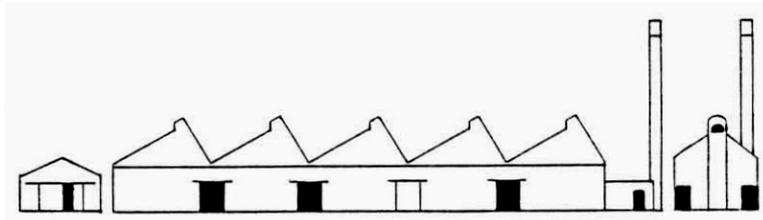

AN ASSESSMENT OF HERITAGE RESOURCES ON THESEN ISLAND: KNYSNA.



PREPARED FOR
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1. INTRODUCTION	3
1.1 Terms of reference	3
1.1.1 Historical Aspects	3
1.1.2 Archaeology	3
1.1.3 Palaeontology	3
1.1.4 Background research	3
1.1.5 Report	5
2. HISTORICAL SUMMARY	5
3. FINDINGS	6
3.1 Palaeontology	6
3.2 Archaeology	6
3.3 Shipwrecks	7
3.4 Built environment	7
3.4.1 The causeway	7
3.4.2 The sea wall	8
3.4.3 Thesen Jetty	8
3.4.4 Administrative offices (5)	8
3.4.5 Boat shed (10)	8
3.4.6 Sawtooth Building (22)	10
3.4.7 Building (33)	10
3.4.8 Buildings: workers' compound (73-80)	10
3.4.9 Residential buildings (14, 30, 53, 54, 89-91, 95-97)	10
3.4.10 Clinic (19)	10
3.4.11 Power station, boiler and fuel buildings, cooling pond (36-39)	11
3.4.11.1 Buildings	11
3.4.11.2 Machinery	11
3.4.11.3 The power station - conservation issues	12
3.4.12 Sawmill	12
4. CONCLUSION	13
5. RECOMMENDATIONS	14
5.1 Key recommendations	14
5.2 Specific recommendations	14
5.2.1 The causeway	14
5.2.2 The sea wall	14
5.2.3 Thesen Jetty	15
5.2.4 Administrative building (4)	15
5.2.5 The boat shed (10)	15
5.2.6 Sawtooth building (22)	15
5.2.7 Building (33)	16
5.2.8 Workers compound (73-80)	16
5.2.9 Residential buildings (14, 30, 53, 54, 89-91, 95-97)	16
5.2.10 Clinic (19)	16
5.2.11 Power station and equipment/machinery (36-39)	16
5.2.12 Sawmill	17
6. CONSULTANTS	17
7. REFERENCES	17
APPENDIX A: DETAILED CHRONOLOGY	28
APPENDIX B: TERMS OF REFERENCE	36

1. INTRODUCTION

Thesen Island (previously Paarden Eiland) is a low lying sand body situated in the northern portion of the Knysna lagoon linked to the mainland and the town of Knysna by a causeway (Figure 1). Located on the island is the Thesen and Co. Sawmill and manufacturing industry (boats, furniture and wagons) which have been active since the 1920s. There is little urban development on the island apart from a number of residential buildings built by the company for its emergency maintenance staff. Much of the island is undeveloped and vegetated with grasses, alien and indigenous trees in places. A low sea wall has been built around the perimeter of the island to protect the industrial area from spring tides. At low tide much of the island is surrounded by exposed mud flats.

The island has historical significance in terms of its association with the Thesen family who have played a central role in the development of the Knysna timber industry and the history of the town.

1.1 Terms of reference

The Archaeology Contracts Office (ACO) of the University of Cape Town was commissioned by Chris Mulder Associates Inc. to conduct a heritage assessment of Thesen Island, Knysna in preparation for the implementation of a redevelopment framework plan for the area. The ACO undertook to conduct the study according to the terms of reference which are summarised below and reproduced in whole as Appendix B.

1.1.1 Historical Aspects

Identify any potentially important historic features on the island, including old buildings, foundations, structures or shipwrecks which could be affected by the proposed redevelopment framework plan (also considered is the conservation-worthiness of any industrial machinery/artefacts that may be present on the island).

1.1.2 Archaeology

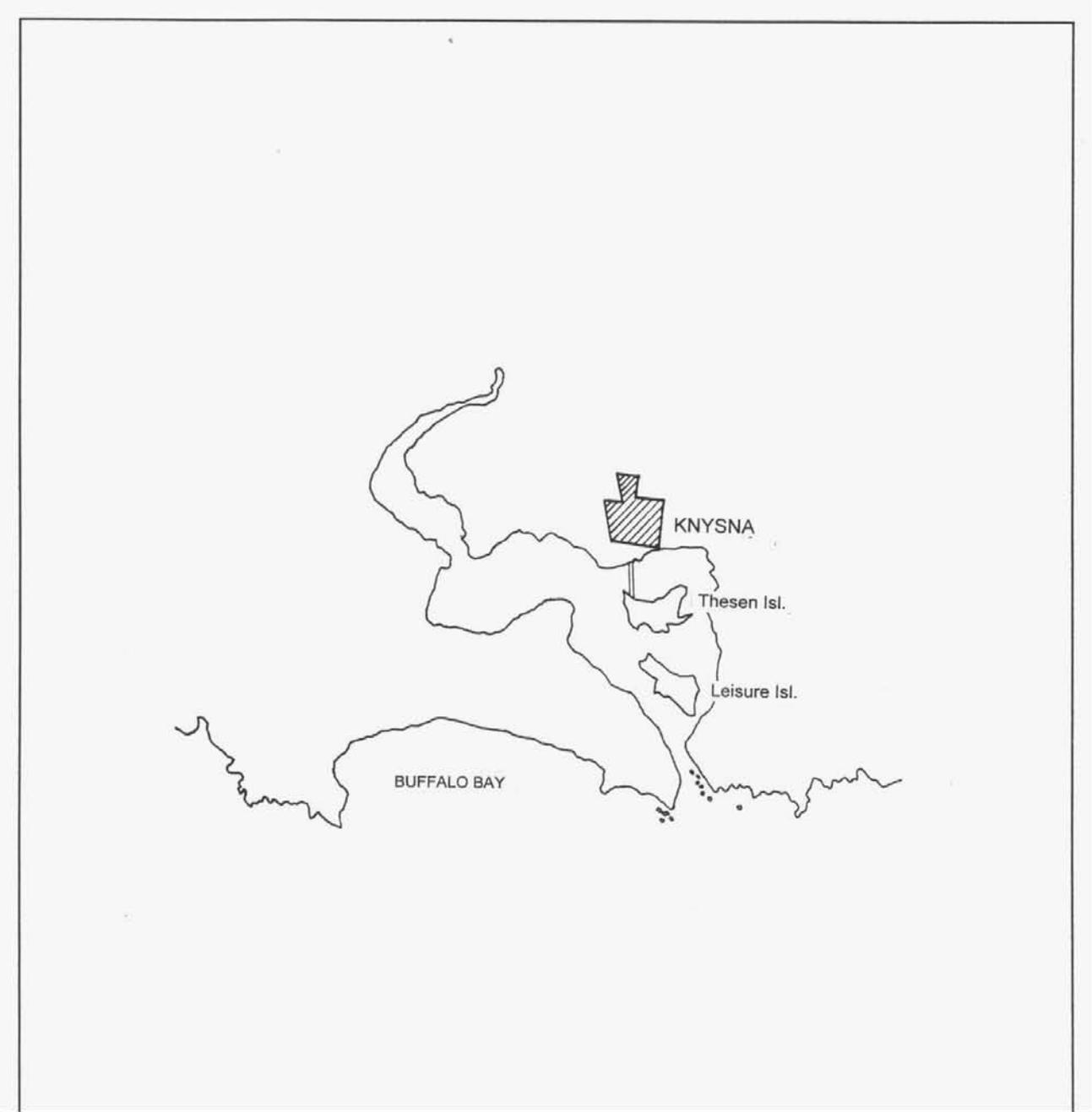
Undertake a survey of the island to identify whether any artefacts or other remnants of archaeological significance could be affected by the proposed redevelopment framework.

1.1.3 Palaeontology

Undertake a survey of the island to identify whether any material or remnants of palaeontological significance could be affected by the proposed redevelopment framework.

1.1.4 Background research

In order to fulfil the above tasks effectively, the team investigated the history of the island from its geological development through to its role in the 19th and 20th century history of the



	<p>1 Location of Thesen Island in Knysna Lagoon</p>
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area. This involved a literature review, an archival study, as well as consultation with local organisations/individuals who have local knowledge of the area.

1.1.5 Report

The ACO undertook to produce a report as per the Terms of Reference and submit drafts to the client and the National Monuments Council for review prior to finalisation. The following pages constitute the findings of the study.

2. HISTORICAL SUMMARY

The written history of Thesen Island (formerly known as Paarden Eiland), spans almost two hundred years. It started as a portion of the farm Melkhoutkraal which was granted to George Rex in 1804. It appears that during the early years the island was not much more than a low sand bar which could be accessed at low tide. At spring tide the island was largely covered with water. Despite this, the island was valued by its owner, George Rex, as it supported species of grasses suitable for grazing cattle. George Rex also benefited from the sale of driftwood carried downstream by the Knysna River. Despite the development of the village of Knysna on the mainland, the island was not developed at all for most of the 19th century until a new wooden jetty was built in 1883 on the south west side. This was linked by a causeway which traversed the western side of the island and then joined the mainland.

The Thesen family arrived in Knysna in 1870 and immediately began with entrepreneurial activities ranging from timber transport and wood products, coastal trade and a general dealership. In the late 1800s the Thesens opened up their own shipping line. A number of steamers were procured which delivered both passengers and cargo to various coastal ports in South Africa. The shipping line was based at Knysna until it was sold when the main railway line reached the town in the 1920s.

