HERITAGE IMPACT ASSESSMENT

PROPOSED DEVELOPMENT OF A SPORTS FIELD
COMPLEX AND ASSOCIATED INFRASTRUCTURE ON
PORTION 12 OF THE FARM OLIFANTS KOP NO 191
LANGEBAAAN, WESTERN CAPE

Assessment conducted under Section 38 (3) of the National Heritage Resource
Act (No. 25 of 1999)

Prepared for:

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EXECUTIVE SUMMARY

Introduction

ACRM was appointed by Cornerstone Environmental Consultants, on behalf of the Saldanha Bay Municipality to conduct a Heritage Impact Assessment (HIA) for the proposed development of a sports field complex on Portion 12 of the Farm Olifants Kop 191 in Langebaan, in the Western Cape.

The Development proposal

The proposed development entails the following activities:

1. A rugby field (± 10 000m²)
2. A soccer field (± 5000m²)
3. A multi-purpose sports field (± 5000m²)
4. Spectator stands
5. Clubhouse, and
6. Equipment store rooms

A HIA, comprising an archaeological study and a palaeontological desk top study was requested by Heritage Western Cape (HWC) following the submission of a Notice of Intent to Develop.

HWC also requested that comments from registered conservation bodies and the local municipality must also be included in an integrated HIA report.

The HIA forms part of a Basic Assessment process that is being done by Cornerstone Environmental Consultants.

Studies have shown that Langebaan is a known sensitive archaeological and palaeontological landscape.

Aim of the HIA

The purpose of the HIA is to assess the sensitivity of archaeological and palaeontological resources on the proposed development site, to determine the potential impacts on such resources, and to avoid and/or minimise such impacts by means of management and/or mitigation measures.

Results of the study

Archaeology

A field assessment of the proposed activities was undertaken by ACRM in May 2016, in which the following observations were made:

➢ No pre-colonial archaeological resources were identified during the baseline study.

➢ A cluster of derelict demolished and ruined buildings and structures occur in the south western corner on the subject property.
Heritage Impact Assessment, proposed sports field complex and associated infrastructure, 
Farm 191, Langebaan

- Indications are that the proposed development will not impact on surface archaeological heritage, although some Early and Middle Stone Age resources may be uncovered during excavations for foundations and services.

- Unmarked (Khoisan) human remains may be uncovered during excavations for foundations and services.

*Palaeontology*

The study area is situated entirely on Q2 “heuweltjesveld” soil, while only remnants of the Varswater Formation marine deposits occur over portions of the proposed development site. Shelly marine deposits of the Uyekraal Formation extend seawards beneath the Q2 cover sands, and crop out near the shoreline where they occur beneath the Langebaan Formation aeolianites.

Excavations between 1 and 2m below the Q2 cover sands are likely to expose shelly marine gravels and calcrite deposits. Similar deposits were encountered during bulk earthworks at the golf estate west of the subject property. While fossils are sparse in the cover sands and soils, fossil bones are occasionally discovered during construction activities where the finds are usually large bones such as antelopes and buffalo, rhino, hippo, bush pigs and elephants. The bones of an elephant were discovered in the Q2 sands on the Langebaan Country Estate.

Fossil shells and bones in the subsurface of the Q2 sands are often in an archaeological context. Bone and shell concentrations related to buried Middle Stone Age archaeological sites may occur in the underlying Langebaan Formation aeolianites and palaeosoils.

Marine deposits of the Uyekraal Formation have fossil shell fauna with abundant oysters and extinct species. Residual marine deposits of the older Varswater Formation that may exist are expected to contain a similar fauna, but with more extinct taxa. However, the marine shell fauna of the early Pliocene in the Saldanha region is poorly known as the formation is seldom exposed. Thus the potential exposure of shell beds in this eastern part of the study area above is of considerable scientific interest.

*Conclusion*

*Archaeology*

The impact significance of the proposed development of a sports field complex and associated infrastructure on the Farm Oliants Kop 191/12 Langebaan on archaeological resources is rated as being *low*.

Early and Middle Stone Age implements, unmarked Khoisan burials and ostrich eggshell caches, may be uncovered or exposed during excavations for foundations and bulk services.
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Palaeontology

General construction activities for foundations and services, and grading of the playing 
fields, will mainly affect the Q2 cover sands, but may intersect underlying Langebaan 
Formation calcrited aeolianites and Pliocene shelly beds.

Recommendations

Archaeology

1. No mitigation is required.

2. No monitoring is required, but the Environmental Control Officer (ECO) must be 
briefed by the archaeologist prior to construction activities commencing.

