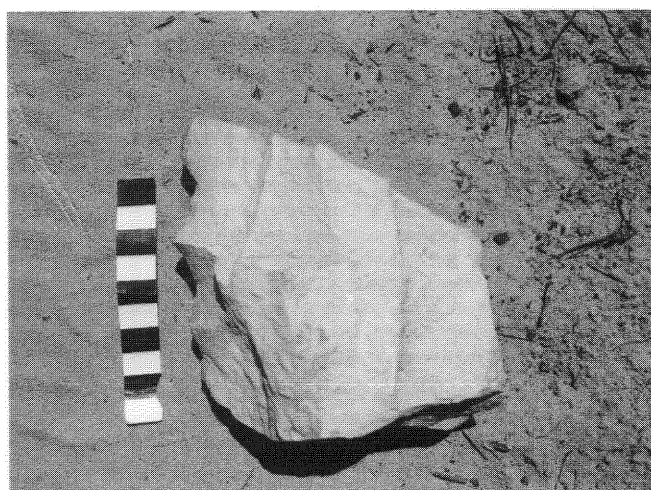


Figure 24. Broken ESA flake. Scale in cm

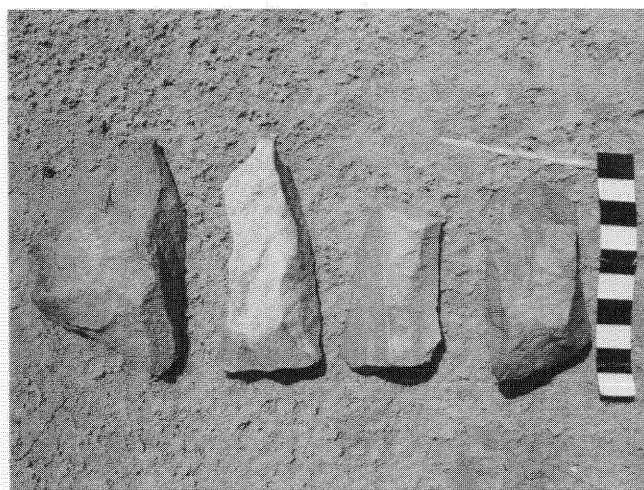


Figure 26. Collection of MSA and LSA tools. Scale is in cm

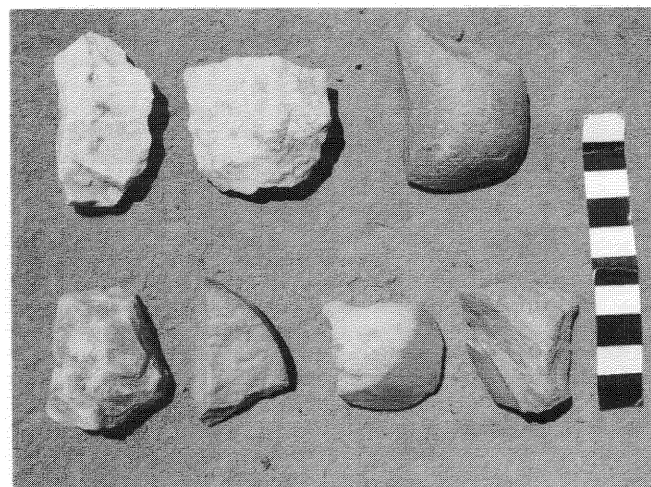


Figure 25. Collection of MSA and LSA. Scale is in cm

6.1 Other finds

Large numbers of ESA and MSA tools, including handaxes, retouched flake tools, blade tools, cores, flaked chunks, hammerstones and manuports were documented alongside some agricultural lands in a large, disturbed and degraded patch of land near the north western corner of the proposed site (refer to Figure 2). A GPS co-ordinate for the site is S° 34 11 371 E° 22 01 900.

The tools are exposed on a compact brown sand surface alongside large spoil dumps of sand and top soil (Figures 27 & 28). The dumps are clearly the result of earthmoving operations. The assumption is that, like at Pinnacle Point, most of the tools found here are derived from the overlying sandy soils and have been left exposed on the compact brown surface. Furthermore, much of the archaeological material appears to occur in primary, or close to primary context, as the tools are not rolled or abraded. No tools were found embedded or compressed in the compact brown sands, further suggesting that they originated from the overlying sand layer. Although the tools are spread unevenly over the surrounding landscape, larger concentrations of tools do occur (Figures 29 & 30), including several discreet activity areas (Figure 31). A collection of ESA handaxes is illustrated in Figure 32.