It was not until the 1920s that industrial development began with the relocation of the Thesen and Co. sawmill. The proximity of the island to Knysna's only deep water wharf clearly stimulated this move. Early photographs indicate that the Thesens probably raised the level of the island besides building an earth sea wall around the perimeter of the mill. The company diversified in later years, producing their own electrical power which was sold to the Municipality. The hard and softwood sawmills and joineries on the island produced a variety of wood products ranging from door frames to quality furniture. During the second world war they were commissioned by the Admiralty to construct vessels for the war effort. After the war they produced pleasure craft (including several famous racing yachts) and fishing vessels in the boatyard on Thesen Island. Plates 1-3 show the development of Thesen Island from 1933 to 1977.

At present the factory and sawmill is no longer owned by the Thesen family but was sold to Barlow's in 1974. The firm continues to operate producing a variety of wood products.

A detailed chronology of historical events on Thesen Island is presented in Appendix A.

3. FINDINGS

3.1 Palaeontology

A characteristic of the geological history of the South African coastline is evidence of a number of periods of marine transgressions and regressions that are linked to fluctuations in the size of the ice sheets enveloping the polar regions of the planet. Successions of massive climatic changes over the millennia have resulted in glacial (commonly known as the ice ages) and interglacial periods that have caused fluctuations in the sea level. During the glacial maximum about 150 000 years ago sea levels were substantially lower than that of today with the result that the Knysna estuary would have been a landlocked river valley. At about 120 000 years ago the sea level rose during an interglacial period to about 6m above the present level with the result that there would have been a deeper and very much enlarged Knysna estuary or bay. Sea levels then dropped again with the advent of the most recent glacial period. Thereafter levels rose after 20 000 years ago to a maximum 2.4 -2.8m above the present sea level between 6000 and 4000 years ago (Marker and Miller 1995).

Recent research by Marker and Miller (1993) and Miller (1995) has focused on the palaeontological manifestations of the latest of the marine transgressions that have affected Knysna estuary. Monitoring of ongoing construction projects in the Knysna village has enabled palaeontologists to make a number of observations. Deposits of shell from a previous shoreline have been located in various parts of the town leading to the conclusion that the mid-Holocene shoreline of the lagoon extended about 400m inland to a point just south of the Main Road. Marker and Miller (1993) have traced this Holocene shell deposit around edges of the lagoon concluding that during the mid-Holocene the sea level was 2m higher than that of today and the wave patterns of the lagoon substantially more energetic.

Bearing in mind the above observations it is quite probable that Thesen Island is a fairly recent sand bar, possibly less than 5000 years old. If Miller (1995) is correct in his assertion that the lagoon was more energetic than it is now, Thesen Island may not have existed. Furthermore, observations of the island during the late 19th century indicate that the land was unusable because of inundation at spring tide. The implication of this is that over the last hundred years the surface of the island has been raised. During the various marine transgressions that have effected this part of the coast, Thesen island, if it existed at all, would have been under several metres of water and therefore unlikely to have been a suitable environment for the accumulation of palaeontological material.

3.2 Archaeology

Broadly, the same factors that have affected the palaeontology of the island would also have influenced settlement of prehistoric people. During periods of marine regression during the Early Stone Age, Middle Stone Age and the earlier part of the Late Stone Age, the lagoon would have been dry and suitable for human occupation. Any archaeological material dating from these times would now be inundated and covered by many metres of silt.

It is unlikely that Thesen Island was occupied by people during the mid-late Holocene as it was probably too wet and at times completely inundated. It quite possible that ancestors of the San and Khoi Khoi did go onto the island at low tide to hunt birds and gather sea food

which they would have transported away to occupation sites on the mainland. Caves with prehistoric archaeological deposits have been recorded locally at the Knysna Heads. Physical examination of the island has not produced any evidence of prehistoric archaeological material.

3.3 Shipwrecks

The maritime archaeologist at the National Monuments Council was consulted to establish if there were any existing records of ships that had been wrecked on Thesen Island. Fifteen ships are recorded as having run aground in the vicinity of Knysna, the majority of these on the open shoreline, Beacon Rocks and the Heads. Two ships were wrecked on “Knysna Bar”, while a third, the Emu was wrecked at “Knysna Harbour” in 1817 (National Monuments Council historic shipwreck database). According to Parkes and Williams (1988) this ship ran aground on Steenbok island, however the term “Knysna harbour” appears to refer to the area in the vicinity of the Yacht Club in the historic records. At present there are no records of ships having grounded on Thesen Island. Nevertheless one cannot preclude the possibility as locational information is often vague and records are incomplete.

3.4 Built environment

For most of this century Thesen Island has existed as an industrial enclave intimately linked with the development of Knysna, yet geographically detached, and therefore not yet encroached on by urbanisation. The development of the island is mirrored by a variety of industrial and associated residential structures. Several of these date back to the earliest period of the island’s commercial history, while others reflect the various ways that the company diversified since its establishment. In general, although the sawmill machinery has undergone an almost continuous process of renewal, demolition of standing buildings has been relatively minimal with the result that a number of interesting industrial buildings have survived. Among these are a power station (complete with machinery), stores, workers’ compound, places of historic significance as well as a number of wood-and-iron staff houses of architectural importance.

Not all these buildings are conservation-worthy but many are protected under the 50 year clause of the National Monuments Act of 1969 (as amended). Included within this study are structures and machinery that are not directly protected by legislation, but are important in terms of rarity and educational significance. The following pages describe features, buildings and machinery that have been identified as conservation-worthy or protected by legislation. Features that are not specifically within the area of the terms of reference, but will be potentially impacted by development activities, have also been identified and described below. Identified structures have been numbered (as per Thesen and Company site plan of 1982) and are indicated on Figure 2. Table 1 contains summary information.

3.4.1 The causeway

This was built by convict labour during the late 19th century at the time of construction of the first wooden jetty on Thesen Island. In later years it serviced the new wharf and the Thesen Island industry to this day. The causeway has been subjected to a variety of uses ranging from railway traffic to vehicles. Redevelopment of the island will probably necessitate upgrading of the causeway, which may result in negative impacts.

3.4.2 The sea wall

Early accounts of the Island indicate that it was a low mud-flat which supported grasses. This became partially flooded at times of spring tide. To render the Island habitable a low earth sea wall was built to prevent inundation. It appears that levels on various parts of the island were also raised to cope with the low water table. The 1933 aerial photograph (Thesens) shows the sea wall clearly. Besides grasses, no trees or other vegetation grew on the island at this time. Raising of levels and construction of the sea wall has created an environment on parts of the island where trees (including indigenous species) have since proliferated.

3.4.3 Thesen Jetty

The concrete jetty (Plate 4) lies on state land on the west side of Thesen Island. Although not part of the proposed redevelopment of the island, changes in use of the wharf will be influenced by activities of the island. The wharf has played a major role in activities related to Thesen industries, Thesen and Company and the Thesen Shipping Line. As such this feature has a strong historical connection with the island and the town of Knysna at large. At present the wharf, which is considered to be a unique concrete structure, poses a conservation problem. As a result of spalling and degeneration of its fabric it is no longer serviceable and can only be used for light duty. Not with standing this many original features of the wharf are still visible. These include railway lines, bollards and structural details. Unfortunately repair of the structure to render it serviceable will be costly.

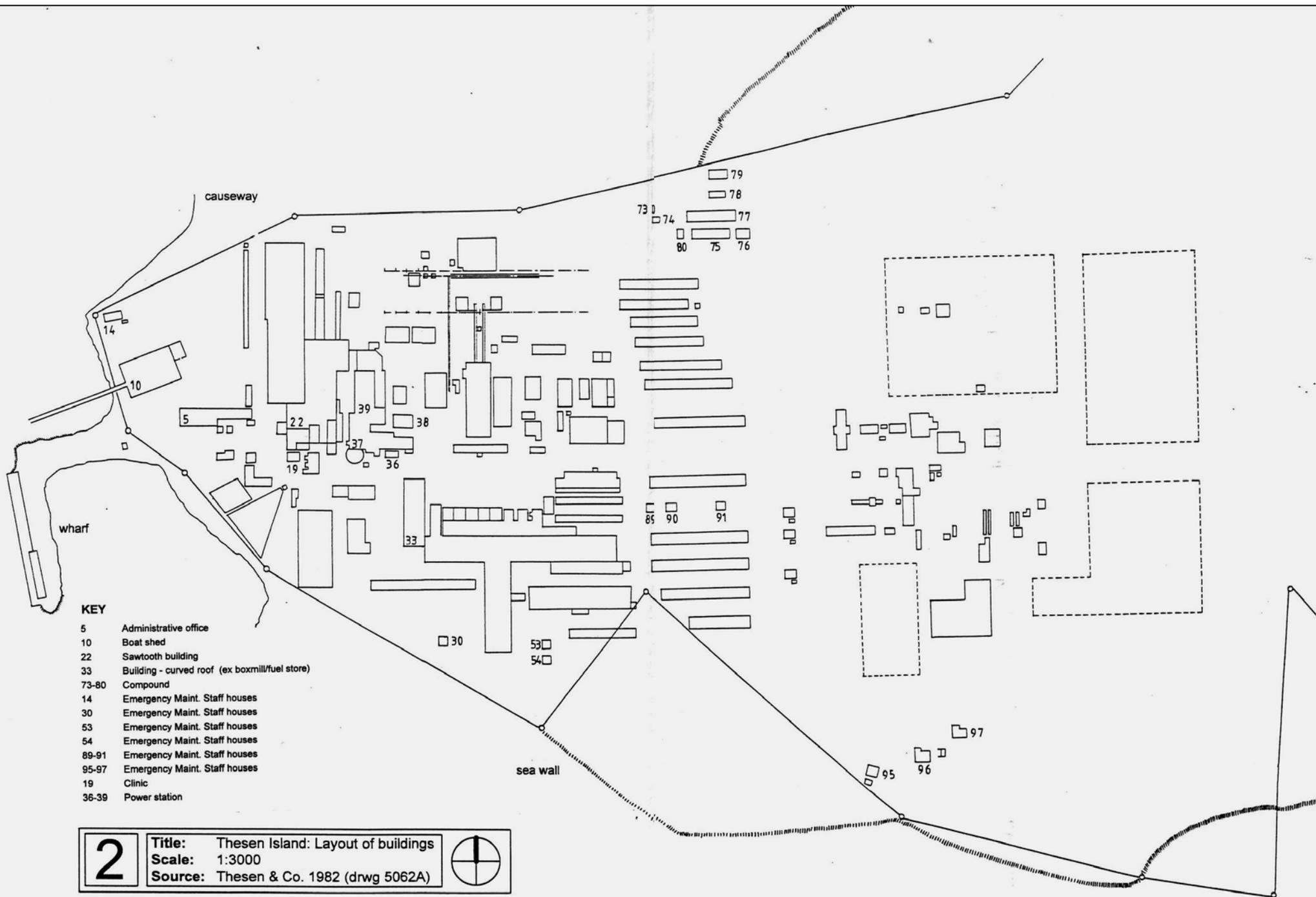
3.4.4 Administrative offices (5)

