DESIGN PROPOSAL

FOR

CENTRE FOR AFRICAN TRADITIONAL ARTS ABUJA

WITH EMPHASIS ON ACOUSTICS

BY

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DECLEARATION

I hereby declare that this thesis has no bearing or similarity to any work done by any person or group of persons, which has been presented for a higher degree.

The thesis has been composed by me and is a record of my research.

MOHAMMED UMAR HUSSEINI.

CERTIFICATION

This thesis report entitled centre for African traditional arts Abuja by Mohammed Umar Husseini meets the regulations governing the awards of the master degree of Technology in Architecture and approved for its contribution to acknowledge and literacy presentation.

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DEDICATION

This thesis is dedicated to :-

- Almighty Allah for his protections and guidance over me for he who kept me alive to witness this memorable event.
- My parents; Alhaji Muhammadu Ndakpayi Bida, my mother Hajiya Hausatu Ndakpayi, my step mothers Hajiya Hadiza, Hajiya Azumi, Hajiya Mamu Ndakayi for their care and support.
- My loving sisters and brothers
- My grand mothers (my late grand parents)

I dedicate this also to love for you are my quiet place when the winds and storms rage.(licious)

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ABSTRACT

There are almost or probably more than a thousand languages that are widely spoken in Africa with some sub dialects spoken.

This great language put together with improved communication and greater mobility has had greater several results. There has been greater rapid growth of certain African languages which are used among people of different languages and groups. This languages serves as lingua Franca could serve a great deal in aiding communication amongst African brothers and sisters. Just like languages, culture and cultural interrelationship solidifies the unity of people and different socio-ethnic and cultural groupings. So if inter boundary and cultural relationships are enhanced then greater brotherly relationships shall be achieved.

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CHAPTER ONE

INTRODUCTION

The centre for traditional arts Abuja, was conceived due to recent trend globally towards individual cultural inclination, that is cultural "identification". The origin of culture could be traced as far back as the origin of man.

Culture touches every sphere of human life such as economy, technology and scientific methods. The rich cultural heritage of Nigerian people could be displayed ranging from cloth making, weaving, hair style, dressing and architectural style. Also individuals beliefs and practices play a great role in shaping our life

1.1 CULTURE

Culture could be defined as a way of life fashioned out by a set of people in their culture endeavor to live and come to terms with their institutions and their system of belief and rituals – sir James Ngugi (1977)

Also culture of a set of people consists of patterns explicit or implicit and of behaviour acquired and transmitted by symbols constituting the distinctive achievement in artifacts. The essential core of culture consists of traditional ideas and their attached values. The cultural system on one hand may be considered as product for future

action. It therefore follows that culture is more than just a heritage but historical product but also the expression of man's mode of living something that individuals in each society must under go as a kind of life – H.G. James (1976).

The word culture is derived from the word "colere" meaning to tend or cultivate. In some linguistic context the word for example means "the culture of bacteria". In Roman time the world has derived a meaning with an abstract sense. In the medieval Latin, culture was used to mean cultivation of religious worship". During the rennaissance, the word culture was used in connection with literature and the arts, and not until 17^{th} and 18^{th} centuries it came to be generally used in English and French, to denote "cultivation of the mind". Recently it does not mean only to denote arts but for issues of mass communication and education. Culture is the totality of the way of life and people and their environment, which together distinguishes them from their next-door neighbors . Culture could be viewed as aggregate material and spiritual values produced by the creative mind of the man through the application of possessive and specific qualities of him alone. Culture is the most important weapon used in colonization and domination of man. Thus the desire of this project is to identify, collect and generally look in to ancient and historical monument and

records and archeological sites and remains. Culture entails a lot in its context, it comprises religious, religious beliefs, tradition, customs, marriages, Acts and crafting, the way people live, eat and dress and perform their individual duties.

Also culture could be looked at as an instrumental agent, as another mode of interaction in our social and economic life. It could be defined also as the sum total of material and intellectual equipments used by other people to satisfy their biological and social needs and adapt themselves to their environment.

Cultural inclination could be seen with example of personalities like Hajia Ladi Kwali who took interest in pottery. The original inhabitants of Abuja were the "Gbagyi" tribes whose major pre-ocupation are farming and pottery. The Gbagyis build their homes with clay and roof it with thatch roof. The project centre for traditional arts is to accommodate all forms of arts (traditional) and this could be performance arts or creative, that is either weaving, basketing etc, other like poetry, drama and chorography fall under the performance arts some of which are becoming a thing of the past due to their financial implication. Cultural practice are exposed to cultural piracy due to the exporting of some of our artifact abroad by the European and other foreigners which are traded for either decorations

in individual homes or public buildings at high cost. Civilization is gradually and almost finally extinct our individual cultural heritage from one form of living to our form of appearance down to our homes has been advancely been affected by civilization. As such if care is not taking one day our true identity will be lost just like some European nations that do not have cultural background.

The proposed centre for traditional arts is a podium where cultural activities could be displayed and appreciated at its purest and natural form with contemporary architecture to enhance performance. This centre is also to serve as a catalyst to boast traditional cultures and prevent it from extinction. This is a centre where performance and other cultural artifacts be presented also where every African despite there cultural background and identity will have a strong sense of belonging.

