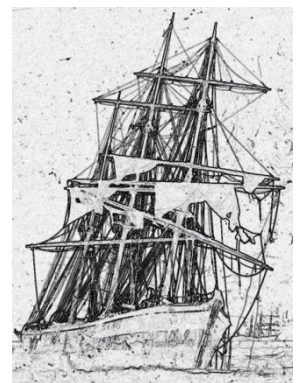


HERITAGE IMPACT ASSESSMENT FOR THE PROPOSED REPAIR, MAINTENANCE AND UPGRADE OF EXISTING INFRASTRUCTURE AND DEVELOPMENT OF ROCK REVETMENT AT THE ARNISTON FISHING HARBOUR, WESTERN CAPE



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WESTERN CAPE

SOUTH AFRICA

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Declaration:

I, Vanessa Maitland, declare that I have no financial or personal interest in the proposed development, nor its developers or any of their subsidiaries, apart from the provision of heritage assessment and management services.



Vanessa Maitland
Maritime Archaeologist
10-11-2017

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GLOSSARY OF ACRONYMS

ASAPA	Association of Southern African Professional Archaeologists
EIA	Environmental Impact Assessment
HIA	Heritage Impact Assessment
MUCH	Maritime and Underwater Cultural Heritage (Includes underwater and land maritime heritage)
NHRA	National Heritage Resources Act (No. 25 of 1999)
PBPS	Pieter Badenhorst Professional Services
SAHRA	South African Heritage Resources Agency

1. INTRODUCTION

Arniston Fishing Harbour requires repair and maintenance work to existing infrastructure and the development of a rock revetment in order to protect the harbour embankment (PBPS 2017).

A permit was issued by SAHRA on 12 July 2017 to work on the harbour slipway (SAHRA 2017).

The proposed rock revetment has a development footprint of approximately 1000m² and measures approximately 95m in length. The South African Heritage Resources Agency has requested a Heritage Impact Assessment (HIA) on the designated area. (PBPS 2017; SAHRA 2017)

This report fulfils Section 38 of the National Heritage Resources Act (NHRA) (25 of 1999) which states that an assessment of potential heritage resources in the development area needs to be done. It is a desktop survey of existing heritage databases in the area, as delineated in Section 5. It concludes with recommended management measures for the area, in terms of cultural heritage resources.

2. TERMS OF REFERENCE

The aim of this desktop survey is to determine if there are any known heritage sites within the defined areas.

The scope of work consists of a desktop study, consisting of a database of known and suspected heritage sites in the area ascertained through study of available written and oral resources of the following heritage types:

- Pre-colonial sites
- Historical period sites
- Maritime infrastructure
- Shipwrecks

The objectives were to:

- Identify potential heritage sites within the designated area
- Recommend management measures for sites before and during development

3. HERITAGE RESOURCES

3.1. THE LEGISLATION

According to Section 32 (1) of the NHRA (No. 25 of 1999), heritage objects consist of:

“An object or collection of objects, or a type of object or list of objects, whether specific or generic, that is part of the national estate and the export of which SAHRA deems it necessary to control, may be declared a heritage object, including— (a) objects recovered from the soil or waters of South Africa, including archaeological and paleontological objects, meteorites and rare geological specimens.”

The Act further stipulates that the term “archaeological” includes:

“wrecks, being any vessel or aircraft, or any part thereof, which was wrecked in South Africa, whether on land, in the internal waters, the territorial waters or in the maritime culture zone of the Republic, as defined respectively in sections 3, 4 and 6 of the Maritime Zones Act, 1994 (Act No. 15 of 1994), and any cargo, debris or artefacts found or associated therewith, which is older than 60 years or which SAHRA considers to be worthy of conservation.”

Section 35 of the Act states:

“(1) Subject to the provisions of section 8, the protection of archaeological and palaeontological sites and material and meteorites is the responsibility of a provincial heritage resources authority: Provided that the protection of any wreck in the territorial waters and the maritime cultural zone shall be the responsibility of SAHRA.

(2) Subject to the provisions of subsection (8)(a), all archaeological objects, palaeontological material and meteorites are the property of the State. The responsible heritage authority must, on behalf of the State, at its discretion ensure that such objects are lodged with a museum or other public institution that has a collection policy acceptable to the heritage resources authority and may in so doing establish such terms and conditions as it sees fit for the conservation of such objects.

- (3) Any person who discovers archaeological or palaeontological objects or material or a meteorite in the course of development or agricultural activity must immediately report the find to the responsible heritage resources authority, or to the nearest local authority offices or museum, which must immediately notify such heritage resources authority.
- (4) No person may, without a permit issued by the responsible heritage resources authority—
- (a) destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;
 - (b) destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;”
 - (c) trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or palaeontological material or object, or any meteorite; or
 - (d) bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment which assist in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.”

Furthermore Section 38 of the Act states:

“(1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as—

- (a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;
 - (b) the construction of a bridge or similar structure exceeding 50 m in length;
 - (c) any development or other activity which will change the character of a site—
 - (i) exceeding 5 000 m² in extent; or
 - (ii) involving three or more existing erven or subdivisions thereof; or
 - (iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or
 - (iv) the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;
 - (d) the re-zoning of a site exceeding 10 000 m² in extent; or
 - (e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority, must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.
- (2) The responsible heritage resources authority must, within 14 days of receipt of a notification in terms of subsection (1)—
- (a) if there is reason to believe that heritage resources will be affected by such development, notify the person who intends to undertake the development to submit an impact assessment report. Such report must be compiled at the cost of the person proposing the development, by a person or persons approved by the responsible heritage resources authority with relevant qualifications and experience and professional standing in heritage resources management; or
 - (b) notify the person concerned that this section does not apply.
- (3) The responsible heritage resources authority must specify the information to be provided in a report required in terms of subsection (2)(a): provided that the following must be included:
- (a) The identification and mapping of all heritage resources in the area affected;
 - (b) an assessment of the significance of such resources in terms of the heritage assessment criteria set out in section 6(2) or prescribed under section 7;
 - (c) an assessment of the impact of the development on such heritage resources;
 - (d) an evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development;
 - (e) the results of consultation with communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources;
 - (f) if heritage resources will be adversely affected by the proposed development, the consideration of alternatives; and
 - (g) plans for mitigation of any adverse effects during and after the completion of the proposed development.
- (4) The report must be considered timeously by the responsible heritage resources authority which must, after consultation with the person proposing the development, decide—
- (a) whether or not the development may proceed;
 - (b) any limitations or conditions to be applied to the development;
 - (c) what general protections in terms of this Act apply, and what formal protections may be applied, to such heritage resources;
 - (d) whether compensatory action is required in respect of any heritage resources damaged or destroyed as a result of the development; and
 - (e) whether the appointment of specialists is required as a condition of approval of the proposal.
- (5) A provincial heritage resources authority shall not make any decision under subsection (4) with respect to any development which impacts on a heritage resource protected at national level unless it has consulted SAHRA.
- (6) The applicant may appeal against the decision of the provincial heritage resources authority to the MEC, who—

(a) must consider the views of both parties; and

(b) may at his or her discretion—

(i) appoint a committee to undertake an independent review of the impact assessment report and the decision of the responsible heritage authority; and

(ii) consult SAHRA; and

(c) must uphold, amend or overturn such decision.

(7) The provisions of this section do not apply to a development described in subsection (1) affecting any heritage resource formally protected by SAHRA unless the authority concerned decides otherwise.

(8) The provisions of this section do not apply to a development as described in subsection (1) if an evaluation of the impact of such development on heritage resources is required in terms of the Environment Conservation Act, 1989 (Act No. 73 of 1989), or the integrated environmental management guidelines issued by the Department of Environment Affairs and Tourism, or the Minerals Act, 1991 (Act No. 50 of 1991), or any other legislation: Provided that the consenting authority must ensure that the evaluation fulfils the requirements of the relevant heritage resources authority in terms of subsection (3), and any comments and recommendations of the relevant heritage resources authority with regard to such development have been taken into account prior to the granting of the consent.

(9) The provincial heritage resources authority, with the approval of the MEC, may, by notice in the *Provincial Gazette*, exempt from the requirements of this section any place specified in the notice.

(10) Any person who has complied with the decision of a provincial heritage resources authority in subsection (4) or of the MEC in terms of subsection (6) or other requirements referred to in subsection (8), must be exempted from compliance with all other protections in terms of this Part, but any existing heritage agreements made in terms of section 42 must continue to apply.”

3.2. CONCLUSION – THE LEGISLATION IN TERMS OF THE PROJECT

There is extensive national legislation covering heritage sites. Within the scope of this project, Section 38 of the NHRA (25 of 1999), states that an assessment of potential heritage resources in the development area needs to be done. This is the purpose of the desktop study. These processes identify potential land and MUCH sites. If a potential site is uncovered during the work, an archaeologist needs to be contacted to assess the find. Thereafter, in conjunction with SAHRA, a decision will be made regarding the significance of the site. If it is deemed to be culturally significant, and is below the low-water mark the developer can apply to the Maritime Unit of SAHRA for a permit for removal, excavation or destruction in terms of Section 35 of the NHRA. If it is above the low-water, the developer can apply to Heritage Western Cape permit for removal, excavation or destruction in terms of Section 35 of the NHRA.

4. STUDY APPROACH AND METHODOLOGY

4.1. EXTENT OF THE ASSESSMENT

This desktop survey is concerned with cultural heritage and covers the area as described in Section 5. However, as shipwrecks are a difficult cultural resource to pin to a specific area, this HIA covers the entire area.