This building which is the administrative centre of the island, contains architectural features (doors and architrave's) that indicate that aspects of the structure date to the 1920-1930s. The building has been heavily altered to accommodate the changing needs of the company. As a structure it is not of particular conservation merit. It is over 50 years old which means that it is protected by the National Monuments Act.

3.4.5 Boat shed (10)

The existing structure (Plate 5) is not original but is built on the site of the structure that was destroyed by fire in 1966. The original boat shed was built in the 1940's to accommodate the construction of vessels for the war effort including WW2 Fairmile patrol boats and submarine chasers. The boat shed continued to produce vessels after the war. Among these were some of the finest racing yachts ever built in South Africa.

An aerial photograph taken in 1947 (Thesens) shows the wooden boat shed that existed on the site. It is a large wooden structure with a curved roof. Large wooden doors on the west end of the structure opened onto a long slipway that ran into the lagoon. This facility was capable of handling boats of more than 100 foot in length. Aerial photographs taken in 1977 (Thesens) show the second wooden boat house precisely on the site of the first with the slipway still in position. The second boat shed had been built with a low pitched roof, otherwise it is very similar to the original.



KEY

- 5 Administrative office
- 10 Boat shed
- 22 Sawtooth building
- 33 Building - curved roof (ex boxmill/fuel store)
- 73-80 Compound
- 14 Emergency Maint. Staff houses
- 30 Emergency Maint. Staff houses
- 53 Emergency Maint. Staff houses
- 54 Emergency Maint. Staff houses
- 89-91 Emergency Maint. Staff houses
- 95-97 Emergency Maint. Staff houses
- 19 Clinic
- 36-39 Power station

2	<p>Title: Thesen Island: Layout of buildings</p> <p>Scale: 1:3000</p> <p>Source: Thesen & Co. 1982 (drwg 5062A)</p>	
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3.4.6 Sawtooth Building (22)

This structure (Plate 6) currently marked “uniply” on a plan of 1982 was one of the first industrial buildings on the site. It is clearly visible on the aerial photograph of 1933 and probably housed the sawmill. On a plan of 1957 it is described as the “hardwood mill”. The original building was the largest on the island surviving intact until 1977. After this time the structure was substantially altered with demolition of the northern half. The southern half of the structure still exists and is in use. It consists of a mixture of brick and steel frame construction.

3.4.7 Building (33)

This building (Plate 7) is visible on the 1947 aerial photograph (Thesens) is over 50 years old and therefore protected by the National Monuments Act. On the plan of 1957 it is described as the box mill and in 1982 as a fuel store. This elongated building with a curved roof appears to have been built sometime between 1933 and 1947.

3.4.8 Buildings: workers’ compound (73-80)

This complex of structures is indicated on the 1947 aerial photograph of the island. As such the structures are protected by the National Monuments Act. The buildings, which consist of a communal kitchen (containing a series of wood fired hearths), accommodation and ablution blocks, are presently used for storage only. Although the structures are drab and of little architectural merit, their significance lies in the fact that they represent an important period in the country’s social history and a particular architectural style that is rapidly disappearing in the post-apartheid South Africa.

3.4.9 Residential buildings (14, 30, 53, 54, 89-91, 95-97)

The residential buildings (emergency maintenance staff houses) on Thesen Island are among the most picturesque and conservation-worthy structures on the property. Examples of two of these are shown on Plates 8 and 9. Most are well over 50 years old while several are visible on the 1933 aerial photograph (Thesens). Building fabric varies between brick, wood and iron, and wood. Most have wooden casement windows and large brick hearths and chimneys. Many buildings such as these have been thoughtlessly demolished with the result that this distinctive architectural style which used to be very characteristic of the Knysna-George area is becoming increasingly rare. The Thesen Island examples are well maintained and in many instances not modified by renovation or alteration.

3.4.10 Clinic (19)

This building (Plate 10) which is visible on the aerial photograph of 1933 is thought to be the first power station on the island which powered the sawmill machinery. It has undergone extensive changes to its interior and now functions as the clinic.

3.4.11 Power station, boiler and fuel buildings, cooling pond (36-39)

This complex of buildings and the machinery contained within is without doubt, the gem of Thesen Island.

The power station (Plate 11) is no longer operating but is well maintained and the machinery is in working order. Three boilers are still under steam providing steam pressure for wood treatment and plywood operations. The building together with its machinery is the finest industrial structure on the Island, if not in the region. Comment as to its conservation status was sought from overseas organisations via work groups on the World Wide Web.

What is evident is that the power station was not built as a single event but has evolved according to the varying needs of the company over time. It is known that some of the machinery was replaced in the past with the result the plant that exists today is a fascinating mixture of technology from a variety of different ages, differing mechanical principles and makes. A feature (shared by other industries in the area) is that the plant is fuelled by wood waste.

3.4.11.1 Buildings

These structures have been built in phases along with changes to machinery that have been installed within. The fabric consists of mostly brick with concrete reinforcing in places. There are a variety of window styles ranging from sash, semi-circular, casement and skylights. Most are wood framed. The interior consists of a main turbine hall with a steel mezzanine deck (Plate 12). There is a further smaller turbine room (also bi-level) and an adjoining boiler house containing one boiler.

Further boiler houses consisting of steel framed clad structures are located on the exterior of the boiler house but are attached to form a common stoking area.

Adjacent to the boilers is the fuel building where wood waste is stored and mechanically fed to the boilers.

3.4.11.2 Machinery

Boilers: The 5 existing boilers are of the water-tube variety built at the Glasgow plant of the famous American firm Babcock and Wilcox. Each boiler is mechanically stoked with wood-waste fed by conveyor belts from the adjacent fuel store. Combustion is assisted by induced draft.

The boilers vary in age, the oldest being built in 1905 and the youngest in 1952. Clearly, some of the machinery in the Power Station was second-hand at its time of installation. The archives of the Babcock and Wilcox Company are stored at the University of Glasgow. It is possible to trace the history of each boiler by its registration number on payment of a search fee to Glasgow University. Boilers such as these in operating condition are rare, both in South Africa and throughout the world. Cape Town's oldest known Babcock and Wilcox boiler was scrapped in 1996 (Worth pers comm). A more recent example (which is to be conserved) is still in operation at the AECl plant in Somerset West (Halkett and Hart 1996).

Electricity generation: The boilers provide steam pressure to power 5 turbines and other smaller auxiliary equipment. The three most recently installed turbo-generators (Plate 13) were built by the Swedish firm, STAL (previously De Laval and Ljungstrom). The turbines are uniquely small producing between 1000-2000 kW each. There are two older turbines (1920-1930) of 2000 KW. One of these was manufactured by David Brown and Company geared to a General Electric alternator (1925) and the other, by Bellis and Morcom of Birmingham (generator removed). The turbines together with their instrumentation are accessed from the upper steel deck. Each turbine is equipped with an exhaust steam condenser which is accessed from the ground floor. Also on the ground floor is a 500 KW V16 diesel generator, an array of switch gear of differing ages, pipes, feed pumps and other auxiliary equipment.

Auxiliary equipment: The main boilers and turbines require copious quantities of support machinery which cannot be fully documented in this general report. These include lubrication pumps, boiler feed pumps, blowers etc. Among these is at least one very old steam reciprocating feed pump (Plate 14) as well as two small turbines powering generators and pumps (Plate 15). In the main turbine hall is an overhead gantry that is probably Victorian in origin.

3.4.11.3 The power station - conservation issues

Both statutory conservation bodies and large industry in South Africa have an extremely poor record in terms of the conservation of the country's industrial heritage. This contrasts sharply with most developed countries, many of which have long traditions of conservation of technology because of its high educational potential. This is achieved through museums of science and technology, *in situ* conservation of industrial artefacts as well as "live demonstrations" run by enthusiasts. An investigation conducted for this project has revealed that major power companies in the United States employ full time industrial archaeologists whose jobs are to assess power stations for their historic value. Throughout the US, Britain, Europe and Australia there are museums that contain examples of steam technology in operating condition where voluntary enthusiasts are responsible for firing up the boilers and demonstrating the different types of technology at work. In this way people can learn first hand about basic key concepts such as heat energy at work and generation of electricity.

