MARINA DEVELOPMENT LEKKI

BY

Madedor, Okpaku Oludewa John (B.Sc.Arch.Hons)A.B.U«

A thesis submitted to the postgraduate School, Ahmadu Bello University, Zaria, Nigeria in partial fulfillment of the requirements for the degree of Master of Science in Architecture (M.Sc. Architecture).

Department of Architecture
Faculty of Environmental Design
Ahmadu Bello University
Zaria
Nigeria

July, 1987

DECLARATION

I hereby declare that this thesis has no bearing to any work done by any person or group of individuals which has been presented and accepted for a higher degree. It has been composed by me and is a record of my own research work. All quotations are distinguished by quotation marks and all sources of information are specifically acknowledge by means of references.

MADEDOR, OKPAKU OLUDEWA JOHN

JULY, 1987

CERTIFICATION

This thesis report entitled Marina Development Lekki by Madedor,Okpaku Oludewa John meets the regulations governing the award of the degree of Master of Science in Architecture (M.Sc. Architurecture) of Ahmadu Bello University Zaria Nigeria, and is approved for its contribution to knowledge and literary presentation.

Chairman, Supervisory Committee Date:.....

Member Supervisory Committee Date:.....

Member Supervisory Committee Date:.....

Head Of Department Date:.....

Dean Postgraduate School Date:.....

DEDICATION

This thesis is dedicated to:-

- Mum and Dad for their continous support and patience all these years. Thank you both for everything.

- To the Almighty God, up above, the source of all strength and inspiration.

Okpaku,O.J. Madedor

ACKNOWLEDGEMENTS

The successful completion of this thesis report could not have been possible without the help of many people. I will thus like to thank members of the Madedor family, particularly my parents for their immeasurable moral and material support.

I wish to express my profound gratitude to my supervisor Arc. Odeyemi and members of my internal presentation panel for their valuable assistance and constructive criticisms during the course of this study.

I would also like to extend my appreciation to all members of staff of the Department of Architecture, Ahmadu Bello University, Zaria, who have contributed to my knowledge of Architecture throughout my stay in the Department through their encouragement, guidance and patience. In this respect I would like to thank Arc. O. Solanke for all the reminders in terms of my work.

To Mr. L.O. Sadiku of the New Town Development Authority Victoria Island and Mr. Oloye of the Lagos Motor Boat Club Ikoyi I owe words of appreciation. They were both very helpfull during the data collection

stage in the preparation of this thesis.

I would also like to thank my friends Chris Ohikere; Okon, and Tricia (chubby cheeks) who all helped in one way or another in the preparation this thesis project. Also included are my friends Akin, Frank, Peter, Toyin, Jegede, Kemi and Irene who kept encouraging me and wishing me well throughout the thesis preparation period. To my typist Muhammed I say thank you for typing this script.

Also to all those I may have left out I say thank you.

TABLE OF CONTENTS

	Page
Title Page	
Declaration	i
Certification	ii
Dedication	iii
Acknowledgements	iv
Abstract	
Table of Contents	
List of Tables	
List of Figures	
List of Plates	
CHAPTER ONE	
INTRODUCTION	
1.0 Introduction	1
1.1 Problems of Boating in Lagos	3
1.2 Functions of a Marina Development	5
1.3 Aims and Objectives of Marina	7
1.4 Purpose of Project	8
1.5 Scope	9
CHAPTER TWO	
CASE STUDIES	
2.0 Introduction	10
2.1 St. Katherines Dock	10
2.2 National Yacht Racing Centre Portland Harbour	14
2.3 Lagos Motor Boat Club	19

Page

CHAPTER THREE

CATEGORIES OF MARINA'S and Marina Facilities

3.0 Introduction 25

3.1 Categories of Marinas 25

3.2 Physical Classification Marina's 26

3.3 Facilities of a Marina 28

CHAPTER FOUR

BOUATING FACILITIES

4.0 Introduction 33

4.1 Boat House 33

4.2 Ajoining Boat House Facilities 37

4.3 Water Sports Club House 39

4.4 Car/Trailer Parks 39

CHAPTER FIVE

LAGOS and the Site

5.0 Lagos 41

5.1 Site Location 42

5.2 Reasons for Choice of Site 43

5.3 The Site 46

5.4 Site Analysis 47

CHAPTER 1

INTRODUCTION

There has been an increase in the seeking of one or more forms of relaxation in Nigeria over the past few years. This increase was quite prominent from the early nineteen seventies.

However, seeking of relaxation is most prominent in Lagos. Due to the fast increasing expansion of Lagos, the pressures of day to day living on people in Lagos is increasing. This has led inhabitants of Lagos to seek sources of relaxation to reduce the pressures of day to day living, both physically and psychologically.

For most people relaxation is achieved through leisure or sport, whether active or passive. Perhaps the most important aspect of leisure or sport as a form of relaxation is the need to provide a form of interest outside a persons normal job. This stimulus brings about greater productivity.

In Lagos one aspect of leisure that interst inhabitants of Lagos is that of water recreation. This can be seen in the creation of lekki beach, which is about the most popular beach in Lagos.

However, some aspects of water recreation are not as popular as others, but greatly increasing in populality. An example is boating. This is not because of lack of interst, but rather because of the

lack of facilities to enable effective perticipation. With the interest of boating in the hearts of many, there is the need to create the facilities and environment to allow people to realise their interest in form of active participation. A place which caters for boating needs as well as other water oriented forms of leisure or sport is thus needed.

A facility or place which will cater for boating and other forms of water recreation is a marina.

A marina has been described by some as being a habour for pleasure boats. However, the word marina has been defined as meaning "a modern water front facility for recreational boats". This was how the National Association of Engine and Boat Manufacturers Incorporated of America described a Marina. The association further described the term (marina) as being a facility offering services which have come to be a part of modern boating: a place where boatmen may berth, launch,repair,fuel and provision their craft conveniently and be able to have a hot shawer, dine ashore, and be within easy reach of shops, communications and transport.*

With time many more facilities have been added to a maring, these are mentioned in the chapter on marina facilities (ch.9)

* taken from"Marinas" by Donald Adie

1.1 PROBLEMS OF BOATING IN LAGOS

To fully appreciate the need for a marina in Lagos, one must first analyse the boating situation in Lagos.

In Lagos three boating clubs exist. Those are the Lagos Motor Boat Club in Ikoyi, the Lagos Yacht Club and the Apapa Boat Club.

The Lagos Motor Boat Club is a members only club. There exist a maximum membership of 275 members. The club does not admit new members till a vacancy exist due to the departure from the club by a member. This is due to the limited facilities the club has to offer. Thus a long line of boating enthusiasts have to wait at times for more than a year. Its parking facilities for boats can only accommodate 219 boats, thus about 56 members have to trail their boats from home. In the Lagos Motor Boat Club space has prevented expansion

The Lagos Yacht Club has 360 full and crewing members. Its also a members only club. The club has space to accommodated about 150 crafts. Thus about half the members still require parking facilities for their crafts. It also trains unskilled new members. In this club also, there exist a long waiting list.

The Apapa Boat Club is also too, a membership only club. The club has membership of 200 and accommodates about twenty-five percent of the crafts. It has has a long waiting list.

All these clubs have one problem in common, this is the lack of space for expansion of facilities to enable, more boaters enjoy their facilities and the present members enjoy better service. The lack of space for expansion has made it impossible for boaters to enjoy other boating facilities like short term accommodation as well as other modern boating facilities. These are facilities boaters would like in existence.

From looking at the clubs alone, one can see that the three clubs combined provide membership of about 800 people. The clubs however have parking facilities for boats for about only half of its members. Therefore about 300 boats have to trailed to these various clubs. Approximately 200 boaters are on waiting lists in these clubs. This makes a total of about 500 boats requiring berthing facilities.

The lack of enough facilities to meet demand has encouraged the springing up of illegal jetties or take off points around Lagos. Examples of this can be seen at the Queens Drive water front in Ikoyi

