Erf 623 and access road, Gansbaai, South Western Cape Province

ARCHAEOLOGICAL HERITAGE IMPACT ASSESSMENT based on shovel test excavations

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FINAL REPORT

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Executive Summary

For the reader's convenience, the heritage scoping report prepared by Mr. Hart of the Archaeology Contracts Office (hereafter referred to as ACO) at the University of Cape Town is included at the end of this report as Appendix A. To avoid repetition, Appendix A is referred to in several parts of this report.

Because no trial excavations were conducted during the initial scoping study, the Mossel Bay Archaeology Project: Cultural Resources Management CC (MAPCRM) was appointed to conduct such excavations to investigate and determine the nature, depth and extent of archaeological materials as identified during the scoping study. This information is required to make adequate plans for archaeological mitigation in the event that mitigation is required.

A total of 18 shovel tests were excavated with spades and shovels. Care was taken to excavate in roughly equal sized units of depth and an effort was made to locate and follow archaeological and/or natural strata. Sufficient excavated sediments were sieved through a 1.5mm mesh to identify and evaluate archaeological contents and densities.

Shovel test excavations conducted at Erf 623 and at the proposed site of an access road near Gansbaai, South Western Cape, revealed low density and sparse *in situ* pre-colonial archaeological heritage resources. The proposed housing development on Erf 623 will have a negative impact on low density and non-stratified archaeological resources. It is suggested, however, that adequate sampling by means of archaeological excavations is not scientifically or economically viable and therefore not necessary. On the other hand, site GB1 contains substantial and valuable archaeological remains that are worthy of archaeological mitigation. If the alignment of the access road or any other construction or operation activities will be in the vicinity of GB1, it is recommended that archaeological mitigation must be conducted prior to the construction phase of the development. Permits for archaeological mitigation as well as destruction of archaeological sites for development purposes must be obtained from Heritage Western Cape.

Human remains may be unearthed during earthmoving activities and therefore a procedure to deal with such a scenario is given in Appendix A, page 17.

1. Introduction

1.1 Background

During a Heritage Scoping Assessment of Erf 623 and the proposed locality of an access road, ACO discovered the presence of archaeological evidence for pre-colonial occupation of the area (see Appendix A). ACO did not conduct any trial excavations during the scoping study and therefore the nature, depth and extent of archaeological deposits were not determined. While the presence of archaeological remains suggests that mitigation prior to development is required, the details of such mitigation could not be established without trial/shovel test excavations.

To this end, the Mossel Bay Archaeology Project: Cultural Resources Management CC (MAPCRM) was appointed to undertake shovel test excavations.

1.2. Purpose and Scope of the Study

The objectives of shovel test excavations include the following:

- To assess the spatial extent, depth and variability of archaeological material identified in ACO's study (see Appendix A);
- To identify mitigatory options – where applicable - to minimize potential negative impacts; and
- To make recommendations for archaeological mitigation.

Terms of reference (TOR) for shovel test excavations:

a) Locate archaeological materials identified during ACO's scoping study.
b) Conduct controlled shovel test excavations (as described in the Executive Summary) at such localities and elsewhere as deemed necessary.
c) Where appropriate, sieve excavated material through a 1.5mm mesh to ascertain eco- and artefactual contents of archaeological deposits.
d) Assess the impact of the proposed development on archaeological materials (dealt with in Section 4).
e) Recommend mitigation measures that should be implemented prior to and during the construction phase of development (dealt with in sections 5 and 6).
f) Prepare and submit a report for SRK Consulting Engineers & Scientists that meets standards required by Heritage Western Cape in terms of the National Heritage Resources Act, No. 25 of 1999.

1.3 Study Area

A description of the study area was given by ACO in the scoping report (see Appendix A).

Figure 1 shows the location of Gansbaai, South Western Cape Province. Figure 2 and Plate 1 show the location of the study area immediately east of Gansbaai. Erf 623 is accessed by a sandy track that runs at right angles from the gravel road adjacent to an informal settlement toward the sea (Plate 1). The corner markers (A, B, C and D) of the property were easily located by navigating to the coordinates via GPS. Plate 2 is the enlarged area indicated in Plate 1, showing the location and outline of Erf 623 – an approximately 5 hectare area -, which was studied and reported on by ACO (see Appendix A). The bulk of Erf 623 is on a large coastal dune vegetated with fynbos, small thickets of milk wood trees as well as alien plants (mostly Port Jackson). Surface sediments consist mostly of windblown sands, but calcretes occur on the seaward side of the dune and may

underlie the beach sands as is clear on the seaward edge of site GB1. Other than sandy foot paths, there are no person-made structures on the property.

Numbers in Plate 2 denote the locations of shovel test excavations and GB1, 17 and 18 are in the vicinity of the proposed access road. Coordinates for the precise location of the access road were not available at the time this study was conducted.

1.4 Approach to the Study

ACO's scoping report (Appendix A) was studied prior to conducting the shovel test excavations. Mr. Richard Lawson – the architect associated with the proposed housing development – provided coordinates that denote the corners of Erf 623. This coordinate data and that provided in ACO's report were entered to a GPS. A GPS was then used to locate and mark the corners of Erf 623 and to navigate to archaeological occurrences as identified by ACO.

After locating the areas ACO described as containing higher densities of archaeological material, controlled shovel test excavations were conducted. Shovel tests numbered 1, 2, 3 and 5 (ACO's GB2a, b, c and d) were excavated at these localities and the remainder were excavated at areas containing archaeological material at the surface and all, with the exception of 17 and 18, were within the boundary of Erf 623 (Plate 2).

Controlled excavations were conducted with spades and shovels. Care was taken to excavate in roughly equal sized units of depth and an effort was made to locate and follow archaeological and/or natural strata. Material was excavated from about 1.5m^2 areas in roughly equal sized spits (arbitrary thickness of deposit) of about 15 to 20cm and at least 2 buckets from every spit for the first 5 tests were sieved through a 1.5mm mesh. Two of the initial shovel tests were excavated to a depth of some 180cm while the remainder were excavated to a depth at which archaeologically sterile deposits were encountered (see Table 1). Sieved archaeological remains from these tests were retained as samples, but after consultation with Mr. Royden Yates of Iziko-South African Museum, it was decided that the samples were too small to be considered as representative. Nevertheless, these materials were bagged, labeled and retained. Subsequent shovel tests focused on locating archaeological material dense enough to form anthropogenic strata that would yield representative and more meaningful samples.

Shovel tests were placed to transect the property where archaeological materials appeared densest on the surface. Plate 2 shows that the two main transects run from the apex of the coastal dune, roughly at the centre of the property, toward the shoreline (7, 8, 9 and 10) and roughly parallel to the coast (12, 13, 14, 15 and 16). Due to the low density of archaeological materials observed during shovel testing at apparently "rich" localities, a transect toward the interior was considered inappropriate as archaeological materials appearing in mole heaps become notably less dense toward the interior, as described in ACO's report (Appendix A). The locations of shovel tests were mapped on a 1:10 000 orthophoto and GPS readings were taken for each excavation (Plate 2 & Table 1). A comprehensive digital photographic record – available on request - was kept of each test locality, work in progress, appearance of surface scatters and exposed profiles.

2. Description of the Affected Environment

Archaeological heritage resources differ in a fundamental and crucial way from most other environmental resources; they are entirely irreplaceable and not renewable. Rapid and widespread development is a serious threat to such resources. Unless long-term conservation, mitigation and management plans are put in place, the archaeological heritage resources of the affected environment are in grave danger of being lost forever.