METHODOLOGY

4.1.1. DESKTOP SURVEY

A database of shipwrecks and land-based heritage sites was compiled from the available written and oral sources and is available in Section 6.

Limitations

- The database is a research tool that is constantly evolving as information is uncovered and added.
- The solitary nature of many wrecks means that information may be scarce and/or inaccurate. Therefore, without definitive information, shipwrecks are allocated to an area, based on limited information and certain assumptions regarding the dynamic nature of the environment.
- Shipwrecks that may initially be considered outside of the area, may drift more many miles on the surface or just under the water surface after being abandoned. Therefore, these are also included in the Desktop Survey.

5. DESCRIPTION OF THE AFFECTED ENVIRONMENT

5.1. SITE LOCATION AND DESCRIPTION

Arniston Fishing Harbour (34° 39.978'S 20° 13.943'E) is situated on the south Cape coast, in the Overberg District, between Struis Bay and Cape Infanta. The harbour is within Marcus Bay.

The existing harbour embankment has been eroded by wave action. Portions of the embankment are failing, this is undermining the fence and parking area above. The continuing erosion of the embankment is endangering existing harbour infrastructure. The stability of the embankment is further undermined by a lack of stabilising vegetation. The erosion of the embankment has exposed the stratigraphy which indicates that the fill material used was rubble.



Figure 1: Map of South Cape Coast (Google Earth 2017)



Figure 2: Waenhuiskrans/Arniston Local Place Names and Landmarks (Google Earth 2017)



Figure 3: Rock Embankment at Arniston Fishing Harbour (PBPS 2017)

6. THE CULTURAL HERITAGE

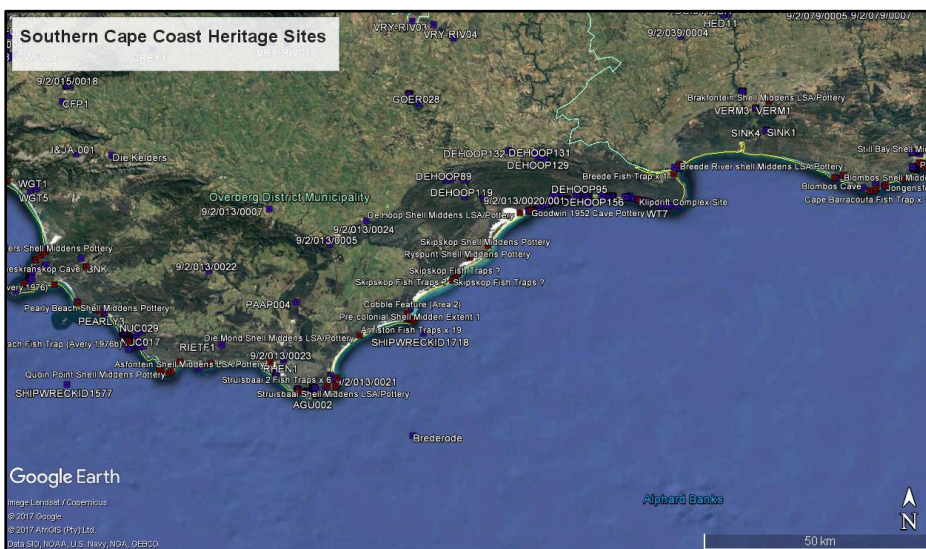


Figure 4: Southern Cape Coast Heritage Sites (Google Earth 2017; Sahrís 2017; Yates 1999)

6.1. PRE-COLONIAL HERITAGE SITES

FISH TRAPS (VISVWYERS)

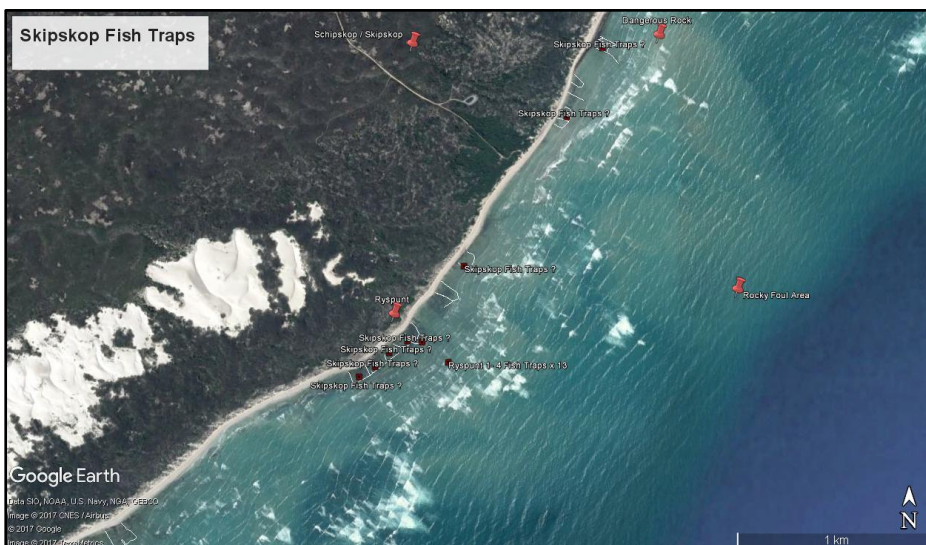


Figure 5: Fish Traps near Skipskop and Rys Point, east of the fishing harbour (Google Earth 2017)

Stone-walled enclosures are a common feature along the south Cape coast. Shell middens associated with these fish traps have been excavated and the evidence points to their use throughout the last 2 000 years (Deacon & Deacon 1999). This timeline coincides with the introduction of pastoralism to South Africa through the Khoekhoe people.

Oral histories state that the fish traps had always been there and the process of building, maintaining and using them was passed through the generations. The community elders report that the fish traps were used before the Europeans came with nets (Dennis 2009). According to Kemp (2007) the fish traps at Arniston and Still Bay are the only ones in South Africa still being actively used by the local fishing communities.

SHELL MIDDENS

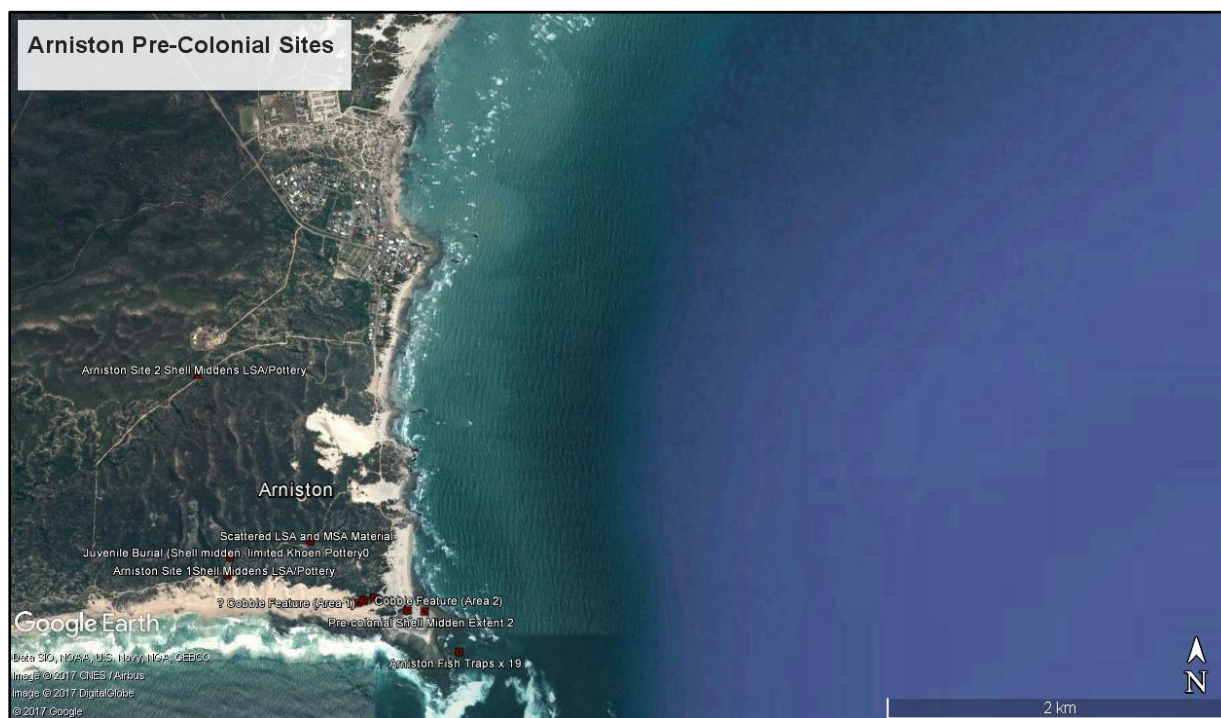


Figure 6: Arniston Pre-colonial Sites (Google Earth 2017; Yates 1999)

The use of marine resources in the archaeological record along the south Cape Coast extends from the Middle Stone Age (c. 250 000 – c. 22 000 years ago) to modern times. The coast has hundreds of shell middens in the open and in caves and shelters. (See Figure 4 for some of these sites).

Yates (1999) documents a number of shell middens and cobble structures at Struis Point. Kaplan (1999) also recorded a number of sites in the Suiderstrand area. However, the likelihood of this type of cultural heritage site being found within the development area is very low, as the area is within the urban zone.