PROBLEMS OF BOATING IN LAGOS - ILLEGAL JETTIES

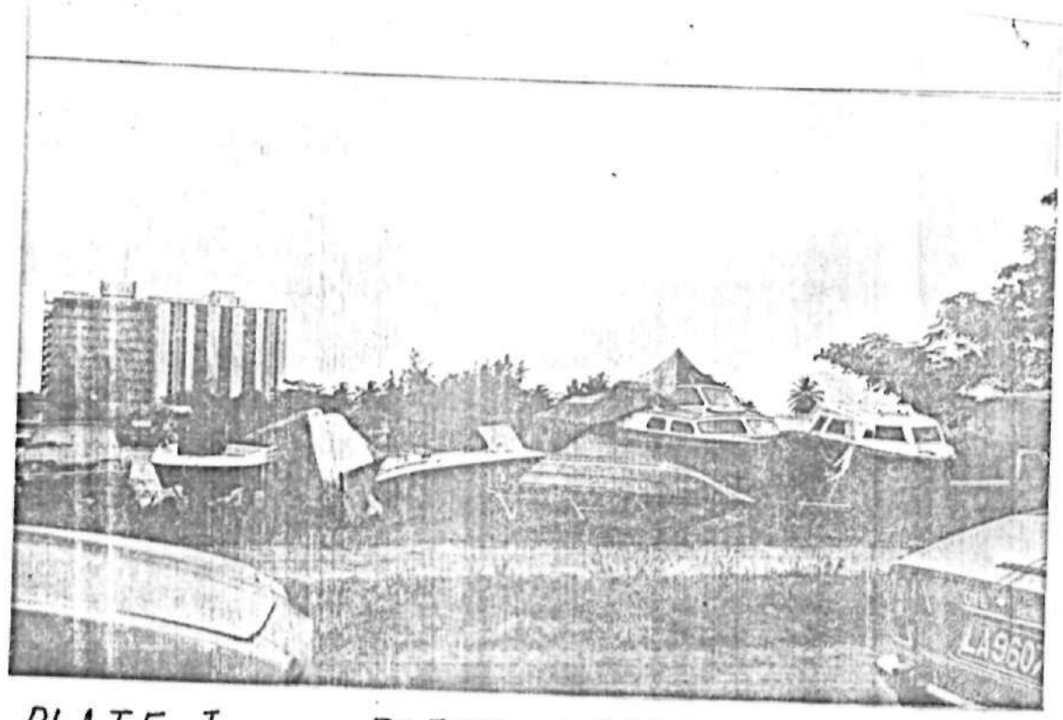


PLATE I ELEKE CRESCENT

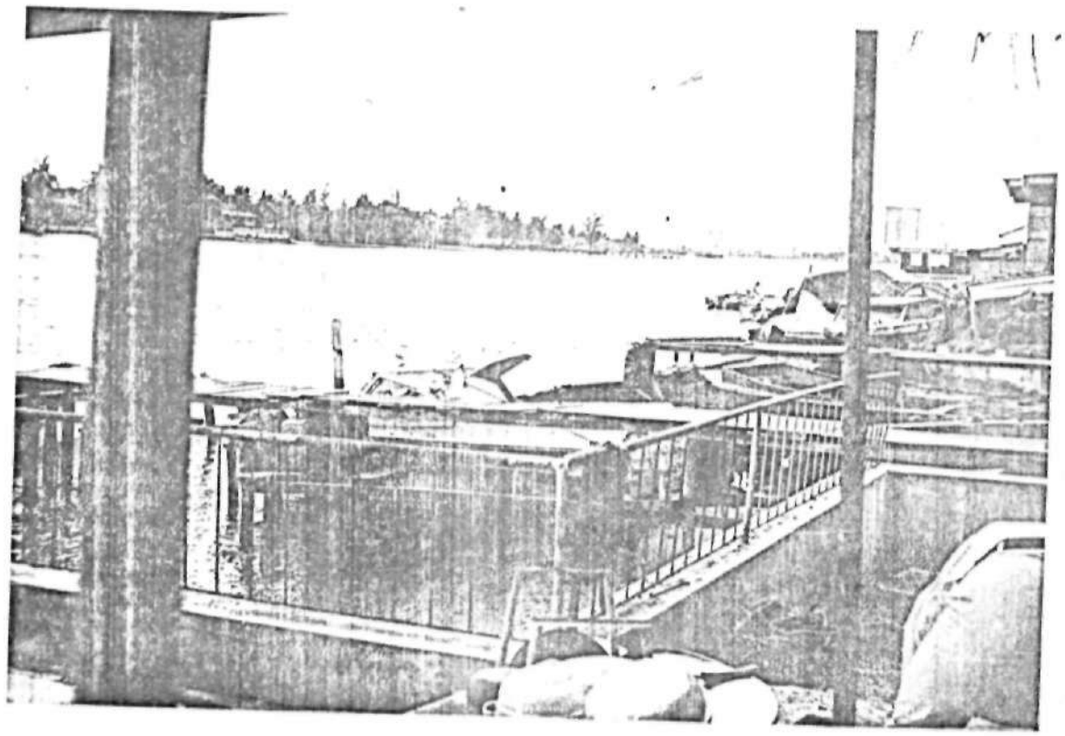


PLATE II PART OF ELEKE CRESCENT WATER FRONT

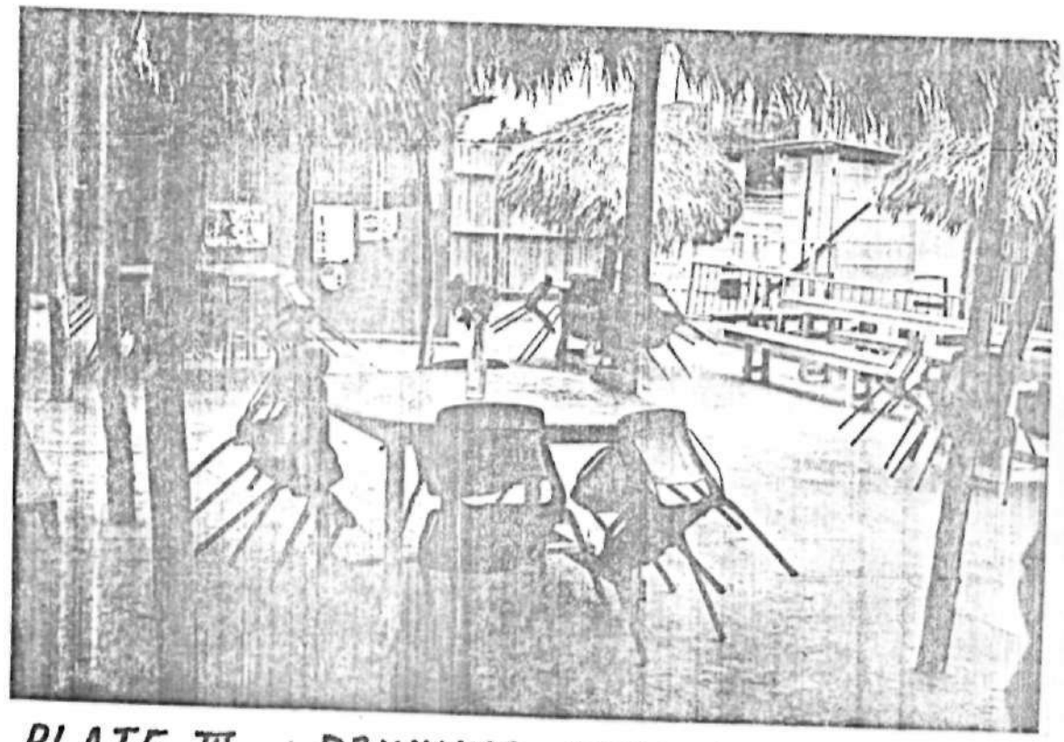


PLATE III DRINKING AREA OF AN ILLEGAL JETTY

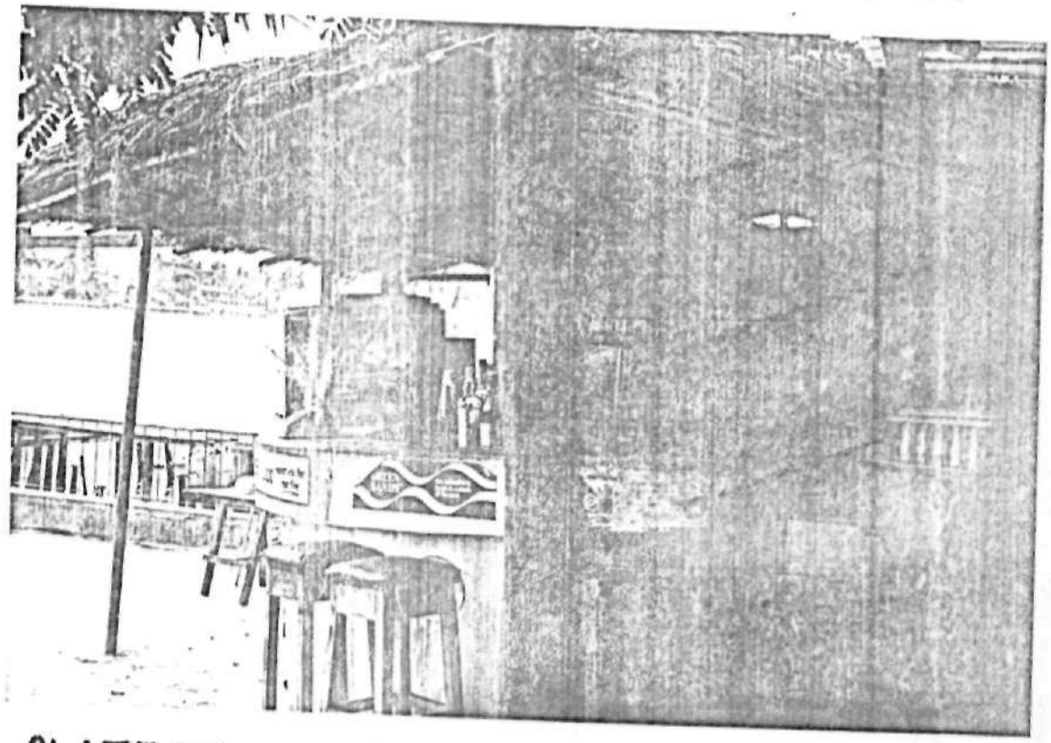


PLATE IV BAR OF AN ILLEGAL JETTY

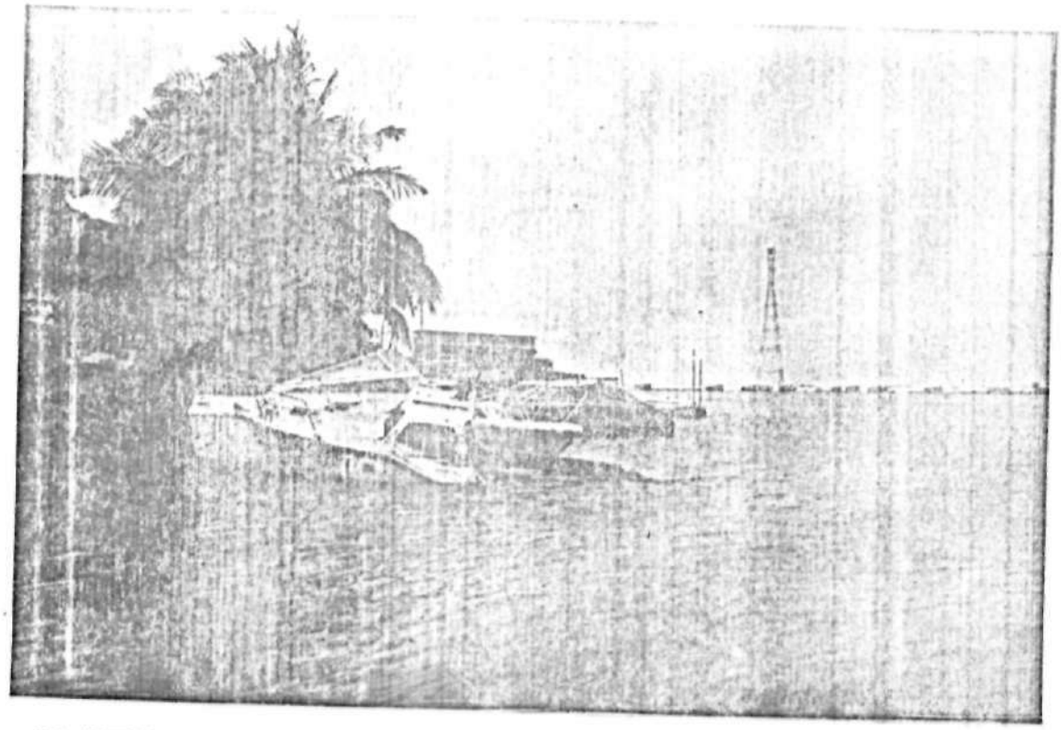


PLATE V QUEENS DRIVE WATER FRONT

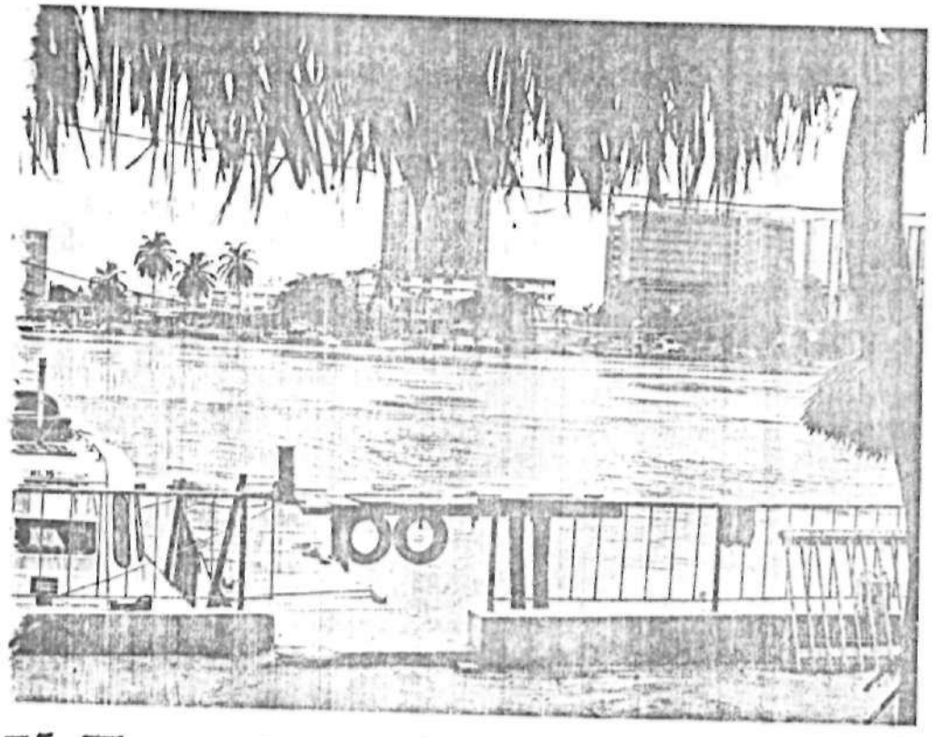


PLATE VI AN ILLEGAL TAKE OFF POINT

and the Eleke Crescent Water front in Victoria Island. These jetties disfigure the water fronts due to poor planning and design and no proper management. It is not incommon to find disused rosting boats lying on the water bank, presenting an unpleasant sight. On weekends it is usual to find cars and trailers parked on the sides of the road in front of the jetties. This presents that part of the road with bottle neck traffic movement. Most of these jetties over the years have even come to establish permanent parking for some boats, with some of the boat parking facilities becoming permanent structures as in the case of the jetty on the Queens Drive water front.

With the increase in boaters and the non avaliability of berthing facilities or the inadequacy, more illegal jetties will continue to spring up. The belief of the other is that something must be done to arrest the situation. This can be done by provision of the neccesary boating facilities.

1.2 FUNCTIONS OF A MARINA (DEVELOPMENT)

A Marina has the main function of facilitating boating, but also other functions can be related to it, in developing aspect.

A marina can be developed to act as an instrument or source of relaxation by provision of socially oriented activities, bring about interaction between users. The marina can function as a promoter of Tourist leisure industries.

The marina can serve as an economic stimulant in provision of services, and involving private developers and government financing in development of the marina to bring in money. An example is the Marsarnxshett harbour in Malta being rebuilt as a marina, with government and private financing, as to be able to cash in on the tourist trade. A marina will also provide work opportunities, thus helping the economic in its small way by reducing unemployment.

Marinas can act as a source of encouraging property development. The existence of a marina in an area, encourages people to build around the area or on the site of the marina as in the Brighton Marina. Most of the property development will involve those offering services and accommodation. Accommodation in the building of private houses and houses for rentage being the most readily indulged in.

Attraction of inhabitants from near by residential areas, and thus bringing about interaction and social eross fertilization of ideas among them, is what a marina can bring about if developed properly.

A marina can be developed to function as a provision within a boat building or repair business. The marina is functioning as an attraction to the building or repair business. An example is Knutson Ship Yard on long Island.*

Serving as a take-off point for weekend trips, and providing ferry services is another function a marina can perform, if developed to suit the services to be rendered. This is concerns more the ferry services. A marina functions also as an instrument for introducing different forms of water recreation as well as providing training to water sports.

1.3 AIMS AND OBJECTIVES OF A MARINA

The development of a marina will encourage the development of water, as well as its surrounding land. Thus its use for recreation as so desired. Beautification and conservation of the scenic value of the water front or bay is brought about by the development of marinas,

* taken from "Marinas" by Donald Adie.

this also enriches the recreational content of the site.

The development of a marina have the advantage of being able to provide various important facilities for boaters and marina users. This will create an environment with a relaxed atmosphere, thus inhabitants of the residential areas around the marina, will be able to enjoy water recreation to their fullest desires and create an opportunity for the inhabitants to get away from the pressures of day to day work.

7.4 PURPOSE OF PROJECT

(a) To develop a marina in Lagos that will cater for the many boat enthusiasts and water recreation lovers alike, who need the facilities of a well designed marina. Thus making boating easy and enjoyable. This will discourage illegal jetties.

(b) To develop a marina which will also provide for passive leisure, and non-water recreation, for example tennis and squash racket. This will be done by provision of landscaped parks, a sports hall, a Club House and a Cinema, which are some of the facilities.

(c) In general to design a marina that will stimulate interaction among the users, thus cross fertilization of to ideas.

1.4 S C O P E

The project will cover the overall planning of the proposed marina site. This will include the boating facilities, accommodation, sporting facilities, landscaped parks and other entertainment facilities.

The main emphasis of the project will be on the boating facilities. This will include the maintainance workshops, boaters accommodation changing rooms etc.

CHAPTER 2

CASE STUDIES

2.0 The case studies taken are mainly for general marina layouts. Taken are cases with inland water situations. This has been done as the proposed marina is an inland water case.

The author's main emphasis in the marina, is the boating facilities. Thus included is a case study of a boating facility set up. This case study has been taken from Lagos.

2.1 ST. KATHERINES DOCK (LONDON)

This is the result of redevelopment of a redundant dock area in central London. The main aim has been to preserve the historic buildings around the dock area, and retaining the water area for leisure craft useage. In addition, modern facilities seen in modern marinas are included.

2.1.1 LOCATION

St. Katherines dock as mentioned earlier in the chapter is located in the central area of London. The docks water open into the river Thames near the Tower bridge. The dock is bounded by the River Thames in the South, East

Smithfield in the North, St. Katherines way in the west and Thomas more street in the east of the dock.

2.1.2 BRIEF

St. Katherines dock consist of the following:-

(i) Yacht Club:- Which is for the boaters contains the necessary facilities of an effective club.

(ii) Hotel:- This is to cater for boaters, visitors and tourists.

(iii) Conference Centre:- The centre is to provide conference facilities for intended users. The location will attract usage

(iv) Entertainment Centre:- The centre contains a theatre together with other entertainment facilities

(v) Apartments:- Providing accommodation

(vi) Schools

(vii) Health Centre:- To be used by inhabitants of the surrounding area together with people staying at the dock accommodation.

(vii) Sports Centre:- for sports enthusiasts

(viii) World trade centre

(ix) Repair yard:- to be used to repair and service boats at the dock

(x) Car parking area

2.1.3 LAYOUT

St. Katherines dock has the water area which consist of the berth layout as the central local point. Around the berth layout is situated the hotel, beside the hotel is the theatre which is part of the entertainment centre. These two facilities are located in the southern part of the dock area. The two longest sides of the buildings face water area, one side of the hotel and entertainment centre looking over the berth layout of the dock and the other side over looking the river Thames. This location has given the facilities good pleasing views which are relaxing.

The world trade centre over looks the berth lay-out of the dock. The longest side of the centre has been made to over look the dock area giving the centre maximum view of the water (berth lay-out).

The Yacht club has been located in the centre of the berthing area. The repair yard is situated close by. Both repair yard and yacht club are accessible from the East Smithfield end of the dock. The yacht club however is also accessible from the main parking not via the sport centre.

The placing of the yacht club in the centre of the berthing area is ideal, in that it allows easy reaching distance for most of the boats. However, due to the slight irregularity of the dock some boats berthed in the eastern and western parts of the dock are still quite a distance from the club compared to the boats berthed around the immediate vicinity of the club.

The sports centre is located near the car parking area. It also enjoy's a view of the water and boats.

The car parking area is located off the Thames Moore Street. This can be seen in fig. 2.0 which shows the lay-out of the dock.

Access to the dock and its facilities is possible though the Thomas More Street or

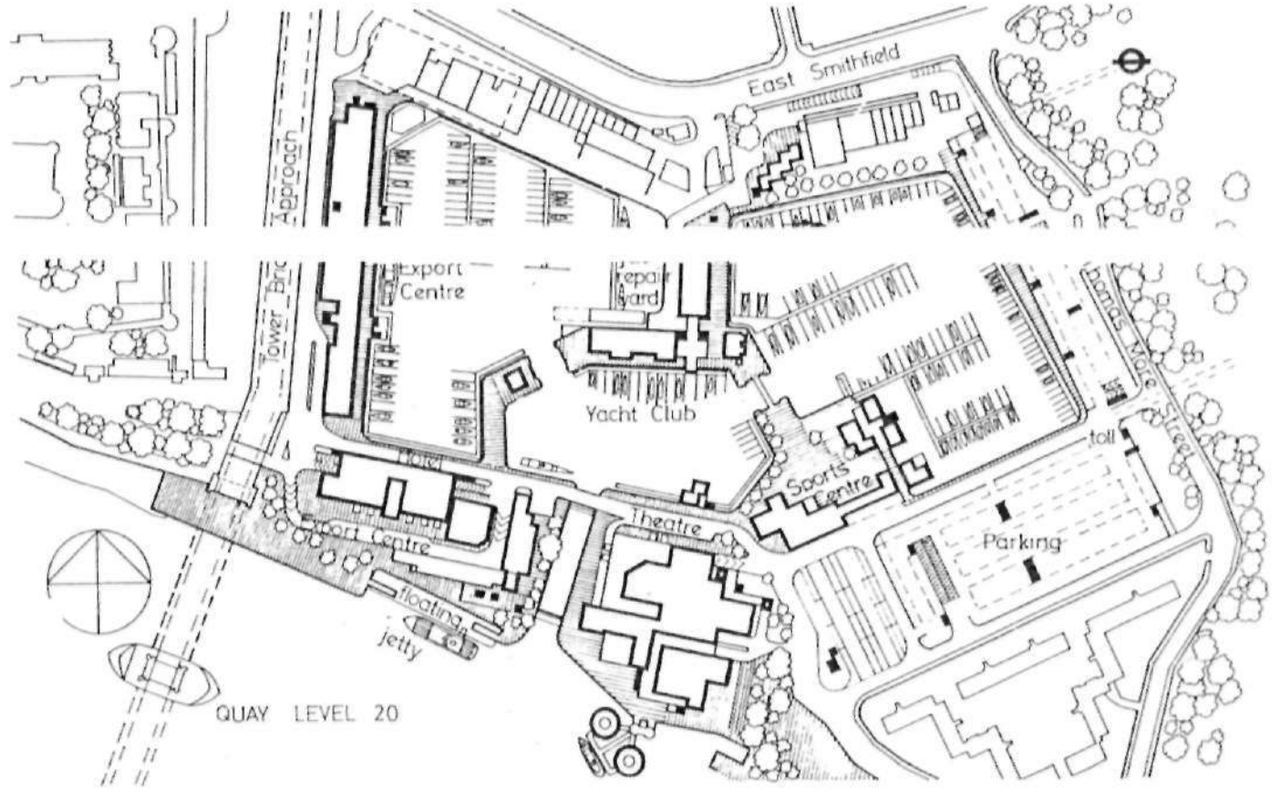

East Smithfield
Approach
Tower Brid
Export Centre
Repair Yard
Yacht Club
Hotel
Sports Centre
Theatre
Parking
toll
floating jetty
QUAY LEVEL 20
0
250
500ft
0
100
200
300m

FIG. 2·0

FIG. 2·0

the Tower bridge approach over St. Katherines way (see fig. 2.0).