See section 1.1 in Appendix A below.

3. Results of shovel test excavations

To avoid repetition, the results from one shovel test excavation are described, which can be viewed as a generalization for all 18 shovel test excavations. While there was a certain, inconsequential degree of variability in the sediments and archaeological content of different shovel tests, the overall pattern was the same. While archaeological traces of pre-colonial occupation of the area are evident, the material is so sparse at all 18 shovel tests that no archaeological/anthropogenic strata were encountered while excavating nor visible in exposed profiles.

3.1. GB2c (ACO 2003) or 3 (S34.59305^0 E019.33909^0)

The location of shovel test 3 is shown in Plate 2. On the surface is a medium density scatter of shell and stone and a few pieces of ostrich egg shell (OES) were noted on the ground surface (Plate 3). Stone is present in higher numbers than at tests 1 and 2. Archaeological material is exposed on the surface through the activities of burrowing animals (Plate 4). Active burrowing was witnessed while excavating. Three full buckets of deposit from the surface scrape was sieved and all material retained (Plate 5). Two buckets of deposit excavated from 20 to 30cm below the surface was sieved and contained significantly less shell and stone – scarcely half that found in the surface scrape. Very few shells were seen some 35cm below the surface and below this depth we sporadically sieved buckets to inspect contents. No anthropogenic strata were visible during excavation or in later inspection of the exposed profiles (Plate 6). A few small fragments of charcoal were observed though not observably associated with anthropogenic materials. At some 80 to 90cm below the surface a single, complete ankle bone of a size 3 bovid as well as a seal limb bone shaft were unearthed. These were the first bones discovered by our shovel tests. A few more pieces of bone were noted as well as a largish OES bead. The deposit of two full buckets was sieved and the materials were retained. This was repeated for the next few approximately 20cm spits. While shell, bone and stone were present; there were no clear anthropogenic strata visible in the exposed sections. Material became less dense from about 100 to 130cm though a few pieces of bone were observed and retained. A piece of Cape Coastal pottery was unearthed some 130cm below the surface. The upper 90cm of sediment is a medium to dark brown sand capped in places with paler dune sand. The lower 90cm of deposit is a paler brown to beige sand that is considerably finer and almost silty in texture. An approximately 10cm thick layer of brown, humic sand is visible in the lower portion of the profile (Plate 6). Excavation was stopped at a depth of 180cm (see Table 1). As is clear in Plate 6, no anthropogenic strata occur in this or any of the other shovel test excavations.

Eco- and artefacts from shovel test 3 - unearthed and exposed in the sieve - include marine shell (*Patella argenvillei, P. longicosta, Turbo sarmaticus, Oxystele sp.* and *Haliotis midae)*, terrestrial snail, stone (crude flakes in quartzite, edge damaged quartzite cobbles, possible grinding surfaces – stone dominated by quartzites with some quartz present), a few pieces of bone, an OES bead and a fragment of Cape Coastal pottery.

As mentioned earlier, the description given above may be used as a generalization for all shovel test excavations. The entire study area shows evidence of significant disturbance of deposits by burrowing animals. The result is that none of the shovel tests revealed uncompromised stratigraphy. In fact, at shovel test 3, a pottery shard was discovered at the very bottom of deposits containing archaeological materials. While there is a narrow range of variability in archaeological content and sedimentary makeup, the common factor is that none of the shovel tests - including 17 and 18 near site GB1 - exposed stratified archaeological material.

According to *SAHRA grading,* archaeological materials occurring within the boundary of Erf 623 is of local significance and suggested grade is “3 minus” (grade 1 is national significance, grade 2 is regional or provincial significance, grade 3 is local significance in

terms of the National Heritage Resources Act of 1999). Due to the scarcity of in situ archaeological remains and extensive disturbance of deposits via burrowing, however, the sites are of lessened scientific value and cannot be sampled adequately without very large scale archaeological excavations.

Table 1. Summary of shovel tests with coordinates and depth of excavation.

Shovel Test No. or Site Name	Decimal Degrees South	Decimal Degrees East	Excavated Depth in cm	Archaeological Layers
GB1	34.59105	19.33985	None	Deflated surface
1 or GB2a	34.59231	19.33889	180	None
2 or GB2b	34.59240	19.33910	135	None
3 or GB2c	34.59305	19.33909	180	None
4	34.59321	19.33928	130	None
5 or GB2d	34.59305	19.33882	100	None
6	34.59318	19.33889	120	None
7	34.59330	19.33835	130	None
8	34.59328	19.33821	130	None
9	34.59335	19.33797	130	None
10	34.59335	19.33763	75	None
11	34.59330	19.33885	120	None
12	34.59341	19.33862	120	None
13	34.59350	19.33864	150	None
14	34.59364	19.33859	130	None
15	34.59381	19.33856	110	None
16	34.59404	19.33851	135	None
17	34.59159	19.33983	130	None
18	34.59098	19.33996	160	None

3.2. GB1 (ACO 2003)

This is a large collection of archaeological material situated in a deflation hollow on the seaward edges and base of a dune embayment measuring roughly 50x60m (3000m^2) (see Plates 2 and 7). GB1 is within the alignment of the access road as described in ACO's report (Appendix A). It is clear that archaeological materials eroded out of their original context, as is visible in the profile (Plate 8), and now lie on a single surface. This erosion and weathering is still in progress today and since the material is exposed and weathering, organic materials will deteriorate very rapidly, particularly bone and marine shell.

The profile shown in Plate 8 is reminiscent of those seen in all shovel tests in that, although shell and stone are present *in situ*, they occur in such low numbers that no archaeological or anthropogenic strata are visible. Archaeological remains seen at GB1 are a collection of eco- and artefacts from a substantial depth of deposit that has deflated into a single horizon.

The site includes stone (informal tools, flakes, upper and lower grind stones, edge damaged cobbles, hammer stones and so on) consisting mostly of quartzite and quartz though silcrete was seen (Plate 9), marine shell (*Patella argenvillei, P. longicosta, Turbo sarmaticus, Oxystele sp, Haliotis midae* among others) (Plate 10), bone (e.g., small mammal, medium and large bovid) (Plate 11), pottery, ochre, ostrich egg shell (OES) and a small OES bead was seen (Plate 12).

Scraping the surface scatter reveals sterile dune sand underlying the surface scatter of deflated material. Underlying the sterile dune sand is a variable deposit of calcrete.

The suggested *SAHRA grading* for GB1 is “3 plus” and even though materials on the surface were eroded from primary context, the site is of scientific and educational value and eco- and artefacts could also be used for display purposes – on loan from Iziko – South African Museum - at the local museum in Gansbaai and/or as a feature of the proposed housing development on Erf 623.

3.3. Cultural affinities of archaeological material

The following is a good summary statement of the cultural affinity of archaeological materials exposed by shovel test excavations; “… most of the material dates to within the last 2000 years … after stock keeping Khoekhoen people first came into the Cape. The presence of pottery and informal artifact assemblages are characteristic of this time period” (Appendix A pg. 16).

4. Sources of Risk, Impact Identification and Assessment

The proposed housing development on Erf 623, Gansbaai will include substantial earth movement activities for roads, services and foundations. Such activities will impact negatively on archaeological materials on and in the ground. The area earmarked for development (Erf 623) contains substantial archaeological materials that are protected by the National Heritage Resources Act, No. 25 of 1999. The substantially disturbed nature of archaeological deposits, however, means that mitigation is likely to yield samples with questionable stratigraphic/chronological integrity. Also, the scarcity of eco- and artefacts and the lack of anthropogenic strata (layers), as seen in the profiles of all shovel tests, would require mitigation measures that are not economically viable for adequate sampling.

