

# Archaeological Impact Assessment

## Upgrading and expansion of the Cape St Blaize Independent School on Erf 18985 (Portion of Remainder Erf 2001), Heiderand, District Mossel Bay, Western Cape Province

prepared for

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by



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## **Executive Summary**

*An Archaeological Impact Assessment was conducted on 27 October 2009. Thick ground cover and dense vegetation significantly restricted ground visibility and the area accessible on foot. Consequently, modest extents of surface and subsurface sediments were exposed and/or accessible for archaeological inspection.*

*Upper sediments in the northern portion of the study area are disturbed by human activities including small-scale earthmoving and dumping. The context and significance of heritage related resources observed, and that may occur in these sediments, are compromised. The bulk of the study area, however, is largely undisturbed.*

*Archaeological resources identified during the study originate in the Middle Stone Age period. Earlier archaeological studies at Pinnacle Point – less than a kilometer west of the study area - revealed that artifacts of Early Stone Age origin are particularly common in this context. No palaeontological remains, Colonial material culture or other heritage related resources were observed.*

*Given the nature of the archaeological record identified here and in earlier studies, and potential for occurrences of subsurface archaeological and paleontological remains, it is recommended that the below mitigatory measures be implemented. If mitigatory measures - as approved by Heritage Western Cape - are implemented, then it is recommended that the proposed project be approved.*

- Proposed construction activities are likely to impact negatively on archaeological and, potentially, paleontological materials in previously undisturbed sediments. Consequently, it is recommended that full-time archaeological monitoring be conducted by or under the supervision of professional archaeologist during vegetation clearing and earthmoving activities. Monitoring will ensure that negative impact on archaeological and paleontological materials is avoided or minimized.*
- If archaeological materials are exposed during vegetation clearing and/or earth moving activities, then they must be dealt with in accordance with the National Heritage Resources Act (No. 25 of 1999) and at the expense of the developer. In the event of exposing human remains during construction, the matter will fall into the domain of Heritage Western Cape (Mr. Nick Wiltshire) or the South African Heritage Resources Agency (Ms Mary Leslie) and will require a professional archaeologist to undertake mitigation if needed.*

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## **1. Introduction**

### **1.1 Background**

Due to the proposed upgrading and expansion of the Cape St Blaize Independent School (CSBIS) on Erf 18985 (Portion of Remainder Erf 2001), Heiderand, District Mossel Bay, Western Cape Province (Figures 1 through 4), Mr. Andries Greyling of Curro Holdings (Pty) Ltd appointed CHARM to conduct an Archaeological Impact Assessment (AIA) of the affected property. The study focuses on the previously undeveloped portion of the property with boundary points A-D as indicated in Figure 4 and Table 1 (hereafter called the study area). Layout plans for the proposed development are shown in Figure 3. Detailed information is available from the client.

Proposed development activities that potentially affect archaeological, paleontological and heritage related resources in the study area include (see Figure 3):

- vegetation clearing and earthmoving activities for the construction and installation of:
  1. aftercare centre
  2. cricket nets
  3. grand stand
  4. school buildings
  5. playing fields
  6. parking & paving
  7. services & road(s) associated with development
- detailed specifications are available from the client

### **1.2. Purpose and Scope of the Study**

Objectives of the Archaeological Impact Assessment are:

- To assess the study area for traces of archaeological and heritage related resources;
- To identify options for archaeological mitigation in order to minimize potential negative impacts; and
- To make recommendations for archaeological mitigation.

Terms of Reference (ToR):

- a) Locate boundaries of the study area.
- b) Conduct a foot survey of the study area to identify and record archaeological and heritage related resources.
- c) Assess the impact of the proposed development on above-named resources.
- d) Recommend mitigation measures where necessary.
- e) Prepare and submit a report to the client that meets standards required by Heritage Western Cape (HWC) in terms of the National Heritage Resources Act, No. 25 of 1999.

### **1.3 Study Area**

CSBIS and the study area are situated roughly 6km west of the Point at Mossel Bay and less than 1km east of the development at Pinnacle Point on the Cape South coast (Figures 1 & 2). The nearest shoreline is some 850m south of the southern boundary. The study area was accessed by vehicle by turning into Heiderand – via Melkhout Street - from Louis Fourie Road (R102) and right into Maroela Street and then the first left off Maroela

Steet, which becomes a gravel road that runs along the eastern boundary of the study area (follow yellow arrows in Figures 2 & 4).