6.2. HISTORICAL HERITAGE SITES

WAENHUISKRANS CULTURAL LANDSCAPE – GRADE I NATIONAL HERITAGE SITE

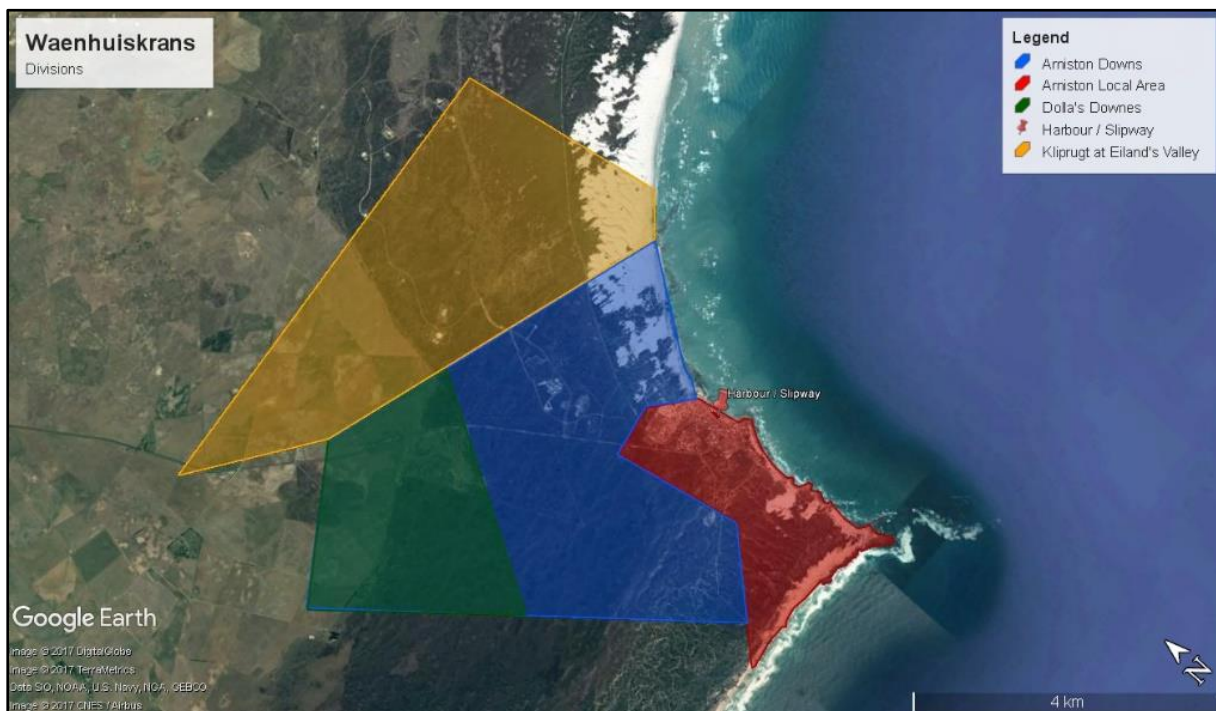


Figure 7: Waenhuiskrans/Arniston Land Divisions (Google Earth 2017; Dennis 2009)

This area incorporates Kassiesbaai Fishing Village (blue), parts of Arniston (red), Dolla's Downs (green) and parts of the coastline to the northeast (Figure 7). The village is located directly to the west of the harbour.



Figure 8: Waenhuiskrans Cultural Landscape (Google Earth 2017)

KASSIESBAAI

SAHRA has since 2005 engaged the Kassiesbaai community in an effort to protect their cultural landscape, this is known as the Waenshuiskrans (Kaasiesbaai) Cultural Landscape. It includes the preservation and restoration of a number of significant buildings. This is meant to create economic benefit to the fishing community, to enable them to preserve their heritage in a sustainable manner. (SAHRA 2006; 2012)

Around 1850, the ancestors of the present fishing village moved into the area. At this time, according to Dennis (2009) the fishing community was staying in Ou Dorp and fished from Ou Baai (Roman Beach) (Figure 9). The original five families had grown to 30 families by 1870.



Figure 9: Map showing the area of Ou Dorp and Ou Baai (Google Earth 2017)



Figure 10: Fisherman's Cottage in Ou Dorp (Google Earth Street View 2017)

According to oral histories, this community originated in Swellendam, descendants of the Hessequa (a Khoena group) and freed slaves (van Zyl n.d.). The name Kassiesbaai, according to oral history comes from the fact that cases or *kassies* in Afrikaans, washed up on the beach. These were then used as building blocks for the houses and covered with clay (Dennis 2009; Wessels 2014).

In 1905, the Pratt brothers decided to build a hotel, to cater to increased tourism. However, they wanted to build it in Kassiesbaai Fishing Village and to relocate the fishing community. In an almost unheard-of act of resistance, the community retained the services of a lawyer who took the case to the Cape High Court, the judge ordered the two parties to reach a settlement. This paved the way for the fishermen to buy the land of Kassiesbaai for a token amount of one shilling and the original five families each received a stand within the new village (van Zyl n.d) which became known as Kassiesbaai.



Figure 11: Kassiesbaai Arts and Crafts Shop in one of the original Kassiesbaai houses (SA Country Life 2017)

WAENHUISKRANS/ARNISTON

The first European settlers recorded in this area was in 1815 (when the *Arniston* was wrecked) and they were farming on loan farms. In 1838, the farm Arniston Downs (See Figure 7) was granted as private property to a partnership consisting of Reitz, van Breda and Joubert. At this time local farmers came to the area on vacation. Apparently, van Breda rented out his house by the sea for a month so that Mr Uys could go fishing at "Wagenhuiskrantz" (van Breda (1860) in van Zyl n.d.). The name Waenhuiskrans originates from the cave of the same name that was apparently big enough to house a wagon (*waenhuis*) (Dennis 2009) The farm, Arniston Down was thereafter owned by Dirk Uys (1880) and the Pratt brothers (1894) (van Zyl n.d.).

In 1922, Arniston/Waenhuiskrans was declared a town and began to grow. The two names used interchangeably for the town, Arniston and Waenhuiskrans, became the official town names in 1981 and it is the only town in South Africa with two names. It became part of the Cape Agulhas Municipality in 1996 (van Zyl n.d).

6.3. MARITIME INFRASTRUCTURE - ARNISTON FISHING HARBOUR

After 1905, the fishermen began to use the beach area where the present harbour is situated. In the 1920s, the sailing and rowing fishing boats began to be replaced by motor vessels. The concrete slipway was built in 1936. Van Zyl (n.d.) states, "The Fisherman's Union was formed in 1932 to manage the Kassiesbaai fishing village. Walter Jeppe was instrumental in establishing the Union. He was also the first secretary and in charge of the building of the Fisherman's Union Hall.

By 1970, the historic fishing village was suffering from severe decay. The local government planned to move the village. The ostensible reason was decay and a long backlog in the payment of property taxes. Conservationists

raised money to pay the outstanding taxes and to restore the village. It was declared a national heritage site in 1984. The Waenhuiskrans Cultural Landscape was classified as a Grade 1 National Heritage Landscape in 2003”

6.4. SHIPWRECK DATABASE

The nature of the environment, poor historical reporting and the length of time since the wrecks occurred means that underwater cultural heritage sites may literally be anywhere and are thus hard to pinpoint with any accuracy beforehand. It is important to have a database because if MUCH sites are uncovered during the project, it will be easier to identify the wreck and thus assess its cultural and historical significance.

There are several points to bear in mind when compiling and making use of any shipwreck database.

- The first recorded European voyages down the west coast of Africa were by the Portuguese. When the Portuguese first sent out their explorers, they stuck close to the coastline, in order to map the land. The present-day Cape Voltas may be a survival of the Portuguese name Volta das Angras. Dias and his fleet passed the Orange River Mouth in 1487/1488 (Axelson 1973). Thereafter, the rate of exploration and trade increased exponentially, as is evidenced by the increase in shipwrecks over the centuries. These early voyages were not well documented, and the archives often merely report that a fleet of a certain number of vessels left and only a certain amount returned, with only vague references to their place and manner of loss. Therefore, there are many undocumented wrecks. This statement is borne out by the Cabral Fleet of 1500 (#8-11 in Section 6.4.4).
- There is some anecdotal evidence that the Phoenicians circumnavigated Africa (Herodotus 1954). However, archaeological evidence of this has yet to be discovered.
- There’s increasing evidence that the Chinese voyages of the 1400s explored parts if not all of the African coast (Paine 2013). However, once again the archival evidence to date, and availability to Western researchers, limits this knowledge.