This project will go a long way to collect, preserve, develop, promote, integrate and research into various parts of Arts and culture. A production unit is put in place for craftsmanship. The centre shall check piracy and also promote unity in devised culture ethnic groupings, in Africa. Nigerians are found to be lovers of culture just like their other African brothers and sisters, the Zulus and the Berbers that have occupied North Africa. Benin in the 15th century was the

greatest state and empire in the Gulf of Guinea. There was a town before the 11th century and its traditions that its people asked for a rulers from "IFE" a town North-west, in about 1300, the traditional rulers of Benin are called the Obas which is the same as the Yoruba word King. Benin is famous for its traditional/arts like carvings in ways and plaques (mets/slates etc). The traditional arts of Benin are which practiced but fine historic architecture recorded by the early European visitors has not been rebuilt.

The Yoruba people are one of the three largest groups in Nigeria and live mainly in the western part of Nigeria i.e. Kwara, Oyo, Ogun Osun, Ekiti, Ondo, Lagos States.

There are several different groups like the Oyo, Ekiti, Egba, Ijebu and others all speaking versions of same language.

According to Yoruba myth, the ancestor of the Yoruba people in western Nigeria was sent down by God (Olodumari) God of Ife which is the traditional center of Yoruba.

The Oba (king) of the other main Yoruba towns and States owe respect to the Oni of Ife. (The ruler). Traditionally the people are farmers who grow yam, cassavas, Maize and cocoyams. The traditional Yorubá house is built round a square yard. The Yoruba people have rich traditions in drama, masquerades, language and

poetry. The terra-cotta (backed clay) and bronze sculpture of Ife is amongs the finest despite its standing taste of time, the Yoruba language is being spoken by more than 10million people, with different intonation. There are regional dialects of Yoruba, which vary as between the Egba in the west and the Ekiti in the east. Yoruba culture is rich in poetry. Used for naming ceremonies or traditional plants and animals ceremonies, such as the newly born child. "Dundum" the talking drum, these drums do not simply accompany the human voice, they can be made to speak by either imitating the complicated tones and rhythms of Yoruba speech.

Oriki are often used as parts of "Ijala" which are traditional songs of the Yoruba hunters. These songs may be during festivals in praise of Ogun the traditional Yoruba God of war and iron or chanted by farmers they evoke on their farm lands, "Rara" often recited by women on occasion" such as weddings these may also contain "Oriki".

"Iwi " are traditional songs for masked dancers at festival for ancestors. Nowadays "Jwi" may also include humorous commands on fact and events also with people and to an extend initiate animals. Odu are verse learnt and recited by the priest of Ife for the purpose of

divination. Ofo and ogede are songs used to produce magic. Ege are songs of lamentation of famous men.

Yoruba poetry is basically social and ceremonial, unlike much European poetry. Yoruba poetry joins together people to celebrate and confirm their common experience.

Igbo people (Ibos) are three main ethic groups in Nigeria. Their population is estimated at 8-9 million mostly living in the east-central states, where the density of population is the highest in West Africa. Thee are also many Igbo people in other parts of Africa especially in west Africa. Most Igbo farmers who grow yams, cocoyams, maize and palm products. There is also a tradition among the Igbos that is skilled wood-carving and poetry. Many Igbo people are well known for their music, dancing, the tradition of painting their bodies and wrestling.

In general, Igbo society was not controlled in the past by any central authority. Political decisions and public affairs were discussed at village meetings.

Traditional religion included belief in a great 'creator God' Chukwu Okike, respect for dead ancestors (Mmuo) ; and belief in other spiritual forces. Ancient Igbo rituals included the ceremonies connected with yam production (Ifejioku).

The Igbo people are divided into various groups. The southern Igbos of Owerri-Ngwa region gave strong traditional Mmuo" societies and systems of titles in their community. They live in scattered communities homestead or compounds-which make up villages. In north the communities of Nnewi –Nsuka area are distinctive Ozo titles. The region was dominated by the Eze Nri (rulers of Nri). The Aroigbos developed a great commercial empire based on the Atlantic slave trades with the Europeans in the 18th century. The 'long Juju' of Aro Chukwu was used to promote the trade as late as the 19th century. Later trade in oil palm products replaced slave trade. After the war many towns of east-central state such as Onitsha, Aba, Umuahia and Enugu soon became prosperous communities centres again. These in the south central are the Ijaws Ibibios,Efik etc. The Ijaws make up a large part of the population of Rivers state in Nigeria. Some live in the west state of Nigeria. Sections are sometimes called clans. These include Ibani (Bonny), Okika, Kalabari; Nembe (Brass) and Akassa. These are traditional, stories of a movement of Ijaw people from east and north from about the 15th century. However, the Ijaw language does not seem very related with other Nigerian languages. Ijaws may have arrived at the Niger area long before any of the other tribes.

The Ijaws traditionally depend very much on fishing, salt making and selling.

HAUSA: The Hausa are the most numerous people in the northern state of Nigeria and southern Niger Republic, also found in northern Ghana Dahamoy and many live as immigrant in Sudan Republic. There is a Hausa legend that one of their early leaders, Bayajidda, came from the middle east, but this story possibly reflects the arrival of the barber people who came and mixed with the Hausa from about 11th century. Other people, especially the Fulani; have also mixed with the Hausa for long periods. Most Hausa people are farmers traditional depending on crops such as guinea corn, millet, and groundnuts, the long dry season (November-May) gives opportunities for trading journeys and development of crafts and industries, such as cotton cloth-making leather- working and making mats and pottery. Military expeditions have been important in Hausa history for expending the territory and for gaining payment, taxes, and tribute from conquered areas. Hausa language is one of the most widely spoken languages in Africa. It is the main language of the Niger republic and the Northern Nigeria, poetry in Hausa is often called 'waka', this can also refer to songs. Oral poetry is a very old tradition of the Hausas.