A floating jetty exist on the outer side of the dock, that is on the river Thamos.

2.1.4 COMMENTS

St. Katherines dock as a whole utilises the water, all of the facilities in the dock have a share of the water view. The longest side of the buildings located in the dock area have been located to face the water. In the case of some facilities both of the longest sides of the buildings of the facilities enjoys water view. This is seen in the hotal and entertainment centre.

2.2 NATIONAL YACHT RACING CENTRE (PORTLAND HARBOUR)

The National Yacht Racing Centre in Portland Harbour has been chosen by the author, to show the lay-out of facilities of boating and the relationship between one another and location of the facilities in reference to the water.

The centre is a proposal by the RYA. The site was chosen because of its year round sailing conditions. The site was chosen in preference to sites at Brighton Marina, Hay Bay, East Solent,

Poole bay, Torbay, Plymouth and Weymouth. The centre is the equivalent of the olympic centre at Kiel. The centre will facilitate training in boating.

2.2.1 LOCATION

The centre is located in portland harbour. The centre however protrudes from the north-west corner of portland harbour.

2.2.2. B R I E F

For the Dinghies

(i) Boat park:- This is to accommodate 300 boats.

(ii) Trailer Park:- This is to cater for 300 trailers. It can be seen that it is equal in number to the boats to be accommodated.

(iii) Car parking area:- The parking area is to accommodate 450 cars

(iv) Catering:- 500 people are to be catered for, in the catering services offered

(v) Changing Rooms:- They will be for the use of 600 people simultaneously.

(vi) Hostel:- It is to accommodate 400 people

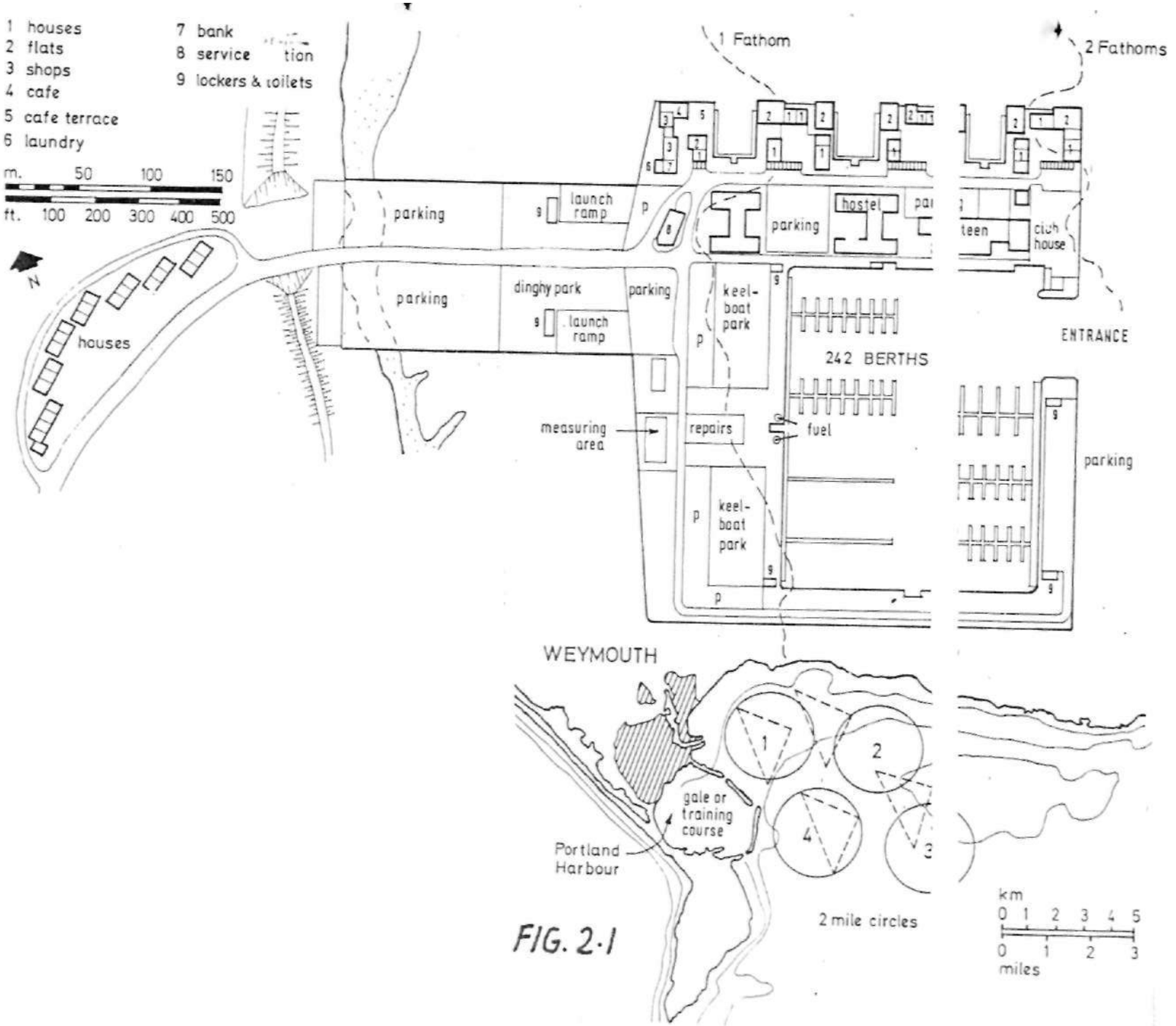

1 houses
2 flats
3 shops
4 cafe
5 cafe terrace
6 laundry
7 bank
8 service station
9 lockers & toilets
m. 50 100 150
ft. 100 200 300 400 500
N
houses
parking
launch ramp
parking
dinghy park
launch ramp
parking
1 Fathom
2 Fathoms
parking
hostel
keel-boat park
242 BERTHS
measuring area
repairs
fuel
keel-boat park
parking
clubhouse
ENTRANCE
parking
WEYMOUTH
gale or training course
Portland Harbour
1
2
4
2 mile circles
km
0 1 2 3 4 5
0 1 2 3
miles

FIG. 2·1

the site area. The main facilities bound the water on two sides.

The entrance to the berthing area is at the eastern side of the centre. The berthing area is bounded on the eastern and southern sides by parking area for cars while at the corner of the south-eastern side exist lockers and toilets for boaters.

The boat repair area is located in the middle of the western boundary of the berthing area. On either side of the repair area exist a keel boat park, with the fuelling point in front of the repair area. (see fig. 2.1)

The club house is located at the entrance of the berthing area. In relation to the berthing area the club house is in the northern part, leaning towards the east.

Moving west from the club house is the canteen followed by a hostel. After the hostel is a parking area for cars (still moving west). After the parking exists another hostel thus the parking is sandwiched between the two hostels making it readily available to both hostels.

The club house,cateen,hostels and parking form a row in front of the berthing area, thus

all enjoy a good water view.

Behind this row is front of the northern part of the berthing area exist another row. This row consists of flats and houses (see fig. 2.1) These however do not all have a clear view to the water area which is dissappointing.

At the left hand corner of the just described row (last paragraph) exist a laundry, cafe teuace, shps and a bank. Also included in this area are some houses and flats.

All the facilities mentioned so far including the berthing area form almost a square. In the north-western corner of this square like area exist a rectangular extension. This extension consists of the dinghy park, launch ramps, lockers, toilets and car parking area.

2.2.4 COMMENTS

In this lay-out only some of the flats and houses enjoy the berthing view, which gives a feeling of the main activity of the centre. The dinghy park and launch ramps could have faired better if they had also bounded the berthing area like in the case of the Keel boats park. The club is situated in a location where

it enjoys' berth activity and boat movement outside the berthing area, this is good, however its location from the boats has much to be desired.

2.3 THE LAGOS MOTOR BOAT CLUB

The lagos motor boat club (L.M.B.C) has been chosen as a case study because it consist of facilities of a boat house and also because of its' location - Lagos. It is a members club only. It derives its funds from membership fees paid by members yearly. They have a working staff of about 52 people.

2.3.1 LOCATION

The L.M.B.C. is located in the Ikoyi area of Lagos. It is bounded by AWOLOWO road, which provides the only vehicular entrance into the site in the north of the site. On the opposite side of the site (i.e. opposite the Awolowo side) the site is bounded by the Lagos Lagoon. On the western and eastern sides of the site is bounded by the police marine unit and residential housing respectively.

2.3.2 B R I E F

The L.M.B.C. consists of the following:-

(i) The main boat house/club house:- this consists of the lounge for boaters relaxation, 2 bars - external and internal, resturant, general office managers' office library area (consist of shelves near the lounge) toilets and drinks and general stores.

(ii) Boat Storage:- these consist of individual boat storage areas covered only at the top, they are arranged in rows. Facilities exist for 19 wet berths these are located on the Lagos Lagoon front. The dry boat storage can accommodate about 200 boats. sizes of the boats that the storage can accommodate are boats of up to about 9 metres in length.

(iii) Fuel Station:- this is located at the edge of the water front. The boats are fuelled at a provided jetty through an extension hose.

(iv) Junior Canteen:- provides meals for junior staff.

(v) Staff quarters:- for the use of some of the junior staff.

(vi) Other facilities:- these are generally small facilities but all the same necessary. These are the generator house, incinerator, trailer port and slip ways.

2.3.3 LAY-OUT

Entrance and exit from the Lagos Motor Boat Club is from the Awolowo road. The car park is immediately after the entrance and positioned approximately in the middle, in the northern part of the site. The park area proceeds up the club house. The club house sandwiched between the dry boat storage facilities on its west and east sides. The southern part of the club house (which is the long side of the building) faces the wet bertns the Lagos Lagoon. Between the Lagoon and club house is a lawn, which is utilised for outside relaxation seating is provided. An external bar also exists between the club house and Lagoon.

The wet berths exist directly in front of the club and there exist four slip ways two on either side of the berths (see fig.2.3). The fuel pump exist at the far west of the site (far left on fig. 2.2)

The staff quarters exist in front of the dry boat storage on the west of the site, and the junior canteen exist in front of the dry boat parking on the west side of the site.

CLUB HOUSE:

The entrance to the club house leads to the lounge. The lounge leads people to the general office, toilets, managers office, on the right of the lounge. To the left of the lounge exist the book shelves which act as a small library (it is actually just a collection of small books) passing the book shelf area one gets to the bar and the eating area. The bar leads outside to the lawn and external bar which is in front of the lagoon. The lounge also leads directly to the lawns. On top of the bar exists another resturant. The kitchen that functions for the resturants is on the ground floor and connects the ground floor eating area. Notice boards exist just after the entrance just before the lounge (see fig. 2.3 for club house general layout).

2.3.4 COMMENTS

The L.M.B.C has the basic necessary facilities, like a club house, boat storage and slip-way's. However, some facilities especially the dry boat storage have been cramped up due to the lack of space. The lack of space has not allowed a formal repair or maintainance area. Boats have to be repaired or serviced by mechanics brought in by the owners and work on the boat in the storage area.

The slipway however are adequate for the boat club. The system of first come first serve, which provides an orderly situation has helped the slipway efficiency.

Car parking for the club is inadequate. During peak periods usually week-ends and public holidays, the members have to park their cars on both sides of Awolowo road in front of the club. Trailers can also be seen parked on the sides of the road. This brings to light another problem which is the non provision of a trailer park. This non provision of a trailer park and inadequate car park is due to lack of

space on the club site for trailers parks or extension of the present car park.

If membership had been smaller as it was in the beginning of the club, the facilities would probably be adequate. lack of space has prevented the desired expansion, and thus membership has been pegged at 275 maximum.

CLUB HOUSE:-

The necessary facilities are present and are adequate on non peak period days. But expansion of the club house in general is needed to provide adequate facilities and services for peak periods which exist every week-end (provided good weather exists). With expansion a proper library can be provided if desired.

In general, the whole club must be given credit in providing the facilities present in the site available. No doubt exist that given more space more facilities will exist and present ones would be expanded by the club. A good example of maximum utilisation of fixed site area.

CHAPTER 3

CATEGORIES OF MARINA'S AND MARINA FACILITIES

3.0 A marina is defined as meaning a modern water front facility for recreational boats. This definition is taken from the National Association of Engine and Boats Manufacturer Incoporated of America. It can however also be defined as a place or complex with every kind of facility for boating.

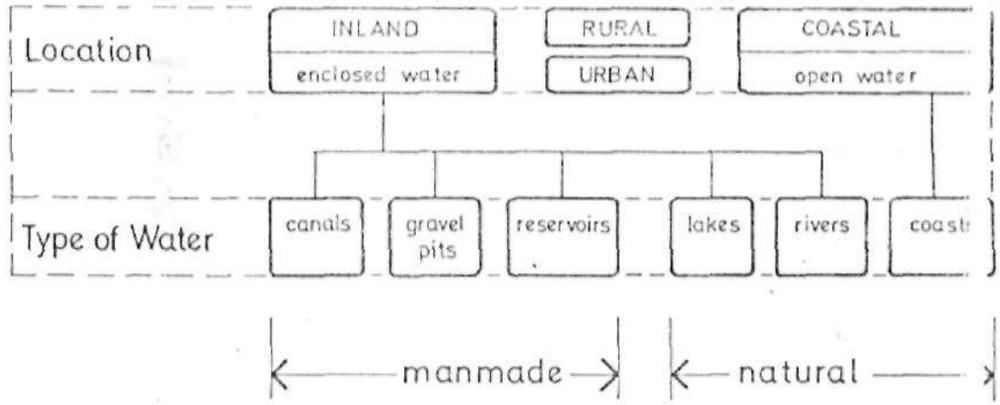
3.1 CATEGORIES OF MARINA'S

Marina's may be divided into different categories. The two main categories being marina's based on location and ownership.

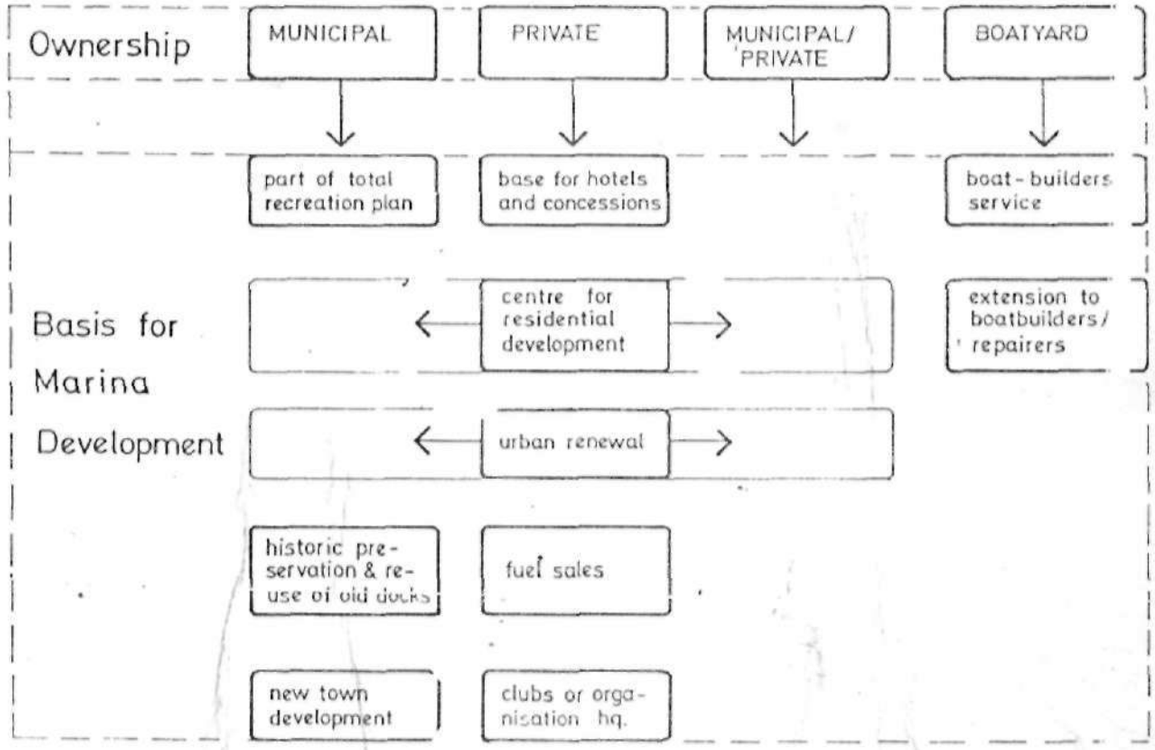
3.1.1 Marina based on location:- In this case the marina is categorised by whether it has any inland or coastal location.