About 4.2ha in extent, the study area is variably vegetated with indigenous coastal Fynbos and invasive species with the northern and southern portions dominated by exotic and indigenous species respectively (Plates 1 & 2). Surface and near surface sediments in the northern portion of the study area are disturbed by human activities including small-scale earthmoving and dumping (Plates 1 & 2). The context and significance of heritage related resources observed, and that may occur in these sediments, are irreparably compromised. The bulk of the study area and particularly the southern part, however, are largely undisturbed (Plates 1 & 2). Recently dumped rubble and garbage is common in the north of the property and along the gravel road adjacent to the western boundary.

The topography of the study area consists of a level to gently sloping portion of the coastal plateau with high and low points in the north and south at roughly 175 to 165 m above sea level respectively (Plate 1). The only geological features observed are isolated calcrete outcrops like that shown in Plate 3 (006). Geological sediments observed during the foot survey include – from top to bottom – topsoil, aeolian sand and calcrete outcrops.

#### **1.4 Approach to the Study**

Archaeological research and contract work conducted in the surrounding area - by the Agency for Cultural Resource Management, the Archaeology Contracts Office at the University of Cape Town and the author - revealed that the area contains sensitive archaeological and paleontological resources (Hart 2005, Kaplan 1997, Nilssen 2008, Nilssen et al 2007, Nilssen 2005, Thompson 2006).

On behalf of the client, Ms Francini van Staden of Cape Environmental Assessment Practitioners (Pty) Ltd (Cape EAPRAC) provided background information and documents as well as plans and coordinate data for the study area (Figures 2 & 3 and Table 1). The study area was located by means of this information.

Thick ground cover and dense vegetation significantly restricted ground visibility and the area that could be covered on foot. Consequently, modest extents of surface and subsurface sediments were exposed and accessible for archaeological inspection (Figure 4 and Plates 1 & 2). The survey was conducted on foot and survey tracks were fixed with a hand held Garmin Camo GPS to record the search area (Figure 4, gpx tracking file submitted to HWC and is available from author). Observations, photo localities and archaeological occurrences were also fixed by GPS (Figure 4 and Table 1). Notes and a high quality, comprehensive digital photographic record were also made (full data set available from author).

## **2. Results**

In about 2.5 hours of survey an area of 2.9km long by 6m wide – about 1.7ha - was covered, of which an average of around 20% provided good archaeological visibility (Figure 4).

Archaeological materials recorded during the limited search comprise 3 stone artifacts of Middle Stone Age (MSA) origin. Occurrence 002 was located on a recent spoil heap while occurrences 008 and 011 were found on exposed and un-vegetated surfaces

(Figure 4, Plate 3 and Table 1). These artifacts are classified as MSA due to their technological attributes and the state of patination on flaked surfaces. All artifacts are of flaked quartzite and none display features of formal tools.

The small number of recorded archaeological occurrences is likely a product of the limitations of the study as described above, and is probably misleading because a rich archaeological record occurs in similar contexts on a property in the immediate vicinity of the study area.