It is performed with music by professional singing poets (mawaka). The poems either contain praise (Yabo) or they are mocking and make fun of their subjects. In Zambo the subject of poetry may also be about great men and rulers who pay the poets and performers.

Poem may also be about farming, hunting, politics and wrestling and are sometimes specially made up for religious and ceremonial occasions.

The most important musical instrument used with oral poetry is the talking drums (kalangu), which can imitate the different tones of human voice. Stringed instruments such as the molo and garaya also provide music with poetry.

Written poetry in Hausa has been strongly influenced by Arabic traditions. But there is also much modern poetry in the 'boko' script. The early city state of the Hausas is what is now the Northern states of Nigeria, were established by about the 13th century. The traditional Bayajidda explains how the original 7 states (the Hausa bakwai) where established Bayajidda, a prince from middle East (according to some local traditions), arrived in Daura and killed a snake which had stopped people from dreaming from the well. The queen of Daura married Bayajidda and their seven (7) sons became rulers of Daura, Kano,

Rano, Gobir Biram also called Garin Gabas, Zazzau (which later became Zaria) and katsina.Beyond the original Hausa Bakwai where other seven region, the Gwari, Kebbi, Kwararafa, Nupe, yauri and Zamfara. These were not entirely Hausa, called the Banza bakwai. The Hausa states or rather cities also became great centres of traditional industries such as leather-making, weaving and metal works. The cities are surrounded by high walls sometimes called the 'Amina walls' and strong metal gates, to defined them against enemies.

In the early 19th century most of the Hausa states were captured in the jihad (Religious wars) of Usman Danfodio. Fulani ruler established under Danfodio as sultan of Sokoto, which was the centre of the Fulani.

1.1 AIMS AND OBJECTIVES

1.0.1 AIM

- To create an indelible historical value of rich cultural heritage and festivals.
- To enhance tourism culture through proper planning and articulation of space (space management) for the performance of arts and culture.
- To co-ordinate and enhance craftsmanship among people.

- To provide unity in diversity of culture amongst various ethnic groups.
- To enlighten the need for cultural affiliation and participation amongst Nigerians.

1.2 OBJECTIVES

- To provide facilities to accommodate development, presentation and documentation of our divers culture.
- To provide facilities that will revive and promote our African culture and values.
- To facilitates originality amongs artists, writers and performance.
- To provide tourism and thereby provide a common ground both for marketing and source of foreign income to artists and craftsmanship.
- To provide awareness of recognized data on historic events and festivals.
- To provide a podium for festive activities and relaxation exhibition of arts and crafts centers for educational research of history.

- To promote National integration and international recognition.

1.3 RESEARCH METHODOLOGY

As a result of carrying out this thesis, the following research methods were employed.

- Surfing for information from the inter-net.
- Literature reviews from subsequent publication extracts books, magazines and journals.
- Contacts with relevant organization.
- Interviews and questionnaire.

1.4 MOTIVATION

Centres of this nature have been relegated to the background as such there is the need to minimize the fast detoleration at which our cultural heritage is vanishing. There is need to preserve, document and enhance the skills of craftsmanship. All these could be achieved by the provision of such centres.

The proposed design was as a result of constant yearnings and aspirations of Nigerians-Africans who fear that culture is fastly detoriating and replaced by westernization which does not help to

preserve our diversity by our unified cultural affiliations. As such these centre will serve as a common ground to bring unity and oneness also to serve as a podium and catalyze for the preservation of our interesting, and diversed cultural heritage.

1.5 DESIGN PHILOSOPHY

The design philosopher shall not be far fetch from architecture in its true and cultural context. That is even though the combination of orthodox (modern) and cultural or rather traditional architecture to give a modular structure that will enhance productivity as well as efficiency. As such cultural performance be enhanced a great deal not necessary compromising its originality.

1. DESIGN GOAL

The centre for traditional arts shall be able to accommodate all its intended objectives and with greater enhancement, encouraging development of arts and promoting craft and culture. Its goals shall make the centre an attractive (aesthetics) functionally efficient and acoustically sound with minimum maintenance as a result of African attitude towards maintenance.

1.7 SCOPE OF WORK.

The design scope is based on enhancement of productivity of craftsmanship, also to ensure that skills of crafting doesn't disappear. The centre to develop, encourage and promote cultural practice and love for arts. This centre should also provide avenue for relaxation as well as cultural and traditional to an extend orthodox form of informal and formal education. These centres shall serve also as a centre for academic and research for students studying history, crafting and arts also those interested in studying and knowing their origin and other peoples culture. These shall be a well-landscaped environment with beautiful scenery for performance arts and leisure seekers and other environmentalist. The centre shall have workshops for production. Exhibition centers shall be provided. A theatre and auditorium shall be provided for performance arts such as drama and chorography, in order that these centre be successful the design shall be broken down into these categories for a suitable and easy functional flow.

a. An administrative unit: this shall include the main administrative centre and a maintenance unit (plus fire fighting unit).