Figure 27. Cleared lands alongside the study site

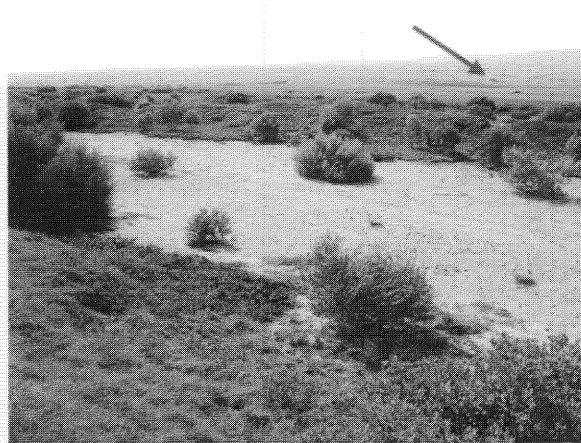


Figure 29. Cleared lands alongside the study site. Arrow indicates the N2

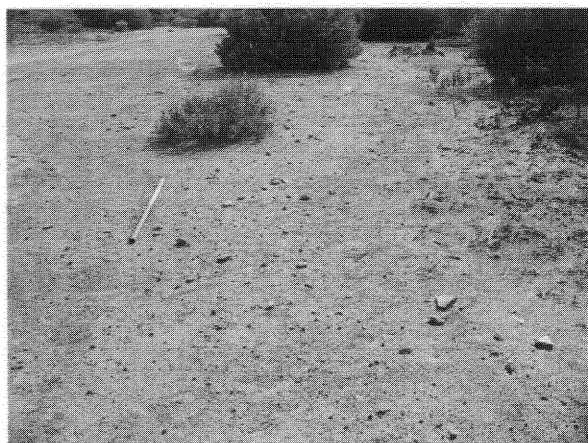


Figure 28. Scatter of stone tools. Ranging rod is 1.0 m

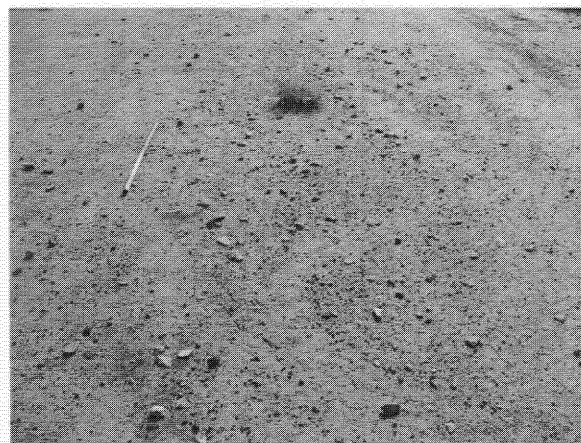


Figure 30. Scatter of stone tools. Ranging rod is 1.0 m



Figure 31. Possible activity area. Ranging rod is 1.0 m

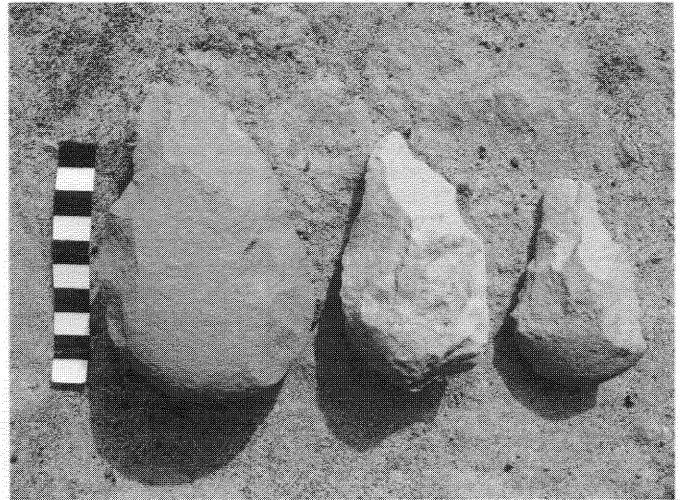


Figure 32. Collection of handaxes. Scale is in cm

7. IMPACT STATEMENT

The Phase 1 Archaeological Impact Assessment has identified no significant impacts to pre-colonial archaeological material that will need to be mitigated prior to the proposed development activities.

Early Stone Age and Middle Stone Age tools will, however, very likely be exposed or uncovered in underlying sandy deposits once earthmoving operations penetrate and remove the top soils.

Unmarked pre-colonial human remains may also be exposed or uncovered during bulk earthworks and excavations.

8. RECOMMENDATIONS

With regard to the proposed development of the Remainder of Farm Droogfontein No. 245 in Dana Bay, the following recommendations are made:

- Vegetation clearing operations and earthmoving activities must be monitored by a professional archaeologist. Archaeological monitoring is a crucial component of conserving and managing archaeological resources on the site. Monitoring should follow the model and procedures developed by Dr. P. Nilssen at Pinnacle Point.¹ *M. Niessen*
- 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), or Heritage Western Cape (Mr N. Ndlovu (021) 483 9692). Burial remains should not be disturbed or removed until inspected by the archaeologist. *Human remains*

¹ Dr P. Nilssen can be contacted on 082 783 5896

9. REFERENCES

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