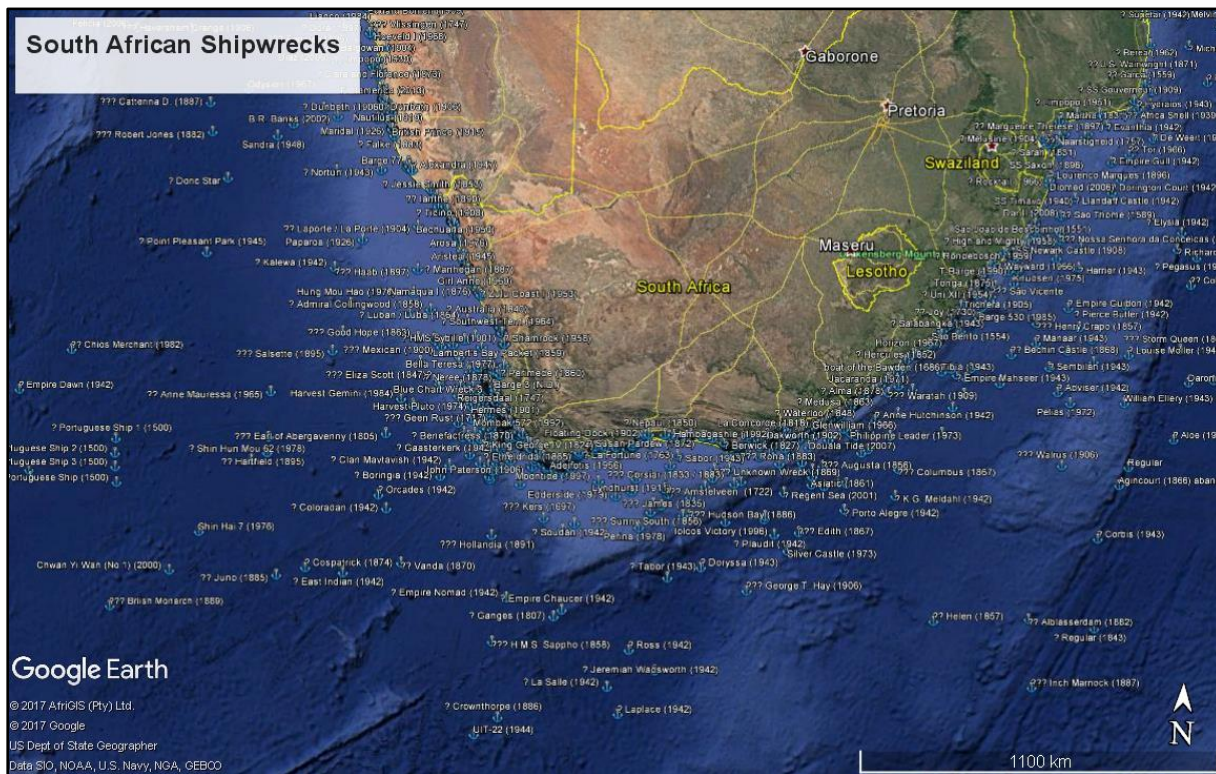


Figure 12: South African Shipwrecks (Google Earth 2017)

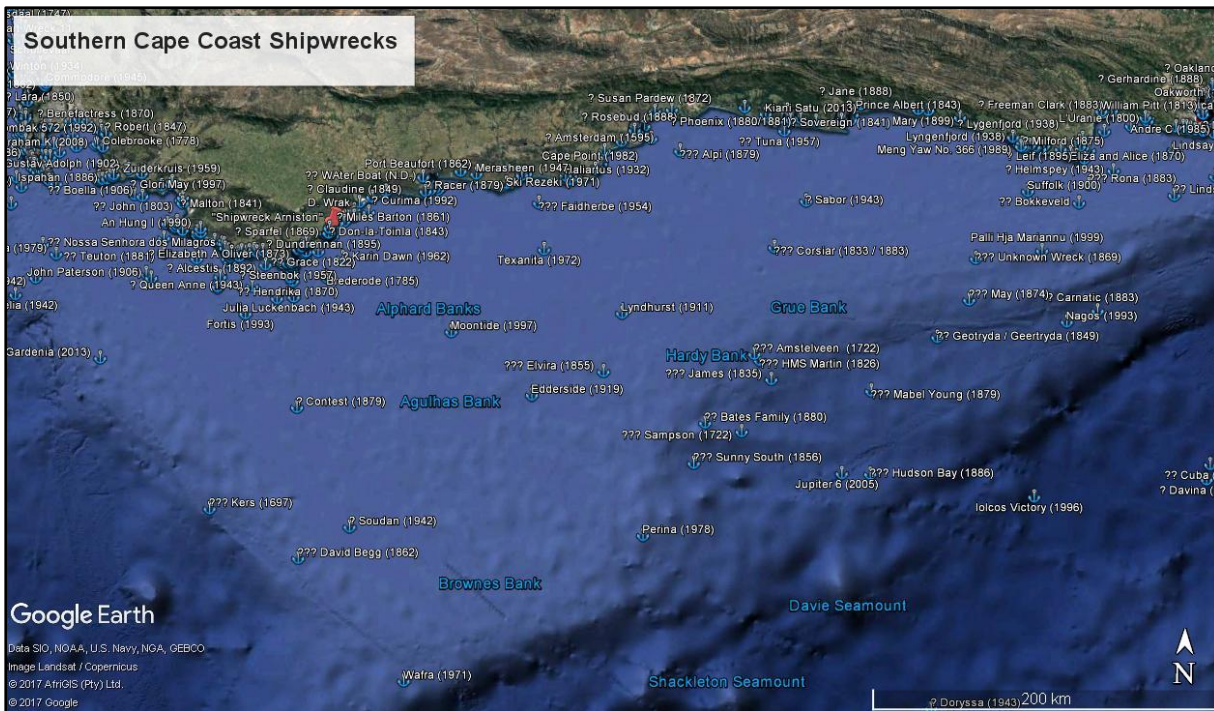


Figure 13: Southern Cape Coast Shipwrecks (Google Earth 2017)

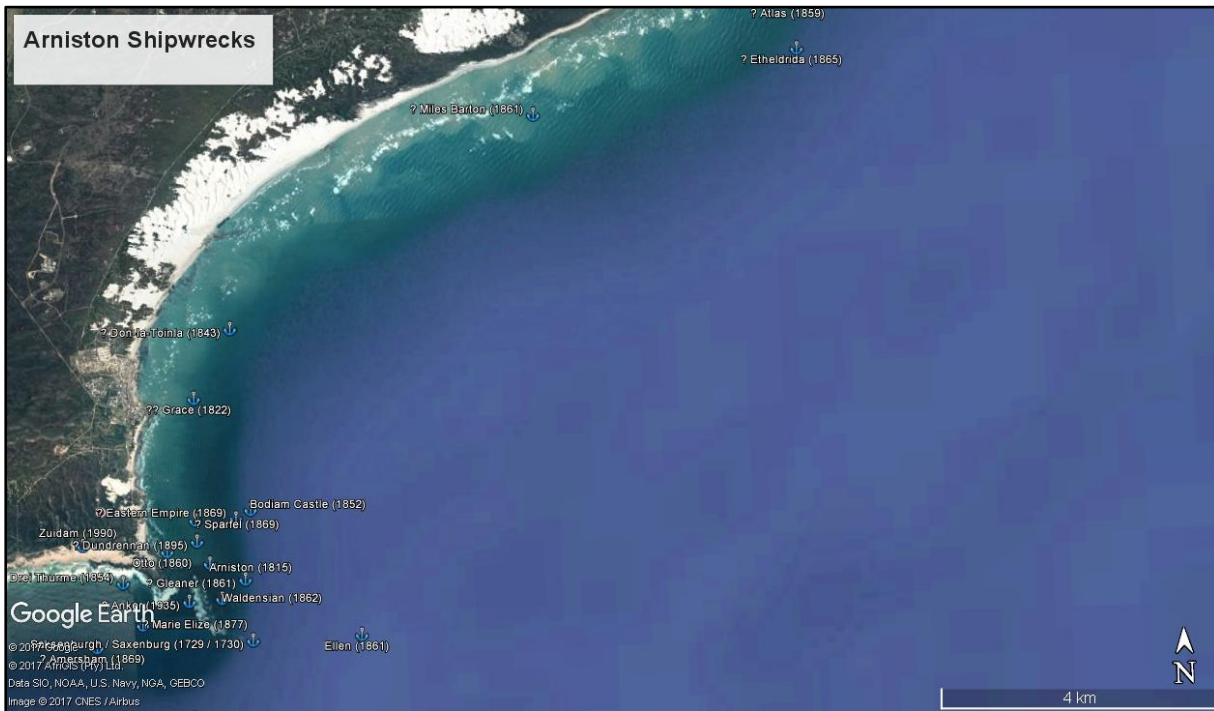


Figure 14: Arniston Shipwrecks (Google Earth 2017)

There two wreck photographs embedded in Google Earth (Figure 15), the first is supposed to be the wreck of the *Arniston* (1815) (Figure 18) and the second is merely called D.Wrak (Figure 16). These are geo-referenced into the program and their co-ordinates have not been validated. D.Wrak is an unknown iron wreck. Further research would no doubt clear up its identity.