**Table 1. Coordinate data for observations and boundary points of study area.**

Name	Description img=image file snd=sound file	Datum: WGS 84	Datum: WGS 84
		Lat/Lon dec.degrees	Grid: SA National
001	img 5504-5507 snd 5507	S34.19268 E22.11039	23 Y0082002 X3785392
002	MSA - img 5515-7 snd 5517	S34.19297 E22.11204	23 Y0081849 X3785423
003	img 5521-4 snd 5524	S34.19297 E22.11176	23 Y0081875 X3785423
004	img 5525-6 snd 5526	S34.19347 E22.11209	23 Y0081845 X3785478
005	img 5527 snd 5527	S34.19392 E22.11193	23 Y0081858 X3785529
006	calcrete - img 5528 snd 5528	S34.19388 E22.11168	23 Y0081881 X3785524
007	img 5529 snd 5529	S34.19364 E22.11127	23 Y0081919 X3785498
008	MSA img 5530-5533	S34.19408 E22.11117	23 Y0081928 X3785547
009	img 5534-6 snd 5536	S34.19454 E22.11204	23 Y0081848 X3785597
010	img 5537-41 snd 5541	S34.19505 E22.11163	23 Y0081885 X3785654
011	MSA img 5545-7 snd 5547	S34.19453 E22.11088	23 Y0081954 X3785597
012	img 5548-50 snd 5550	S34.19415 E22.11039	23 Y0082000 X3785556
013	img 5551 snd 5551	S34.19336 E22.11043	23 Y0081998 X3785467
A	boundary point	S34.19263 E22.11047	23 Y0081995 X3785387
B	boundary point	S34.19561 E22.11061	23 Y0081978 X3785717
C	boundary point	S34.19512 E22.11202	23 Y0081849 X3785661
D	boundary point	S34.19268 E22.11210	23 Y0081844 X3785391

### 3. Sources of Risk, Impact Identification and Assessment

- The proposed development will involve vegetation clearing and earthmoving activities that could have a permanent negative impact on archaeological and potentially, palaeontological resources. Previously disturbed areas and exposed surfaces contain archaeological material – albeit in small numbers - suggesting that undisturbed sediments are archaeologically sensitive. Calcrete sediments in the vicinity – Pinnacle Point - house paleontological deposits of high significance.
- Development activities will penetrate sediments unaffected by previous disturbances as well as previously undisturbed areas. Archaeological materials are likely to occur in undisturbed sands and paleontological remains may occur in the calcrete beds. Archaeological and palaeontological monitoring of vegetation clearing and earthmoving activities associated with the proposed project will avoid and/or minimize negative impacts.

Table 2 summarizes the potential impact of the proposed development on archaeological and palaeontological resources with and without mitigation.

**Table 2. Potential Impact on and Loss of Archaeological & Paleontological Resources**

	With Mitigation	Without Mitigation
<b>Extent</b>	Local	Local
<b>Duration</b>	Permanent	Permanent
<b>Intensity</b>	Low	Medium to High
<b>Probability</b>	Medium	High
<b>Significance</b>	unknown	unknown
<b>Status</b>	unknown	unknown
<b>Confidence</b>	High	High

Provided that mitigatory measures as approved by Heritage Western Cape are implemented, it is recommended that the proposed project be approved.

#### **4. Required and Recommended Mitigation Measures**

The following measures are required:

- In the event that vegetation clearing and earthmoving activities expose archaeological or paleontological materials, such activities must stop and Heritage Western Cape must be notified immediately.
- If archaeological materials are exposed through vegetation clearing or earthmoving activities, then they must be dealt with in accordance with the National Heritage Resources Act (No. 25 of 1999) and at the expense of the developer(s) and/or property owner(s).
- Unmarked human burials may occur anywhere in the landscape and are often exposed during earthmoving activities. Human remains are protected by law and, if older than 60 years, are dealt with by Heritage Western Cape (Mr. Nick Wiltshire 021 483 9685) or the State Archaeologist at the South African Heritage Resources Agency (Mrs. Mary Leslie who can be reached at 021 462 4502).

It is recommended that:

- Full time archaeological (include paleontological) monitoring of vegetation clearing and earthmoving activities should be conducted or supervised by a suitably qualified professional. This measure will ensure that negative impact on archaeological and paleontological materials is avoided or minimized

#### **References**

De Kock, S. 2009. Heritage Statement (NID) in terms of Section 38 of the National Heritage Resources Act, 1999 (Act 25 of 1999). Proposed extension of Cape St Blaize Independent School: Erf 18985 (a Portion of Erf 2001), Mossel Bay District.

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Thompson, Erin. 2006. Artifact Accumulation Formation Processes and their Affect on Studies of Early Hominin Land Use as Reflected in an Acheulean Assemblage near Mossel Bay, South Africa. Unpublished Masters Dissertation.