The access road to the housing development, for which the exact alignment was not known at the time of this study, will also entail substantial earthmoving activities that will have a negative impact on archaeological remains at site GB1. As with all archaeological remains, GB1 is protected by the National Heritage Resources Act, No. 25 of 1999. Although the eco- and artefacts at GB1 have eroded from a substantial depth of deposit and thus lost their stratigraphic provenience, the site offers a good opportunity to sample a collection of archaeological materials representative of what was seen on the surface and in the shovel tests excavated on Erf 623 and in the immediate vicinity of GB1.

To date, very few sites in this area have been sampled and ever increasing development means that such sites are threatened. Sampling GB1 will be relatively quick and inexpensive as excavations will not be required. A large sample can be plotted and collected that will be of scientific value. Additionally, such a collection will be useful for educational purposes and samples of the collection may be loaned from Iziko – South African Museum for display in the local museum in Gansbaai and/or as a point of interest at the proposed development.

An additional source of risk is the presence of unmarked human burials. These may occur anywhere in the landscape and are often exposed during earthmoving activities along the cost, particularly in dune settings. Human remains are also protected by law and dealt with by the State Archaeologist at the South African Heritage Resources Agency (Mrs. Mary Leslie who can be reached at 021 462 4502).

Table 2 summarizes the impacts of the proposed housing development and access road on archaeological heritage resources.

Table 2. Impact on and Loss of Archaeological Heritage Resources

	Without Mitigation	Assuming Mitigation
Extent	local	site specific
Duration	permanent	permanent
Intensity	high	low
Probability	high	low
Significance	medium	low
Status	negative	negative & positive
Confidence	high	high

5. Recommended Mitigation Measures

As described in section 4 above, none of the shovel tests excavated on Erf 623 revealed archaeological deposits that can be adequately sampled without excessive energy and at exorbitant costs. Even if mitigation is employed, it will yield samples with questionable stratigraphic integrity. Due to this and the required energy and costs of mitigation measures, we recommend that archaeological excavation is not a scientifically or economically viable option and therefore not necessary.

Nevertheless, the following mitigation measures are recommended:

- Archaeological materials are protected by law and therefore the developer must apply to Heritage Western Cape (HWC) for a permit to damage and/or destroy archaeological remains on Erf 623.
- The archaeological remains at GB1, however, offer a good opportunity for mitigation. The following apply if the access road or any other construction or operation activities associated with the housing development are in the vicinity of GB1. It is highly likely that HWC will require archaeological sampling of GB1 as it is a collection of archaeological material that is representative of that occurring on the surface and shovel tests at Erf 623 and the immediate surroundings. Given what is written in section 4 above and because materials are exposed at the surface, archaeological excavation is not necessary and a combination of mapping, collection and screening will provide a good sample for scientific, educational and display purposes. A surface area of approximately 3000m^2 at GB1 contains archaeological materials and it is recommended that an area of at least 150m^2 be sampled. It is estimated that the field work for such an operation, with a team of six people, can be completed in about 10 working days. Mitigation will also entail sorting, basic analysis and curation as well as transport to Iziko - South African Museum in Cape Town for permanent storage. A report must be prepared and submitted to HWC. The nature and scope of mitigation, however, must be agreed to by HWC, the developer's representative and the appointed professional archaeologist. Costs of mitigation will be the responsibility of the developer. A permit for archaeological excavation must be obtained from HWC by the appointed archaeologist and after mitigation, to the satisfaction of HWC; the developer must apply to HWC for a permit to damage and/or destroy archaeological remains in the alignment of the access road.
- Due to the potential presence of unmarked human graves, particularly in dune settings along the coast, HWC – as a condition of a permit - may require that earthmoving activities be monitored by a professional archaeologist.
- To date and as expressed by ACO, no built environment or historic landscape issues were identified.

- The developer may also consider incorporating the remainder of site GB1 as a point of interest and attraction along the access road to the proposed development. This must be done in consultation with HWC as there are protocols for using archaeological sites for tourism-related purposes.

A summary of archaeological sites, obligatory and recommended mitigation measures are given in Table 3 below.

Table 3. Age, significance, obligatory (in bold) and recommended mitigation for archaeological heritage sites.

Site Name	Period/Age	Potential Significance	Mitigation
Shovel Tests 1-18	Later Stone Age with pottery - last 2000 years	Local	None, but **obtain permit for destruction from Heritage Western Cape**
GB1	Later Stone Age with pottery - last 2000 years	Local	Map, collect, curate, report, store. **Obtain permit for destruction from Heritage Western Cape**

Acknowledgements

We thank Mr. Jan Nell of the Gansbaai municipality for arranging a site assistant and for taking us to the location of Erf 623 as well as Mr. Hodana, Mr. Sonwabile, Mr. Mase and Mr. Ntafufu for assisting with the field work.

Reference

Appendix A: ACO 2003. Heritage scoping assessment of a proposed housing development site, Gansbaai, South Western Cape Province.