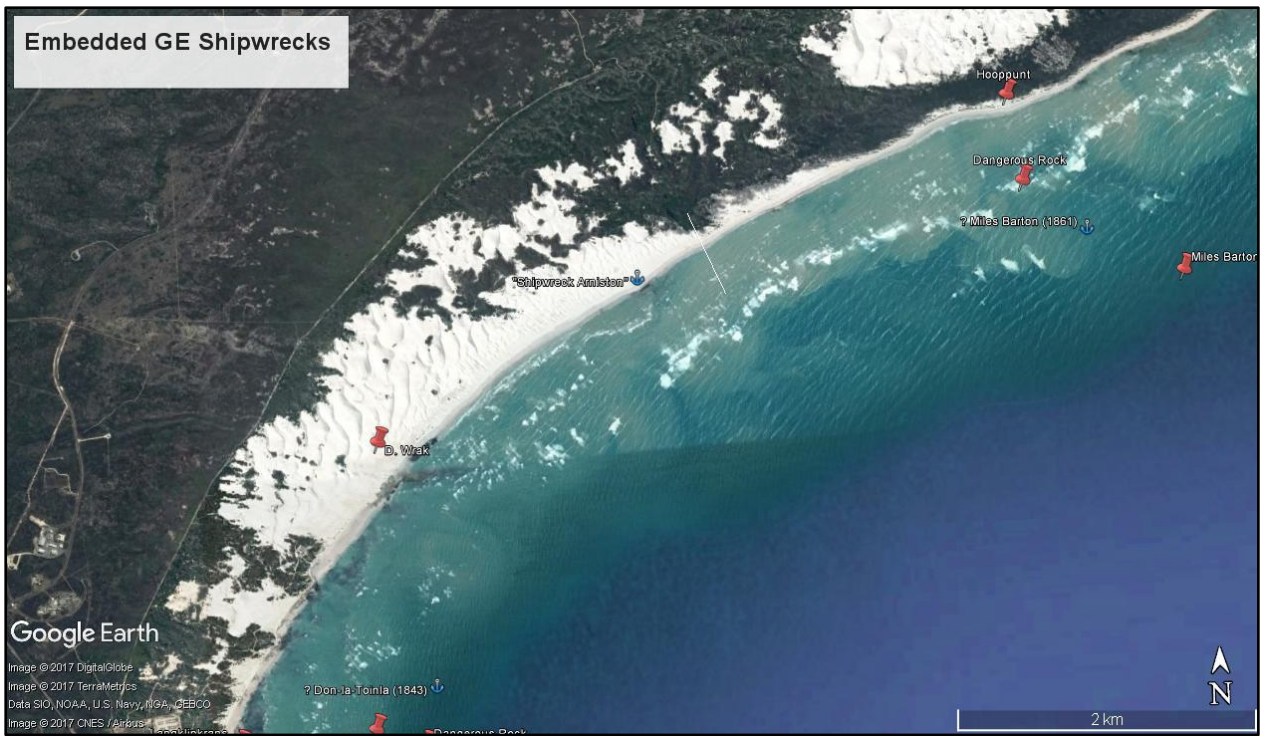


Figure 15: Embedded Google Earth Shipwrecks (Google Earth 2017)



Figure 16: D.Wrak (Deontjie March 9, 2014 on Google Earth 2017)

6.4.1. Wrecks with a higher possibility of being in the development area

#	Name	Event	Nation / Home Port	Date	Story	Location
1	<i>Amersham</i>	Wrecked	Britain	1869	This 781-ton barque, under Captain Hullman was bound from Burma to Cork with a cargo of rice. On 19 May / September, she was wrecked at Struis Point. All aboard survived and on 24 September, her hull and 9 700 bags of rice were sold at Wagenhuiskrans. (Turner 1988; Levine 1989; van den Bosch 2009) The reference to Aagenhuiskrans may either be the cave or the settlement. There is a possibility that the wreck is in the development area.	Near Arniston
2	<i>Don-la-Toinla</i>	Aground, wrecked	Italy	1843	A wooden barque. There is very little info on this vessel. Van den Bosch (2009) states Atlas Reef, while Levine (1989) states Marcus Bay. The records of this vessel are apparently held in the Bredasdorp Shipwreck Museum: Shipping Casualties. As there is scant information on this vessel, it may be at risk by the development.	Marcus Bay / Atlas Reef
3	<i>Gleaner</i>	Aground	?	1861	There is very little information on this coastal cutter. Only that she was grounded at Struis Point in 1861. The records of this vessel are apparently held in the Bredasdorp Shipwreck Museum: Shipping Casualties. Typically, a cutter was a small vessel, designed for speed rather than capacity. There were sailing and rowing cutters. I am not sure where this wreck is.	Struis Point ?
4	<i>Grace</i>	Fire, abandoned, ashore	Britain	1822	A ship of 250-tons built in 1811 and under Captain Robert Lethbridge. On a voyage from Port Jackson to London, she ran ashore on 4 June after her cargo of wool and grain oil caught on fire and her crew abandoned her. The issue with this wreck, is the location. Turner (1988) places her east of Quoin Point. Van den Bosch's (2009) database has a copy of Merchant and Navy Ship events 1800 – 1899, where it states the vessel burned in Struis Bay. However, the map on www.overberginfo shows the <i>Grace</i> to be just east of Kassiesbaai. Often these maps are created with local knowledge and so the wreck is included here.	Quoin Point / Struis Bay / Kassiesbaai
5	<i>Unknown Vessel</i>	Derelict	Unknown	1841	On 22 September 1841, Captain S. Lloyd of the <i>Hero</i> , while inbound to Algoa Bay passed a vessel bottom up off Cape Agulhas. (Levine 1989) It is possible that this derelict vessel washed up in the vicinity of Arniston.	Unknown

6.4.2. WRECKS WITH A LOW POSSIBILITY OF BEING IN THE DEVELOPMENT AREA

6	<i>Anker</i>	Wrecked	Cape Town	1935	This 149-ton steam ketch, owned by Fish Products Ltd. / National Fishing and Trawling Co. was built in 1916. Under Captain E. de la Channette / Chaumette on 2 November 1935, she was wrecked at Bull Dog Reef, near Arniston. Apparently, there was poor visibility. Initially the crew of fourteen were unable to lower the lifeboats due to high sea. However, just after sunrise, two boats put off from the shore and rescued the crew. The trawler became a total wreck. (Levine 1989; van den Bosch 2009)	Bull Dog or Saxon Reef, Struis Point
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Figure 17: The *Anker* in Victoria Basin (Photo: George Young in van den Bosch (2009))

7	<i>Amiston</i>	Wrecked	Britain	1815	<p>This transport / hospital ship of 1498-tons and 22-guns was built on the Thames in 1794. She had been requisitioned by the Royal Navy and was under the command of Captain George Simpson. On 30 May 1815, while on a voyage from Ceylon to England, she came to a tragic end. Aboard the vessel was Viscount and Lady Molesworth as well as invalid soldiers. Of the 378 people on board, only six survived (Turner 1988; Levine 1989). The survivors apparently walked up the coast to the Breede River and back until they were finally rescued by Jan Swart, the son of a farmer of Elandsvallij. They then travelled to Cape Town by ox-wagon (van Zyl n.d.).</p> <p>There was a sale notice on 30 May 1815 in the Cape Town Gazette for cargo salvaged from the wreck, these included, casks of wine, arrack and pitch, cordage and rattans and various pieces of wreckage. The sale was held "on the beach near Eilands Valley".</p> <p>In 1982, salvors found the wreck and recovered numerous artefacts including, star pagodas, rupees, mercury and jewellery. The co-ordinates here are from Turner (1988).</p> <p>In 2009, the skull and bones of one of the victims was removed from the Bredasdorp Shipwreck Museum and finally interred at Amiston. Up until the law forbade it, the bones had been on display.</p> <p>Locals believe that the ribs sticking out of the dunes (see Figure 18) are the remains of the Amiston. (Turner 1988; Levine 1989; van den Bosch 2009) The co-ordinates are near Struis Point, the photograph of the hull is on the beach. It has been disclosed to me by Malcolm Turner that his co-ordinates (especially of those that were salvaged) are incorrect in order to protect the wrecks from other salvors. In addition, Eiland's Valley (Figure 7) is in the beach to the east of the village.</p>	Probably between langklipkrans and Hoopunt 34 41.40S,20 14.60E
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Figure 18: The alleged ribs of the *Arniston* (1815) (Photo: Avenues Guesthouse on Google Earth)

8	<i>Atlas</i>	Aground, wrecked	Holland	1859	<p>This barque of 745-tons under Captain B. Bakker was wrecked near Martha Duinen (Atlas Reef) on 16 / 18 January. (Turner 1988; van den Bosch 2009). According to Levine (1989) this barque was wrecked at Martha's Point near Skipskop. She was bound for Amsterdam from Batavia with a cargo of rice, sugar, hides and cane. All aboard survived.</p> <p>As local place names often derive their names from wrecks, I am inclined to believe that the wreck is on the Atlas Reef. However, whichever spot the wreck is in, it should not be impacted by the project as it is at least 10 km from the impact zone.</p>	Atlas Reef, near Rys Point
9	<i>Bodiam Castle</i>	Aground, broke apart, sank	Britain	1852	<p>Built in Rye in 1847. This 182-ton schooner under Captain E. Heldere / Hilder was on a voyage from Algoa Bay to Table Bay when she ran aground at Struis Point on 13 August. She broke apart within one hour and six people drowned. Only the mate and a seaman survived.</p> <p>The co-ordinates are from Van den Bosch (2009), I cannot attest to their accuracy.</p>	East of Struis Point 34 41.00S,20 15.00E
10	<i>Borderer</i>	Aground, sank	Britain	1868	<p>Built by Willis & Sons (Glasgow) in 1864. This 1062-ton iron ship under Captain Levack / Laback was on a voyage from Penang back to London with a general cargo, which included, tin ingots, rum, rattans, pepper, hides, horns, sugar and tapioca. On 27 October 1868, she struck the middle blinder of Struis Point during a westerly wind, was pulled over the rock and foundered in deep water. The Captain and twelve members of the crew came ashore near the Ratel River. The rest of the crew drowned when their lifeboat capsized. The capsized lifeboat was found by a vessel on her way to Mossel Bay.</p> <p>In 1977, the wreck was found in 38 / 45m of water by salvors and was extensively salvaged since 1977 /1985. Apparently, the wreck's hull ribs are exposed and level with the sandy bottom. (Turner 1988; Levine 1989; van den Bosch 2009)</p> <p>As this wreck is in a known position and has been salvaged, it will not be impacted by this project.</p>	Struis Point. 34 42.60S,20 14.40E