b. Exhibition unit: this includes podiums where performance and exhibition of various cultural and art displays are made including fashion. It consists of the theatre, amphi-theatre a traditional setting (make shift) and permanent set up, also a traditional, restaurant.

c. Production Unit: This is where skill acquired is displayed. It has the crafts village which consist of these various units, the dyeing, blacksmith, hair do, brasmith cloth weaving, sculpturing and carving shops.

d. Commercial Unit: This includes centre where end products will be sold, that is the shops and display units.

e. Presentation and documentation Unit: This unit has the storing, photographing, discovering of cultural values, it also has the library, a museum of cultural displays, photographic laboratory and also cinema halls for visual display of rich African culture and heritage.

f. Accommodation Unit: This is like a camp where artist welfare is chartered for during their stay. Accommodation for staff is also to be put into consideration due to various unimproved accommodation crisis in the Federal Capital.

Also to have an accommodation for quest who wish to stay in the centre though its proximity to Abuja's Sheraton is close.

g. Recreational facilities:- Such as restaurant suya spots, gazebo, viewing spots, swimming pools, club house, sculpture gardens and other recreational facilities.

h. Auxiliary; such as the clinic, the maintenance unit, security unit etc.

1.8 DESIGN LIMITATION

A diverse cultural arts, customs and beliefs and in homogeneity in cultural activities amongst various states and cultural (multi ethnic grouping in the country is one major constraint in an attempt to achieve an all embrace of prototype design that will meet up with individual and diverse demand of peoples aspiration. These are also the issue of research restraint both in material and historical evidence. Also financial restraint. And lastly lack of proper and comprehensive data collection system in the country and the issue of ignorance and superstitious beliefs amongst Nigerians.

1.9 SIGNIFICANCE OF THE CULTURAL CENTRE

These propose centre is important, as it is an instrument to guide people on how to live homogenously with other 345-multi ethnic

groupings in Nigeria. Culture in a way could be defined as a way of life of people. The Nigerian nature in the past did not call for the fact that leaders (elites), rulers palaces and villages squares and community centre belong only to the influential members of the community but a place for cultural synonymy (unity) and consideration.

However traditional skills, arts and craft where passed on from generation to generation. Ensuring continuous presence and growth.

CHAPTER TWO

2.0 LITERATURE REVIEW

There are probably nearly a thousand languages spoken in Africa, many more if we include the dialects which are similar enough for speakers of one to understand the other. some languages, such as Yoruba, Swahili and Hausa are spoken by millions of people, others such as some of the languages of the Cameroon's high lands and the Nuba Hills in Sudan, are spoken in a few villages only. This great number of languages, together with improved communications and greater mobility has had several results.

1. Very many Africans are able to speak not only there mother tongues (first language) but often as many as 6 "second languages (they are multi-lingual).

2. There has been a rapid growth of certain African languages which are used between people of different language group this kind of languages called a lingua Franca some of the most important ones are Swahili, Bemba, Hausa, Sango, Ewondo, lingala, Kongo – Kituba, Chewa and fanagalo (Lapalapa or Kitechen Kaffin) when they are used between speakers with other mother tongues, these languages may develop some of the characteristics of PIDGINS.

3. Where there is no efficiently wide spread lingua Franca, the European languages of the former colonial powers are used as official languages. This is true of most of the counties south of the Sahara except Ethiopia- where AMHARIC is the official language and in Tanzania, where Swahili is the National language. European languages are replacing local languages as languages of instruction in some African countries, such as Kenya and Zambia.

2.1 THE LANGUAGE MAP

There are about 90 main groups of African languages which are so different that Africans do not immediately see any relationship between them. Out of these 90 groups, 80 are spoken in a region that stretches across the Sudanic belt. That is Africa south of the Sahara from Senegal to the great lakes of east Africa

In North Africa the main language in Arabic, but languages of the "BERBER" group (possibly related to ancient Libyan) are spoken in the area between Atlantic coast to Siva Oasis in Egypt and especially in Morocco. Languages of the east Saharan group are spoken by the tribes of Tubu of Tibesti Mountains and the Kanuri of North eastern Nigeria. In Egypt and the Sudan there are several dialects of a Nubian group.

The main languages of the North earthen Africa belong either to the Semitic group or to the Cushitic group. The Semitic group includes the Amphari and Tigrinya in Ethiopia, as well as Arabic. The Cushitic group includes Somali, Galla and Beja. The language groups of southern Sudan and parts of Uganda, Kenya and Tanzania are known as Nilotic (Dinka, Nuer Luo and Lwoo) and Paramilotic of Nilo-Hamitic (Teso, massai and kalejin)

The Sudan belt contains a number of large languages groups, which are spoken over wide areas up to 1500km across. The Fulani language has spread, through trade and war eastwards from Senegal to Nigeria and northern Cameroon. The Mande languages include "MANDING" with its dialects 'Mandika, Bambara and Dyula. These associated with the empire of ancient Mali, which reached its peak in the 14th century. The Songhai language is also associated with an African ancient empire. Hausa with the related Chadic languages extended across Northern Nigeria and into Niger and Cameroon. Further east, the Bongo –Bagirmi languages are spoken in scattered areas between Lake Chad to the Sudan republic. In the central African Republic the Bandagbaya languages are spoken. The "Gur languages of Upper Volta may be regarded as a possibly be a family but they do not seem to be very closely related. The large "Kwa' grouping include

the "Akan, Ga, Yoruba, Ewa and Igbo" languages, but many of the features that these languages share also occur in other languages of the surrounding areas in West Africa.