Figures and Plates

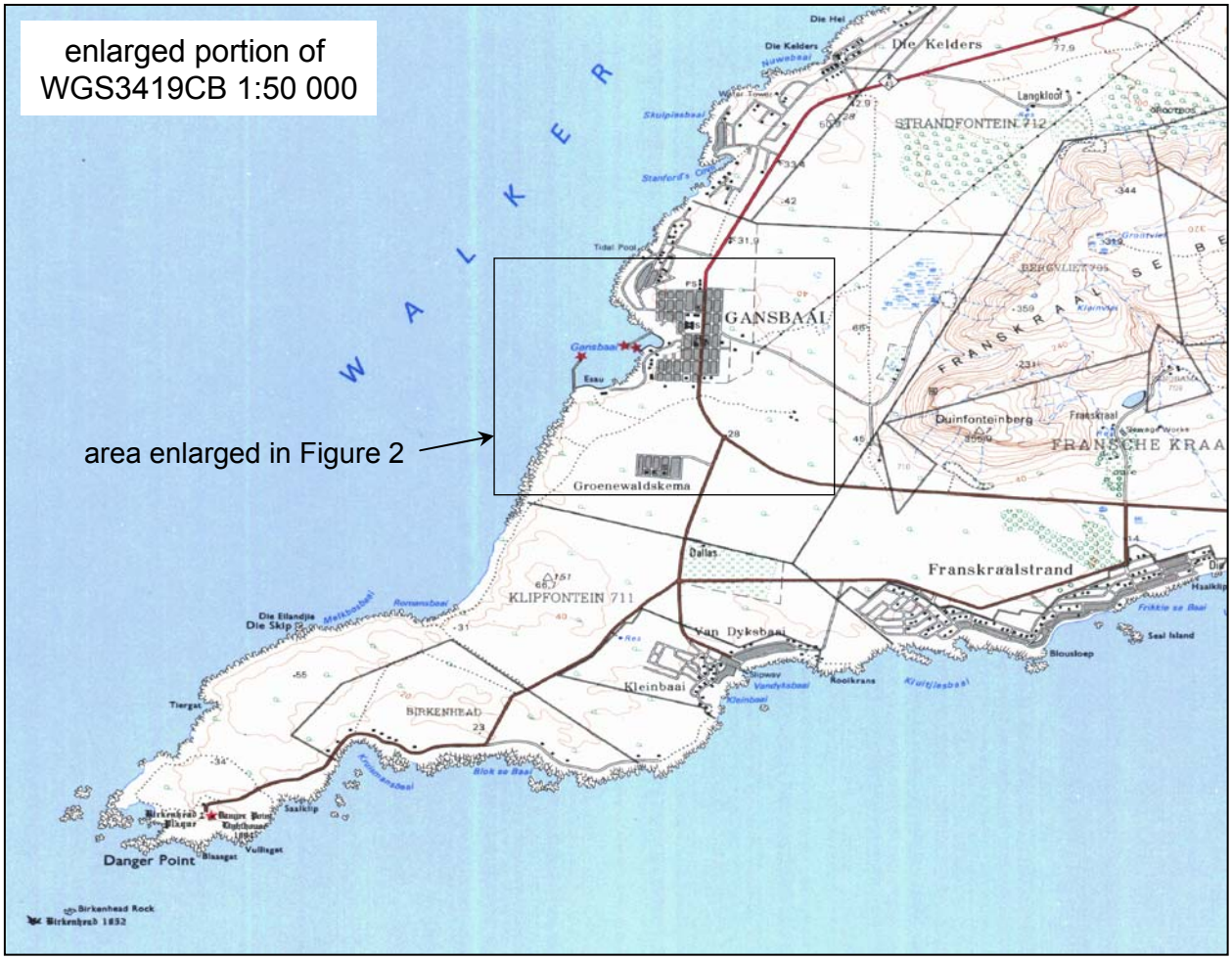

Figure 1. Location of Gansbaai on the South Western Cape Coast.

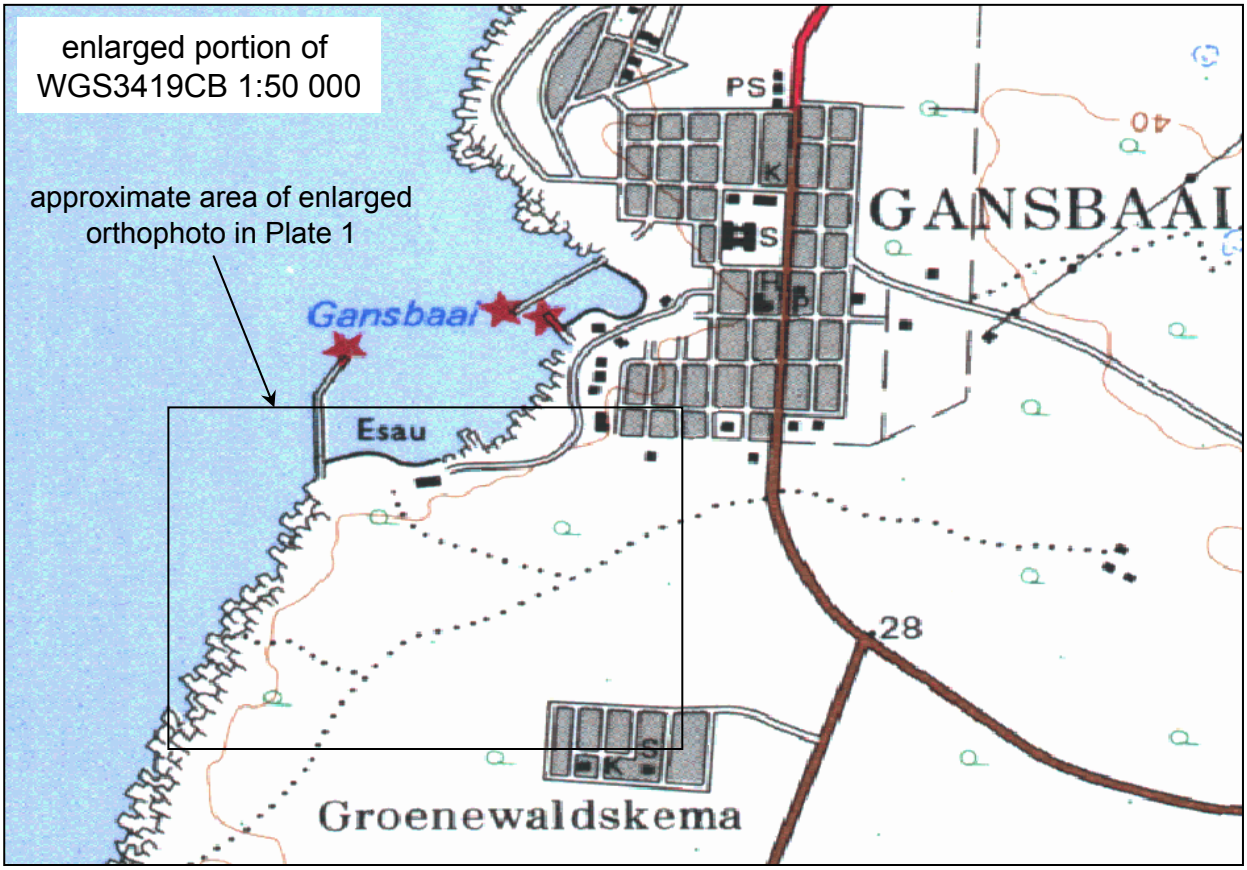

Figure 2. Location of the study area adjacent to Gansbaai.