11	<i>Chancellor</i>	Aground, sank	Britain	1854	This 864-ton ship was built in 1848 in New Brunswick. Under Captain J. Turner, on 12 September, she was wrecked at Martha Strand near Arniston. She was bound from Bombay for London. Two seamen drowned. (Turner 1988; van den Bosch 2009) According to Levine (1989) "Martha's Beach" is near Skipskop.	Martha Strand / Martha's Beach
12	<i>Clan MacGregor</i>	Aground, wrecked	Britain	1902	This Clan Line Steamer Ltd. Iron ship was built in 1902 by A. McMillan & Son in Dumbarton, Scotland. She was on her maiden voyage and had left Natal for New York. On 1 June, she grounded on Atlas Reef and became a total wreck. According to van den Bosch (2009), in 1995 parts of the wreck were still visible. Co-ordinates are from Turner (1988).	Atlas Reef, Skipskop 34 36.30S,20 20.50E



Figure 19: The Clan Macgregor just after she was wrecked at Schipskop. (The spelling later changed to Skipskop) (Human T. in van den Bosch 2009)

13	<i>Drei Thurme / Drei Thurine</i>	Aground, wrecked	German	1854	This 200-ton brig registered in Hamburg and under Captain C. Sienan, was bound from Zanzibar to West Africa with a cargo of blue shells. She was wrecked on Struis Point in a south-easterly gale on 30 December. Two lives were lost. (The Sydney Morning Herald Newspaper 17-04-1855; Levine 1989; van den Bosch 2009) All the reports state Struis Point, however, this may not be entirely accurate.	Struis Point
14	<i>Dundrennan</i>	Aground, wrecked	Britain / Liverpool	1895	This 1950-ton iron sailing ship was built in 1880 by Mordaunt & Co. in Southampton. Owned by J. Houston & Co., and under Captain Palmer, she was on a voyage from Chittagong to Dundee with a jute cargo. During a fog on 6 April 1895, she wrecked on Struis Point. Of the 28 crew members, only a seaman and two apprentices survived. The co-ordinates are from van den Bosch (2009) and since they are the same for the <i>Eastern Empire</i> (1869) and <i>Bodiam Castle</i> (1852). I presume that these are co-ordinates for the geographical point as opposed to the co-ordinates for the wrecks themselves.	Struis Point 34 41.00S,20 15.00E
15	<i>Eastern Empire</i>	Aground, wrecked	Britain	1869	This 1142-ton ship was built by Hutton Berning (Quebec) in 1862. On 26 June 1869, under Captain A. Scott, she was bound for Falmouth from Rangoon with 20 000 bags of rice. She was wrecked off Struis Point and no lives were lost. (Levine 1989; van den Bosch 2009) As her co-ordinates are approximately known, she will not be impacted upon by this project.	Struis Point 34 41.00S,20 15.00E
16	<i>Ellen</i>			1861	This 309-ton barque was built in 1848 in Belfast. Under Captain James Sullivan, she was on a voyage from Colombo with a cargo of cotton, cinnamon oil, coffee and curios when she grounded on 1 September during a gale. Although she was a total wreck, all aboard survived. Some of her cargo was recovered and removed to Table Bay. Co-ordinates are from van den Bosch (2009).	Struis Point 34 42.00S,20 16.00E
17	<i>Etheldrida / Etheldreda</i>	Aground, wrecked	Britain	1865	This 327-ton barque under Captain Winsborrow was bound from Java to England with a cargo of sugar when she was wrecked at Skipskop. (Levine 1989).	Skipskop / Marthas Strand / Rys Point

					Van der Bosch (2009) puts her location off Marthas Strand. Turner (1988) states that she was 32km east of Struis Bay, this would place her at Rys Point.	
18	<i>Marie Elize</i>	Aground	France	1877	This 500-ton barque, under Captain Portal, was on a voyage from Reunion to Belleisle when she mistook the beacon at Struis Point for Cape Agulhas Lighthouse. On 6 or 7 November, the barque was wrecked near Arniston, but all aboard survived. (Levine 1989). According to van den Bosch, the vessel was wrecked near Klippenstrand, Ryspunt.	Struis Point / Klippenstrand, Rys Point
19	<i>Miles Barton</i>	Aground, wrecked		1861	The 1 034-ton wooden transport ship, built in 1853, under Captain James Shelburne / Shelford was <i>en route</i> to India from Liverpool. On board was 320 soldiers of the 3 rd Regiment, Major King in command. On 8 February, she wrecked at Martha's Point and one man drowned. In March 1861, the Natal Star newspaper reported that she was still upright, less than a kilometre from the beach. She is at a depth of 5m. (Levine 1989). Both Turner (1988) and van den Bosch (2009) state that she was returning with soldiers from Hong Kong. From <i>The Spectator</i> 6-04-1861 "The <i>Miles Barton</i> , a line transport, carrying upwards of three hundred men of the 3rd Buffs from Hong-Kong, was lost early in February off the Cape of Good Hope. She struck on a sunken rock, and lay a hopeless wreck. Rafts were made, and the men, behaving with admirable discipline, all got safely ashore. One man was drowned in an attempt made to visit the wreck. The men were taken off the gloomy coast by the <i>Cyclops</i> , <i>Albatross</i> , and <i>Kadie</i> ." From: Allen Manville - 1st Bn. 3rd Foot - Served 1855 to 1873 at http://www.britishmedals.us/kevin/profiles/manville.html "The embarkation of the Regiment on this occasion followed the orders for a move rather more quickly than usual, for there were a number of ships ready and waiting to sail. On the 15th December, in three detachments, the Buffs, with a strength of 30 officers and 1,076 men, boarded the troopships Tasmania, Miles Barton and Athleta. In the first ship was the headquarters and five companies, in the second three companies under Major King, and in the third the remaining three companies in charge of Colonel Sargent. Until the Cape was reached all went well with these ships, but on a date which is not ascertainable the Miles Barton, hereabouts, ran ashore and became a total wreck ; the men, however, were all landed safely without loss of life. How this detachment was subsequently conveyed from the Cape to England is not recorded. The behaviour of officers and men on this occasion was reported to the Commander-in-Chief, H.R.H. the Duke of Cambridge, who ordered to be conveyed to Colonel Ambrose, in a letter dated the 23rd April 1861, his appreciation of the exertions of the officers and the discipline and conduct of the men in trying and dangerous circumstances, mentioning particularly the names of Major H. King, Captain G. N. Roe and Lieutenant F. T. Jones for their example." From the Cape and Natal News, 1 April 1861 "The Miles Barton, Captain Shelburne, with the 1st battalion of the 3d Buffs on board from China, was lost in Struy's Bay on Feb. 8. All hands saved." The fact that the reef is named after this wreck, makes the location relatively sure.	Martha's Point
20	<i>Otto</i>	Wrecked	Russia	1860	On 19 January, this barque under Captain Blomquitt was bound for Cork from Maulmein, Burma with a teak cargo, when she was wrecked near Struis Point. No lives were lost. Co-ordinates are from Turner (1988)	Otters Bay / Near Struis Point 34 41.30S,20 14.20E
21	<i>Queen of the Thames</i>		British / Australian	1871	Owned by Devitt and Moore, built in 1870 by R. Napier & Sons, this 2617-ton screw steamer was under the command of Captain McDonald. She was on her maiden voyage when she stranded on a reef at Klipstrand, east of Struisbaai. Four of her crew died at the time of the wreck. A few days after all the passengers and crew had been rescued, an Australian stowaway was found playing the piano in the saloon. The wreck was sold for £15 000.00 and apparently most of the cargo and fittings were salvaged. Her hull broke up about a year after her wrecking. The Board of Enquiry afterwards found that, at the time of the accident, her captain was attending a concert. There are conflicting reports as to his punishment, some say he was acquitted of all charges, while others claim his master's certificate was suspended for a year. (Levine 1989) Co-ordinates are from Turner (1988)	Klipstrand / Klippenstrand 34 36.00S,20 20.50E



Figure 20: The remains of the *Queen of the Thames* (van den Bosch 2009)

22	<i>Saksenburg</i> h / <i>Saksenburg</i> / <i>Saxenburg</i>			1729/ 1730	<p>This was a Cape provision ship of 610-tons, built in 1723 at the Amsterdam Yard for the VOC. She was under the command of Jan de Haan Leibbrandt (1896):</p> <p>“January 13 – Seven return ships arrive under the Commander Gerrit Stocke, bringing news that the Cape provision ship “Saxenburgh” had been wrecked near the reef Agulhas, between the eighth and ninth this month. All lives were lost excepting that of the third officer, the chief carpenter, four sailors and a black boy, who had been picked up by the “Westerdyxhorn.” Their statement is as follows:-</p> <p>They had left Batavia on the 2nd November with provisions for the Cape, and it went prosperously until the 2nd of January, when they sighted Africa off De la Goa Bay. On the 8th they encountered a heavy gale. The ship would not obey her rudder, and worked heavily. She commenced to make water, and the pumps were continually worked. The water kept running in. a heavy leak was discovered (which is fully described). The guns were thrown overboard, but without success. The ship was gradually sinking. The skipper told all to prepare for death. The stern boat was cleared to enable some to save themselves. The ship afterwards cracked asunder and sank. Every one endeavoured to save himself on a piece of wreckage, and those mentioned above were finally picked up by a boat of the “Westerdyxhorn.””</p> <p>According to Levine, she lies at No.2 Blinker on so-named Saxon Reef.</p>	
23	<i>Sparfel</i>	Aground, broke apart, sank	France	1869	<p>On 4 September 1869, this 374-ton schooner under Captain F. Loisseaux, ran aground on a reef off Struis Point and broke apart almost immediately. There were no survivors and for weeks, thousands of hides washed ashore. (Turner 1988; Levine 1989; van den Bosch 2009)</p> <p>Although we do not have an exact location, the fact that she ran aground off Struis Point and broke apart so quickly, makes it unlikely that this vessel will be impacted by the project.</p>	Struis Point
24	SS <i>Waldensian</i>	Grounded, wrecked	Britain	1862	<p>This Rennies iron screw steamer of 285 / 369-tons was built at Greenock in 1855 / 1856. Under the command of Captain W.A. Joss / Ross, on 13 October, she was on a voyage from Durban to Cape Town with the Christy Minstrels and eight Dutch ministers. She ran aground on Bull Dog Reef at Struis Point, a light south-east wind was blowing.</p>	Bull Dog Reef, Struis Point 34 41.68S, 20 14.70E