The inland marina can further be divided into the types of water where it is located - canals, gravel pits or reservoirs (all man made) or lakes and rivers (natural existing waters).

The coastal marina however is based on it being located in open waters, generally coasts.



Categories of marina by location, above and function, below



Taken From "Marinas" by Adie W. Donald

3.1.2 Marina based on ownership:- unlike the case above this marina category is based on who owns it, whether municipal, private or a combination of both, municipal and private. A marina can also be categorized on boat yard type in which it is essentially for boat - builders services.

* figure gives a diagrammatic summary.

3.1.3 Other determinants in categorising marina are distinction of size, sailing area, general quality of facilities, fees and other charges for services provided.

3.2 PHYSICAL CLASSIFICATION OF MARINA'S

The main factor governing marina type is tidal range. In countries where tidal ranges of 6 metres is known to exist, it(tidal range) becomes a controlling factor in choosing the type of marina - the locked harbour, the tidal basin or the haul out marina.

3.2.1 THE LOCKED HARBOUR

In this type of harbour locks are constructed to keep water in the harbour at a constant level by trapping the water. In this kind of situation

*Taken from marina by Donald V.I. Adie.

one or more crafts may leave or enter the basin at a time, through the lock on either side of high water.

The advantage of this type of harbour is that piles to which boats are secured can be much shorter and cheaper. The mooring system may also be of a fixed kind, thus easier to construct and maintain.

The disadvantage is that entry time in and out of the marina is restricted to few hours of movement either side of high water or limited to the capacity of the lock.

3.2.2 TIDAL BASIN

This is used where construction of a lock is impracticable or where tidal range is small.

In calm water and small tides, piles can be omitted and a floatation system with anchor and tie-bracing is possible. However, with big tidal range piles must be used and will be very long.

Economics and engineering will determine which system of mooring will be used. Both give a marina a distinguished character.

3.2.3 THE HALL-OUT MARINA

This kind of marina functions like a slipway. In this case however on a bigger scale tractors are used to put the boats in the water. The boats are kept out of water in one form of storage or another.

3.3 FACILITIES OF A MARINA

Modern marina's have incorporated aspects of interest or facilities of some function or another not directly connected with boating. This happen due to the fact that these interest or facilities have a natural affinity for a marina or will be of interest to the users of the marina.

Size of the marina however determines the amount of facilities that will be present in general however marina's that contain a variety of facilities are of more interest.

Below are a list of possible associated uses of functions that blend with a marina.

ANCILLARY SPORTS

Sports that blend most satisfactorily with marinas are water-based sports. Examples of this are water skiing, swimming

fishing, rowing, canoeing, scuba and different forms of diving. However other sport may be popular within the marina. Such sports are those that don't take up too much space. Squash, lawn tennis, badminton and table-tennis are examples of such sports. They can be easily accommodated, a golf course which is difficult to accommodate, due to size could exist beside the marina site as at pier 66 in Florida.

Inclusion of ancillary sports are often successful as boat owners and visitors often enjoy the change of activity it is also a good substitute for boating when the weather is not favourable for boating. Scope of the marina is broadened by the inclusion of ancillary sports.

CONFERENCE/CONVENTION CENTRES

Sites in close proximity to water are generally good a choice for conventions or seminars. The possibilities of combining conference centre with exhibition facilities coupled with accommodation and resturant facilities is quite appealing. These facilities would enjoy dual use with the holiday needs. These facilities will benefit the marina considerably.

COMMUNITY CENTRE

A place to cater for community interest which are not necessarily confined to boating or water based activity is normally desired. This normally creates the need and existence for a community centre. In municipal marina's the club house often the performs this function. Dances or disco's for the local community can be held in the centre for example.

ORGANIZATION HEADQUARTERS:-

Headquarters accommodated in a marina are of specific use. Boating or sailing organizations are the best choice. However accommodation of interest unconnected with boating is possible, but should be carefully studied first.

HOTELS

A hotel in the presence of a marina would attract users of the marina to it. There would exist strong links between the hostel accommodation and facilities of the marina such as the club house, conference rooms etc.

HOUSING

Within a marina complex the provision of housing is a worthwhile possibility. Accommodation provided could be permanent or temporary.

Permanent accommodation would appeal to those wish to stay close to a marina or water fronts. Temporary accommodation covers long-holiday premises, week-end flats, overnight rooms and caravan sites. Temporary accommodation in a marina complex is quite popular.

SHOPS

Shops are traditionally part of the marina complex, the shops generally catering for the boaters needs. However shops or small shopping centres are possible, catering for other users needs. The relationship between some shops and some facilities in a marina complex is quite strong.

RESTURANTS

These can work successfully within the marina catering for both boaters and marina users and could also attract people in the surrounding community. This is due to the fact that the resturant can over look the water front which is quite a pulling attraction. This benefits both marina and resturant.

OFFICES

Offices could be associated with marinas Urban riverside sites, declining harbours are

probable areas that will meet local planning authorities approval.

EXHIBITION CENTRES

Exhibition centres have a wide range of uses. The centre with its own ancillary uses such as resturants, offices, banking and other commercial facilities can be combined with a conference centre. This presents an interesting feature in the marina, obviously subjects related to marine life are more suitable to an exhibition centre in a marina, but unrelated subjects can be quite acceptable.

SELECTED INDUSTRY

To prove successful the industry needs to be related to the marina or marine life. Those industries suitable are industries such as boat building and repair, this industry for instance is most compatible with a marina as it has a natural affinity to the site due to presence of water and clients (users of the marina boating facilitites).

CHAPTER 4

BOATING FACILITIES

4.0 The main attraction in a marina is the boating activities and facilities. Its the main focus of the marina, without these facilities the marina would not exist. This chapter looks at the facilities that enable enjoyable boating. The facilities can be divided into boat house facilities and adjoining boat house facilities.

4.1 BOAT HOUSE

This is the main building accommodating the main basic facilities that the boaters and visitors need. It is here that boaters and visitors or enthusiasts can interact and exchange useful ideas.

The boat house consists of:-

LOBBY

A space just after the entrance that accommodates the reception and acts as a dispersing point to different parts of the boat house facilities.

LOUNGE: This is an informal relaxation area with the building being totally or partially

covered. Here boaters, their families or visitors can take a rest, have a drink made possible by an adjoining bar. From this area the water front is usually seen or felt mostly due to its location.

RESTURANT:- This is where the users of the boat house can eat a meal. This is a very popular attraction in the boat house especially when specialising in sea food which is often the case. This is one function of the boat house that should enjoy the feeling of the water created by vision and location (over water).

Naturally a kitchen is joined to the resturant to prepare and supply food to the resturant. The kitchen can also cater for other parts of the boat house, for example the lounge and outside bar in provision of snacks (e.g. sandwiches).

CLUB ROOM:-

This is where specifically boaters can relax. This room can be equiped with a bar and has provision for toilets it generally acts as a boaters discussion room, ideal place

for exchange of ideas among boaters.

NAVIGATION LIBRARY

A library for the use of boaters only. Mainly consists of navigation maps and information on boating. It plays an important function of providing guides to boaters through the many possible water ways.

CHANGING ROOMS:-

This is essentially for the boaters use. Enables boaters to change if necessary into or out of their boating gear. The changing room consists of a changing area, showers and toilets. The toilets should be zoned apart from the changing area and showers but accessible from outside the changing room and also through the changing area.

DRYING ROOM:-

This is where wet clothes of the boaters can dry off or be dried by a driyer. Its location is such that it is easily accessible from the water front.

COMMITTEE ROOM:-

This is the room used for meetings by the body that runs the affairs of the boat house.

It can also be used for a place or point of meeting between the boat house organisation and outside organisations.

ADMINISTRATIVE OFFICES:-

These offices offer space for the workers responsible for the running of the boat house in general and probably its adjoining facilities.

The offices are normally that of the manager, manager's secretary, assistant manager, general office, accountants office. Provisions are usually made for toilets in this area for the use of the administrative staff with rest rooms sometimes provided. The size of the boat house and the services it offers will determine the size of the administrative offices, thus the number of offices.

FIRST AID:-

Usually a room with provision to deal with minor or not too serious accidents that can occur at the marina water front or to boaters while on water (in this case the victims or casualties are brought ashored).

4.2 Adjoining Boat house facilities.

These are facilities that are not or may not be in the main boat house building. These facilities however cannot be left out as they also constitute a vital part in the boating facility network.

4.2.1 MAINTAINANCE UNIT:-

This consists of a small dockyard (size actually depends on intended capacity) where boats can be serviced or repaired. The maintainance unit may consist of a dry dock yard and a wet dock yard, which will cater for the kind of repair and servicing needed. However the maintainance unit can consist of one dock yard (dry) which can be flooded with water when necessary.

Storage, offices and changing rooms will also constitute part of the maintainance unit.

BOAT STORAGE:-

This will be an area usually covered where boaters can keep their boats when they are not in the water. The storage can be under sheds or in a store usually of the ware house style with boats put in stacked storage.

Example of this stacked storage exist in florida. Location is close to the water for convinience.

ACCOMMODATION

It has become an essential part of boating facilities this is due to the fact that some boaters may come from distant locations and want to get a room for a short stretch - a week-end provision of accommodation puts an end to the daily, long shuttle between the boaters home and the marina.

The accommodation may be of the simple hotel kind which just consist of rooms (single or double) for sleeping or the self contained type - week-end unit which can be ideal for a small family.

LECTURE ROOM:-

This is where beginners in boating can be briefed about basic steps. Experienced boaters can also use the room for briefing on new techniques.

HARBOUR MASTERS OFFICE:-

This is the office which will house the controller of the water front in terms of boat movement, normally used in big marinas on the coastal

line. The harbour masters office can also house the customs officers. The location is usually right at the tip of the water front for vantage view of the water. The office also gives and receives messages from boaters out on a trip by radio. The office can be divided into the harbour masters office, his assistant, the general office and possibly the customs office.

4.3 WATER SPORTS CLUB HOUSE

This is the building that provides for people who are interested or participate in other water sports apart from boating. Examples of these water sports are water skiing, under water diving and fishing.

The facility consists of stores, changing rooms, relaxation areas for users, administration and take off points.

4.4 CAR/TRAILER PARKS:-

Most of the people coming to the boat house will come by car, therefore car parks are needed for users to keep their cars while they use the boating facilities. For the boater who use trailers for their boats a trailer park is

also essential. Car/Trailer parks ensure orderly keeping of cars and trailers in the area. Car parks also ensure safety of the cars to an extent as parking tickets can be issued.

CHAPTER 5

LAGOS AND THE SITE

5.0 LAGOS

Lagos state which lies in the south-western part of southern Nigeria, covers an area of 357700 hectres of which 60839 (17%) consists of lagoons and water ways.

In terms of land area, Lagos State is a almost about 0.4% of Nigeria and the smallest state in the country. However, Lagos State accommodates over 7% (7.2 million) of the estimated population of Nigeria.

Lagos metropolis accounts for about 89% of the total state population (about 6.4 million). However, metropolitan Lagos is only about 37% of the total area of Lagos State land area. This covers about a 15 kilometre radius.

The metropolitan area of Lagos being relatively small, coupled with high population growth rates has brought about high population density. Average population density being 15 times that of the entire Nigeria.

AGE STRUCTURE OF LEKKI POPULATION

TABLE I

AGE GROUP	% POPULATION			POPULATION		
Yrs.	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
0-5	8·57	7·95	16·52	51,400	47,700	99,120
6-11	8·00	7·63	15·63	48,000	45,780	93,780
12-18	8·04	8·16	16·20	48,240	48,960	97,290
19-25	7·09	7·24	14·33	42,540	43,440	85,980
26-60	17·46	15·72	33·18	104,760	94,320	199,080
OVER 60	1·96	2·18	4·14	11,760	13,000	24,840
TOTAL	51·12	48·88	100	306,720	293,280	600,000

SOURCE:

TABLE 18 OF STATICAL SURVEY OF LAGOS STATE NOV./DEC. 1976

The high population density in Lagos metropolis (1,308 persons per square kilometre) has brought about great pressure on the existing land. As a result, swampy and water areas came to be sand filled by the government and by unauthorized persons, in a desperate attempt to create land area for use. However, the state has tended to grow Northwards thus depriving the south-west, north-west, north-east and the lekki peninsula of development opportunities. In recognition of this, the Lagos state government set about correcting this by development of new towns and development schemes, the lekki peniusula Lagos south-west, and Lagos north-east as well as Lagos north-west. This is to bring about uniform expansion in Lagos state and solve land and housing problems.

THE SITE

5.1 LOCATION

The site is located in the Lekki peninsula which is situated towards the south-eastern part of Lagos State (fig.5.1) The total area of the Lekki peninsula is 60,844.12 hectres with an estimated population of 369,378 (see table for break down).

for development of the peninsula by the government, it has been divided into six schemes (Areas). These schemes are namely victoria Island Annex, Lekki peninsula scheme 1, Lekki Peninsula scheme ii, Itsan housing scheme, Ikota resettlement scheme and the Lekki agricultural scheme, the site is located in the lekki peninsula scheme i.

5.2 REASONS FOR CHOICE OF SITE

The choice of site for the proposed marina has been determined by certain factors. The main predominant factor is the natural features of the site which plays a major role. Accessibility to the site, government plans for the surrounding areas (Lekki peninsula) and socio-cultural factors are also factors affecting choice of the site.