Since most towns and industry in South Africa are attached to the national power grid, very few small regional power stations have survived. There are a several stand-by facilities operated by some of the larger mining companies but very few of these are operational. It is acknowledged that there are severe practical constraints in the conservation of large power stations (such as those maintained by Eskom or the major city councils) due to the size and maintenance costs of the machinery and buildings. The Thesen Island facility is very small yet it nevertheless demonstrates all the principles of steam powered electricity generation to be found in power stations many times its size. It thus presents an outstanding educational opportunity. In a country such as South Africa where there are few adequate museums of science and technology and where the population is technologically ill-educated, the loss of a conservation opportunity such as this cannot be mitigated.

3.4.12 Sawmill

Members of the ACO did not inspect sawmill machinery as some of the production techniques used by the firm are confidential. According to informants on Thesen Island the sawmill machinery has been subject to modernisation and renewal. Redundant equipment

has been scrapped. There is probably little remaining that is of conservation value in terms of age or rarity.

FEATURE	VALUE	IMPACT WITHOUT MITIGATION	IMPACT WITH MITIGATION	ACTION
Causeway	High	Negative high	Positive high	Sensitive re-adaptation
Sea wall	Low	Negative low	Positive low	Optional
Wharf	High	Positive high	Positive high	Conserve/consult NMC
Admin office(5)	Low	Negative low	Positive low	Optional/consult NMC
Boat shed (10)	Medium	Negative low	Positive medium	Optional/re-adaptation
Building (22)	Medium	Negative medium	Positive high	Re-adaptation/consult NMC
Building (33)	Medium	Negative medium	Positive high	Re-adaptation/consult NMC
Buildings (73-80)	Medium	Negative medium	Positive high	Record/consult with NMC
Residential (14, 30, 53, 54, 89-91 95-97)	High	Negative high	Positive high	Conserve/move/consult NMC
Building (19)	Medium	Negative medium	Positive high	Re-adaptation/consult NMC
Power station (39-36)	High	Negative high	Positive high	Conserve/museum/re-adaptation/consult NMC
Sawmills	Low	Negative low	Positive medium	Optional

TABLE 1: Summary information indicating identified features, values and potential impacts.

4. CONCLUSION

Despite being little more than a mud-flat in the Knysna Lagoon, Thesen Island has played a central role in the development of the town since the last century. This has been mainly due to the fact that the island is located close to a deep water channel that could be navigated by relatively large vessels. The wharf that was built here was Knysna's gateway to the outside world used for import, export and passenger services. Later, the Thesen family established their timber industry on the island thus securing themselves direct access to both the wharf and the railhead. These events have left the island with a rich industrial legacy including residential and industrial buildings including a wood waste fired power station.

Re-development of Thesen Island can have both positive and negative impacts on heritage resources depending on the style of future developments. Negative implications are the demolition of a number of interesting residential structures, industrial buildings and machinery. Mitigation and positive impacts can be achieved through creation of a good archive of photographic and documentary information, re-use of structures for educational and tourism purposes. In the case of the power station, demolition and scrapping of this structure and the unique machinery within cannot be adequately mitigated as this represents an excellent educational and tourism opportunity.

The use of sensitive architectural styles, adaptive re-uses and careful planning will create positive impacts on existing structures. Furthermore the development will benefit by a sense of history (this has proved to be a successful device used in a partial sense in the Victoria and Alfred Waterfront). Conservation of the power station, if handled correctly will be an enormous educational asset. From the tourism point of view, this will compliment Knysna's already established steam locomotive route which attracts enthusiasts from around the world.

5. RECOMMENDATIONS

5.1 Key recommendations

- Demolition or alteration of any structure over 50 years old may be carried out with a permit from the National Monuments Council. It is suggested that consultation with the National Monuments Council should take place from the earliest planning stages of any new development.
- An industrial archaeologist should be brought on board to mitigate any changes made to the power station, or advise on the best possible way that it can be converted into a meaningful museum or tourism facility.
- An established conservation architect and/or industrial archaeologist should be contracted to record any significant structures that may be demolished, curate documentation and compile an archive.
- No negative impacts on archaeological or palaeontological material have been identified. A number of known shipwrecks have been recorded in Knysna Lagoon but as yet, none have been identified on Thesen Island. It is possible that dredging or excavating may expose previously unknown material. If this happens the maritime archaeologist at the National Monuments Council should be contacted immediately.

5.2 Specific recommendations

5.2.1 The causeway

- While it is accepted that maintenance and renewal of aspects of the causeway will have to take place in the future, it is suggested that changes should be kept to a minimum.
- The National Monuments Council should be consulted in terms of any future planning.

5.2.2 The sea wall

- The sea wall is one of the oldest structures on Thesen Island and is protected in terms of the National Monuments Act.

- It is not considered to be a conservation priority on account of its rudimentary construction. Mitigation of development impacts can be achieved by documentation and photography. Any alteration must be approved by the National Monuments Council.

5.2.3 Thesen Jetty

- Planners should be aware that re-development of Thesen Island will have an impact on the jetty in the long term as demands on its use will change.

- Until such time that funds become available for its restoration, the wharf will need to be treated with care.

- Future development of the feature should be done in conjunction with the National Monuments Council.

- Where possible, the historical significance of the structure should be acknowledged in any redevelopment.

5.2.4 Administrative building (4)

1. If demolition of this structure is envisaged, a permit will have to be obtained from the National Monuments Council for this purpose.

5.2.5 The boat shed (10)

- The existing boat shed is not protected by any legislation because it is less than 50 years old.

- It is a significant structure because it successfully preserves the sense of history of the maritime aspect of the island and on a broader scale, the town.

- In redevelopment of this area, it is suggested that the maritime heritage be acknowledged in the form of a small display or signage.

5.2.6 Sawtooth building (22)

- A lack of conservation ethic in South Africa with respect to Industrial structures has resulted in the loss of many buildings, often demolished without any form of record. Consequently buildings such as this are becoming scarce. The most desirable option is adaptive re-use of the structure.

- If conservation is not possible, a good structural description and photographic record of the structure should be made.

- The building is over 50 years old and therefore falls within the jurisdiction of the National Monuments Act.

5.2.7 Building (33)

- Adaptive re-use of the structure is favoured. However, should the National Monuments Council grant a permit for its demolition, the structure should be recorded and photographed.

5.2.8 Workers compound (73-80)

- These structures are not conservation-worthy on architectural merit.
- Mitigation of the loss of social history could be carried forward with a careful photographic survey and documentation of the structures before they are gutted or demolished. The resulting material, which would be of potential interest to architectural historians and sociologists, could make up part of a museum display or be included in the Thesen collection at the Cape Archives.

5.2.9 Residential buildings (14, 30, 53 ,54, 89-91, 95-97)

- Conservation of the residential structures is encouraged. Furthermore it is recommended that further residential development on the Island is sympathetic to the existing architectural trends.
- The buildings may not be demolished or altered without a permit from the National Monuments Council.
- It is recommended that negotiations as to the future of the residential buildings include representatives of the National Monuments Council from the earliest planning stages.

5.2.10 Clinic (19)

- Adaptive re-use is encouraged, however, if demolition is envisaged a permit must be obtained from the National Monuments Council.

5.2.11 Power station and equipment/machinery (36-39)

- Every effort should be made to find ways to conserve the power station in total working order as a museum.
- A qualified industrial archaeologist should be appointed to oversee the establishment of a museum.
- Failing total conservation, should any portion of the power station be demolished, an industrial archaeologist should be appointed to document and photograph machinery and curate any related material ranging from instrumentation to operating manuals. Every attempt should be made to find suitable homes for machinery other than scrapping it - preferably on the island or in Knysna or a suitable museum.

- Any photographs, documents, operating manuals, plans or written procedures should not be disposed of but collected for archiving. It is also important that fittings (valves, gauges, manufacturers' plaques) that could be subject to unauthorised collection as souvenirs, are also safe-guarded for use as future museum material.

- The Power Station building is protected by the National Monuments Act while the machinery contained within is not. The National Monuments Council can however, declare any building a National Monument or any object a cultural treasure if it deems this necessary.

5.2.12 Sawmill

- The Knysna forest and the timber industry is central to the history of the area. If a museum is to be established, this aspect of the history of the Island should be reflected through display of items of machinery, signage.