3. If any unmarked human remains, or ostrich eggshell caches, for example, are 
exposed or uncovered during excavations and earthworks, these must immediately be 
reported to Heritage Western Cape (Att: Mr Guy Thomas or Andrew September, 021 483 
9543), or the archaeologist (Jonathan Kaplan 0823210172).

4. The above recommendations must be included in the Environmental Management 
Plan (EMP) for the proposed development

Palaeontology

1. On-site personnel must be alerted to the occurrence of fossil bones. The 
Environmental Control Officer (ECO) and construction supervisor must inform staff of the 
need to watch for potential fossil occurrences.

2. In the event of possible fossil and/or archaeological finds, the contracted archaeologist 
or palaeontologist must be contacted. For possible fossil finds, the palaeontologist will 
assess the information and liaise with the developer and the ECO and a suitable 
response will be established. If a significant occurrence of fossil bones is discovered a 
professional palaeontologist must be appointed to collect them and to record their 
contexts. Similarly, if fossil shell beds are uncovered a palaeontologist must be 
appointed to take samples and to record their contexts, the latter involving the sampling 
of ambient fossil content, the recording of the stratigraphy and sedimentary geometry of 
the exposures and the compilation of the report to Heritage Western Cape and the IZIKO 
S.A. Museum.

3. The above recommendation must be included in the Environmental Management Plan 
(EMP) for the proposed development

Comments from registered conservation bodies and the local municipal authority

The Saldanha Bay Municipality is the applicant and is therefore likely to support the 
proposed development. The HIA will be distributed to local conservation bodies as part 
of the Basic Assessment process. Comments from the Saldanha Bay Municipality and 
registered conservation bodies will then be included in the final Basic Assessment 
Report, which will be submitted to Heritage Western Cape for comment.
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1. INTRODUCTION

ACRM was appointed by Cornerstone Environmental Consultants, on behalf of the Saldanha Bay Municipality to conduct a Heritage Impact Assessment (HIA) for the proposed development of a sports field complex on Portion 12 of the Farm Olifants Kop 191 in Langebaan, in the Western Cape (Figures 1-3).

The proposed development entails the following activities:

1. A rugby field (± 10 000 m²)
2. A soccer field (± 5000 m²)
3. A multi-purpose sports field (± 5000 m²)
4. Spectator stands
5. Clubhouse, and
6. Equipment store rooms

A HIA comprising an archaeological and palaeontological study was requested by Heritage Western Cape (Case No. 15110404WD1111E) following the submission of a Notice of Intent to Develop.

HWC also requested that comments from registered conservation bodies (in Langebaan) and the local municipality must also be included in an integrated HIA report.

The HIA forms part of a Basic Assessment process that is being done by Cornerstone Environmental Consultants.

Figure 1. Site locality (3317 BB Saldanha Bay). Red polygon indicates the location of the proposed development site.
Figure 2. Google satellite map indicating the location of the proposed development site.

Figure 3. Close up Google Satellite map illustrating the proposed and proposed alternative development sites.
2. HERITAGE LEGISLATION

The National Heritage Resources Act (Act No. 25 of 1999) makes provision for a compulsory HIA when an area exceeding 5000m² is being developed. This is to determine if the area contains heritage sites and to take the necessary steps to ensure that they are not damaged or destroyed during development. The Act provides protection for the following categories of heritage resources:

- Landscapes, cultural or natural (Section 3 (3))
- Buildings or structures older than 60 years (Section 34);
- Archaeological sites, palaeontological material and meteorites (Section 35);
- Burial grounds and graves (Section 36);
- Public monuments and memorials (Section 37);
- Living heritage (including cultural tradition, oral history, performance, ritual, popular memory, skills and techniques, indigenous knowledge systems and the holistic approach to nature, society and social relationships) (Section 2 (d) (xxi)).

3. TERMS OF REFERENCE

The terms of reference for the archaeological and palaeontological study are to:

- Determine whether there are likely to be any important heritage resources that may be impacted by the proposed development;
- Indicate any constraints that would need to be taken into account in considering the development proposal;
- Recommend any mitigation action

4. DESCRIPTION OF THE RECEIVING ENVIRONMENT

Farm 191/12 is located north-east of Langebaan, alongside Oostewal Road, just a few kilometers before one enters the town from the West Coast Road/R27. The Langebaan Country Estate lies immediately to the south-west of the property. The dance hall venue known as Flamingo’s is situated in the middle of the farm with its entrance off Oostewal Road. The narrow section of the property, closest to town and south-west of Flamingo’s, is demarcated for the two alternative sites that are being assessed as part of the Basic Assessment process (Figure 4-9). There are no significant landscape features such as rocky outcrops, or deflated dunes on the subject property.