					<p>Mr Joe Brown of the Christy Minstrels lost a silver belt, encrusted with precious stones. He had received this in recognition of his work. All 121 people aboard survived. The day after the grounding, the vessel broke in two.</p> <p>The co-ordinates are from van den Bosch (2009). Although the co-ordinates given in the various databases are not always accurate, these are on the aforementioned reef, the ship broke up the day after the grounding and therefore the co-ordinates are probably relatively correct. This wreck will not be impacted by the development.</p>	
25	<i>Willem de Zwyger</i>		Holland / Rotterdam	1863	This 753-ton barque under Captain van den Dries was bound for London from Batavia with a general cargo including, sugar, tobacco, rattans, tin ingots, 12 bronze carronades and mortars. On 29 March she was wrecked near Marth's Point, but all aboard survived. A lot of her cargo was salvaged in the 1970s and her figurehead is at the Bredasdorp Shipwreck Museum.	Martha's Point / Rys Point 34 36.60S,20 19.80E
26	<i>Zuidam</i>			1990	This fishing vessel under the command of A.J.J. Kotze was wrecked on 9 February at Struis Point.	Struis Point 34 41.23S,20 13.41E
27	<i>Unknown Vessel</i>	Derelict	Unknown	1841	On 22 September 1841, Captain S. Lloyd of the <i>Hero</i> , while inbound to Algoa Bay passed a vessel bottom up off Cape Agulhas. (Levine 1989)	Unknown
					It is possible that this derelict vessel washed up in the vicinity of Arniston.	

6.4.3. WRECKS IN THE GENERAL AREA

#	Name	Date	Location
1	<i>Greystoke Castle</i>	1896	Martha's Point
2	<i>Maid of the Thames</i>	1848	Martha's Point
3	<i>Martha</i>	1826	Martha's Point
5	<i>Wigtonshire</i>	1885	Martha's Point
6	<i>Claudine</i>	1849	Between Martha's Point and Cape Infanta
7	<i>Curima</i>	1992	Between Martha's Point and Cape Infanta
8	<i>Gulliver</i>	2011	Between Martha's Point and Cape Infanta
9	<i>Yellowtail</i>	1966	Between Martha's Point and Cape Infanta
10	<i>Bella Gambi</i>	1974	Cape Infanta
11	<i>Cape of Good Hope</i>	1881	Cape Infanta
12	<i>De Bonair</i>	1964	Cape Infanta
13	<i>Dirkie Uys</i>	1968	Cape Infanta
14	<i>Mary Ann</i>	1965	Cape Infanta
15	<i>Osmund</i>	1859	Cape Infanta
16	<i>Racer</i>	18979	Cape Infanta
17	<i>Albert</i>	1857	Struis Bay
18	<i>Augusta</i>	1993	Struis Bay
19	<i>Barrys I</i>	1848	Struis Bay
20	<i>Dassenberg</i>	2000	Struis Bay
21	<i>Dora K.</i>	1974	Struis Bay
22	<i>Duke of Northumberland</i>	1838	Struis Bay
23	<i>Edward</i>	1809	Struis Bay
24	<i>Eliza and Ann</i>	1870	Struis Bay
25	<i>Elizabeth A. Oliver</i>	1873	Struis Bay
26	<i>Equator</i>	1865	Struis Bay
27	<i>Flamingo</i>	1844	Struis Bay
28	<i>Gentoo</i>	1846	Struis Bay
29	<i>Grace</i>	1822	Struis Bay
30	<i>Hercuba</i>	1870	Struis Bay
31	<i>Honey Bee</i>	2004	Struis Bay
32	<i>Isaac</i>	1847	Struis Bay
33	<i>Jupiter T.</i>	1686	Struis Bay
34	<i>Karin Dawn</i>	1962	Struis Bay
35	<i>La Jadinere</i>	1794	Struis Bay
36	<i>Lord Hawkesbury</i>	1796	Struis Bay
37	<i>Mackay</i>	1871	Struis Bay
38	<i>Maggie</i>	1872	Struis Bay

39	<i>Malagas</i>	1965	Struis Bay
40	<i>Momina Zino</i>	1874	Struis Bay
41	<i>Montgomery</i>	1847	Struis Bay
42	<i>Oriental Pioneer</i>	1974	Struis Bay
43	<i>Osmund</i>	1972	Struis Bay
44	<i>Port Fleetwood</i>	1846	Struis Bay
45	<i>Sceptre</i>	1925	Struis Bay
46	<i>Schonenberg</i>	1722	Struis Bay
47	<i>Scotland</i>	1860	Struis Bay
48	<i>South American</i>	1889	Struis Bay
49	<i>Venerable</i>	1840	Struis Bay
50	<i>Zoetendaal</i>	1673	Struis Bay

6.4.4. SHIPS THAT DISAPPEARED OR WERE ABANDONED IN THE VICINITY OF THE SOUTHERN CAPE COAST

#	Name	Date	Location
1	<i>Alblasserdam</i>	1882	Abandoned between Batavia and Cape Town
2	<i>Alma</i>	1864	Disappeared between Natal and Cape Town
3	<i>Alpi</i>	1879	Abandoned off Mossel Bay
4	<i>America</i>	1862	Abandoned off the "Cape Banks"
5	<i>Amstelveen</i>	1722	South Cape coast
6	<i>Augusta</i>	1856	Abandoned, south Cape ocean
7	<i>Bates Family</i>	1880	Off south Cape coast
8 – 11	<i>Cabral Fleet</i>	1500	Four Portuguese vessels from the Cabral Fleet disappear during a storm
12	<i>Circe</i>	1835	Disappeared between Durban and the Cape
13	<i>David Begg</i>	1862	Abandoned 160km off Cape Agulhas
14	<i>Davina</i>	1881	Abandoned, south Cape ocean
15	<i>Earl of Abergavenny</i>	1805	Disappeared off the Cape coast
16	<i>Edith</i>	1867	Disappeared between Port Alfred and Cape Town
17	<i>Elvira</i>	1855	Disappeared between Table Bay and Akyat (Burma)
18	<i>Ganges</i>	1807	Abandoned, south Cape ocean
19	<i>Georgiana</i>	1857	Foundered off the Cape
20	<i>Geotryda / Geertryda</i>	1849	Abandoned, south Cape ocean
21	<i>Good Hope</i>	1863	Burned off South Africa
22	<i>H.M.S. Martin</i>	1826	Off south Cape coast
23	<i>H.M.S. Sappho</i>	1858	Abandoned, south Cape ocean
24	<i>Helen</i>	1857	Fire, abandoned, south Cape ocean
25	<i>Hollandia</i>	1891	Foundered, south Cape ocean
26	<i>James</i>	1835	South Cape coast
27	<i>Kers</i>	1697	Ran aground between Batavia and the Cape
28	<i>Knight of Snowdown</i>	1867	Abandoned 29km south of Danger Point
29	<i>Mabel Young</i>	1879	Abandoned, south Cape ocean
30	<i>Magdala</i>	1897	Disappeared
31	<i>Mariner</i>	1826	Abandoned in the latitude of the Cape of Good Hope
32	<i>Mauritius</i>	1862	Abandoned 120km south of Table Bay
33	<i>May</i>	1874	Disappeared between Algoa Bay and Table Bay
34	<i>Mona</i>	1887	Abandoned, south Cape ocean
35	<i>Nadinus</i>	1850	Grounded, off the coast of South Africa
36	<i>Nerbudda</i>	1855	Disappeared between Algoa Bay and Cape Town
37	<i>Sampson</i>	1722	South Cape coast
38	<i>Sunny South</i>	1856	Abandoned between Akyab and Falmouth
39	<i>Unknown Vessel</i>	1869	Unknown derelict seen floating between Port Elizabeth and Cape Town
40	<i>Vanda</i>	1870	Fire, abandoned, south Cape ocean
41	<i>Windsor Castle</i>	1884	South Cape coast
42	<i>Wolfe</i>	1859	Abandoned, south Cape ocean

7. CONCLUSIONS

The Waenhuis/Arniston area has been inhabited by humans since the Middle Stone Age and there are numerous well-known sites attesting to this. However, the area of the rock embankment has been the site of developments for over 120 years, therefore the likelihood of finding intact Stone Age sites in the impact zone is low.

The known fish traps are to the east and south of the development area and will not be affected by the development.