2.2 ARAB LEAGUE

In the North Africa and other like the Arabs are found, most of the Arab countries were part of the Ottoman Turkish empire until the end of the first world war in 1918, when Turkey was defeated. Many nationalists who worked for Arab international independence from Turkey (and from the British and French administration that followed the war wanted a United Arab State.

When independence came, a number of separate Arab States were created instead of a united country in 1945, 7Arab States agreed to form the Arab league. These are Libya 1953, Sudan 1956, Morocco and Tunisia in 1958 and Algeria Joined in the 1962. The league and co-operates on matters of common political interest; the central offices in Cairo.

The Arabs are the people of Arabia and their descendents. Many of them now live in other countries. They spread the Arabic language and the religion of Islam and mixed with many of local people particularly Berber groups. Arab trades also settled on the coast

of East Africa and their influence gave rise to the Swahili culture and language.

In west Africa, the shuwa Arabs formed an important part of the army of Bornu and mixed with the Kanuri's the Kanem was established as a state to the north-east of lake chad about 800 A.D.by kanembu speaking people. Their capital was called Njimi, and their rulers, "Sefawa" kings are recorded in the Bornu Chronicles, an early history of the region. Islam was becoming accepted in Kanem by the middle of the 11th Century.

The power of the Kanem was based on its army of horsemen, which was fast and efficient. By the 12th century it controlled most of the region round lake chad, and grew rich from trade across sahara and the Fezzan to North Africa. Slaves were sent to the north, and horses, cloth, and metal goods came from the south to kanem from the Mediterranean region in return – Kanem was most powerful in the 13th century under Dunama Dabbalemi, but after his death the empire began to break up, and in the late 14th century a new capital was built in Bornu, west lake Chad at Burmi Gazargamu, (near the border of modern Nigeria and Niger). At about this period Kanem influence became strong in the new state and Kanuri was used by many of its rulers.

In the late 11th century Bornu began to expand Under the Mai Idris Aloma, whose army was one of the first in this part of Africa to use the guns. Bornu became the most powerful state in the central Sudan region, and also developed as a centre of Islamic teaching and culture, the rulers who followed Mai Idris were not strong enough to hold the state together. And by the end of the 17th Century many parts of its empire had broken away. Bornu lost its power and did not recover much of its importance until the time of EL –KANEM in the 19th century. Bornu is often now spelt Borno.

2.3 ASHANTI

The Ashanti people of central Ghana are one of the main groups of people who speak the AKAN language. The Ashanti region produces most Ghana's cocoa (the country's most important export). Gold, oil palm products, timber, rubber, citrus, fruits and kolanuts are important cash crops and export products,. The Ashanti and other Akan speaking people probably occupied their present homeland from the north by about 15th century. The city states such as "DENKYIRA" and Akwamu grew up by the 17th century but from the beginning of the 18th century the Ashanti confederacy.

This was ruled by the Asantehene from the capital at Kumasi, and the power and Unity of confederacy was symbolized by the

famous Golden stool. The wealth of Ashanti confederacy depended on control of trade and of the gold mines, which were owned by the states.

BEMBA TRIBES:

The Bemba the largest group of peoples of Zambia, they live in the north – east of the country and in 1970 there population was 350-400,000. according to tradition the Bemba people came from Shaba now Zairie, Descendants of Luba and Lunda peoples. In the 19th century the Bembe were powerful military force. The traditional Bemba tribe is divided into number of clans, such as the ruling crocodile clan. The main crop traditionally grown by the Bemba is millet, but maize is now becoming more important. In modern Zambia, many bemba men work in the mines and provide much of the labour force.

BENIN

In the 15th century Benin was the greatest state and empire in the Gulf of Guinea. There was town there before the 11th century and its tradition say that its people asked for a ruler from "IFE' the traditional rulers of the Benin is called the "Oba" just as in the Yoruba culture to mean "King".

In the 18th century the Benin exported many slaves to European traders, but it also began to suffer from competition from Yoruba States, particularly Oyo. The power of Benin declined as it became involved in wars between Yoruba States and other rivals and in 1897 it was attacked and partially destroyed by the British who sent Oba Ovonramwem into exile. A few years later Benin came under the British colonial administration.

Benin is famous for its traditional arts. Greats numbers of carvings in ivory and plagues (metal plates and raised pictures) of rulers, soldiers and animals were made and kept in palace buildings. Many of them were removed by the British in 1897. the traditional arts of Benin are still practiced but the fine history or historic architecture recorded by the early Europeans visitors has not been rebuilt. Benin city again has Oba who carries out many of the local traditional ceremonies.

COLONIZATION OF AFRICA

Many countries of Europe had been trading on the coasts of east and West Africa, since the 16Th century during the 19th century in both areas, commercial companies were trading with local people. Although the slave trade was then a legal business also in minerals, ivory, spices and especially palm oil became very valuable to Europe. Exports of

cloth, guns and other manufactured products to Africa were increasing, so that Africa was becoming imports and in Industrial economy of the trading nations of Europe. The interior regions of Africa expose to Europeans before the 19th century were being exported by travelers to discover the sources of the Rivers (particularly the Niger and the Nile) and to discover the favours cities of African history like Timbuktu.