The western half of the farm (i.e. the preferred alternative) is undeveloped, with extremely dense thicket elements covering most of the proposed site. A windbreak of large blue gum trees cuts across the site in the northwest. The proposed development site has been disturbed in the past due to agricultural activities (pieces of old irrigation pipe are visible over the property). The site is fairly level on a substrate of thick cover sand. Dune mole rat activity and burrowing are extensive. Storm water channels have been excavated diagonally across the site, originating from a cluster of ruined, derelict and demolished farm buildings and structures in the south western corner (Figures 10-13) which constitutes a highly transformed area.

The Langebaan Waste Water Treatment Works is situated north of Oostewal Road, directly alongside Flamingo’s dance hall (Alternative Site 1). The site is more elevated
with dune hummock occurring on the higher slopes, covered in very dense vegetation, mostly tall Restio grasses. The soils on the slopes alongside the fence (refer to Figure 9) comprise mostly weathered quartzite sands. Dune mole rat activity is also extensive.

Figure 4. Google satellite map indicating the proposed and proposed alternative development sites

Figure 5. View of the proposed site facing north east
Figure 6. View of the proposed site facing north east.

Figure 7. View of the proposed road facing northwest with Langebaan in the distance.
Figure 8. View of the site facing north east.

Figure 9. View of the site facing north east.
Heritage Impact Assessment, proposed sports field complex and associated infrastructure, Farm 191, Langebaan

Figure 10. Ruined and derelict farm buildings

Figure 11. Ruined house

Figure 12. Ruined labourer’s cottage
5. STUDY APPROACH

5.1 Method

The overall purpose of the study is to assess the sensitivity of archaeological and palaeontological resources in the affected area, and to determine potential impacts on such resources.

A survey of the proposed development site was undertaken by ACRM on 6 May 2016 (Figure 14). A literature survey was also carried out to assess the archaeological context surrounding the proposed development site.

The PIA study by Pether (2016) comprises a desktop study.

5.2 Constraints and limitations

Both site alternatives are covered in dense vegetation, resulting in poor archaeological visibility. Large portions of the property are virtually impenetrable due to thick vegetation cover.

5.3 Identification of potential risks

Early and Middle Stone Age resources and unmarked human remains may be exposed or uncovered during excavations for foundations and services.

5.4 Heritage context

A large number of archaeological sites have been recorded between Lentjesklip and Lynch Point on the eastern shore of the Langebaan Lagoon (Hart 1997, 1998, 2001; Kaplan 1993, 1999; Parkington & Poggenpoel 1987). Studies have shown that the rocky shoreline at Langebaan acted as foci that attracted Later Stone Age (LSA) people as they offered greater opportunities for the exploitation of marine foods particularly shellfish (Hart 1998, 1997, 2001; Kaplan 2000). The archaeology suggests that the
pattern of occupation of the Langebaan area in pre-colonial times involved people locating themselves at the coast where shellfish was consumed, as well as seals, fish, bird, tortoise and small antelope. Evidence also suggests that LSA people may have been scheduling their visits to collect lower tidal zone shellfish such as limpets and perlemoen (Hart 1991). Excavations at Lentjiesklip (Hart 1997; Parkington et al 1988) show that some of the sites in the region date to between 4000 and 1800 years ago (Hart 1997, 2001; Kaplan 2000), some of which have been found buried up to three metres below the sand body. A human burial was also uncovered during excavation of a service trench at Lentjiesklip 2 (Hart 1997).

Ephemeral sites comprising a few stone flakes and fragments of shellfish have also been documented further away from the coast on the Groot Oliphantskop Farm, north east of the proposed development site (Hart and Halkett 1992; Orton 2008).

6. FINDINGS

6.1 Archaeology

No archaeological resources were identified during the baseline field study. No deflated dunes, or rock outcrops occur over the site which might indicate the presence of some archaeological heritage. No shellfish was found associated with dune mole rat dumps, which are extensive across the proposed development site.

No historical archaeological resources such as glass, ceramics, or older building foundations were located in the south western corner of the farm, which constitutes a highly transformed landscape (refer to Figures 10-13).