6. CONSULTANTS

Fieldwork and report

Dave Halkett & Tim Hart

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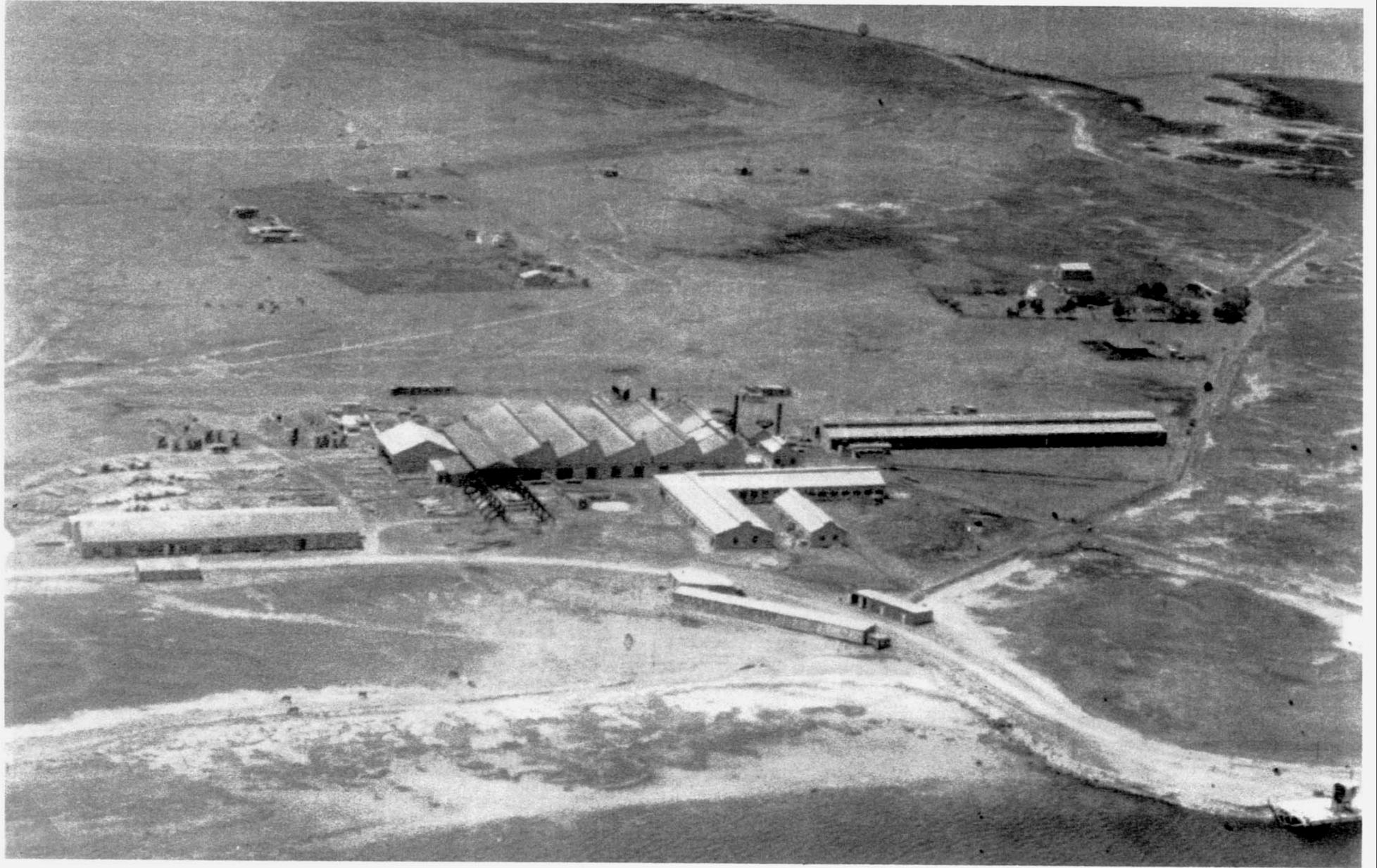


Plate 1: The Thesen sawmill in 1933. (Details from photographs, Thesen & Co.)

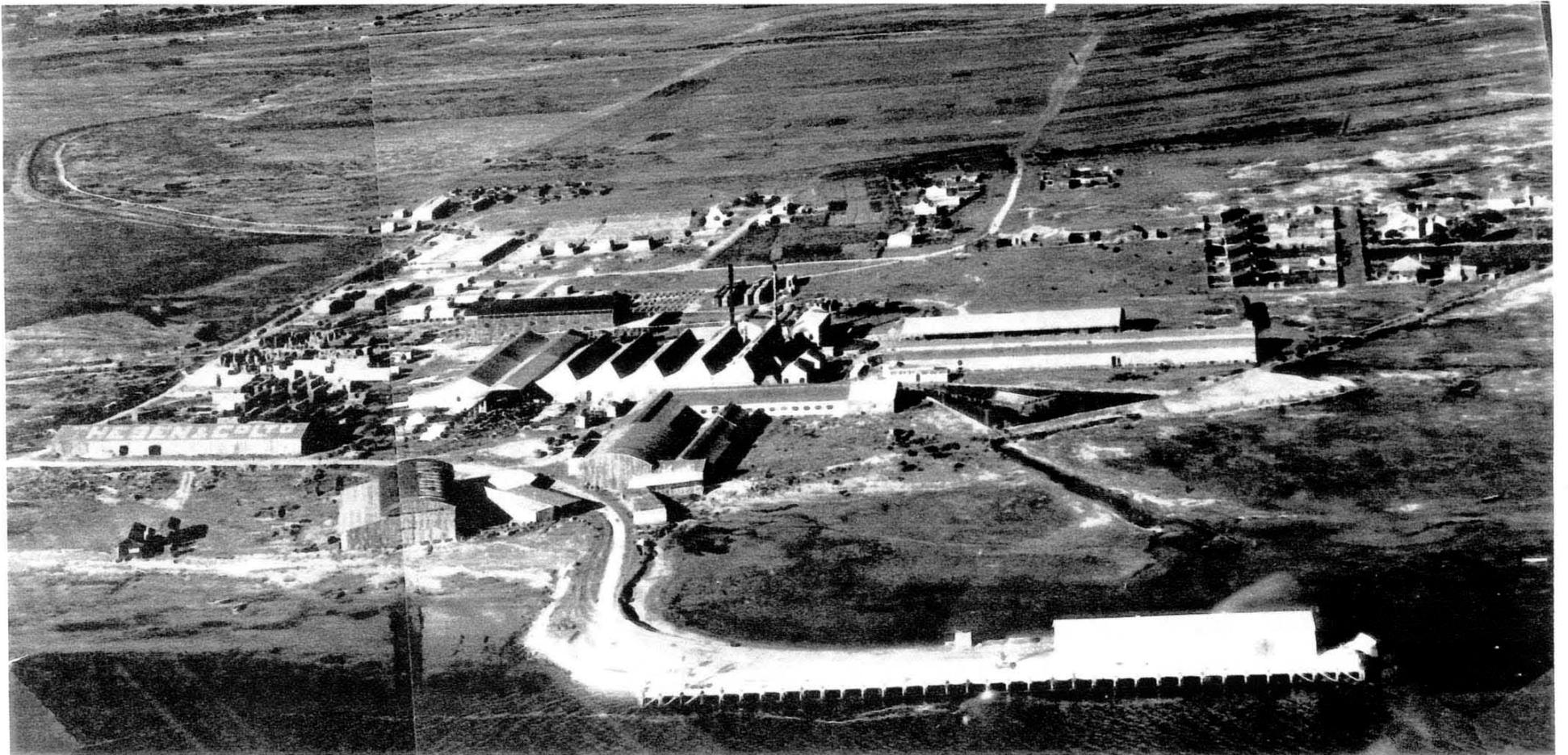


Plate 2: The Thesen sawmill in 1947. (Details from photographs, Thesen & Co.)



Plate 3: The Thesen sawmill in 1977. (Details from photographs, Thesen & Co.)



PLATE 4: The concrete wharf

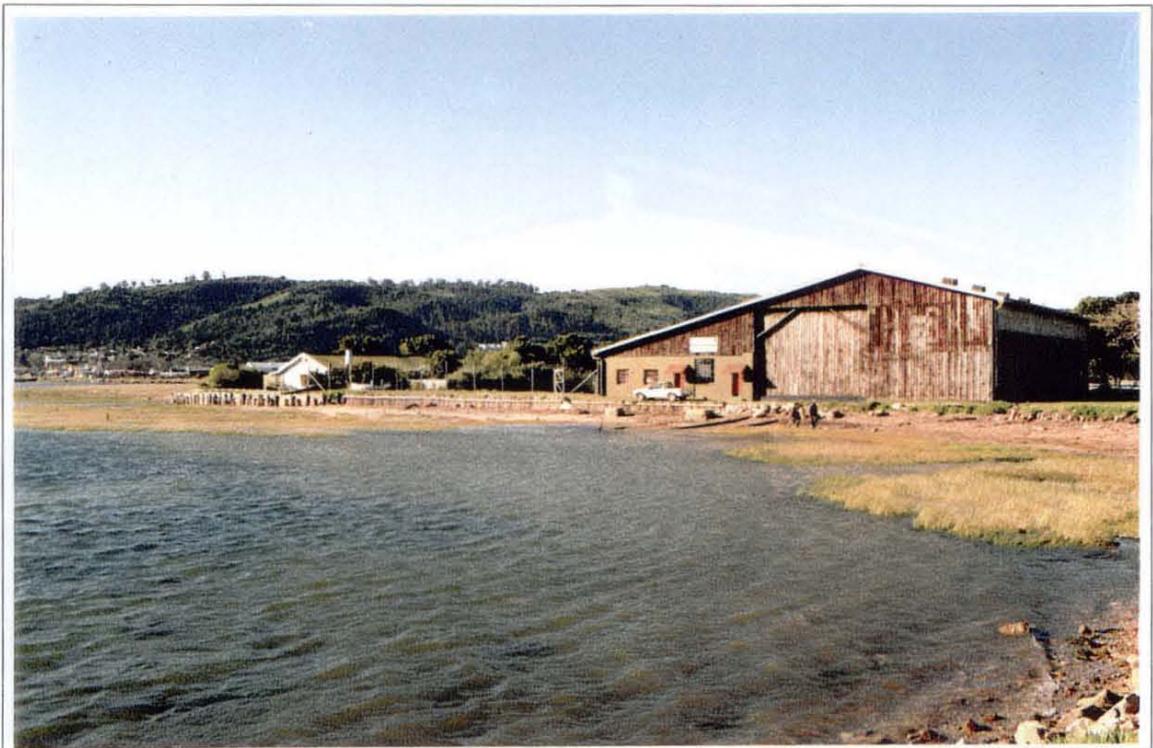


PLATE 5: The boat shed (10).