5.2.1 NATURAL FEATURES

The site is generally a flat sand filled land. The site is bounded on the north-west, north and part of the north-east by the Lagos Lagoon. This is the main feature of the site that makes it ideal for a marina. The

SITE PHOTOGRAPHS

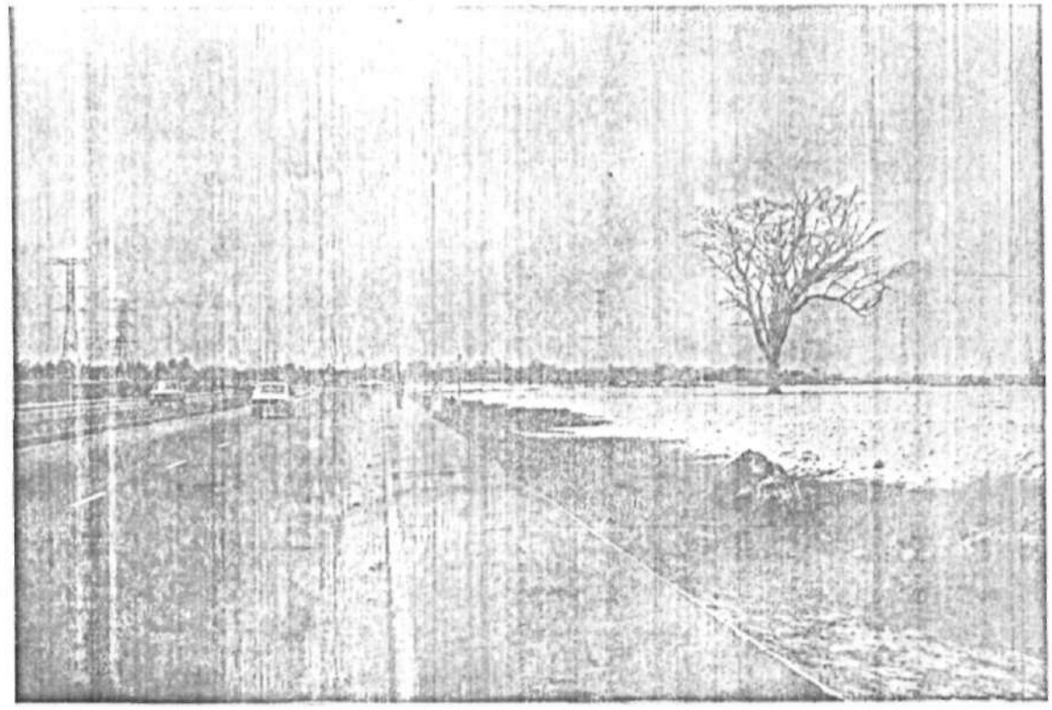


PLATE VII SITE FROM ETI-OSA ROAD

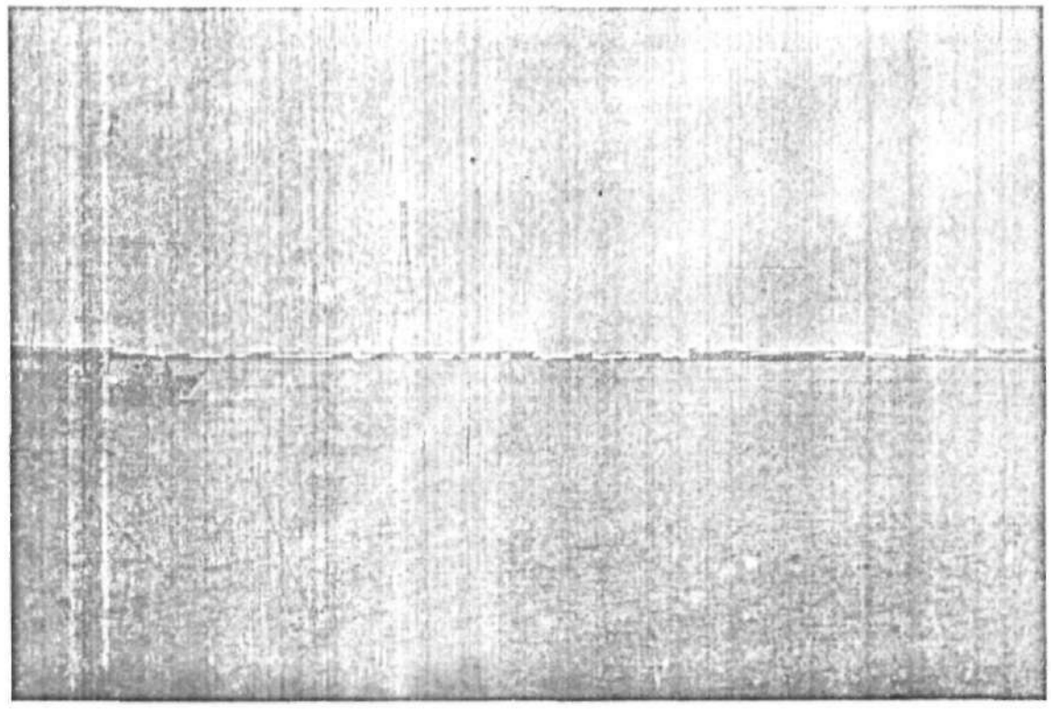


PLATE VIII SITE FROM QUEENS DRIVE

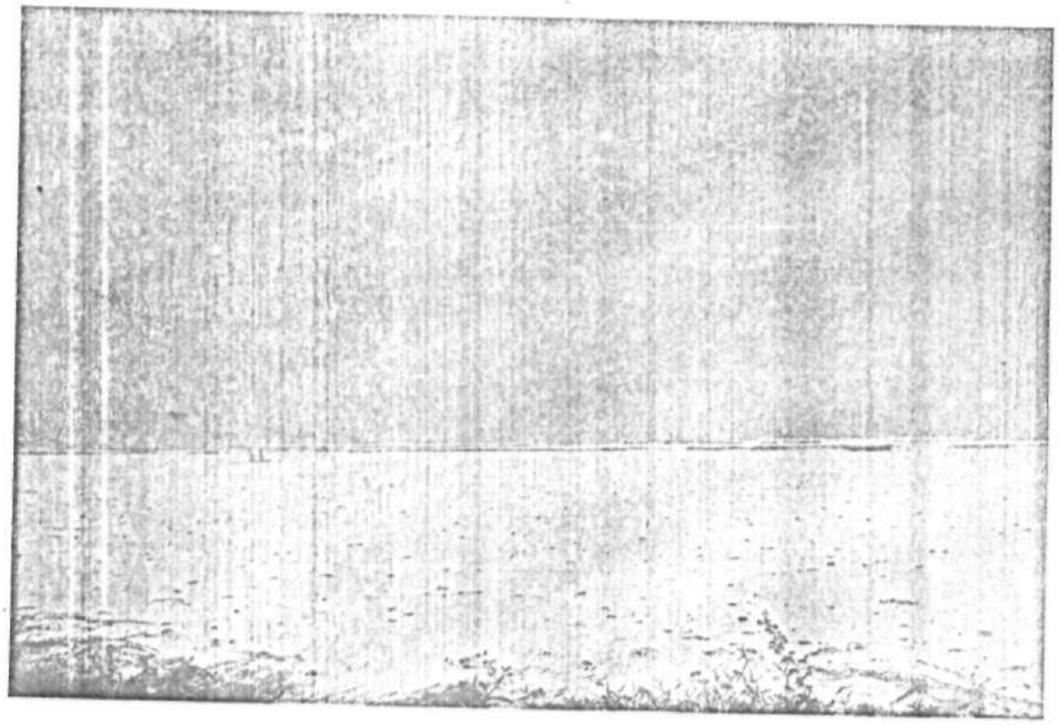


PLATE IX SITE'S SANDY NATURE

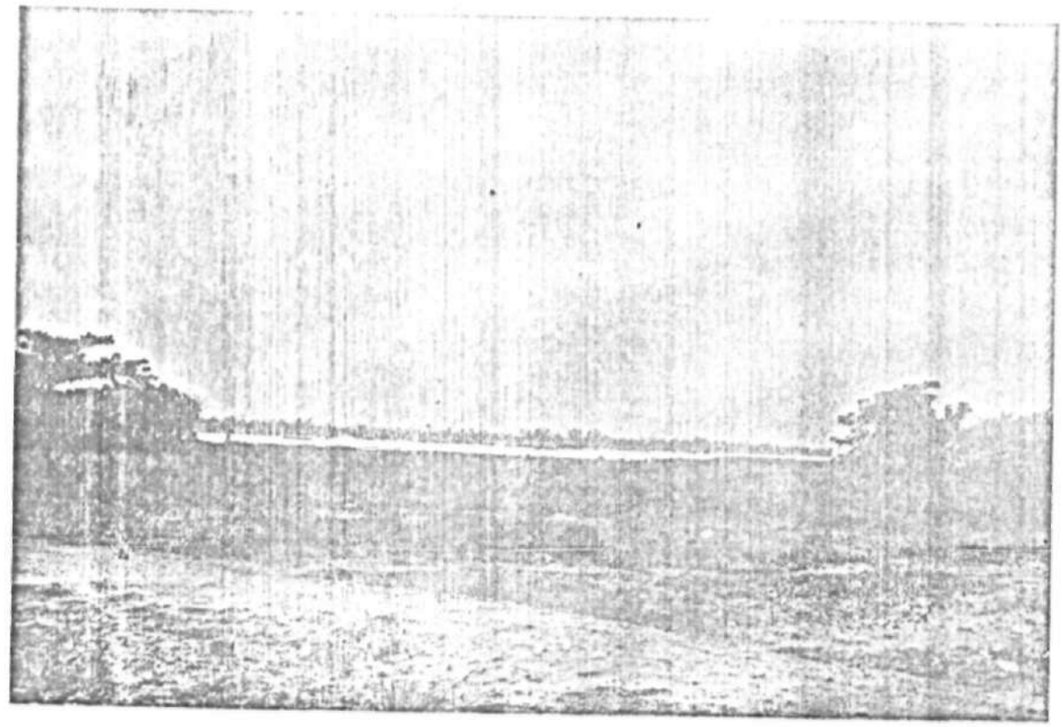


PLATE X SITE'S EASTERN BOUNDRY

Lagoon leads to the main water ways in Lagos these being the Badagary creek, Lekki Lagoon and the Lagos marina water front being part of the Lagos Lagoon. The site being bounded by enclosed water offers safe boating. Also the water does not flood the site.

The Lagos Lagoon thatbound the site is ideal for boating due to its calm waters part of the site is bounded by land that is rich in vegetation on the south-east side and by open land viewing Victoria island on the south-west side of the site. Due to the relatively flat terrain of the site and lack of major obstacles development of the site present no major problem in terms of site usage and construction.

The site is frequently covered with nice breeze coming from over the lagoon and the Atlantic Ocean which is south of the site.

5.2.2 ACCESSABILITY

Access is gained to the site by roads proposed in the lekki peninsular scheme I development plan via the Eti Osa road, The Eti Osa road links the metropolis

Accessibility to the site from all parts of Lagos is quite easy due to the fact that the three main bridges in Lagos, namely Carter bridge, Eko bridge and the Third Mainland bridge bring in traffic from all parts of Lagos mainland into Lagos island which is regarded as central Lagos. From Lagos island getting to the site is easy due to the road netweork that links Lagos Island to the site via victoria island. The Lagos Eti Osa presently, when fully completed will link the Lekki paninsular (thus the site) with Epe. Also proposed is a regional expressway to link Lekki peninsular with the upper part of Lagos. Public transportation system to the site is availables. This is in the form of Bus services and Taxis.

5.2.3 GOVERNMENT PLANS

The planning of lekki peninsular has been done by the Lagos State Government (The New Towns Development Authority being the organ responsible for the creation and full emplementation of the master plan), in such a way that each area has been marked for specific purposes. Marked out, has been areas for recreation and open spaces for public usage. With the provisions made a

marina can thus fit into the plans the government has for the area.

Due to the fact that the government wants the area developed, private developers will be welcomed. This will encourage rapid development of the marina, as well as the site.

5.2.4 OTHER FACTORS

Socio-cultural factors also combined with historical and to a very small extent religious factors are part of the determinants in choosing the site. All these factors do not show a negativeness towards the development of a marina on the site.

5.3 THE SITE

The site on which the proposed marina is to be built is a sand filled area. The features that make the boundary of the site have been mentioned earlier in the chapter (5.2.1). However detail aspect about the site and its natural attributes are mentioned further in the chapter (see site Analysis). The site is in the Lekki peninsula scheme I development area. It lies in the north of this development area. This can be seen in fig. 5.2

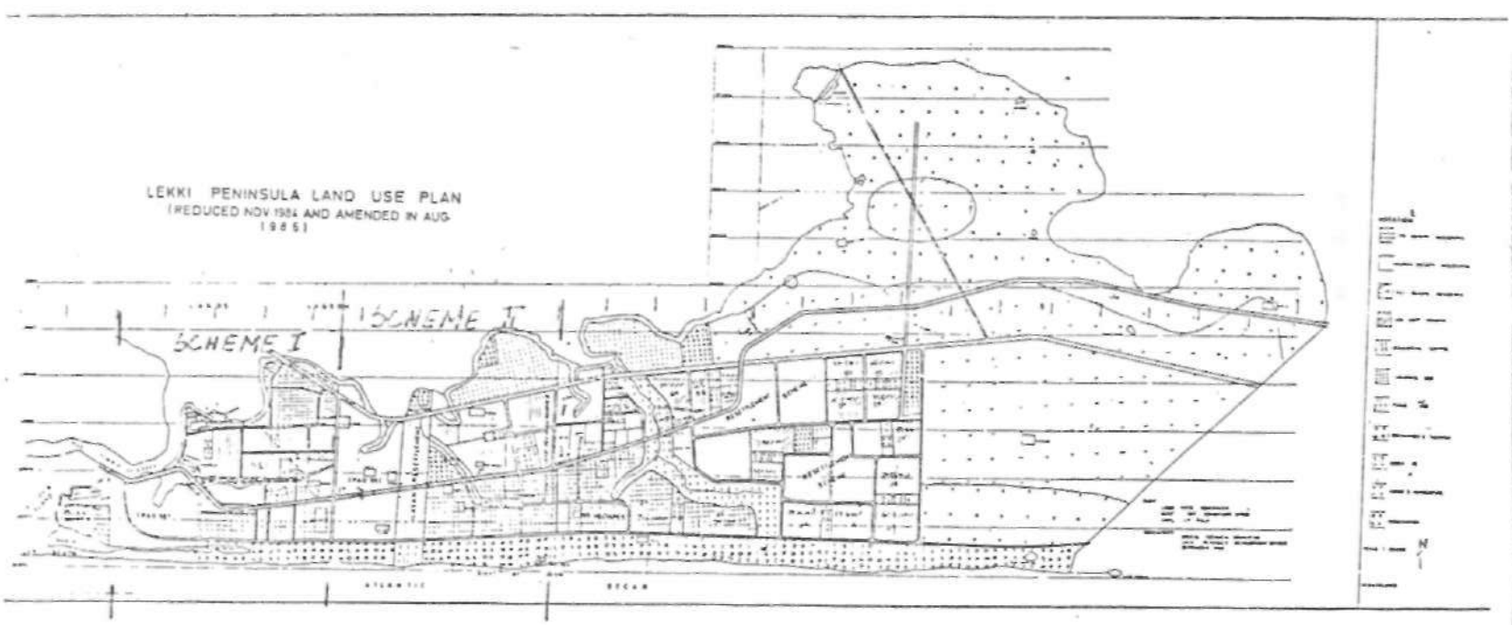


FIG 5.2

TAKEN FROM THE N.T.D.A BOOKLET

5.4 SITE ANALYSIS

To design and build effectively on a site an analysis of the site is necessary. This is to avoid mistakes in the design that will make the building unusable or uncomfortable to the user.

Various environmental and physical conditions coupled with possible site constraints affect a proposed building or design and they must be analysed.

The site which is effectively analysed will help in the design of the proposed building. This will be in terms of the proposed buildings, orientation, location, structure and enveloping surroundings.

5.4.1 MACRO-ANALYSIS (LAGOS STATE)

Physical:

Lagos state lies within the humid climate regions of the world. The vast expanse of water adds to giving Lagos state its characteristic humid climates. The terrain is generally flat.

Rainfall:

Total rainfall in Lagos State averages about 130cm. The maximum rainfall occurs in June which is about 42.5cm. Minimum rainfall is in December of about 2.5cm.

Temperature:

The average daily minimum temperature is about 27°C while the average daily maximum temperature is about 30°C. The coldest month is August with a temperature of about 27°C and hottest month is March 30°C, however, temperatures of 33°C can be reached.

Humidity:

Relative humidity averages about 97% which reduce to an amount of 73% average in the afternoons. The presence of large water bodies mainly the Lagos Lagoon, Badagary Creek and the Atlantic Ocean have a great effect on the humidity of the state.

Prevailing Winds:-

These are primarily the north-east trade winds and the south-west monsoon winds.

The north-east trade winds are usually accompanied by dust particles. The wind

lowers humidity and brings about cooler nights. These winds come from about November to February.

Its affects however are not predominant in Lagos. The South-west monsoon winds are very dominant in Lagos State. The winds bring the heavy rains, which could lead to soil erosion. Rains brought be this wind is reduced between late November to about March.

Seasons:-

Long wet season - middle of March - July heavy rains.

Short dry season - July/August - lasts about a month.

Long dry season - from November to March this is the hamattan period.

5.4.2 MICRO CLIMATE (THE SITE)

The climate of the site of the proposed marina is much the same as that of Lagos State. However due to forces (Micro) around the site some of analysis of the site vary slightly from the state in general.