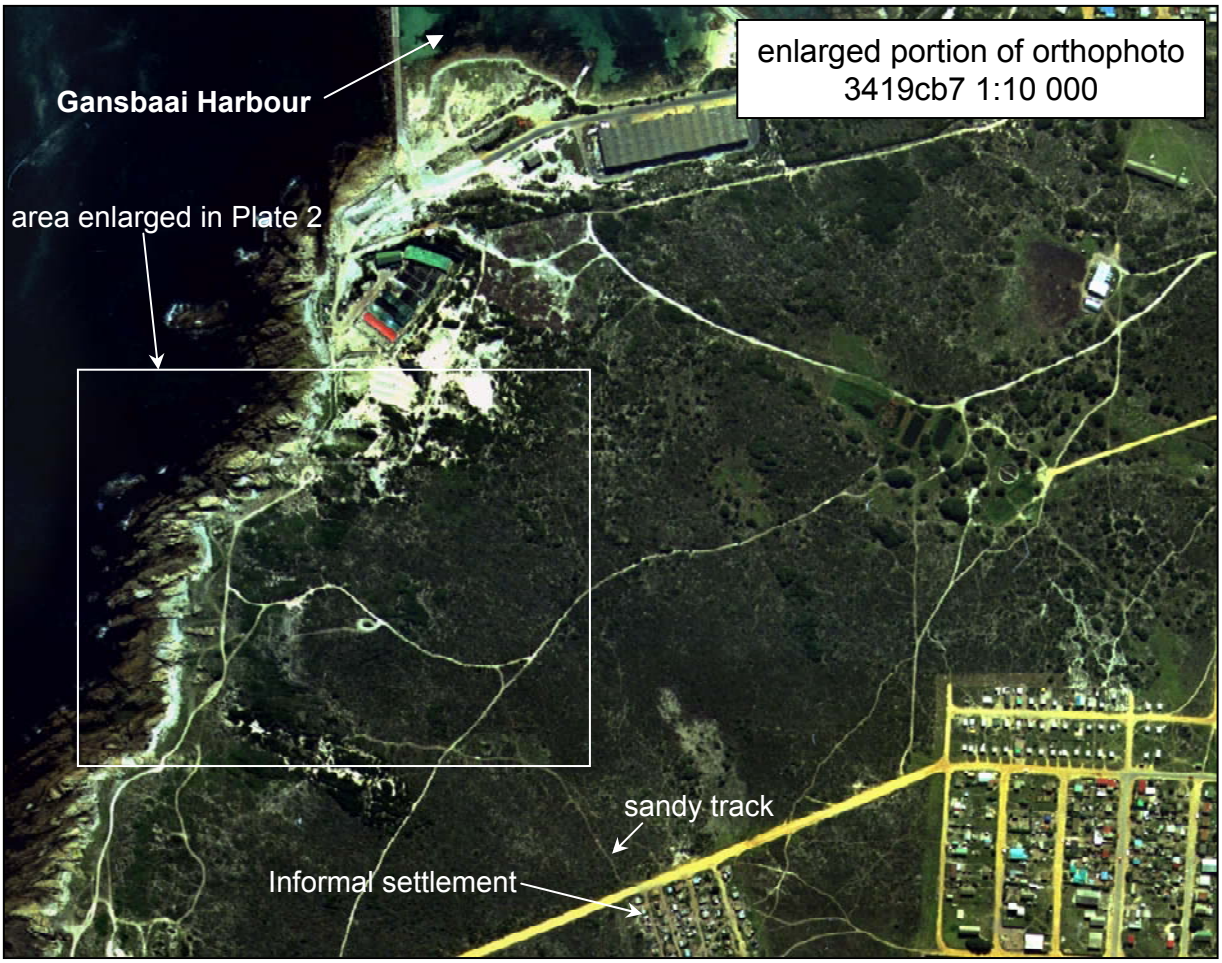

Plate 1. Location of the study area immediately east of the Gansbaai harbour.

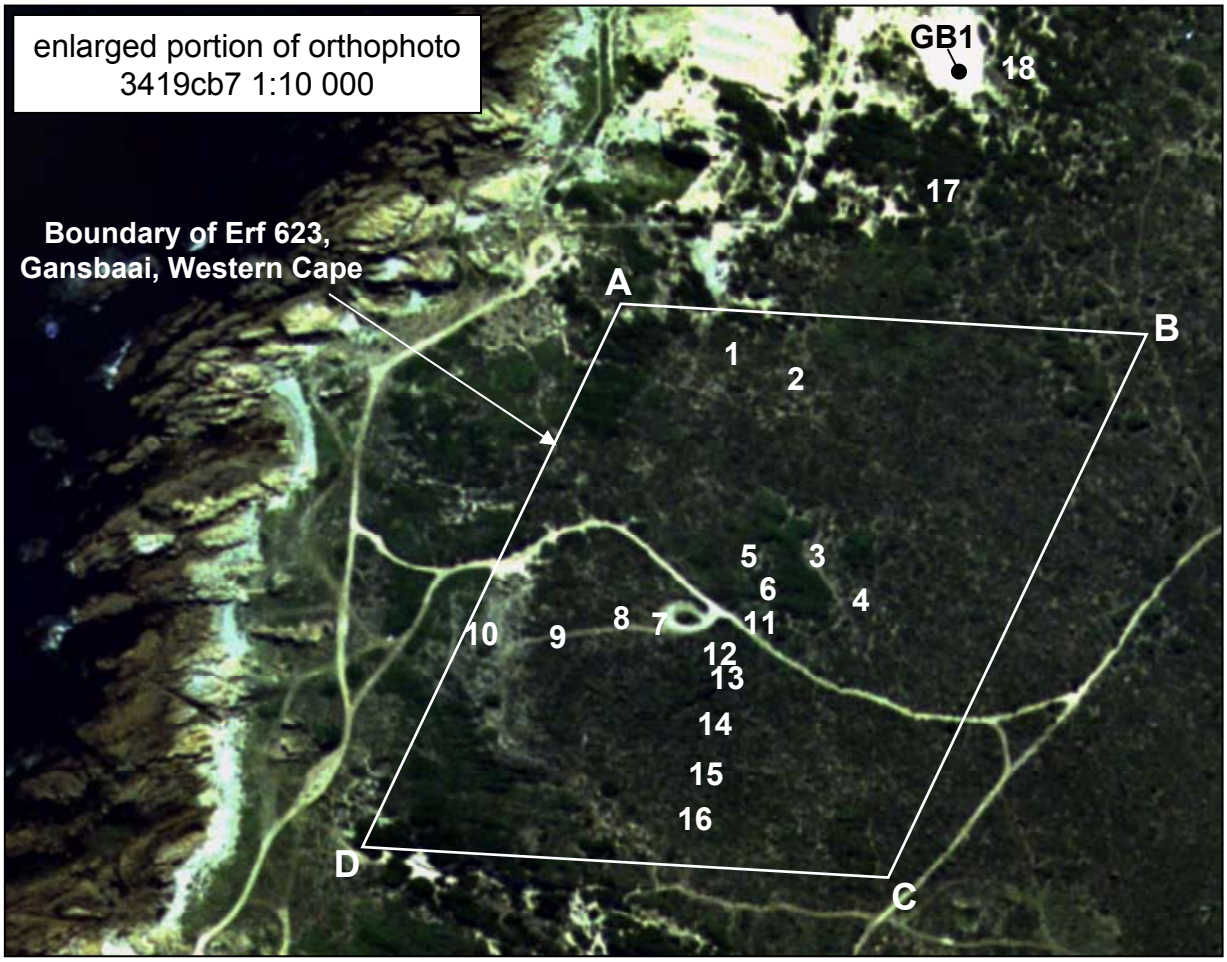

Plate 2. Locations of site GB1 and shovel test pits in site GB2.

Plate 3. Medium density scatter of shell exposed in burrow heap at shovel test 3.