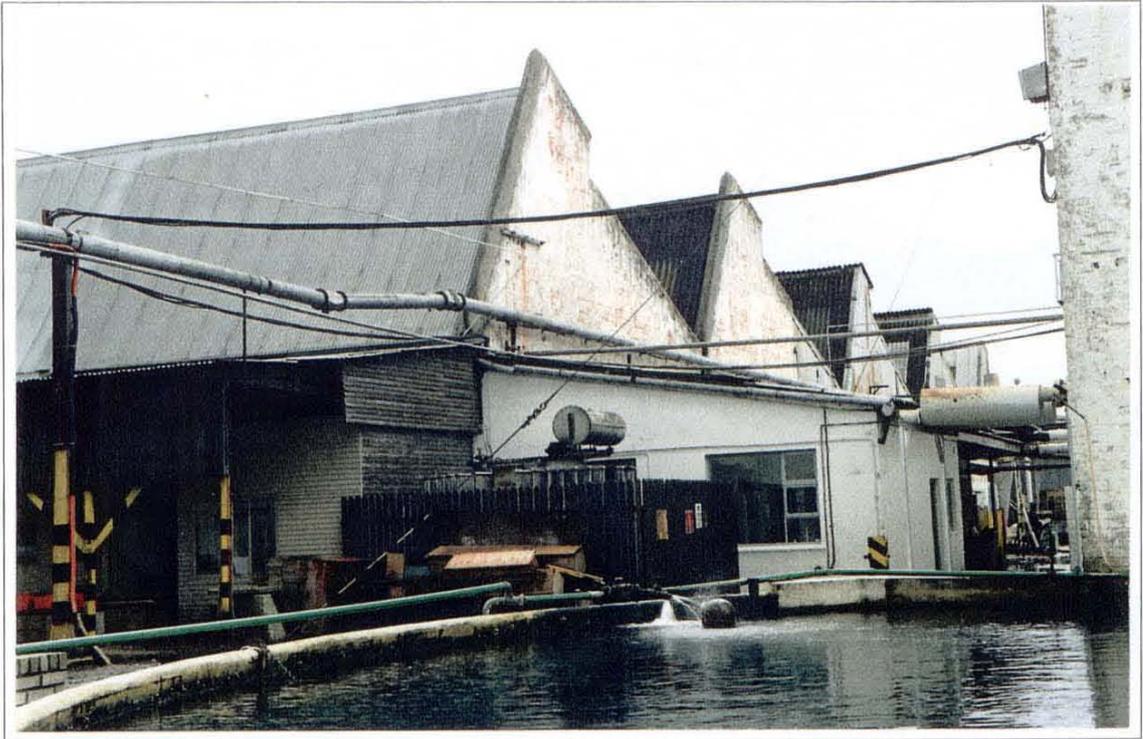


PLATE 6: The sawtooth building (22)

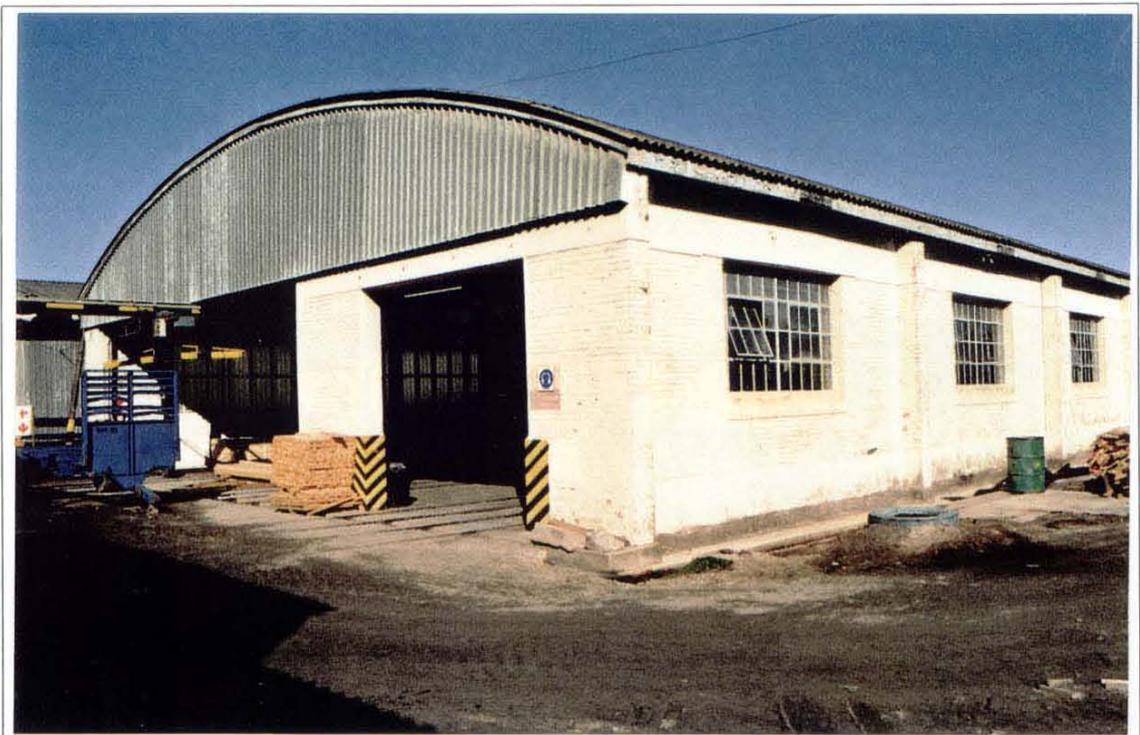


PLATE 7: Building (33).



PLATE 8: Residential building



PLATE 9: Residential building



PLATE 10: The clinic (19)



PLATE 11: The power station (36-39)



PLATE 12: The turbine hall (interior)



PLATE 13: The turbine hall with 3 main turbines (De Laval and Ljungstrom)

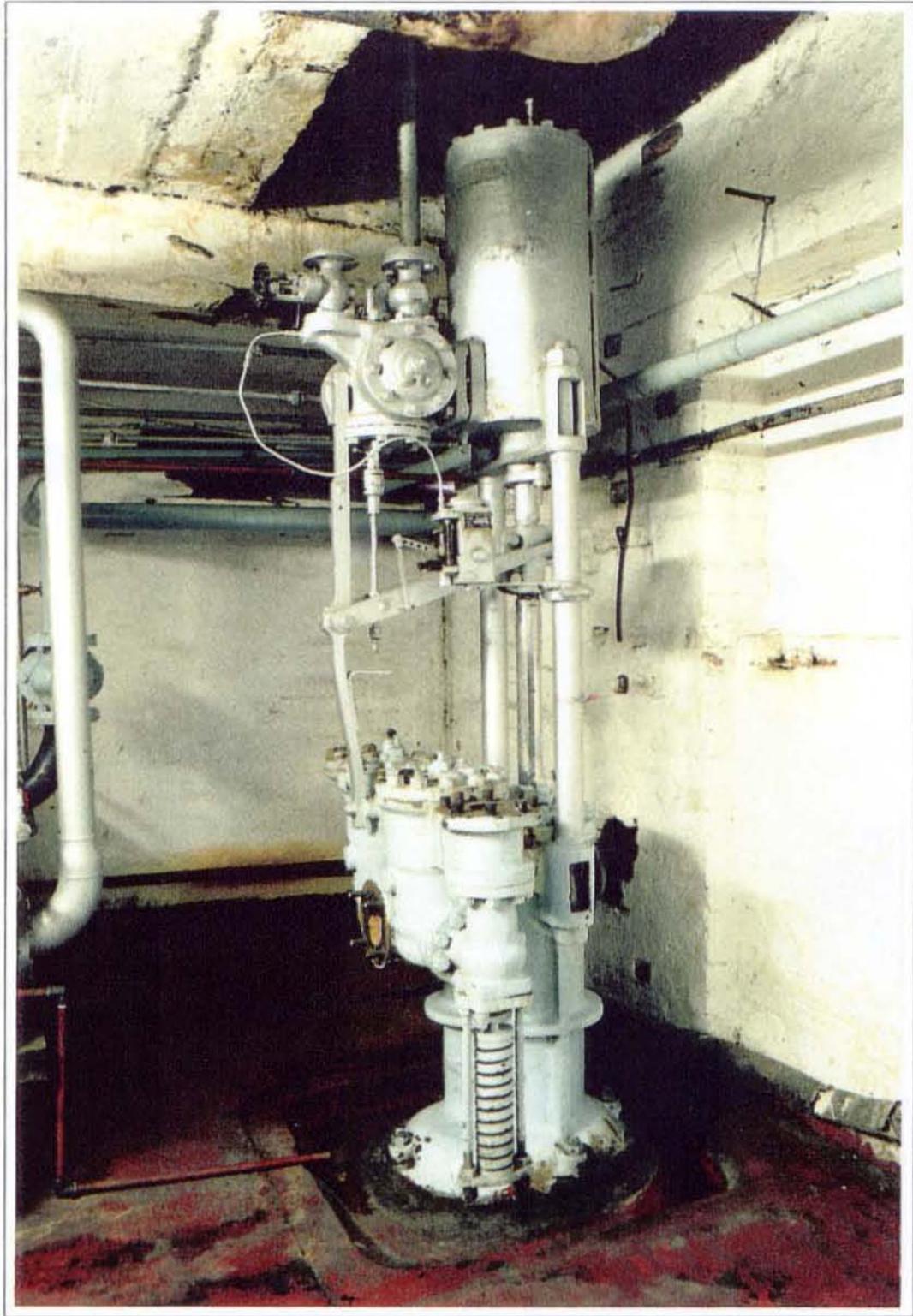


PLATE 14: Auxillary machinery, reciprocating steam pump



PLATE 15: Auxillary machinery, small steam turbine powered pump

APPENDIX A: DETAILED CHRONOLOGY

The historical material presented in the following pages has been obtained from three sources. These include information obtained from interviews with people closely associated with the area and secondary published sources of information and examination of primary information housed at the Cape Archives in Cape Town. The information that we have collected is by no means complete as documents have been lost or accidentally destroyed. A large amount of material is housed at the Cape Archives but it is not yet in an accessioned state suitable for public use. The Archives kindly gave us permission to examine the considerable quantity of material in their possession with the result that we have been able to construct a sequence of key events in the island's history. These are presented below in chronological order.