**Figures and Plates** (on following pages)



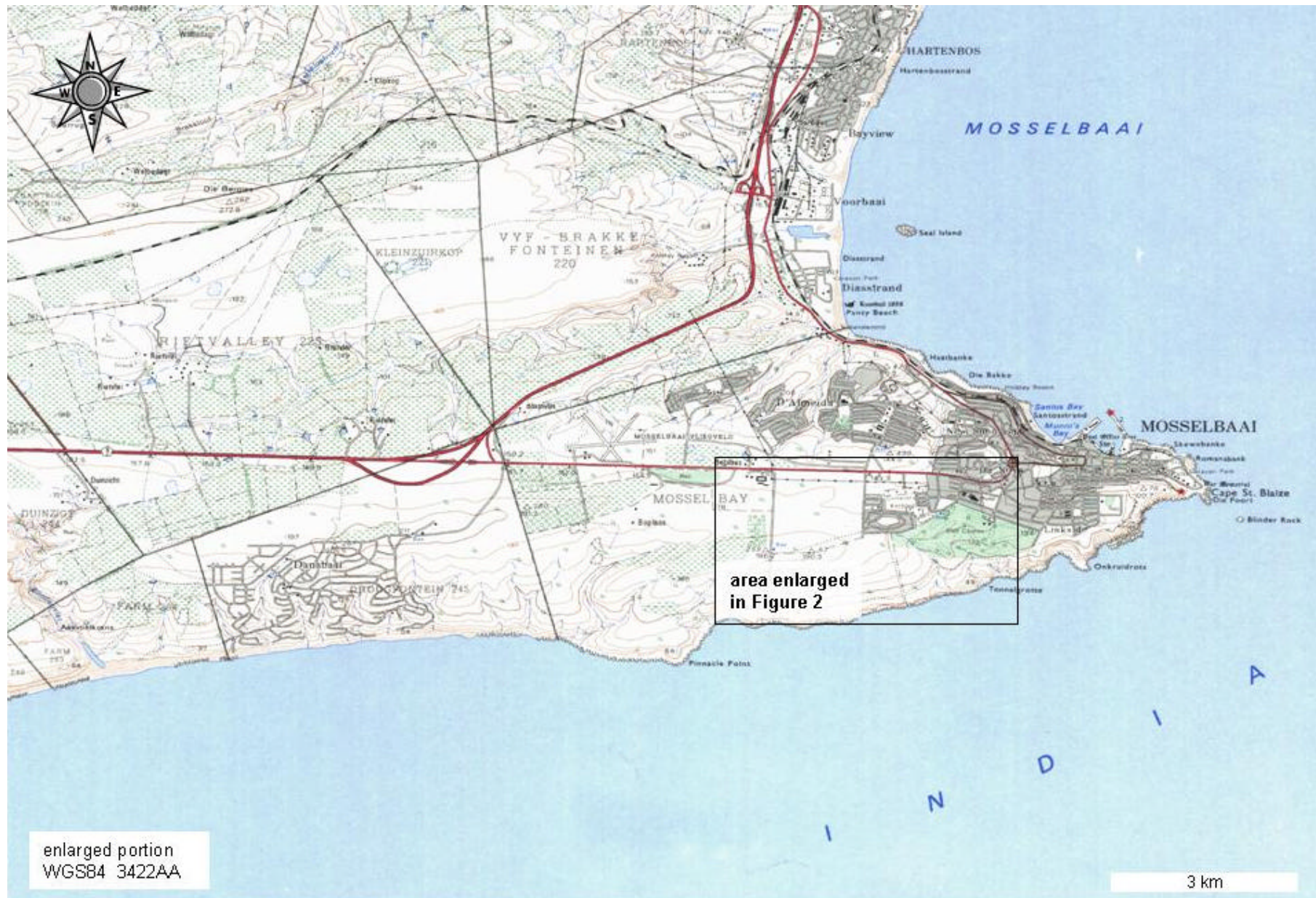


Figure 1. General location of study area relative to Mossel Bay on the Cape South coast.





0 0.125 0.25 0.5 0.75 1 Kilometers

Map Scale is 1 : 10 000 when printed on A3.  
Source: Aerial image is courtesy of Google Earth Pro 2008



Location Plan  
Cape St Blaize School  
Mossel Bay  
Date: October 2008

Figure 2. Enlarged area as indicated in Fig 1. Study area (red outline) with Pinnacle Point to the east. Arrows show access route.