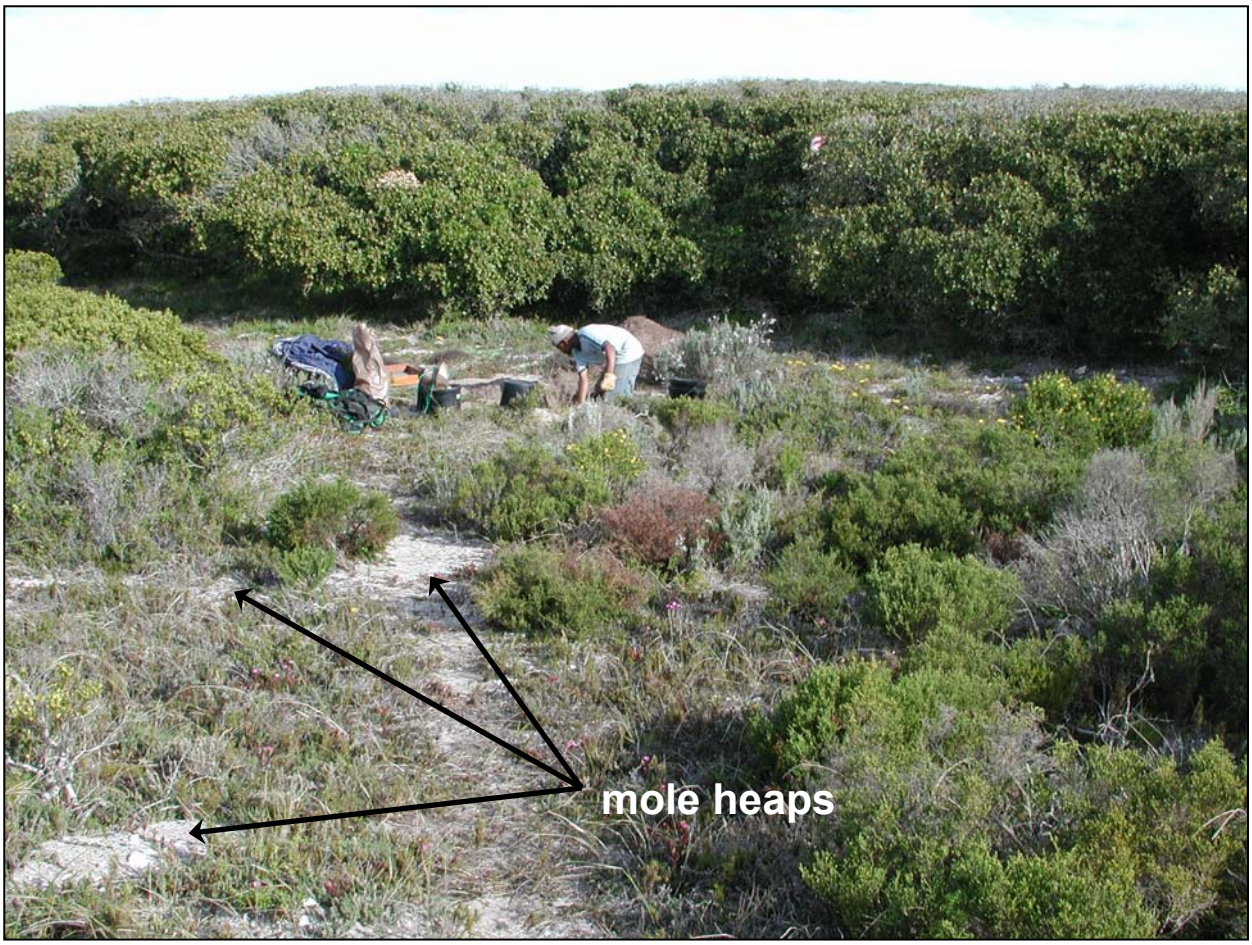

Plate 4. Work in progress at shovel test 3.

Plate 5. Work in progress at shovel test 3.

Plate 6. Western section of shovel test 3, excavated to a depth of 180cm.

Plate 7. Deflated scatter of stone, marine shell, pottery, bone, etc. at GB1.

Plate 8. Exposed profile at GB1 showing sparse *in situ* archaeological material.

Plate 9. Water worn quartzite cobbles form the bulk source of stone artefacts at GB1.

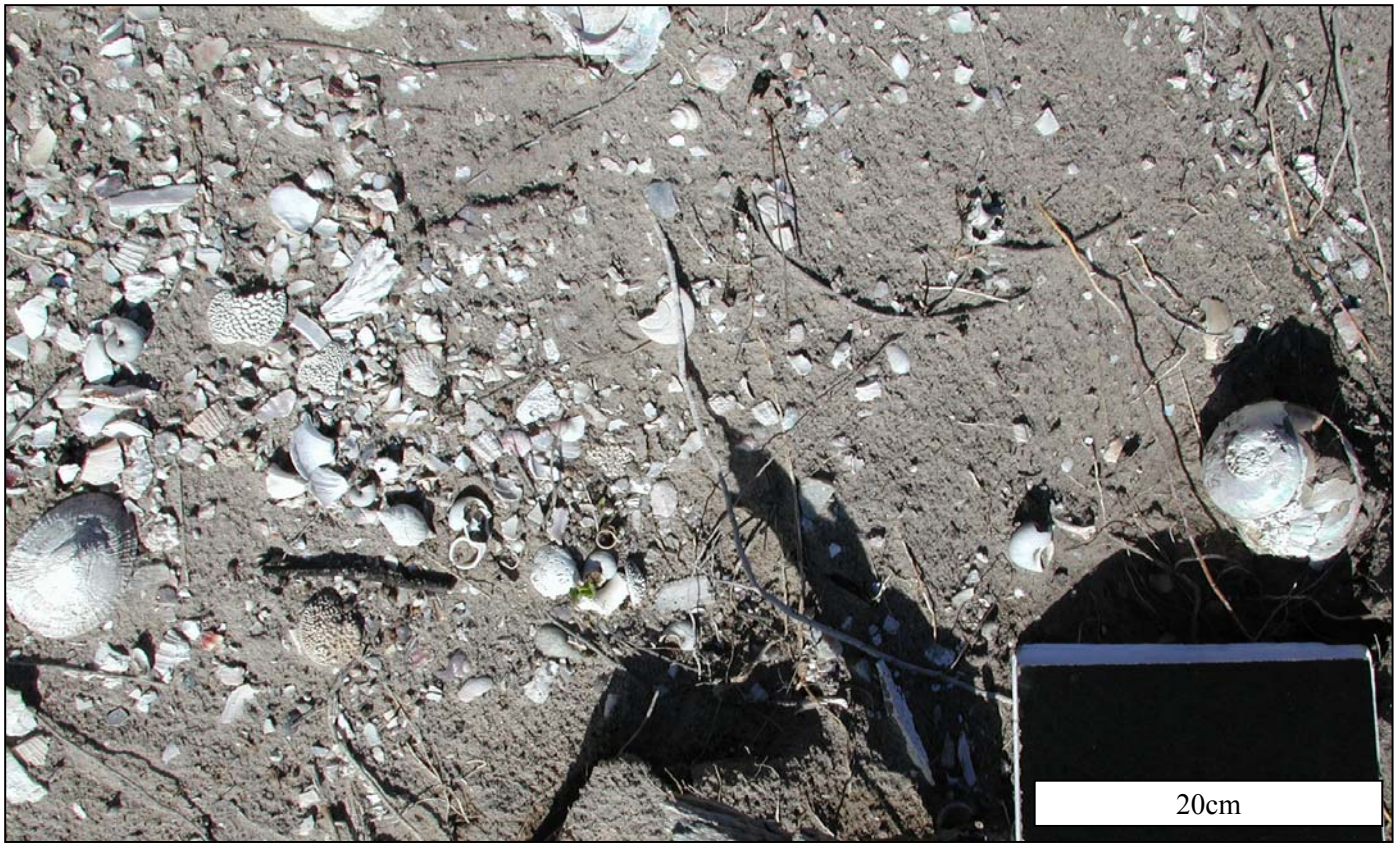

Plate 10. While common, marine shell is not as dense as in a typical shell midden and many specimens are in a poor state of preservation.

Plate 11. A molar from a sheep or springbok sized bovid.