Chronology

1804 Thesen Island, historically referred to as Paarden Island, first appears in the archival record as part of the loan farm, Melkhoutkraal, granted to George Rex in 1804 (Storrar 1974).

1816 The island is included in the Surveyor's diagram (SG 252/1816) of 1816 when the farm was converted from loan farm to perpetual quitrent (George Quitrent 1-37). The island was mainly used for grazing. George Rex (the younger) derived an income off the island by issuing grazing licences to the inhabitants of Knysna to graze their cattle there. He also sold the rushes that grew on the foreshore and the drift wood which was carried down by the stream from the Knysna River (LND 1/146 L1751).

1817 George Rex promoted the merits of the Knysna River as a port after the *Podargus* was sent from Simon's Town to rescue the crew of the ship *Emu*, which was wrecked on Steenbok island (Parkes and Williams 1988).

1821 A small naval settlement was established at Melville on the mainland. A foreman, three shipwrights and 10 labourers were sent from Simon's Town to build a slipway, erect buildings and lay down the keel for the first brig to be built. A series of fires destroyed the ship building enterprise and the navy withdrew after three years.

1826 George Rex began building the *Knysna*, a 139 ton trading brig which made its maiden voyage to Cape Town in 1831.

1839 George Rex died of smallpox and his son took over the estate. Paarden Island, part of the farm Melkhoutkraal, was owned by the Rex family at this time.

1867 A Jetty was built on the mainland and managed by the Knysna Landing and Shipping Company, which later became the Knysna Wharf company (Rosenthal 1970). Cargo was loaded or unloaded by smaller boats and rafts running between the ship and the shore. If the cargo was too large, the ships were simply run ashore at high tide and off-loaded onto ox-wagons pulled up alongside (Parkes 1988:126). The jetty was still in use by the Knysna Yacht Club in 1930 (Knysna Timber Industry *not dated*).

1870 The Thesen family arrived in Knysna on the ship *Albatross*.

The Thesens were originally from Norway. The Norwegian firm, A.L. Thesen and Company, run by two brothers Frederick Wilhelm Thesen and Arnt Leonard Thesen folded during the Depression of 1868. Together with another brother, Mathias Thesen and his son Hans, Arnt

Leonard bought the ship *Albatross* out of the insolvent estate of the firm and sailed with their families, first to England (to pick up Ragnvald -sailor by trade) and then to Cape Town. En route from Cape Town to New Zealand, the ship ran into trouble and they were obliged to return to Cape Town. In order to earn some cash the brothers agreed to charter cargo from Cape Town up the coast to Knysna and back. The *Albatross* sailed up the lagoon and landed at wooden jetty of Knysna Wharf Company (situated on the mainland - Melville's side). The family saw Knysna as a place of opportunity and decided to settle.

Arnt Leonard set up shop in Knysna in 1870 - trading in food, hardware, and general commodities as well as timber transport and sales. This marked the start of Thesen and Company.

1875 The first powered mill was brought to Knysna. This consisted of a steam mill for sawing timber and milling (imported by Mr William Lloyd). A 16 horse power Ransomes Portable Engine and Boiler combined, powered a saw which could take up to 18 inch diameter logs, a saw bench, as well as a corn mill with 36 inch French Burr stones.

1876 Thesen and Company owned 12 shares in the Knysna Shipping and Landing Company and were involved in shipping timber to local south African ports after the government forest was opened.

1880 The steam mill was sold to the Knysna Steam Sawmill Company which was registered on the 17th of May 1880. Share certificates were issued to PC Meterlerkamp, Hjalmar Thesen, G Cruikshanks and CW Thesen as secretary (Knysna Timber Industry *not dated*).

1883 A new wharf was proposed to be built on the south-western side of Paarden Island - mainly for the shipping of sleepers (The result of a contract between the Minister of Public Works and Messrs Fox, Dunn and Co to supply the Department of Railways with yellowwood sleepers.) In addition to a causeway linking the wharf to the village, a road was to be built through the forest to the Fox, Dunn and Company Sawmill (Parkes 1988; 128). There was an 8 year long dispute between George Rex (the younger) and the Government regarding the site of the proposed new jetty. Mr Rex maintained that he owned the whole of the island and had been managing it as such for over two generations. He claimed he was eligible for compensation for the loss of revenue that the Government's interference on his land had afforded him. A survey of the island took place and it came to the fore that the portion of land that the Government had pinpointed for the new jetty was in fact outside of the surveyed boundaries of the island and that Rex was not eligible for compensation. Furthermore the land originated as quitrent and as such the Government reserved the right to acquire land to build roads free of charge (LND 1/416 L1751). George Rex did offer to sell the island to the Government for the sum of £50, but his offer was declined (LND 1/416 L7151).

1883 The new wharf which was built of timber piles involved use of convict labour. The rubble and stone which was used to build the causeway to the jetty came from a nearby quarry. The wharf was completed in 1883 and later leased to Thesens. It extended from Paarden Island out into the stream in a westerly direction for 87½ feet.

The *George and Knysna Herald* reported "At the last spring tide the decking of the new structure was just 30 inches above water". According to Parkes (1988) the wharf was plagued by structural problems and required constant repairs. There were several complaints regarding the causeway, mainly related to the opening being too small to allow the water through resulting in the silting up of the lagoon.

After the Wharf on Paarden Island was completed ships of both the Union and Castle Lines berthed at Knysna on weekly basis. The Union Company Steamers *African*, *Norseman*, *Saxon* and of the Castle Line *Dunkeld*, *Courland*, *Florence*, *Melrose*, *Venice* called at the Port of Knysna for a number of years (Mrs Hart - unpublished notes).

1888 The Thesens timber industry proved very successful and they opened a branch in Cape Town. This involved a timber yard in Woodstock and offices in Strand Street (*Die Burger* 30 May 1931).

1889: February - The Knysna sawmill was destroyed by fire.

1891 The jetty underwent certain improvements; in 1891 the wooden buoys were replaced by three iron ones and in 1892 a travelling crane was erected at the tram terminus near the customs house. In 1888 a lease was inaugurated for the rights of working the wharf. The lease which was advertised each year was held consistently by Messrs Thesen and Company (Parkes 1988 129-30).

1892 When the wharf on Paarden Island was completed, Knysna received regular calls from the Union and Castle Lines. Thesens also acted as agents for these two lines. When the Union and Castle Lines decided to terminate their services to Knysna in 1892, the Thesens struck out on their own and started the Thesen Line.

1895 Thesens purchased the steamship *Agnar* in Norway. This was later supplemented with the *SS Ingerid*, *Karatara*, *Outeniqua*, *Namaqua*, *Clara Zambezia*, *Nautilus* all sailing with the Thesen White Star house flag. The Thesen Line was equipped to carry passengers between Cape Town, Mossel Bay, Knysna and Port Elizabeth and East London (Rosenthal n.d. A2605)

1897 George Rex and Charles Wilhelm Thesen held joint ownership of Paarden Island (TD 3251 24 April 1897).

1899 The South African War disrupted the timber industry. Wood cutting and the sawmill came to a temporary halt. However, the shipping line played an important role ferrying troops and moving supplies. The company also freighted supplies to Swakopmund during the Herero War and imported cattle from Madagascar. They participated in the whaling industry and had interests in the whaling station at Beacon Island (Rosenthal E, undated).

1904 Thesen and Company decided to build a railway through the Knysna forest - securing transport for their timber producing competitors. The South Western Railway Company Ltd began its career in 1904 and the 22 mile line came into use in 1907. In 1930 this line was taken over by the SA Railways and was finally replaced by road transport during WW2. Thesens was also involved in flour milling in Paarl as well as the motor trade (Rosenthal E, undated).

The last erf in the estate of G. Rex was transferred to Charles W Thesen (SG T2640 1904).

1910 The wharf came under the jurisdiction of the Department of Railways and Harbours. From 1911 the South Western Railway train under agreement with the new administration would handle all the landing and shipping of the cargo on the wharf. HW Thesen of Thesen and Company Ltd was the chairman of the South-Western Railway.

1911 The construction of a concrete wharf (popularly known as Thesen Jetty) was authorised to replace the worm-eaten wooden one. According to Parkes (1988:132) only three reinforced concrete wharfs were built in South Africa, the first being at Robben Island, the "White Jetty" at Mossel Bay and the Knysna wharf. She maintains that the Knysna wharf is the only one of this type remaining on the continent (Parkes 1988:132).

1920 The Island only started being "industrialised" in the 1920's (Parkes pers comm) with the re-erection of the sawmill of Thesen & Co which was originally situated at Brackenhill. Among the Thesen papers at the Cape Archives is a letter referring to the power station: The power station generated 13300 KW of power per day for the use of the Industry as well as an additional 23 000 KW per day which supplied the municipality of Knysna (A2605). According to M. Parkes (pers comm) at first this was not located on the island but situated in premises next to the Thesen and Company Offices in Knysna.

1921 The Thesen Steam Ship Company was disbanded after the end of WW1. The fleet was sold to the Houston Line later being incorporated into Unicorn Shipping which exists today (Rosenthal, E. undated).

1925 Thesen and Company purchased the *Sherard Osbourne*, a converted cable ship designed to work as a fishmeal factory ship on the west coast. This enterprise failed, partly due to the ships ruinous fuel consumption of forty tons of coal a day (Rosenthal, E., Undated).

1930 "As a South African concern Thesen and company Ltd give employment to more than 1000 white employees" (*Die Burger* May 1931).