Missionaries such as David Livingstone traveled into Africa to spread Christianity and to oppose the slave trade which was still being carried on illegally.

European interest therefore grew rapidly during the second part of the 19th century and in parts of Africa, European nations found that they were competing with each other for influence and presence in the African soil. This competition for colonies became known as the scramble for Africa. The `Berlin conference of 1884-5, Britain, France, Germany and other Nations agreed on how to establish claims of African territory, So that each could operate in certain areas without interference by the end of 19th century nearly all of Africa was divided into colonies belonging to Europe. France had the widest area coverage, which spread from North Africa over the Sahara desert into west Africa from Dakar to Chad and from the Mediterranean to the north of the Congo (Zaire river. The British were the main colonial

rivals of the French and held great areas of the south and eastern Africa as well as the West Africa colonies. The British colonies generally richer in resources and greater in population than the French African empire.

There were several ways in which the colonizing nations established political and economic influence. Trading companies with the authority of the government made trading agreements with local chiefs. Those agreements usually called "notes" in Ghana were not always understood by Africans. The trading companies often claimed that the agreements gave them political influence, which they then established by force. In Britain, the governments of the 1870 west Africa trade to prevent France from dominating trade on Gulf of Guinea.

IN DIRECT RULE

In the Colony of northern Nigeria, Lord Lugard developed what has been called indirect rule. Local chiefs, who had traditional authority among their people, were used in administration, but the British Governor was the top political authority in the colony. Indirect rule could be imposed more easily in societies were there are chiefs already in power whose power was accepted by the people in Northern Nigeria east of the Niger, for example, tradition societies had no such

centralized authority. The colonized government appointed local chiefs, who were called warrant chiefs in Eastern Nigeria, but they often fail to give the support of the people. The Ibo people did not accept the authority of the warrant chiefs and rioted against it in Aba in 1929.

The government of the French colonies in Africa became closer to government in France. Like the departments (provinces) of finance, the colonies sent representatives to the French house of Assembly. In the French and Belgium colonies educational and social policy was to spread the language and culture of the ruling colonial countries. Africans who adopted these were called evolves, and were given better treatment and opportunities by the colonial administration.

COMMON WEALTH NATIONS:

The common wealth is an association of countries which includes the UK and many of the other countries that were part of British empire before achieving independence. There are several territories that are still colonies or dependence of the U.K. the common wealth countries together have nearly one – quarter of the worlds population.

The main independent members of the common wealth are Nigeria, Kenya, Tanzania, Canada, Australia, zambia new Zealand,

India, Ghana, Bangladesh, Cylon, Sierra leone, Jamaica, Trinidad and Tobago, Uganda, Malaysia, Malawi, Malta, the Gambia, Singapore, Guyana, Botswana, Lesotho, Barbados, Mauritius, the U.K, Switzerland and Cyprus. All these countries have equal responsibilities and influence in the affairs of the common wealth, membership is voluntary and any country is free to leave.

CHAPTER THREE

RESEARCH AREA:

3.0 ACOUSTICS:

3.1 DEFINITION: what is acoustics?

When we speak of the subject acoustics, it describes the field of study, that is the word describes fields of study rather than specific design topics. Acoustics has grown far and it's range now includes such diversified fields as medicine social, psychology, through to solid state physics and mathematics mathematical analysis (statistics) some where in between lies a comparatively new and rapidly growing technology which is coming to be known as noise control.

Engineers, architects, town planners, public health inspectors factory inspectors and industrial safety officers will at some times have asked or have been asked the quantity "How much can we make it less noisy?"

Other branches of acoustics include

i- Ultra sonic sound:- sound above audible frequency.

ii- Under water acoustics:- dept sounding.

iii- Audiometry:- deals with testing of ears

iv- Electro acoustics:- sound connected to electrons.

v- Architectural acoustics: - deals with sound in buildings i.e. transmission of sound through structures, behaviour of sound in closed spaces and how building design may be used to optimised sound condition.

Acoustics deals with:

Generation- of sound Transmission-

Reception-

OPTIMUM REVERBERATION TIME.

We have agreed that the Reverberation time

Intelligibility it must be sound in ones mind that rooms for different purposes must have different values of reverberation times and design must reach that requirement therefore optimum reverberation time is increased with size of the room. For example the design for a room for speech e.g. lecture room, court room etc.

Optimum reverberation time for such range from 0.75-/sec for multi purpose halls for examples drama halls, and exhibition halls the optimum reverberation time is $1^{1/4}$sec. For orchestra music for example cinema halls, concert halls the performance stages for music the optimum reverberation time is Rt = 21/4 sec.

Environment where we want to hear Reproduced sound for example cinema halls, disco halls the Optimum Reverberation time is 1 sec.

Environment where we want to listen to small groups, solo e.g. small concert halls the optimum reverberation time Rt=11/2 to 11/4 sec.

Note also that the decay in human ear has a tolerance of 25% from the optimum reverberation time.

3.2 DESIGN OF ROOMS FOR SPEECH.

SPEECH

Speech sounds are series of syllabus joint together to form a word. In a view of syllabus that make up words and sentence we distinguish between vowel sounds and consonant sound. The law energetic consonant sounds are the distinguishing characteristics of words, therefore audibility is very vital.

The aim of design is to increase the intelligibility in such rooms that is to maintain the quality of sound.