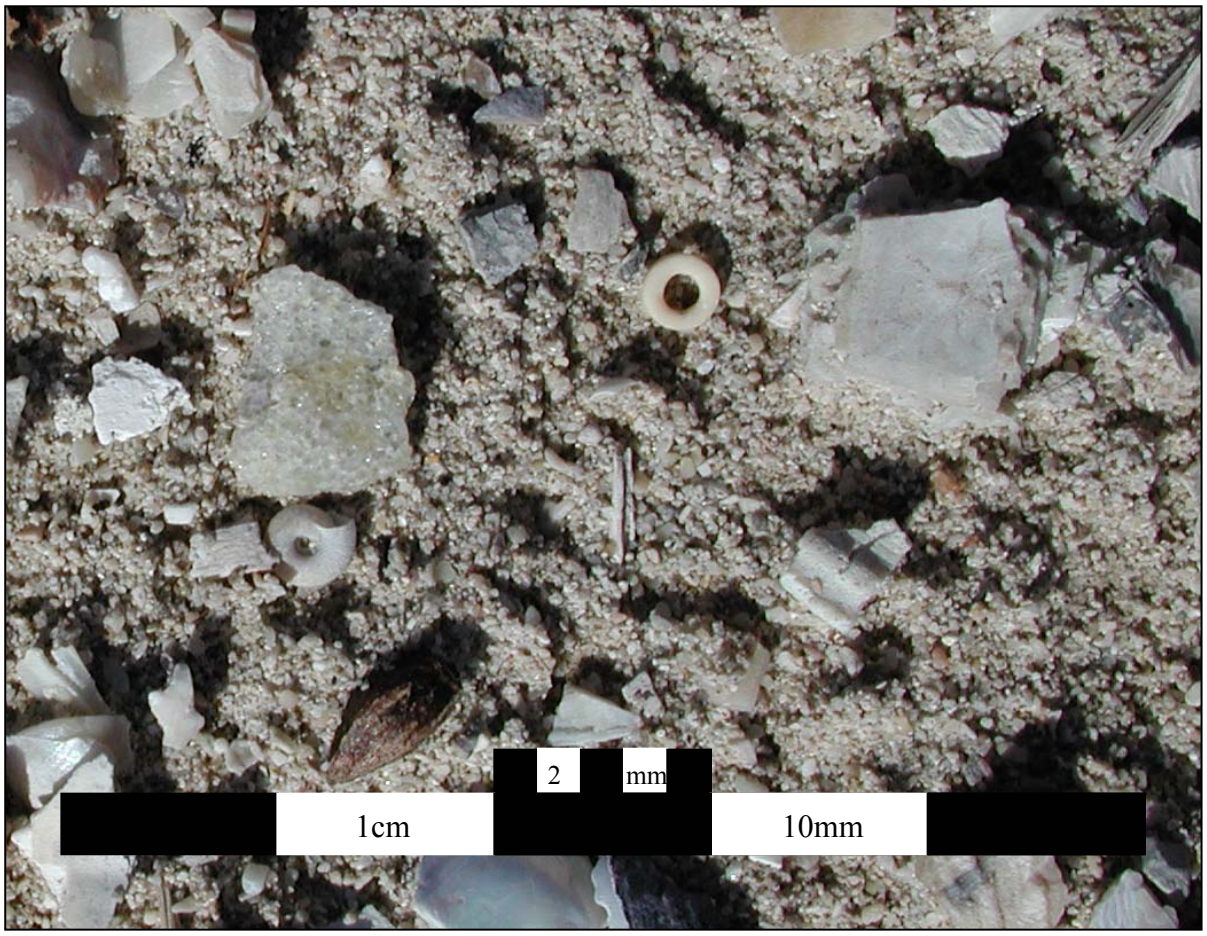

Plate 12. Small ostrich egg shell bead with external diameter of around 4mm.

APPENDIX A

HERITAGE SCOPING ASSESSMENT OF A PROPOSED HOUSING DEVELOPMENT SITE, GANSBAAI, SOUTH WESTERN CAPE PROVINCE

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EXECUTIVE SUMMARY

A heritage impact assessment of a proposed housing development site (erf 623) situated near Gansbaai, South Western Cape, has identified significant impacts to pre-colonial archaeological material that will need to be mitigated prior to development activities, and a permit obtained for the destruction of archaeological material.

A procedure for dealing with unidentified human burial during construction work is indicated.

Introduction

The Archaeology Contracts Office of the University of Cape Town was appointed by SRK Consulting to conduct a scooping archaeological and heritage assessment of a proposed residential development and access road situated on and near erf 623 located immediately east of Gansbaai, South Western Cape Province. The extent of the proposed development (some 5 hectares) falls within the requirements for a heritage impact assessment as required by section 38 of the South African Heritage Resources Act 25 of 1999. Figure 1 shows the approximate extent and location of the proposed development area.

The ToR for specialist *Phase 1 archaeological impact assessment* as required by SRK are to:

- Identify and map heritage resources on the potential site and immediate surrounding area;
- Determine the importance of the heritage resources;
- Determine and assess the potential impacts of the proposed residential development and access road on the heritage resources;
- Recommend mitigation measures to minimise impacts associated with the proposed development;
- Based on your professional expertise and experience, please include any other information that you feel might be useful to incorporate in the Scoping Report.

Description of the affected environment

The study area is currently accessed by a sandy track that leads from the town of Gansbaai immediately inland of the harbour security fence. An access road is planned for the site, which appears to pass close to, or along the existing sandy track; however its alignment is not yet set out. The study area itself was difficult to locate as no fences or boundary markers are immediately visible.

Much of erf 623 is located on the crest of a large vegetated coastal fore dune. Paths run through coastal fynbos over the site towards the coast. In places the vegetation is well developed including in places some small groves of milk wood trees. Apart from sandy tracks and paths, there are no other person-made structures on the site. The soils are mostly windblown beach sands although calcretes were observed in places and probably underlie the area. Apart from the harbour area, which is surrounded by a security fence, the general area is undeveloped.

Method

The study area was visited and searched by two archaeologists (Tim Hart, MA and Liesbet Schietecatte MA) who searched the affected areas during the course of a single working day. Any heritage sites found were to be recorded, and given a co-ordinate using a Garmin GPS 3 plus set on map datum WGS 84.

Restrictions

The site was difficult to identify accurately so an area somewhat larger than the development site had to be searched. Likewise the proposed access road has not been marked out.

Dense vegetation growth has obscured the land surface in places, however there were enough visible patches to establish the extent of archaeological material.

The only available orthophoto of the area was issued in 1981 and is thus more than 20 years old. Details of the landscape, especially vegetation growth and informal roads and paths have changed since that time.

No trial excavations were conducted as part of the assessment.

Findings

Archaeological material in the form of pre-colonial shell middens was found on erf 623 and access road.
We noted that this material is densest on the high crest of the coastal fore dune, but diminished on both the seaward slope and towards the inland coastal plain. .

Access road

The most significant archaeological occurrence that may be impact by construction of the access road is a large shell midden strewn (GB1) down the edge of a dune and dune embayment fringed by thickets of alien vegetation.

We noted that the site is rich in stone artifacts consisting of mostly rough quartzite informal tools, large flakes, upper and lower grinding surfaces, edge damaged cobbles. Quartzites dominate the assemblage although silcrete is present. Also noted were the presence of body sherds of Cape Coastal Pottery and bone. A human tibia has been provisionally identified on the site, however this is badly weathered as it had eroded form context and been exposed on the surface for some time.

Various shellfish species are present, the most noticeable being *Patella longicosta, Turbo sarmaticus, Oxystele sp.* and *Haliotis midae.*

There is a good chance that *in-situ* material has survived on the site under some of the higher dunes.

SAHRA grading
This site is of high local significance and suggested grade is “3 plus” (grade 1 is national significance, grade 2 is regional or provincial significance, grade 3 is local significance in terms of the National Heritage Resources Act of 1999).

Erf 623

Our assessment revealed that archaeological material is scattered throughout the proposed development area (GB 2), although there are patches where it is more concentrated than in other areas, especially on the higher areas of the coastal fore dune. It is not possible to determine the exact boundaries of individual sites as there is material throughout the development area. GPS co-ordinates for dense areas of the scatter are indicated in Table 1. The contents of these scatters are similar consisting of informal stone artifact assemblages, many edge damaged cobbles, fragments of Cape Coastal pottery.

SAHRA grading
This site is of high local significance and suggested grade is “3 plus”.