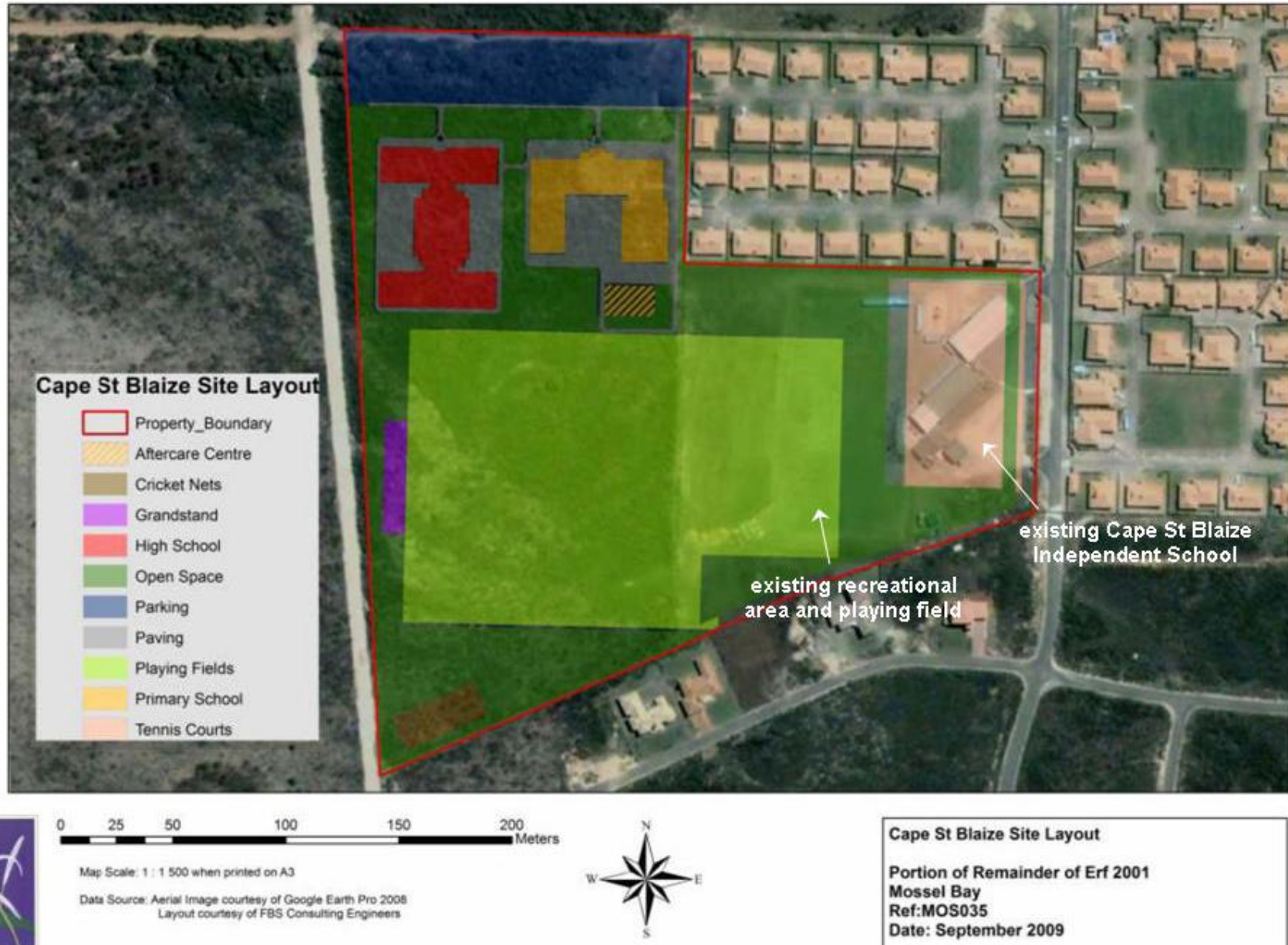


Figure 3. Layout plan for proposed upgrading and expansion of Cape St Blaize Independent School. (Figs 2 & 3 courtesy Cape EAPRAC)