Temperature Variation:-

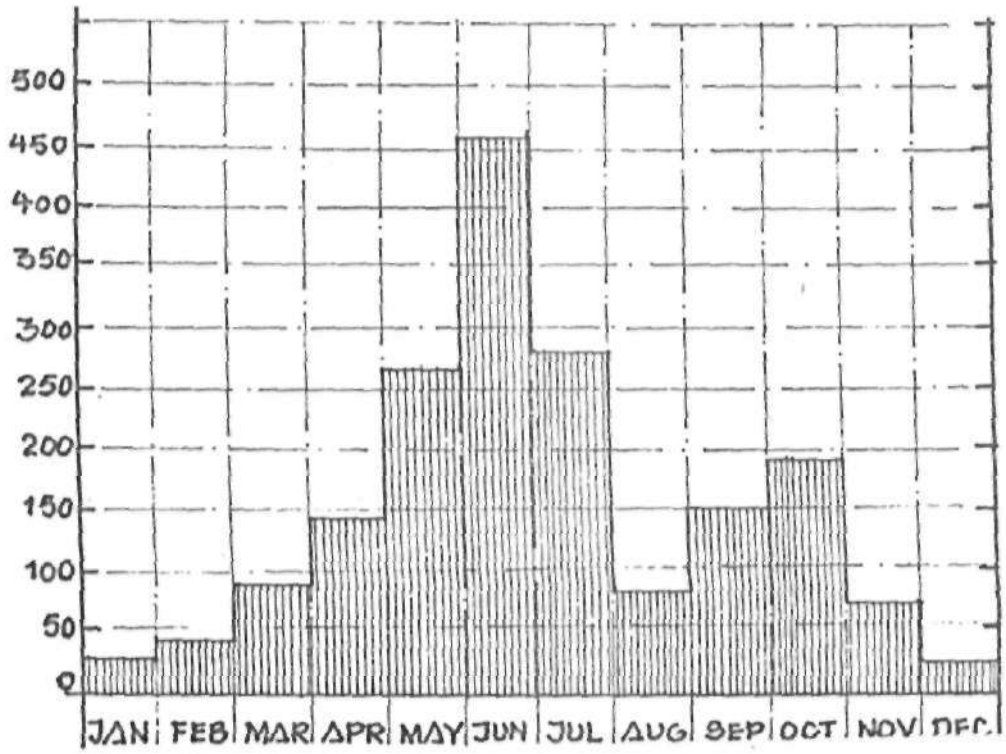
Due to the sites low lying topography, there is a rise in the local temperature, however the presence of the Lagos Lagoon on the site is felt differently at different times of the day. In the day breeze blows in from the Lagoon to the site thus cooling the site. In the night however, breeze blows to the Lagoon and the site is not as cool.

However with the proposal of grass to replace the present ground made up of sand and trees etc temperature condition will stabilize. Grass for instance reduces temperature by absorption and cools by evaporation.

Winds:-

The north-east trade and south wester lies are felt on the site. However, winds made up of breeze created as results of currents from the Lagos Lagoon are the most felt on the site.

FIG 5·5 AVERAGE RAINFALL - LAGOS.



CHAPTER 6

BRIEF DEVELOPMENT/SCHEDULE OF ACCOMMODATION

6.0 Planning brief:-

This is the brief for the whole marina in terms of its facilities.

6.1 Sports Hall

The sports hall will consist of 4 badminton courts, 5 squash racket courts, changing rooms, general office, booking office, managers office, bar sitting area and equipment store.

area for 1 badminton court including circulation space = 15.50m x 9.10m = 141.05 m^2. Area for 1 squash court including circulation space = 9.75mx5.64m = 99 m^2

Tennis Courts

There will be 4 tennis courts.

Area of 1 court = 18.29mx34.75 = 635.58m^2

Accommodation (Hotel)

The hotel will consist of the lobby, resturant, kitchen, lounge, functions room, banquet hall, general office, managers office operations managers office, accommodation office, beverage manager, staff dining, swimming

pool - including changing rooms, bar, pump room, filter room and sitting area. The hotel will also have its maintainance section consisting of a laundry, pump room, genarator and storage.

The Marina Club House

The club house will have essentially the same facilities as the boat house, only that the marina club house will cater for more people and will include a swimming pool.

Cinema:-

The cinema will cater for 400 people and consist of a kiosk, projection room, toilet, an office, ticket room and ticket collecting point.

Small Shops

Will consist of 10 shops, toilets and offices for the management.

6.2 Club House/Boating House Facilities

Lobby

This is the dispersion area of the club house. It consists of a reception area, newspaper stand and general sitting area that is used for a waiting area, a telephone booth is included.

Reception area	3.2m x 4.9m	= 15.68m^2
Sitting area	4.7m x 4.9m	= 20.03m^2
Newspaper Stand	2.8m x 2.2m	= 6.16m^2
Telephone	1.5m x 1.5m	= 2.25m^2

Circulation including dispersion spaces which link and are a part of other spaces

= 44.84m^2

Total area = 91.96m^2

General Office

The office contains chairs and tables for 4 people maintaining the office with 8 seats for visitors and space for 3 office cabinets.

Total area (including circulation space)

= 6.05mx550 = 33.28m^2

Managers Office

The office provides for a working table for the manager and 2 seats for visitors opposite the manager. Also included is an informal sitting arrangement for 7 people and space for 3 office/ filing cabinets and a refridgerator.

Total area (inclusive of circulation space)

= 5.50m x 6.40m = 35.20m^2

Assistant Managers Office

The office provides for a working table for the manager and 2 seats for visitors opposite the manager. Informal sitting arrangement for 5 people is also catered for. space for 2 office/filing cabinets and a fridge is also included.

Total area (including circulation space)

= 5.50m x 4.50m = 24.75m^2.

Secretary of the Managers (office Space)

The Secretaries office space provides for the secretaries working table, waiting area for visitors to the manager and space for 2 office/filing cabinets.

Total are (including circulation space)

= 4.50m x 5.00m = 22.5m^2

Resturant

The resturant will accommodates 48 people. The seating arrangement will cater for 4 at a table and 6 at a table arrangements.

There will be 6 tables with 4 peoples sitting at each one. There will be 4 tables of, 6 at a table arrangement.

Area for 1 table (4 at a table) = 2.70x2.70 = 7.29m^2 including circulation space.

Area for 8 tables (6 at a table) = 7.29x6 = 43.74m^2

Area for 1 table (6 at a table) = 3.29x2.85 = 9.26m^2 including circulation space

Area for 4 tables = 9.26x7 = 37.04m^2.

Bar

The bar is to cater for 9 people (setting at the bar). The area for the bar includes the circulation space for the users, included is the counter of the bar shelves and internal circulation space.

Total area = 3.10m x 7.55m = 23.41m^2

Lounge

The lounge will provide seating for 48 people. The stting arrangement will consist of 8 tables with 6 peoples at each table.

Area for each table and chair (including circulation space) = 2.95m x 3.63m = 10.77m^2

Area for 8 tables = 10.77m^2 x 8 = 86.16m^2

Toilets

The toilets include circulation space for toilet and wash hand basin.

Area for 1 toilet and wash hand basin opposite the toilet with traffic circulation in between = $0.80m \times 3.70m = 2.96m^2$

for 75 males 3 toilets are needed together with 3 wash hand basins = $2.96m^2 \times 3 = 8.88m^2$

for 50 women 4 toilets and 4 wash hand basin are needed

Total area = $2.96m^2 \times 4 = 11.84m^2$

75 males using the toilets will need 4 urinal stalls

Area for 1 stall = $0.3m \times 0.6m = 0.18m^2$

for 4 stalls = $0.18m \times 4 = 0.72m^2$

Total toilet area for both male and female

$= 8.88m^2 + 0.72m^2 + 4.84m^2$

$= 21.44m^2$.

Club Library/reading area

The library will accommodate books using a shelf system and provide reading space for books and journals. Its' estimated that 25% of the population (125) that will use the club house comes to 32 users.

Narigation Library:

The library will contain maps and literature of relevance to navigation. Also included is a

map reading area. Map storage drawers are inclusive plus a table and seating for the personel in charge of the library (2 people are in charge - a librarian and an assistant).

Changing rooms.

Changing rooms are to cater for males and females. The rooms will consist of toilets, changing area and showers.

Male

4 showers, 4 toilets, changing area and wash hand basin.

Female

4 showers, 6 toilets, changing area and wash hand basin.

Area for toilet = 1.70m x 0.80m = 1.36m^2.

Area for 1 shower circulation space = 0.90x1.60 = 1.44m^2

Area for 1 wash hand basin

(circulation inclusive) = 0.8mx1.0m = 0.80m^2

Total changing area for male:

Total toilet area = 1.36m^2 x 4 = 5.44m^2

Total shower area = 1.44m^2 x 6 = 5.76m^2

Total wash hand basin area 0.80 x 4 = 3.20

Changing area = 14.80

29.20m^2

Total changing area for females:

Toilet area total	= 1.36m^2 x 0	= 8.16m^2
Total shower area	= 1.44m^2 x 6	= 8.64
Total basin hand wash area	= 0.80 x 6	= 4.8
Changing Area		= 15.54
		37.14

Accommodation

Accommodation will consist of 19 rooms. The rooms will be of the double room type.

Area for 1 room = 3.00m x 4.50m = 13.50m^2

Area for 19 rooms = 13.50x19 = 256.5m^2

Committee Room

The room will accommodate 14 people with space for drawers.

Sitting area (including circulation space)	= 4.20m x 4.80 = 20.16m^2
drawer space including	= 4.20m x 1
Circulation space	= 4.20m x 2.20m = 9.24m^2
Total committee Room area	= 29.40m^2

First Aid Room

The room will include space for a bed, medicine chest and nurses table.

Area = 4.0m x 3.6m = 14.40m^2

Drying Room

This is a room for the drying of wet clothes. The room will have provision for hanging.

Kitchen

The kitchen is where the food in the resturant will be prepared. The area of the kitchen is taken as a percentage of the resturant area.

Kitchen area = 0.6 x 80.78m^2 = 48.5m^2

Ancillary Sports Club House

Lobby

The lobby will act as a dispersion point for the club house. The lobby will consist of a reception area and space for movement for 16 people.

Area of reception = 15.68m^2

Area for 1 person = 1.2m^2

Area for 16 people = 16x1.2m^2 = 19.20m^2

Total area of the lobby = 34.88m^2

General Office

The office carry out the function of seeing to general management of the club. The requirements are the same as the boat house.

Total area = 33.26m^2

Managers Office

The office will consist of a working table for the manager and informal sitting for visitors. The area is put at 20% less than that of the boat house

Total area = $28.16m^2$

Assistant Managers Office

The office will be like the manager's office, consist of a working table and informal sitting for visitors. The area is also put at 20% less than that of the boat house.

Total area - $0.80 \times 24.75m^2 = 19.8m^2$

Office of the Secretary to the Manager

The Secretary is to handle the managers transferable paper work and monitor the visitors coming into the managers office. The office will consist of a working table for the secretary and a waiting area for visitors.

Lounge

The lounge will provide sitting for 24 people.

Total area = $43.8m^2$

Bar

The bar will cater for the lounge and the outside sitting area.

Changing Rooms

There will be 2 changing rooms - 1 female, 1 male.

The female changing room will consist of 4 toilets, changing area and 3 showers.

The male changing room will consist of 3 toilets, changing area and 3 showers.

Equipment Room

The room is to provide for storage of water sport equipment, for example skiing equipment and diving equipment.

Outside Sitting Area

This area is for open air relaxation

Maintainance/Boat Storage

Wet dock repairs.

The wet dock will be where boats will be repaired which need water as an aid in possible testing. The dock will consist of the main dock which can be made dry by pumping the water

out of it, a pump room, a store and a slipway A changing room will be provided which will also be used by workers in the dry dock. (changing room will be situated in the dry dock).

Dry D Repairs

The dry dock will be for boat repairs out of water. It will consist of the main dock repairs working area, 2 offices, stores a rest room and changing room.. The changing room will consist of the changing area, toilets and showers.

Boat Storage

Boats will be stored in both dry storage and wet storage (wet berths - moored).

Area for storage of 1 boat = 29.52m^2

Area for wet berth storage = 33.36m^2

(1 boat)

Car parking

The parking area for cars will be in the open. The parking to be provided will be 90^o parking.

Area for 1 car = 2.40m x 5.50m = 13.20m^2

Area for car parked

with trailer (in the open) = 14.93x3.66 = 54.63m^2

Schedule of Accommodation

Item	Users Requirements	Accommodation	Unit Area	Total Area
	Club House			
1.	Lobby			91.96m^2
2	General Office	7		33.28
3	Managers Office	8		35.20M^2
4	Asst. Manager's Office	6		24.75M^2
5	Manager's Secretary Office	6		22.5M^2
6	Resturant	48		80.78M^2
7	Bar(Sitting at Bar)	9		23.41M^2
8	Lounge	48		86.16M^2
9	Toilets (Male)			8.88M^2
10	Toilets (Female)			21.44M^2
11	Club Library			
12.	Navigation Library			
13	Changing Rooms (Males) (excluding changing Area)			29.20M^2
14	Changing Room (Female) (excluding changing Area)			37.14M^2
15	Accommodation	38 rms	13.50M^2	513.0M^2
16	Committee Room	14		29.40M^2
17	First Aid Room			14.40M^2
18	Drying Room			24.0M^2
19	Kitchen			76.80M^2
20	Accountants Office			24.75M^2

Item	Users Requirements	Accommodation	Unit Area	Total Area
	Ancillary Sports Club House			
21	Lobby	14		34.88M^2
22	General Office			33.26M^2
23	Manager's Office			28.16M^2
24	Asst.Managers' Office			19.8M^2
25	Toilets (Admin)			
26	Secretary to Manager's Office			
27	Lounge			43.08M^2
28	Bar			
29	Changing Room			
30	Equipment Store			
31	Outside Sitting Area			
32	Staff Room			
33	General Store			
34	Maintainance			
35	Wet Dock Repairs			
36	Dry Dock Repairs			
37	Boat Storage	120	21.32M^2	2558.40M^2
38	Car Park		13.20M^2	792.0M^2
39	Sports Hall			
40	Badmintan Courts	4	143.78M^2	575.12M^2
41	Squash Courts	5	62.33M^2	311.65M^2
42	Tennis Courts	4	420.25M^2	1681M^2

Item	Users Requirements	Accommoda-tion	Unit Area	Total Area
	Hotel			
42	General Manager's Office			42.13M^2
43	Accountant Office			27.03M^2
44	Office Manager's Office			30.96M^2
45	Lobby			96.04M^2
46	Lounge			117.0M^2
47	Toilets			11.84M^2
48	Food And Beverage Manager			22.08M^2
49	Switch Boald			25.00M^2
50	Night Club			147.38M^2
51	Banquet Hall			272.08M^2
52	Swimming Pool			664.0M^2
53	Kitchen			92.16M^2
54	Resturant			111.76M^2
55	Staff Dining			62.92M^2

CHAPTER 7

D E S I G N

7.0 Considerations

The Marina proposed by the author was planned and designed with the site's conditions and features taken into consideration.

The main feature of the site is its boundary with the Lagos Lagoon. The Lagos Lagoon bounding over half of the site, has been used to create a feeling of water. This has been done by either contact with water or direct vision with the water.