3.3 ROOM GEOMETRY.

WALL: - Diverse arrangement of walls. Remember that when the walls are fanning out in a radial manner the angle always greater than

90^0 is always better that sound travels from the narrow end to the wide end in a loop like or horn like nature. The implication is that the reflection is divergent; it helps to spread out the sound wave out uniformly.

Also the difference between the direct and reflective sound in time is minimal. And the possibility of the focusing is remote where the wall are arranged parallel; we can say that they are smooth parallel opposite walls and because most of the time the walls are parallel the ceiling as well as the floor are also parallel.

The Implications are.

- There is possibility of long delays
- Reflections between the parallel walls may give rise to standing waves and flutter echoes may be present.

Where the walls are semi – circular for circular and semi-circular walls, we may have focusing of sounds at a particular spot if a curved rear wall is used we must ensure that it is focusing out side the building last as in fig (3) the rays will meet not inside but outside. To stop this you can use absorbing material. The thicker a wall the more the absorption as in fig (4)

Geometrically the acoustics demonstrate rather clearly that the floor plans having elliptical shapes should be avoided because of their focusing properties and consequent violation of the requirement that the sound pressure level be uniform through out. If focusing is significant the echo may be very strong at the focal points. A circular floor plan is also prone to produce the phenomena of creeping (check noise control). Focusing and creeping effect can be over come by the treatment of the wall with convex surfaces. Also treatment of the walls, floors and ceiling with absorptive materials will lessen the harmful effect.

For sound to reach the people at the back, raise the level of the speaker. This will increase visibility and reaches absorption of sound. Knowing very well that sound will be traveling parallel to heads of spectators.

For designs for large audience introduction of raking with about 10cm clearance of time over heads of people in front. Where it is a larger audience or large theatres the distance from the speaker and the audience become very large. Introduce balconies. Balconies must be very high. High enough to avoid creation of shadow on people behind.

Also the avoidance of ceilings that will focus sound in the room if ceiling must be used introduce convex ceiling.

Avoid very high ceiling. Example like St. Paul London because of delays between reflected and direct sound where possible introduce reflecting canopies over speakers head to reduce delay in direct sound. Sound is dependent on the volume and absorption and make a provision for /person/Per $3m^3$. This kind of design target will give us an optimum, reverberation time.

3.4 SPECIFICATION.

As much as possible no absorption material be place very close to the speaker. Absorption materials are usually applied to side and back because of the possible long delays which may cause disturbance to those seating in the front seat.

SPECIAL CASES:- Debating rooms for the fact that the speakers are located at all parts of the rooms, the room tends to be very noisy. All design points with room for speech applies Additional design points be that each member is visible from all parts of the room. Make sure provision of horse shoe or semi circular design. The room should have padded seats. Making sure the floors are carpeted. Try to bring members as close as possible, hence to aim at compact design finally to make effective use of the ceiling for effective sound distribution.

3.5 DESIGN CONSIDERATION

3.51 FOR LECTURE THEATRE

Large number of people listening to one speaker and most of the general conditions applies here like taking into recognition:

- Good visibility
- Avoid columns
- For compactness, introduce balcony
- For short delay reflections use from out plan.
- To suspend strong reflections apply absorbent materials at the back of the wall.
- Cut down level of introducing noise.
- Where necessary in terms of span the use of electro acoustics aides be use.

3.52 DRAMA THEATRE.

Every thing about speech applies here too. Good lighting and line of sight (vision) are very important here. The maximum distance from the stage should be 20m. That is to say it should be compact as much as possible, fly towel reverberation e.g. in U.K. Bello arts theatre should be limited Reverberation time should be controlled to 1-1.25 sec. It should not be higher or lower than this

3.53 MULTIPURPOSE HALLS.

For example community halls, school halls etc. here the reverberation time (R.T) should be approximately 1.5sec to further achieve importance in RT we may use variable reverberation time (RT) eg. by using double absorption parallel another aid to use is the electro acoustic aide.

3.54 ROOM DESIGN FOR MUSIC:

Reasons: for clearity of voice and instruments, there must be fullness of tone and we must ensure that the sound in the room has (1) warmth (2) Richness and Body (3) Balance; correct ratio of loudness between instruments (4) Blend: has to do with the balance sound and also fullness of tone.

Usually it is bad to hear the various instruments as distinctive individual but there is need to blend the music in harmonization of the sound. This is achieved by compactness or compact formation, Homogeneous mixtures of instruments and voices.

- Avoidance of acoustical faults by the echoes, resonance, excessive reverberation time RT. note if these are present in the room they can hinder the music.
- Also ensuring that there is low noise intrusion.

DESIGN FACTORS FOR CONSIDERATION

1. When talking of definition: The need for good audibility level that is to say the sound arriving in audience should be high.
2. Fullness of tone: It increases with reverberation time (RT) you need strong cross reflection. This will increase the level of sound heard will also need cross reflections and this is will enhance surrounding sound.
3. Balance: In the absence of electronic amplification balance is improved by placing weaker instruments in front.
4. Blend: It is achieved when the stage is compact increase the mixing of sound is obtained if there are lot of reflections around the stage so compactness is inevitable.
5. In avoiding acoustical fault make sure you avoid large distant from the performance avoid excessive (RT) also.

3.6 ELECTRO ACOUSTIC AIDS

The need electro acoustic aids for large volume of space also some times required by quiet speakers and most importantly for sound distribution.