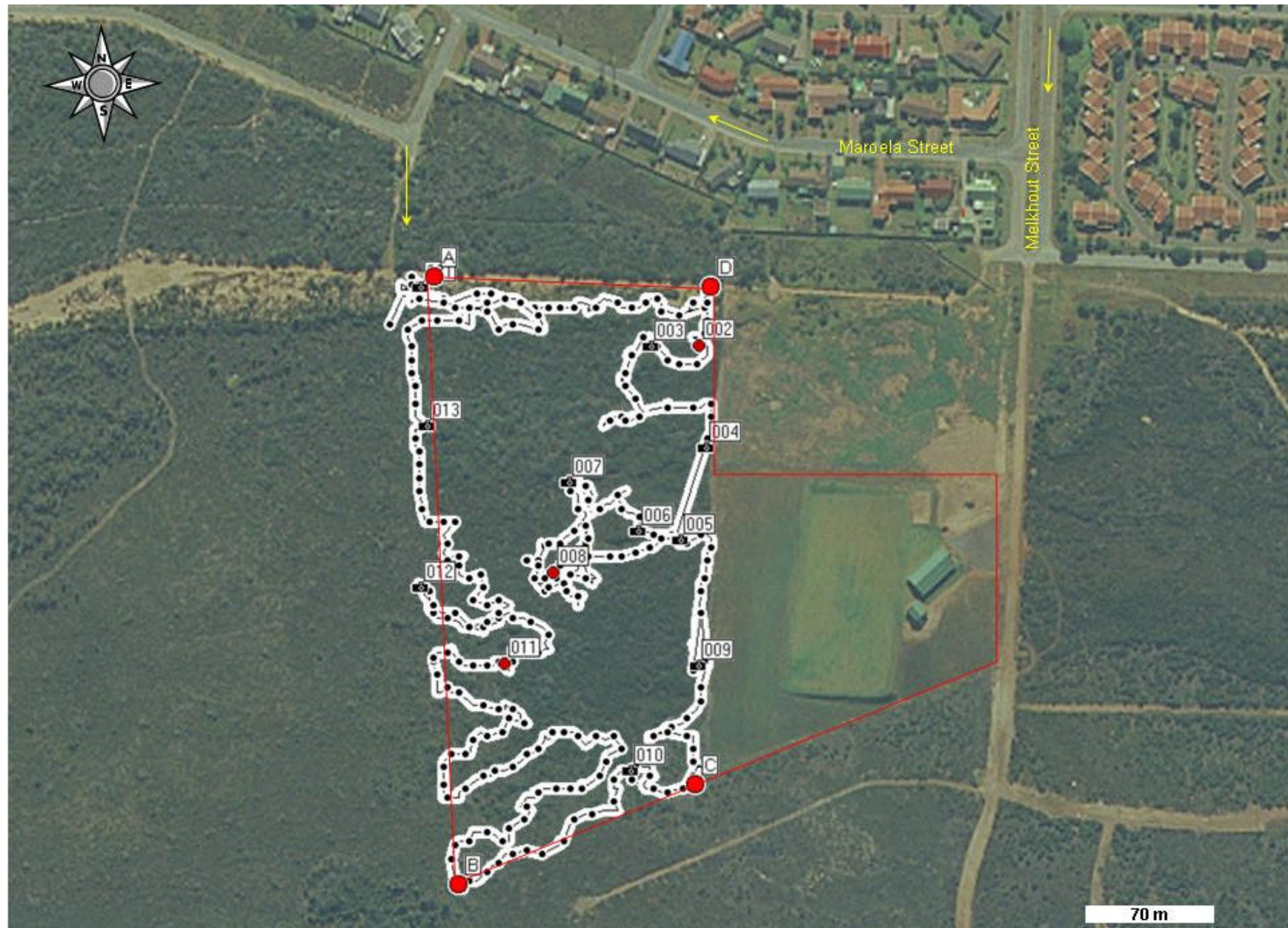


Figure 4. Study area with survey tracks and location of observations, photos and boundary points. See Table 1 and Plates 1 to 3.





Plate 1. Study area; panoramas of vegetation cover and topography. Centre of view from top to bottom: E, SE, W, NE. See photo localities in Figure 4.