Figure 14. Survey track paths (red).
6.2 Palaeontology

According to consulting palaeontologist John Pether (2016 & Appendix A), the study area is situated entirely on Q2 “heuweltjesveld” soil that mantles the slope of the hill known as Hartbeesrug that overlooks the proposed development site in the south east. Only patchy remnants of the Varswater Formation marine deposits occur beneath the site. Shelly marine deposits of the Uyekraal Formation extend seawards beneath the Q2 cover sands and crop out near the shoreline where they occur beneath the Langebaan Formation aeolianites.

Excavations for foundations and services between 1 and 2m below the covers sands, and grading of the surface in the western part of the proposed site are likely to expose shelly marine gravels and calcretes. Similar deposits were encountered during bulk earthworks at the golf estate west of the proposed site. While fossils are sparse in the cover sands and soils, bones such as antelopes and buffalo, rhino, hippo, bush pigs and elephants, are occasionally discovered during construction activities. The bones of an elephant were discovered in the Q2 sands on the Langebaan Country Estate.

Fossil shells and bones in the subsurface of the Q2 sands are often encountered in an archaeological context. Bone and shell concentrations related to buried Middle Stone Age archaeological sites may occur in the underlying Langebaan Formation aeolianites and palaeosols (Pether 2016).

Marine deposits of the Uyekraal Formation have fossil shell fauna with abundant oysters and extinct species typical of the Pliocene marine deposits of Namaqualand. Residual marine deposits of the older Varswater Formation that may exist are expected to contain a similar fauna, but with more extinct taxa. However, the marine shell fauna of the early Pliocene in the Saldanha region is poorly known as the formation is seldom exposed. Thus the potential exposure of shell beds in this eastern part of the study area above is of considerable scientific interest (Pether 2016).

7. CONCLUSION

7.1 Archaeology

Indications are that the proposed development of a sports field complex on Farm 191/12 will not impact on any important archaeological heritage.

Early and Middle Stone Age implements and unmarked Khoisan burials may be uncovered or exposed during bulk earthworks and excavations for services.

The impact significance of the proposed development on archaeological resources is assessed as LOW and therefore, there are no objections to the authorization of the proposed development.

7.2 Palaeontology

General construction activities for foundations and services, and grading of the playing fields, will mainly affect the Q2 cover sands, but may intersect underlying Langebaan Formation calccreted aeolianites and Pliocene shelly beds.
8. RECOMMENDATIONS

With regard to the proposed development of a sports field complete on the Farm Groot Olifants Kop 191/12 in Langebaan, the following recommendations are made.

8.1 Archaeology

1. No mitigation is required.

2. No monitoring is required, but the Environmental Control Officer (ECO) must be briefed by the archaeologist prior to construction activities commencing.

3. If any unmarked human remains, or ostrich eggshell caches, for example, are exposed or uncovered during excavations, these must immediately be reported to Heritage Western Cape (Att: Mr Guy Thomas or Andrew September, 021 483 9543), or the archaeologist (Jonathan Kaplan 0823210172).

4. The above recommendations must be included in the Environmental Management Plan (EMP) for the proposed development

8.2 Palaeontology

1. On-site personnel must be alerted to the occurrence of fossil bones. The Environmental Control Officer (ECO) and construction supervisor must inform staff of the need to watch for potential fossil occurrences. Appendices 2 and 3 outline monitoring by construction personnel and general Fossil Find Procedures

2. In the event of possible fossil and/or archaeological finds, the contracted archaeologist or palaeontologist must be contacted. For possible fossil finds, the palaeontologist will assess the information and liaise with the developer and the ECO and a suitable response will be established. If a significant occurrence of fossil bones is discovered a professional palaeontologist must be appointed to collect them and to record their contexts. Similarly, if fossil shell beds are uncovered a palaeontologist must be appointed to take samples and to record their contexts, the latter involving the sampling of ambient fossil content, the recording of the stratigraphy and sedimentary geometry of the exposures and the compilation of the report to Heritage Western Cape and the IZIKO S.A. Museum.

3. The above recommendation must be included in the Environmental Management Plan (EMP) for the proposed development

9. COMMENTS FROM THE LOCAL AUTHORITY AND REGISTERED CONSERVATION BODIES

The Saldanha Bay Municipality is the applicant and is therefore likely to support the proposed development. The HIA will be distributed to local conservation bodies as part of the Basic Assessment process. Comments from the Saldanha Bay Municipality and registered conservation bodies will then be included in the final Basic Assessment Report, which will be submitted to Heritage Western Cape for comment.
10. REFERENCES


Appendix I

Palaeontological Impact Assessment, desk top study