Table 1 Location of dense occurrences of archaeological material

SITE NAME	DEGREES SOUTH	DEGREES EAST
GB 1	34.59105	19.33985
GB 2a	34.59231	19.33889
GB 2b	34.59254	19.33918
GB 2c	34.59307	19.33904
GB 2d	34.69301	19.33878

Cultural affinities of archaeological material

Initial indications are that most of the material dates to within the last 2000 years ago after stock keeping Khoekhoen people first came into the Cape. The presence of pottery and informal artifact assemblages are characteristic of this time period.

Impacts

Indications are that the development area contains a great deal of protected archaeological material, which will have to be mitigated prior to development activities in terms of the National Heritage Resources Act 25 of 1999. Development activities will impact archaeological material, which once disturbed by wall footings and site preparation loses its intrinsic scientific and heritage values. While we do not believe that the material found warrants proclamation as a National or Regional Heritage Site, it is of local significance and part of the pattern of regional prehistoric settlement. Table 2 summarizing impacts on heritage are indicated below.

Table 2 Impacts on heritage.

	Without Mitigation	Assuming Mitigation
Extent	site specific	site specific
Duration	permanent	permanent
Intensity	high	low
Probability	high	low
Significance	medium	low
Status	negative	neutral
Confidence	high	high

Mitigation

Unfortunately for the developer, mitigation of this situation will take time and incur costs – factors which will have to be included in planning any future development. The position and design of buildings can contribute to minimizing impacts below the ground, especially if the structures are raised on columns or piles, which would decrease the impacts of foundations and spread footings. The developer will have to apply to Heritage Western Cape for a permit to destroy archaeological material before commencing development activities. It is highly likely that the authorities will ask that the sites be archaeologically sampled before such permission is given. The extent and intensity of such a programme will have to be agreed on by the heritage authority, developer's representatives and a professional archaeologist appointed to do the work.

Mitigation of the sites will usually involve the controlled excavation of a representative sample from areas of the site/sites. Usually some 6-8 m^2 of each archaeological occurrence suffices. The material is sieved, sorted and transported to the laboratory where it is curated, described and kept as an archive for future study purposes. A report describing the process and the findings is prepared and submitted to the heritage authority, who, when satisfied that mitigation measures are adequate, will issue a permit for destruction.

Other sources of risk

The only possible but as yet un-confirmed source of additional risk may be the presence of unmarked human burials which can occur anywhere on the landscape where there is enough soil depth to dig a grave. Various laws including the National Heritage Resources Act protect human remains. In the case of human burials, this is administered by the State archaeologist at the South African Heritage Resources Agency (Mrs Mary Leslie 021 4624502).

Recommendations

- The developer must submit a copy of this report to Heritage Western Cape for the Attention of Dr Janette Deacon (Offices of the Chief Directorate Cultural Affairs, 68 Orange Street (corner of Orange and Rheede Street, Cape Town).

- It is essential that mitigation procedures be negotiated and implemented well before development activities are due to commence – this may require a joint site inspection once the boundaries of the proposed access road and development area have been set out. It will be necessary verify the boundaries of the proposed development and plan the mitigation procedures accordingly.

- If a human burial is encountered by accident during construction, the remains must be left as undisturbed as possible. The local police must be informed as well as SAHRA (Mrs Mary Leslie 021 4624502). If the burial is deemed to be over 60 years old and no foul play is suspected, an emergency exhumation permit may be issued by SAHRA for an archaeologist to exhume the remains under such provisions as SAHRA deems appropriate.

- In terms of the findings of this scoping survey, heritage issues requiring mitigation relate to pre-colonial archaeology only. There are no further built environment or historic landscape issues identified to date.

Tim Hart for ACO

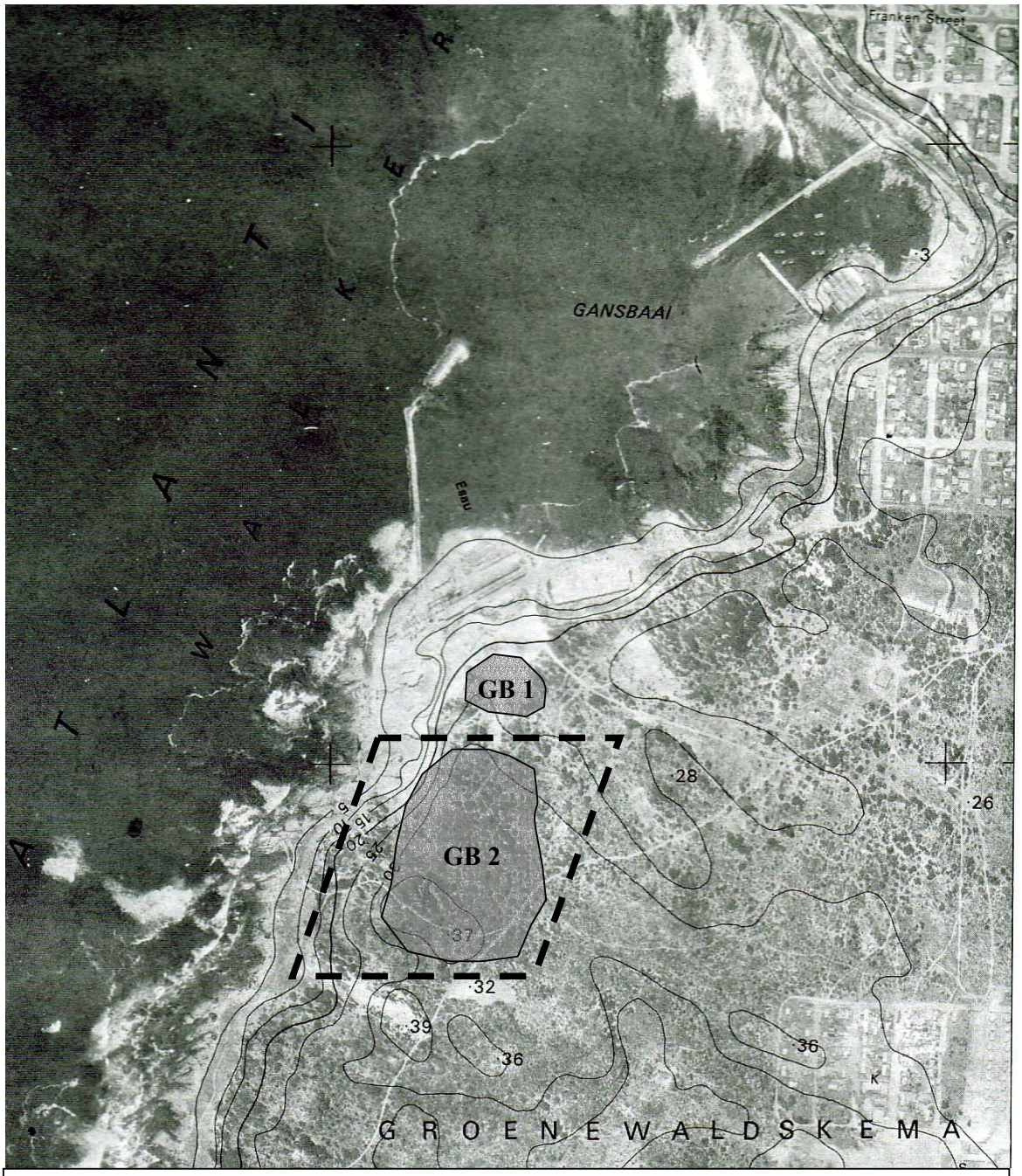

Figure 1
Approximate extent and location of the study area. Areas of archaeological sensitivity are shaded. (orthophoto 3419cb7 1:10 000 Chief directorate surveys and mapping)