Plate 2. Vegetation and ground cover in various parts of study area. See Figure 4 for locality of photos.



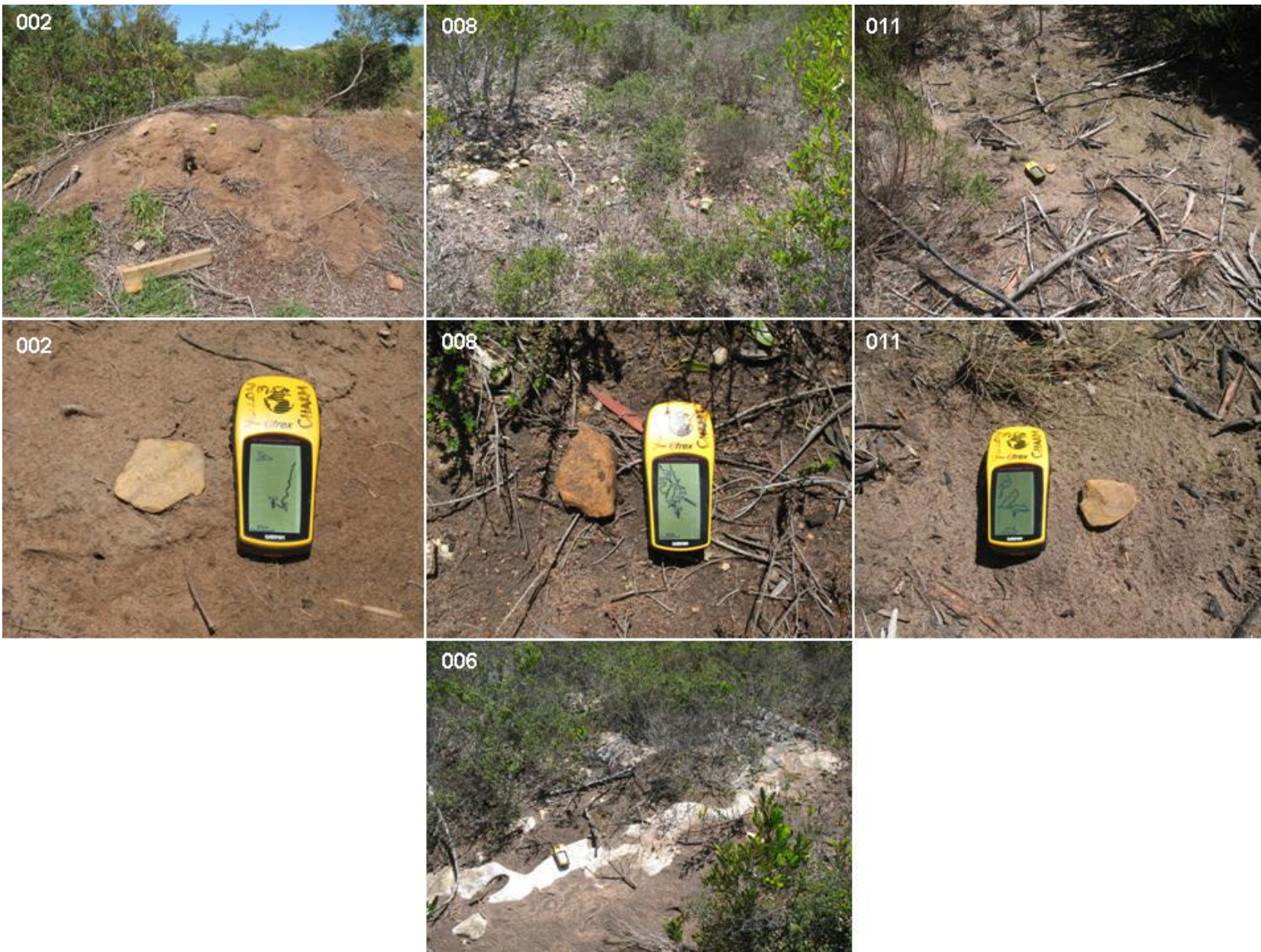


Plate 3. 002, 008 and 011 are recorded MSA artifacts and 006 is an exposed outcrop of calcrete. Garmin Camo GPS for scale.