The southern Cape coast has been the site of maritime accidents for over 500 years and is littered with places named after shipwrecks, these include, but are not limited to Arniston (*Arniston* 1815); Rys Point (*Wigtonshire* 1885 – with a rice (*rys*) cargo); Martha's Point/Reef (*Martha* 1826); Otter Bay (*Otto* 1860); Atlas Reef (*Atlas* 1859) and Miles Barton Reef (*Miles Barton* 1861).

There are five possible wrecks within the development area. The Struis Point to Rys Point has an additional 22 wrecks. The area between Struis Bay and Cape Infanta has an additional 50 wrecks. There are also, at least, 42 wrecks that may have disappeared somewhere off the southern Cape coast. There is little information on these wrecks, other than they disappeared.

Despite this, I believe the chance of finding a wreck in the development area is very low.

8. SITE SIGNIFICANCE AND ASSESSMENT

8.1. HERITAGE ASSESSMENT CRITERIA AND GRADING

According to the NHRA, No. 25 of 1999, Section 2(vi), the *significance* of heritage sites and artefacts is determined by its aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technical value in relation to the uniqueness, condition of preservation and research potential.

The NHRA stipulates the assessment criteria and grading of archaeological sites. The following categories are distinguished in Section 7 of the Act:

- **Grade I:** Heritage resources with qualities so exceptional that they are of special national significance;
- **Grade II:** Heritage resources which, although forming part of the national estate, can be considered to have special qualities which make them significant within the context of a province or a region; and
- **Grade III:** Other heritage resources worthy of conservation, on a local authority level.

The occurrence of sites with a Grade I significance will demand that the development activities be drastically altered in order to retain these sites in their original state. For Grade II and Grade III sites, the application of mitigation measures would allow the development activities to continue.

A matrix exists whereby the above criteria, as set out in Sections 3(3) and 7 of the NHRA, No. 25 of 1999, can be applied for identified sites. This allows some form of control over the application of similar values for similar sites. This matrix will be applied if any sites are uncovered. (Appendix I)

9. RECOMMENDED MANAGEMENT MEASURES

Heritage sites are fixed features in the environment, occurring within specific spatial confines. Any impact upon them is permanent and non-reversible. Those resources that cannot be avoided and that are directly impacted by the proposed development can be excavated / recorded and a management plan can be developed for future action. Those sites that are not impacted on can be written into the management plan, whence they can be avoided or cared for in the future.

9.1. OBJECTIVES

- Protection of heritage sites within the project boundary against vandalism, destruction and theft.
- The preservation and appropriate management of new discoveries in accordance with the NHRA, should these be discovered during development activities.

The following shall apply:

- The Environmental Control Officer should be given a short induction, by the heritage practitioners, on archaeological site and artefact recognition.
- The contractors and workers should be notified that archaeological sites might be exposed during the construction activities.

- Should any heritage artefacts be exposed during excavation, work on the area where the artefacts were discovered, shall cease immediately and the Environmental Control Officer shall be notified as soon as possible;
- All discoveries shall be reported immediately to a heritage practitioner so that an investigation and evaluation of the finds can be made. Acting upon advice from these specialists, the Environmental Control Officer will advise the necessary actions to be taken;
- Under no circumstances shall any artefacts be removed, destroyed or interfered with by anyone on the site; and
- Contractors and workers shall be advised of the penalties associated with the unlawful removal of cultural, historical, archaeological or palaeontological artefacts, as set out in the NHRA (Act No. 25 of 1999), Section 51. (1).

9.2. CONTROL

In order to achieve the above, the following should be in place:

A person or entity, e.g. the Environmental Control Officer, should be tasked to take responsibility for any heritage sites that may be uncovered and should be held accountable for any damage. This person must take responsibility to contact the heritage practitioner.

REFERENCES:

Legal Sources:

National Heritage Resources Act, 1999 (Act No. 25 of 1999)

Sources:

- Axelson, Eric. 1973. *Portuguese in South-east Africa 1488-1600*. Johannesburg: C. Struik (Pty) Ltd.
- Deacon, H.J. & Deacon, J. (1999). *Human Beginnings in South Africa: Uncovering the Secrets of the Stone Age*. Cape Town: David Philip Publishers.
- Dennis, Tracey Lee. 2009. *Perceptions of History and Policy in the Cape Agulhas Area: could History influence Policy on Small-Scale Fishing*. MA Thesis: University of the Western Cape.
- Herodotus. 1954. *The Histories*. Harmondsworth: Penguin Books Ltd.
- Kaplan, J. 1999. *Archaeological Study ERF 193, Suiderstrand, Southern Cape Coast*. Riebeeck West: Agency for Cultural Resource Management.
- Kemp, L.V. 2006. *Ancient stonewall fish traps on the south coast of South Africa: Documentation, current use, ecological effects and management implications*. MSc Thesis: University of Cape Town.
- Levine, M. 1986. *Shipwreck History of Southern Africa*. Unpublished Database.
- Maitland, Vanessa. *Unpublished Shipwreck Database*.
- Paine, Lincoln. 2013. *The Sea and Civilization*. London: Atlantic Books.
- PBPS. 2017. *Proposed Repair, Maintenance and Upgrade of Existing Infrastructure and the development of Rock Revetment at the Arniston Fishing Harbour, Western Cape*. Wellington.
- SA Country Life. 2017. *5 Fantastic Things to do in Kassiesbaai*. Caxton Magazines Digital. Available: <https://www.countrylife.co.za/travel/5-fantastic-things-kassiesbaai>. [10-11-2017]
- SAHRA. 2006. *Annual Report 2006*. Available: <http://www.sahra.org.za/publications/annual-reports/>
- SAHRA.2012. *Annual Report 2012*. Available: <http://www.sahra.org.za/publications/annual-reports/>
- SAHRA. 2017. *Interim Comment to National Department of Public Works re Repair and Maintenance work to existing infrastructure and the development of rock revetment at the Arniston harbour, Western Cape*. 27 July 2017.
- Turner, Malcolm. 1988. *Shipwrecks & Salvage in Southern Africa: 1505 to the Present*. Cape Town. C. Struik.

Van den Bosch, Fedde. 2009. *Shipwreck Database*.

Van Zyl, Hannes. N.d. *Arniston Alive: History*. Available: <http://arnistonalive.org.za/info/history-geskiedenis>. [08-11-2017]

Wessels, Yolanda. 2014. *Arniston Kassiesbaai*. In: Experience Overberg 3: 42-49. Available: <http://en.calameo.com/read/0034661628dbeaeec4e> [08-11-2017]

Yates, R. 1999. *Specialist Study on the Current Conservation Status of Archaeological Sites near Struispunt, Waenhuiskrans Nature Reserve*. Cape Town: Henshilwood, Yates & Winter Heritage Resource Consultants.

Map Sources:

Google Earth. Accessed 2017.

APPENDIX I: CONVENTIONS USED TO ASSESS THE IMPACT OF PROJECTS ON HERITAGE RESOURCES

Significance

According to the NHRA, Section 2(vi) the **significance** of heritage sites and artefacts is determined by its aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technical value in relation to the uniqueness, condition of preservation and research potential. It must be kept in mind that the various aspects are not mutually exclusive, and that the evaluation of any site is done with reference to any number of these.

Matrix used for assessing the significance of each identified site/feature

1. Historic value

- Is it important in the community, or pattern of history
- Does it have strong or special association with the life or work of a person, group or organisation of importance in history
- Does it have significance relating to the history of slavery

2. Aesthetic value

- It is important in exhibiting particular aesthetic characteristics valued by a community or cultural group

3. Scientific value

- Does it have potential to yield information that will contribute to an understanding of natural or cultural heritage
- Is it important in demonstrating a high degree of creative or technical achievement at a particular period

4. Social value

- Does it have strong or special association with a particular community or cultural group for social, cultural or spiritual reasons

5. Rarity

- Does it possess uncommon, rare or endangered aspects of natural or cultural heritage

6. Representivity

- Is it important in demonstrating the principal characteristics of a particular class of natural or cultural places or objects
- Importance in demonstrating the principal characteristics of a range of landscapes or environments, the attributes of which identify it as being characteristic of its class
- Importance in demonstrating the principal characteristics of human activities (including way of life, philosophy, custom, process, land-use, function, design or technique) in the environment of the nation, province, region or locality.

7. Sphere of Significance	High	Medium	Low
International			
National			
Provincial			
Regional			
Local			
Specific community			

8. Significance rating of feature

1. Low
2. Medium
3. High

Significance of impact:

- low: where the impact will not have an influence on or require to be significantly accommodated in the project design
- medium: where the impact could have an influence which will require modification of the project design or alternative mitigation
- high: where it would have a "no-go" implication on the project regardless of any mitigation

Certainty of prediction:

- Definite: More than 90% sure of a particular fact. Substantial supportive data to verify assessment
- Probable: More than 70% sure of a particular fact, or of the likelihood of that impact occurring
- Possible: Only more than 40% sure of a particular fact, or of the likelihood of an impact occurring
- Unsure: Less than 40% sure of a particular fact, or the likelihood of an impact occurring

Recommended management action:

For each impact, the recommended practically attainable mitigation actions which would result in a measurable reduction of the impact, must be identified. This is expressed according to the following:

- 1 = no further investigation/action necessary
- 2 = controlled sampling and/or mapping of the site necessary
- 3 = preserve site if possible, otherwise extensive salvage excavation and/or mapping necessary
- 4 = preserve site at all costs
- 5 = retain graves

Legal requirements:

Identify and list the specific legislation and permit requirements which potentially could be infringed upon by the proposed project, if mitigation is necessary.