1931 In 1931 the timber side of the Thesen industry amalgamated with 2 other firms and became Arderne, Scott and Thesen Ltd (*Die Burger* 30 May 1931). An article in *Die Burger*, dated 29 October 1930, described Thesen and Company Ltd as being nearly synonymous with the Knysna timber industry. They were involved in supplying wood all across the country. They manufactured everything from wagons, tool handles and stinkwood furniture, as well as a more recent (in 1930) interest in boat building. The Woodstock factory is described as making "everything from door frames to pulpits".

1933 The industrialisation of the island was well underway. The "sawtooth" building housing the hard wood mill was complete along with a small power station, stores, some residential structures, workshops and a small pole yard.

1930-1940 Thesens had interest in the whaling industry preparing whale catchers for the expeditions to the sub-Antarctic (*Die Burger* 30 May 1931). Buildings marked Vacuum Oil Company (?Texaco) are visible on the 1933 photograph (Thesens). These structures, which are very close to wharf probably relate to the storage of whale oil off-loaded from the whale catchers.

The Island supported a dairy, although it is not known when this dairy came into operation, certainly the island was being used for grazing in 1880's (LND 1/416 L1751) and by the 1930's the dairy on Paarden Island was in full operation. Grazing cattle are visible on the 1933 photograph. The Dairy was owned by Eric Thesen and was known as the Island Dairy (ID MILK). The cows were milked by hand and the milk was bottled and sold to the inhabitants of Knysna.

1940 The dairy was moved off the Island in the 1940's. In 1942 the RAF were training in George and the Island was to be used as an emergency landing strip. The dairy's name was changed when it left the island to Charlesford Dairy. (Devonish pers comm). Mrs Devonish doesn't remember whether the original dairy building is still standing.

The Thesens had been building boats as a side line at Brackenhill and later at Paarden Island (Parkes 1988:74) throughout their existence. With the start of WW2 Thesen and Company were commissioned by the Admiralty to build 640 vessels to aid in the war effort. This involved different types of wooden craft, the most important being the 112'B class Fairmile patrol boats or submarine chasers, which were made entirely of wood from West Africa and Burmese Teak (Parkes 1988:75).

The first big undertakings at the boatyard included the construction of a boat building shed and a slipway (For more details see Parkes 1988:75-77).

1945 After the War, there was a reduction in the boat building activities and Thesen and Company concentrated mainly on producing pleasure boats and fishing vessels (Parkes 1988:77).

1957 Thesens made moves towards setting up a softwood sawmill in addition that which was already on the island. Plans for this exist among the unaccessioned material in the Cape Archives.

1966 A devastating fire destroyed much of the boatyard on Thesen Island including the boat building sheds, crafts under construction as well as much of the machinery. In addition, valuable documents including plans stored in the drafting office were destroyed.

1967 Thesens boatyard produced the *Voortrekker* which entered the 1968 Single-handed transatlantic race and ended second. It was purchased by the SA Navy and entered the 2nd and 3rd Cape-to-Rio races as well as the 1983 BOC solo around-the-world-yacht race (Parkes 1988)

1971 In celebration of the centenary of the Thesen Company it was decided to build a yacht to enter the Cape-to-Rio yacht race of 1971. The yacht was named the *Albatross II*, after the original schooner which brought the Thesens to South Africa from Norway (Parkes 1988). *Albatross II* won the Cape-to-Rio Race on position as well as handicap.

1974 Thesen Island is purchased by the Barlows Group of Companies.

1998 The softwood sawmill and plywood manufacturing on the island continue to operate. The power station is no longer operating but is on standby status. The boat building enterprise and manufacturing industry has been discontinued.

HISTORY OF LAND TRANSFERS, THESEN ISLAND, KNYSNA

Erf no's: 1394, 1395, 1396, 1397, 1398

Paarde Island originally part of the loan farm Melkhoutkraal (erf 212) granted in 1816 (George Q 1-37 dated 30/11/1816)

TD	DATE	Name	ERF	SG Diag	EXTENT	FROM	TO
GQ 1-37	30/11/1816	Melkhoutkraal incl. Paarden island	212	sg 252/1816	2 948 morgen	Government	George Rex
Td 49	4/11/1885	portion of subd. Melkhoutkraal - lot B being Paarden Island	2064	sg 465/1885	854 morgen 570 Sq R		George Rex

ERF 1394 Formerly Hunters home and Paarden Island

Knysna Q vol 7 -36	7/8/1896			930/1896	835 morgen 278 Sq R	J Gevault	George Rex
Td 3249	24/4/1897	Hunters Home	}		738 morgen	George Rex	William Gibbon 1/2
Td 3250	24/4/1897	Hunters Home	}		= 559 Sq R	George Rex	Thomas G A Horn 1/2
Td 3251	24/4/1897	Paarden Island	1394		96 morgen 319 Sq f	George Rex	Charles Wilhelm Thesen

ERF 1395 45 morgen 442 Sq R formerly lot 8 ptn of Paarden Island

Td 2640	8/3/1904	1395	ex 1394	1184/1903	45 morgen 442 Sq R	Est Late G Rex	Charles W These
Td 11577	28/12/1906	1			45 morgen 442 Sq R	CW Thesen	Niels Peter Thesen 1/3
Td 11578	28/12/1906	1			45 morgen 442 Sq R	CW Thesen	Hjalmar These 1/3
Td 11579	28/12/1906	1-3			45 morgen 442 Sq R	CW Thesen	Thesen Company Ltd
Td 8245	25/6/1945	4			45 morgen 442 Sq R	Thesen Company Ltd	Thesen Industries Pty Ltd

ERF 1396 - 2 morgen 201 Sq R formerly lot 5 ptn of Paarden Island

Td 2639	8/3/1904	1396	ex 1394	1182/1903	2 morgen 201 Sq R	Estate G Rex	Charles W Thesen 2-4
Td 11577	28/12/1906	1				CW Thesen	Niels Peter Thesen 4
Td 11578	28/12/1906	1				CW Thesen	Hjalmar Thesen 4
Td 11579	28/12/1906	1-3				CW Thesen	Thesen Company Ltd
Td 8245	25/6/1945	4				Thesen Company Ltd	Thesen Industries Pty Ltd

ERF 1397 - 362 Sq R formerly lot 3 ptn of Paarde Island

Td 2638	8/3/1904	1397	ex 1394	1181/1903	362 Sq R	Estate late G Rex	Charles W Thesen
Td 11577	28/12/1906	1				CW Thesen	Niels Peter Thesen 1/3
Td 11578	28/12/1906	1				CW Thesen	Hjalmar Thesen 1/3
Td 11579	28/12/1906	1-3				CW Thesen	Thesen Company Ltd
TD 8245	25/6/1945	4				Thesen company Ltd	Thesen Industries Pty Ltd

ERF 1398 - 1 morgen 101 Sq R lot 1 ptn of Paarde Island

Td 2367	8/3/1904	1398	ex 1394	1178/1903		Estate George Rex	Charles W Thesen
Td 11577	28/12/1906	1				CW Thesen	Niels Peter Thesen 1/3
Td 11578	28/12/1906	1				CW Thesen	Hjalmar Thesen 1/3
Td 11579	28/12/1906	1-3				CW Thesen	Thesen Company Ltd
TD 8245	25/6/1945	4				Thesen company Ltd	Thesen Industries Pty Ltd

TD 3251 dated 12 March 1897

Transferred from George Rex to Charles Wilhelm Thesen
one half part or share of in certain piece of perpetual quitrent land ... being the land called Paarde Island lot B a
portion of a subdivision of the place called Melkhoutkraal ... measuring 96 morgen 319 Sq Roods

Extending as amended Quitrent grant with diagram attached .. dated 7 August 1896 ... sold for £200

TD 2637 dated 8 March 1904

William Hart Mason and Jessie Rex (wid George Rex) in their capacity of living executors of the estate of the
late George Rex and Charles Wilhelm Thesen joint proprietors of a certain piece of perpetual quitrent land ...
being the land called Paarde island lot B - portion of the subdivision of the place called Melkhoutkraal, measuring
96 Morgen 319 Sq R

TD 2639 dated 8 March 1904

Same, regarding 2 Morgan 201 Sq R

TD 2640 dated 8 March 1904

Same - regarding 45 Morgan 442 Sq R

In 1906 - Thesen and Company = Charles Wilhelm Thesen
Niels Peter Thesen
Hjalmar Thesen

APPENDIX B: TERMS OF REFERENCE

TERMS OF REFERENCE

THESEN ISLAND ARCHAEOLOGICAL SURVEY

1. HISTORICAL ASPECTS

Identify any potentially important historical features on the Island, including old buildings, foundations, structures or shipwrecks which could be affected by the proposed redevelopment framework plan.

2. ARCHAEOLOGY

Undertake a survey of the Island to identify whether any artifacts or other remnants of archaeological significance could be affected by the proposed redevelopment framework plan.

3. PALAEOLOGY

Undertake a survey of the Island to identify whether any artifacts or other remnants of palaeontological significance could be affected by the proposed redevelopment framework plan.

4. For each of the above aspects,

- identify and assess the possible impacts and benefits that could result from the redevelopment plan;
- provide recommendations to minimise any negative impacts and enhance positive effects;
- if necessary, address the planning, construction and management aspects that require special attention;
- provide recommendations regarding the possible rehabilitation conservation in situ, re-use and incorporation into tourist or recreational facilities of any of the above aspects;
- list the legal requirements resulting from any of the above aspects;
- liaise with the National Monuments Council and relevant local groups during the course of the survey and obtain a review of the draft study report by the NMC before it is finalised.
- submit the final study report in the same format as that of the Specialist Reports supporting the EIA.