With the site being relatively flat and thus creating water drainage problems, gutters and water drainage channels have been introduced to solve the problem. The nature of the site apart from being flat is sandy (it is a sand filled area) thus waste water disposal problems occur. Waste water disposal from the buildings had to be tackled especially. The problem of sparse vegatation also had to be considered as this affects the landscaping of the site, which plays an important role in bringing about

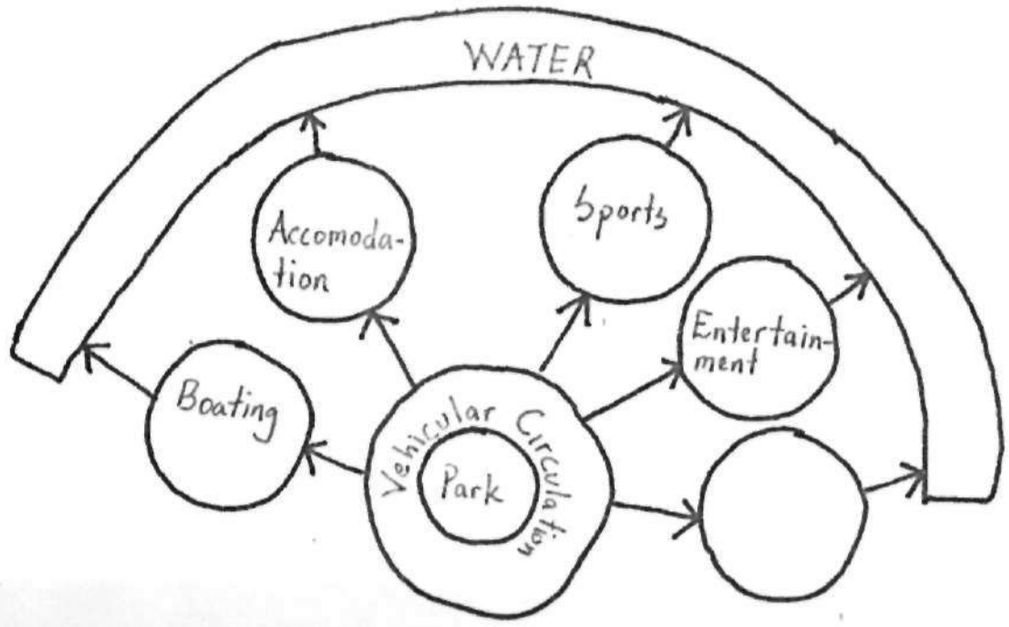


FIG 7.0 CONCEPT Dia. (PLANNING)

continuity on the site.

In planning the site, possible entry and exit of the site were proposed by the author in consideration of existing and proposed reads around the site.

Another important consideration taken into account is the climatic conditions of the site and its surroundings, this is to help orient buildings as much as possible and create some anticlimatic devices (e.g sun shading devices).

7.1 Planning Concept

In creating a planning concept, the water body present by the site played an important role. The concept revolves round planning the facilities of the marina such that each facility reaches out to the water.

The parks in the Marina act as a central core with the vehicular circulation acting as a dispersion organ to the different facilities, which in turn reach out to the water. Due to the shape of the site the concept chain can be seen to be in a semi circular form (fig. 7.0)

7.2 General Marina Lay-Out

The general lay-out of the marina is based on the planning concept, thus in planning the marina

the concept chain for each facility in the marina is followed.

Entry into the site is by a road consisting of two lanes in each direction. The road runs round the site's inner area and back to the entry point. On entry into the site the boating facilities are to the west of the site (left of road) with the park on the right side of the road. The boating facilities extend to almost to the apex of the site. At the apex of the site exist the picnic area land-scaped with coconut trees. Moving down from the apex on the eastern side of the site is the Cinema followed by the hotel and finally the marina club. Due to thesite restrictions and design considerations the sports hall is located about the centre of the site surrounded on three sides by a park. Car parks exist for the boating facilities in front of the building but away from the entrance area, to ensure good frontal landscaping of the building. Between the cinema and the hotel exist parking for cars for the two buildings. Car parking also exist on each side of the marina club house. In front of the picnic area, car parks exist for picnicers.

7.2.1 Circulation

Circulation within the marina is achieved by vehicular routes and pedestrian pavements. As mentioned earlier in the chpater the road runs round the site with service roads existing of the main road. Pedestrian pavements exist on each side of the road and within the surroundings of the different facilities. Movement through the park is also achieved by paved walk-ways.

7.3 Buildings

The buildings on the site have been oriented in such a way that most of the buildings will enjoy maximum view of the Lagos Lagoon and in some cases Ikoyi on the opposite side of the Lagoon.

The buildings are to create a relaxing feeling to the users in terms of elevations of the buildings and their interiors. The buildings to exist in the plan of the marina are the boat house with inclusion of a boat maintainance workshop, cinema, sports hall, hotel and a marina club house.

7.4 Design Concept (Boating Facilities)

The design concept is also based on the idea of reaching out to the water. Spaces inside the building are made to channel the users to the water front, or are in the direction of the water.

7.5 Design of Boating Facilities

The main building in the boating facility is the club house. It contains an administrative wing or area, which is responsible for the running of the club facilities and services. From the entrance is the lobby which leads in into the lounge. The lounge opens into the water front and an outside semi covered sitting area. Toilets are accessible from the corridor around the lounge. The main club bar is accessible from the corridors bounding the lounge. The Bar is equiped with its on store an sitting area. The resturant is located a floor higher than the main club house (i.e. lounge,bar,lobby, toilets and administration).

The location of the restorant is to give users the feel of the water by vision.

Also included in the boating facility is a navigation library for boaters and an ordinary labrary for general use by users of the boat club house. On the same axis ate the changing rooms, first aid room, drying room and lecture room. On top of the just mentioned functions is accommodation of nineteen bouble rooms accessible by a stair case in front of the navigation Library. On the same level as the accommodation is the boats club room equiped with a bar and toilets. Also on that level is a small reception.

The boating facility also includes a water sports club. It has a lobby - lounge - water front design pattern like the boaters club house. Included is space for water sports equipment and changing rooms.

A maintainance section of the boating facility exist. It is made up of two docks, one a wet duck the other a dry dock. The wet dock can however have its water pumped out to the lagoon. Boat storage is included, which exist in an area between the boat club house and the maintainance workshop.

Parking exist on the right of club house's entrance. In the case of the boat storage trailer

parks exist in front of the boat storage. Boating piers also exist for storage (wet berth). In general the design stretches along the western part of the site and enjoys close proximity to the water and gives a reaching out to the water effect.

BIBLIOGRAPHY

1. Adie,W. Donald (1977), Marinas Architectural Press Ltd. London.

2. Awagu Emeka (1979), Marina Lagos Unpublished M.Sc. Thesis, A.B.U. Zaria, Dept. of Architecture.

3. Ching,F.D.K. (1979), Architecture: Form, Space and Order Van Nostrand Reinhold Company

4. Chiadzik,J.S. (1984), Structural Systems in Architecture Ahmadu Bello University, Zaria Dept. of Architecture.

5. Lawson,Red (1976), Hotels Motels and Condominiums Architectural Press London

6. Lynch Kevin (1973) Site Planning M.I.T. Press

7. Neufert Ernest (1980) Architects Data Granada Publishing.

8. Ratcliffe John (1981) Town and Country Planning Hutchinson and Co London

9. Simonds,S. John (1961) Landscape Architecture Mac Graw Hill Book Company

10. Tutt Patricia and Adler David (1979) New Metric Handbook The Architectural Press London.

Articles

1. Adie,W. Donald (1974) Costa Brava Comes to Brighton In Architects Journal (Jan.) Vol. 159 No.5 pp 190 - 193

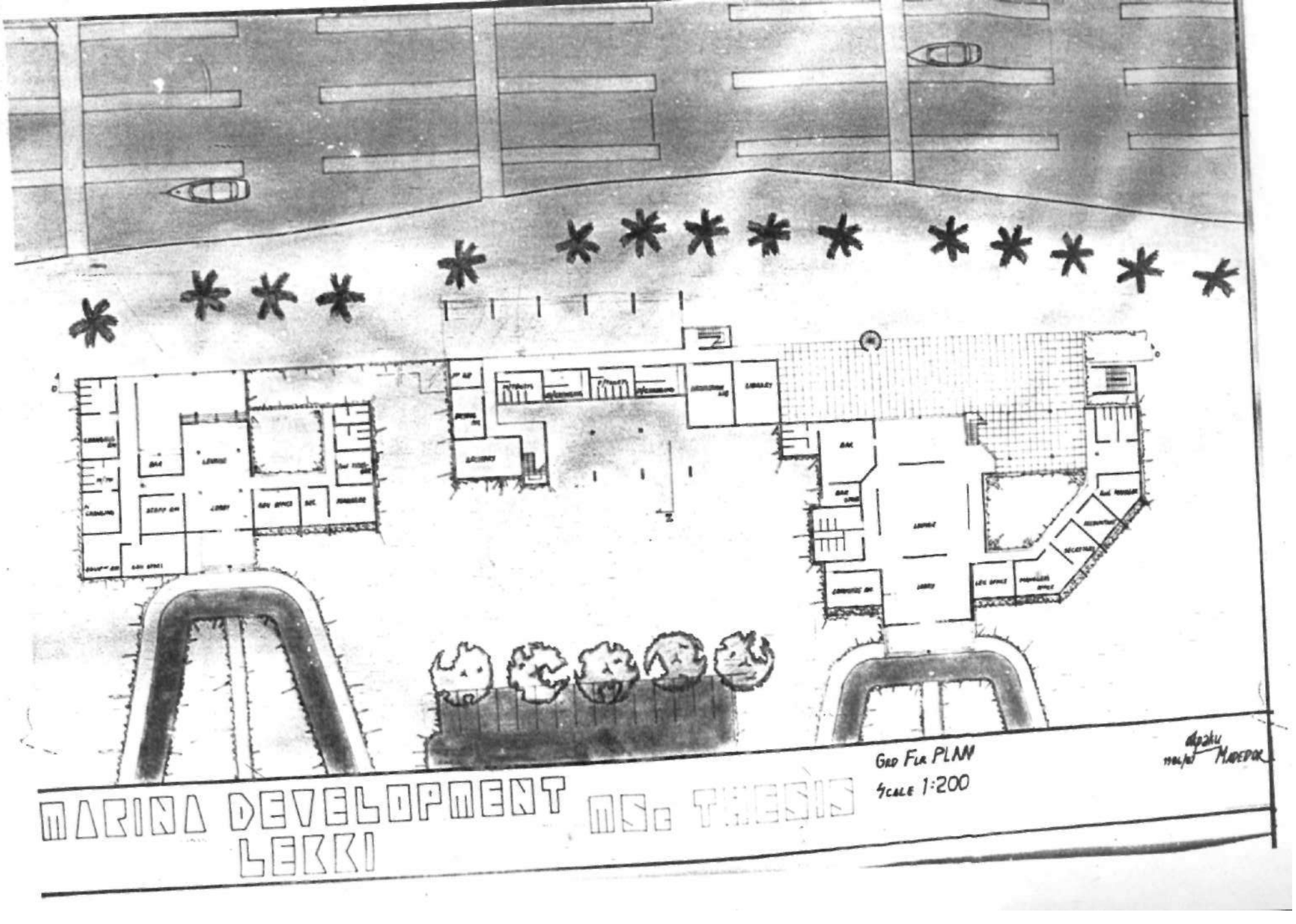
2. Peazley Elisabeth, (1963) Marinas In Architectural Review (Aug.) Vol.134 No.798 pp 95-108

3. Brownie Kenneth And Leslie Ginsburg (1975) Brighton Marina an alternative Plan In Architectural Review (Jan.) Vol. CLVII NO. 935 PP 103 - 107

4. Gerald M. McCue and Associates (1968) Rugged Small Buildings for a Marina In Architectural Record (Oct.) Vol. 144 No. 4 PP 160 - 162

5. Kaye Sidney,(1972), Marina Architecture In The Architect (Aug.) Vol. 12 No.8 PP 31 - 33

6. Functions and Operations of the New Towns Development Authority (N.T.D.A.) New Towns Development Aurhority Production.


MARINA DEVELOPMENT
LEKKI
MSc. THESIS
GRD FLR PLAN
SCALE 1:200
MADEDE

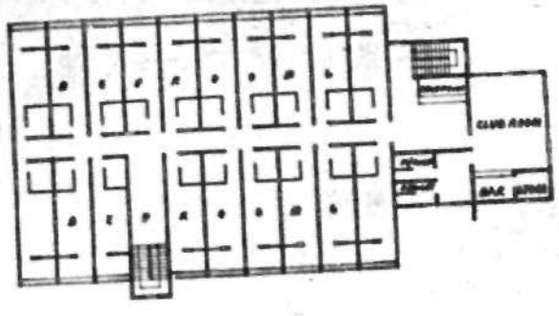
CASINO DEVELOPMENT MSE PHENIS

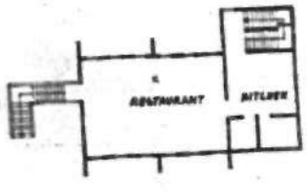
PROPOSED

NETWORK PLAN

SCALE 1:200

JAPAN DEVELOPMENT BANK



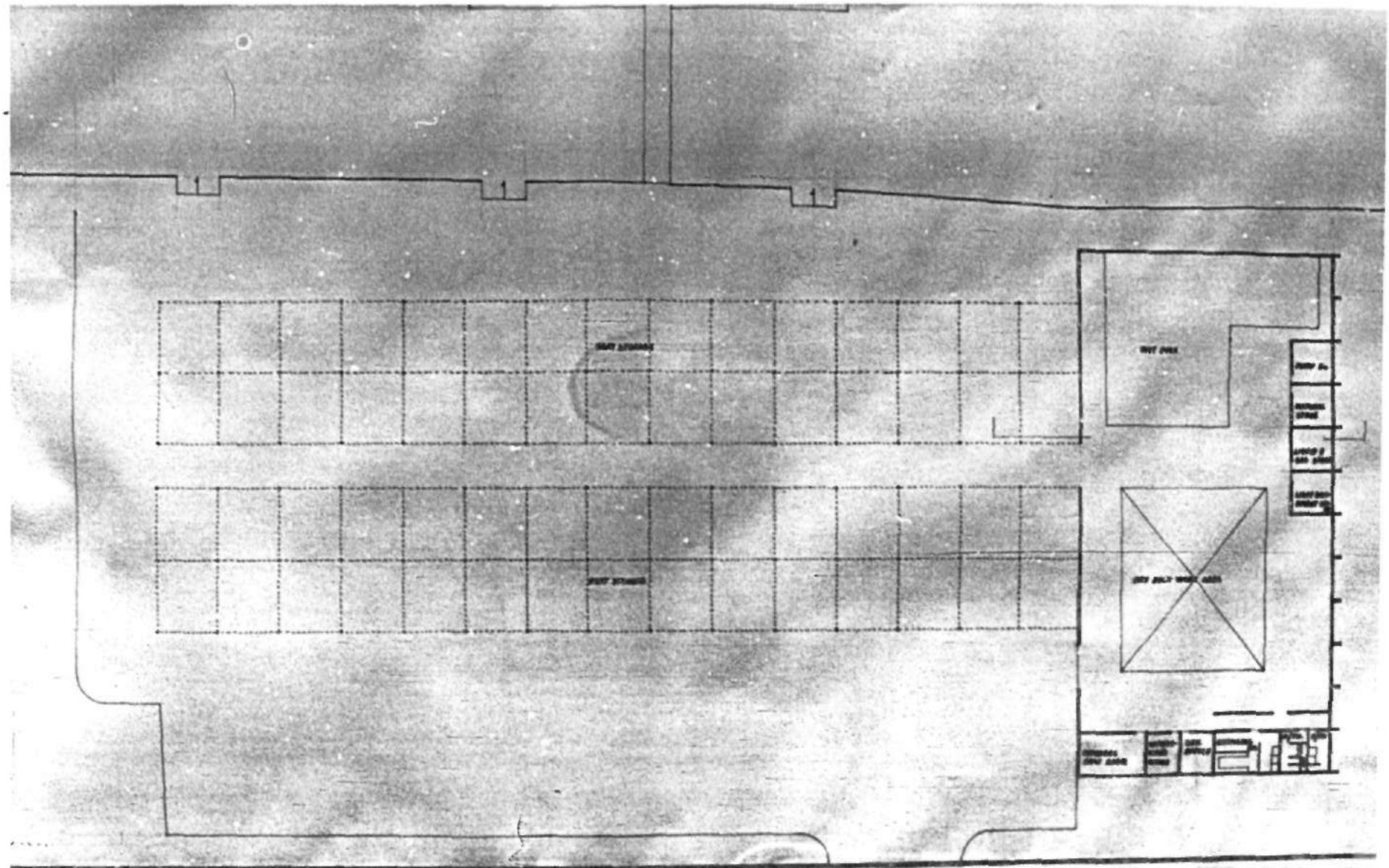


LAGOS MARINA DEVELOPMENT LEKKI

M.Sc. THESIS

1st FLOOR PLAN

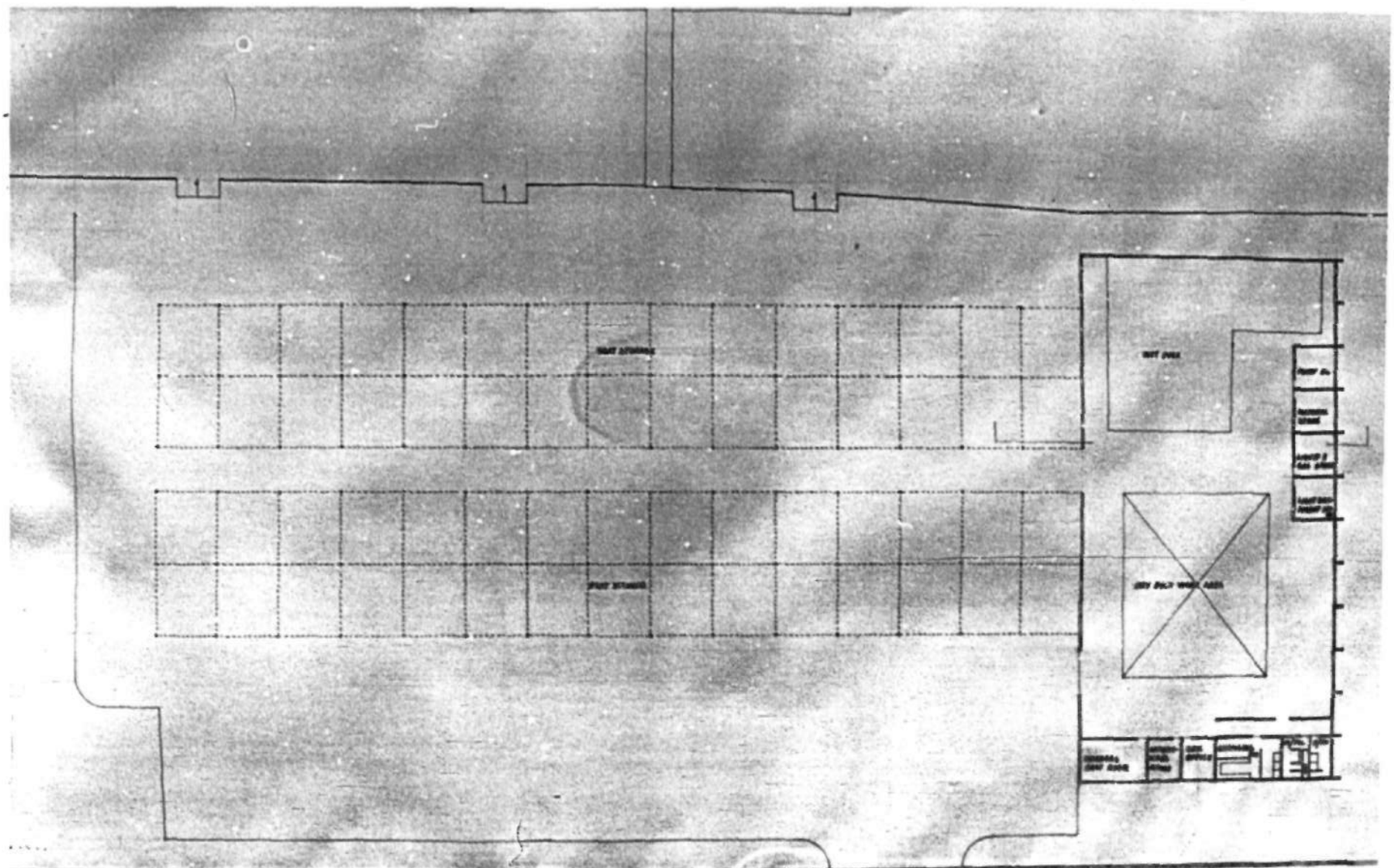
SCALE 1:200



MARINA DEVELOPMENT
LEKKI

M.Sc. THESIS

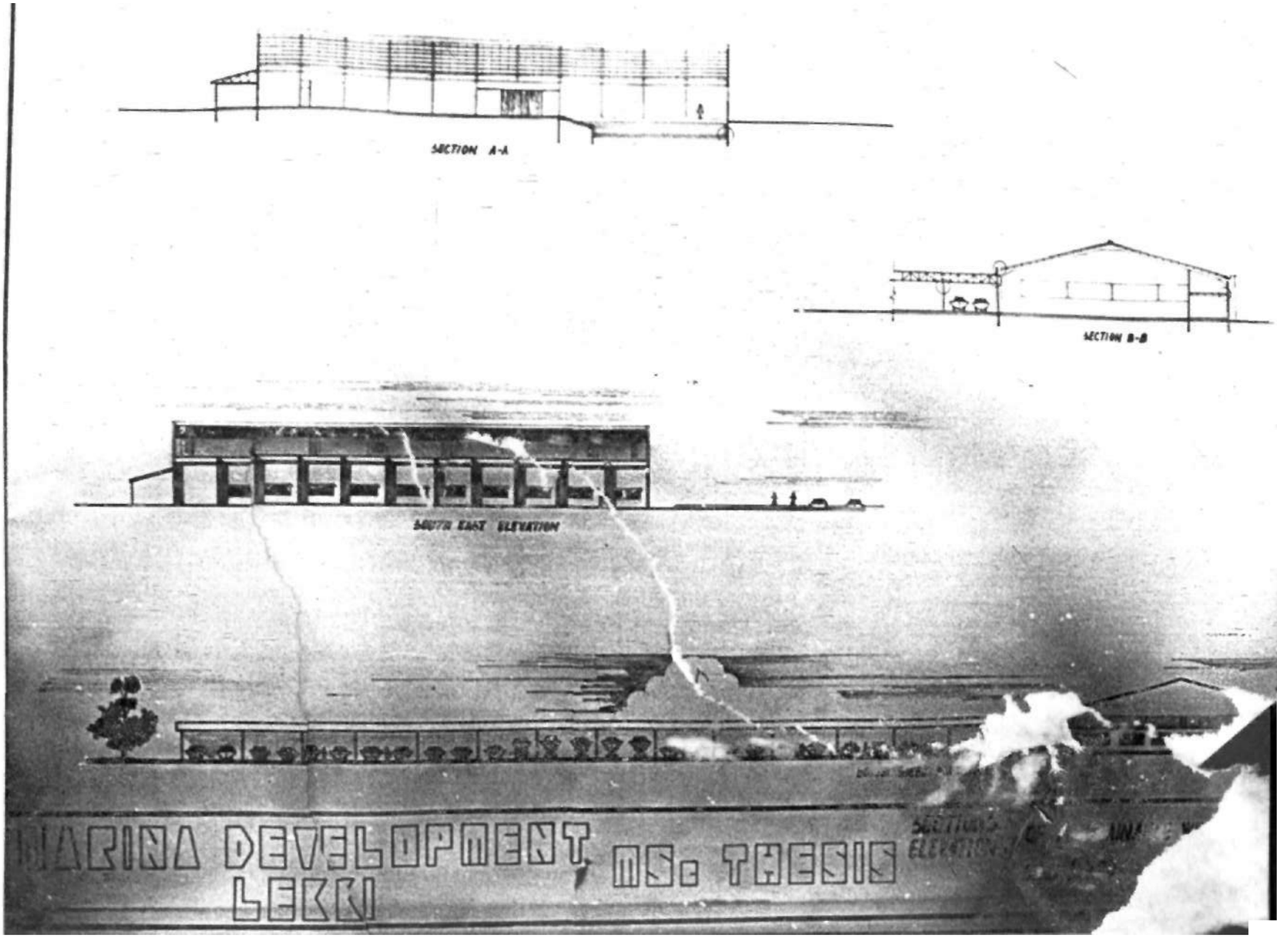
GRD FLOOR PLAN
MAINTAINANCE WING
SCALE :-1-200



MARINA DEVELOPMENT
LEKKI

MS. THESIS

GRD FLOOR PLAN
MAINTAINANCE WING
SCALE :- 1-200

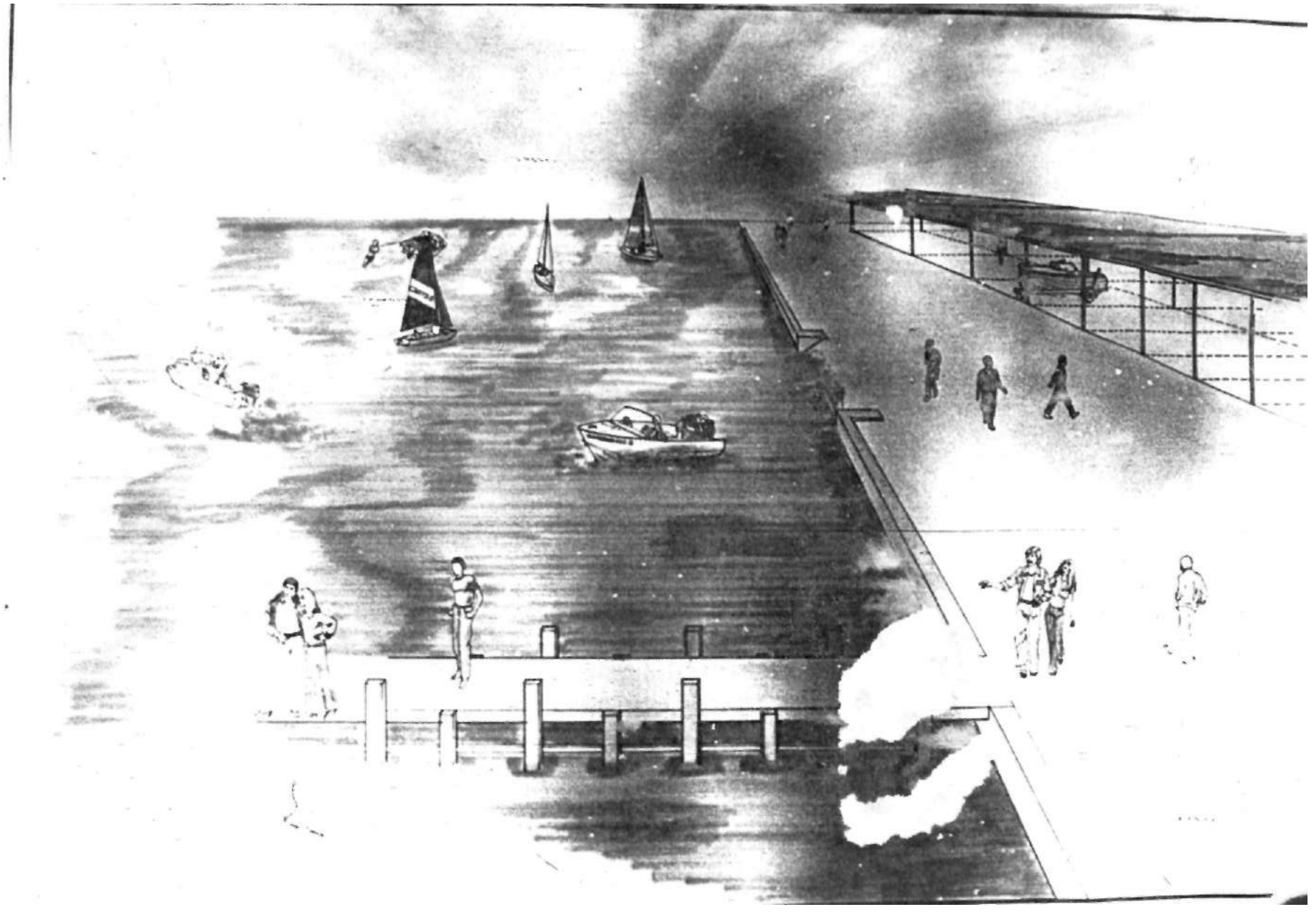

SECTION A-A
SECTION B-B
SOUTH EAST ELEVATION
MARINA DEVELOPMENT, M.S. THESIS
LEKKI



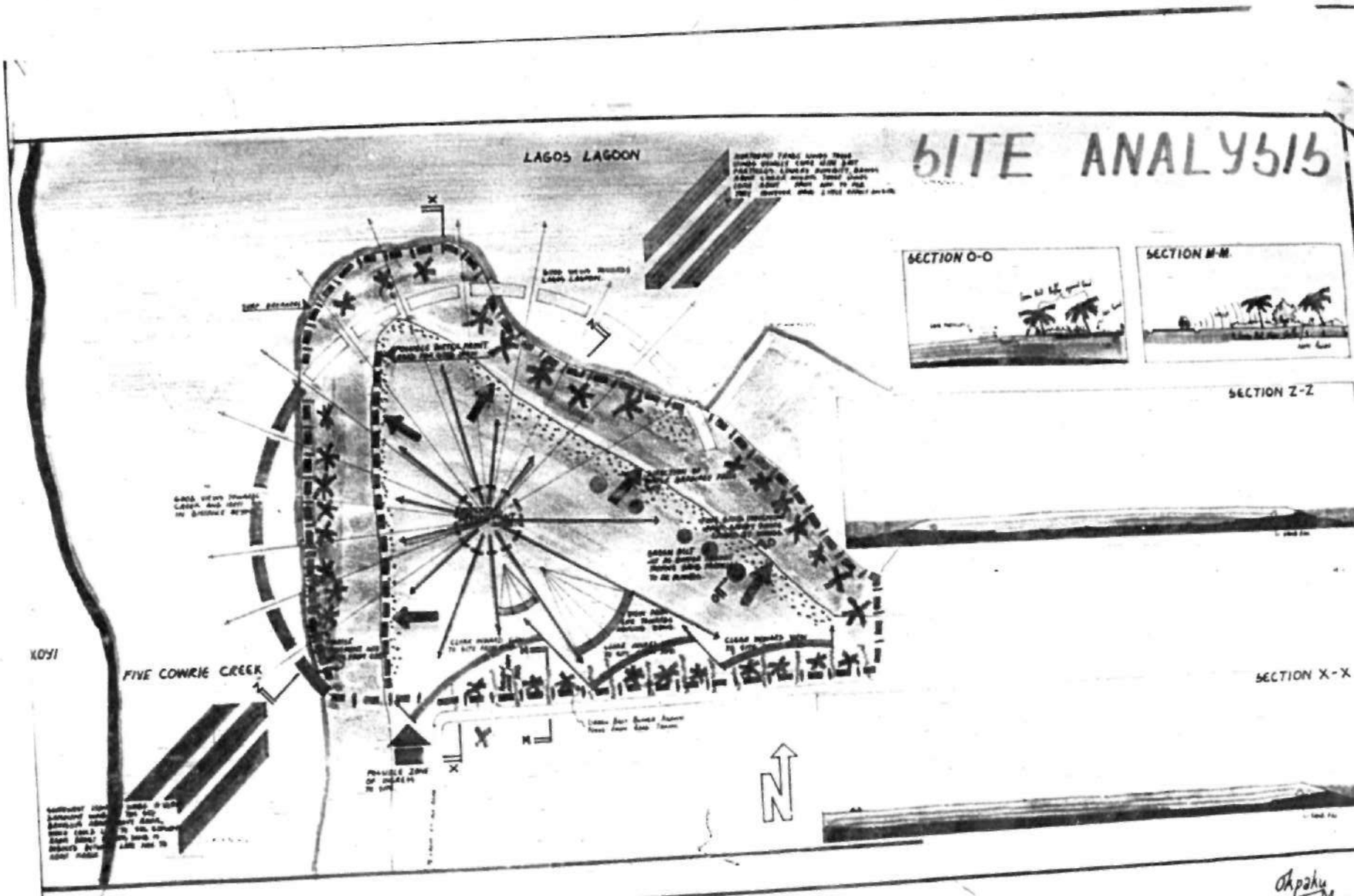
MARINA DEVELOPMENT MSc. THESIS
LEKKI

STREET ELEVATION SCHEMATICS
SCALE: 1-500

1986/87 MAPEDIE



SITE ANALYSIS



Akpaky MAD
1984/87