The electro acoustic aids components include, electrical amplifier microphone and loud speakers.

The microphones: These are the first interface between the human and electronic system. It converts sound energy to electrical energy that are acoustic transducers. Microphones have directional properties depending on their design i.e. they do not pick up sound from different direction at equal efficiency.

(a) **OMNI DIRECTIONAL MOCROPHONES:** These are very sensitive their sensitivity is same in all direction. Directivity pattern is a circle. They are use for general purpose. By directional or figure 8 microphones they have better response in opposite direction. They are mostly use by interviewers.

ELECTRIC AMPLIFIERS.

The Requirements: All electric amplifiers must have.

i. Low music

ii. No distortion

iii. High amplification.

LOUD SPEAKERS

These are the final stage of electro acoustic:

(1) Horn speaker : mostly use for public address, and when you are in motion.

(2) Baffle or cabinet loudspeakers : normally used in side rooms or a stationary environment.

PLACEMENT OF LOUD SPEAKERS IN ROOMS

There are basically 2 approaches.

(a) High level: - Few loudspeakers but each one produces large sound.

(b) Low level: - In this case you have several loudspeakers distributed within the space and non produces loud noise. In high level, place two or three but each producing very high sound.

ADVANTAGES:

Sound of very high powered source is required. It is Usually placed near the speaker to avoid sound coming from different source.

Large time difference in the arrival of sound at a point, placing the speakers at ceiling height, avoid any member to Unicompartability close to sound source.

1 or 2 is producing high level sound should place I.S. slightly in front of the Mc. (microphone) to avoid feed back or the directional

microphone. Large area coverage may be achieved by using several I.S. introduced in lines leading to I.S. far away from the stage. This is to allow sound traveling from I.S. near the stage to reach distant observes just before or at the same time as the sound from the I.S. near them.

LOWER LEVEL LOUD SPEAKERS (LS)

In this system several loud speakers are used each providing sound at a level low enough to cover a limited area around it. Hence there is no disturbance of any sought to members of the audience from distant (LS) but the directional if the original sound source is lost. As such this system is then employed for rooms for effective sound distribution. Also noting for any public address system there is the need of operator to control the use of components and take care of problems that may arise.

CHAPTER FOUR

CASE STUDY

4.0. INTRODUCTION

Case study (ies) usually are applied in any analyses to serve as a guiding tool to person when executing a particular project as to serve as a standard either to aim high or lower and to serve as corrective measures. There are four case studies selected for these project.

Case study i. Is the U.K. Bello Arts Theatre

Case study ii. Is the Abuja centre for Art and Culture.

Case study iii. Is the Sydney opera house Sydney Australia

Case study iv. Is the National Arts Theatre Igammu Lagos.

4.2.0. CASE STUDY I

U.K. Bello Arts Theatre

A turnkey project executed by Julius Berger Nigeria Limited Commissioned on the 25th May 1991 by the then President General Ibrahim Badamasi Babangida. Located along the old art and council road known as the Hill top road.

(a) The wall finishes of the auditorium is acoustically sound with panels of polished wood and placed at a reflective angle on the curvilinear wall.

(b) The ceiling finishing is of good acoustic ceiling boards with suspended rear reflectors (boards) for effective sound reflection of the rear.

(c) The stage is designed for a movable screen projector room on the centre line. The interior is marbled and finished with woods, which gives a cool and comfortable interior therefore obeying the law of refraction on walls, the floors and the ceiling. Light is generally controlled for the kind of activities that is envisaged to go on in these place.

4.1.2. **FACILITIES**

i. Craft shop: for the sales of arts and craftwork.

ii. Modern photographic studio: which produces coloured black and white pictures.

iii. A modern hair saloon: both for traditional and modern styles.

iv. Parking space: this space can conveniently accommodate 500 cars.

v. Out door areas: These are also provided for out door recreation.

4.21. **MERITS**.

The entire complex is organically oriented to suit the natural scape of the area.

There is adequate parking space provided for the expected heavy traffic inflow and also to serve as additional space for out door activities

There is symphony in the functional flow of structures around the complex.

The environment is beautifully landscaped

The site location is excellent as it enhance the beauty or rather compliment the structure.

4.22 DEMERITS

1. There is poor security network.
2. Jam park when there is heavy flow of cars no ease in access and exit.
3. Limitation or over site of the architect consideration for users.
4. Limited number of art and crafts.
5. It has a make shaft arrangement as such craft textile and wearing could not be encouraged.
6. In adequate manpower utilization.

CASE STUDY TWO

4.3. THE CENTRE FOR ARTS AND CULTURE F.C.T. ABUJA

The centre is strategically located sited at Area 10 Garki Abuja by Garki Shopping centre junction along festival road and opposite the Garki post office (to the east) of its border. And Agura hotel to the South of its border and Area 10 shopping centre to the North.

The cultural centre has two storied building comprising of four blocks that is the block A, B,C & D having a basement.

4.31. BLOCK A

This comprises of the commercial wing of the complex the back door of the complex that is a money generating venture it houses the restaurant and a snack bar on the ground floor the first floor houses a restaurant or office for Nigerian Youth Movement and has let table office spaces just as it is with the ground and first floor.

BLOCK B

This is the administrative block, administrative functions are coordinated from these block, the ground floor houses some offices of the finance department as well as those of supplies Arts, design and studio divisions. The second floor houses the office of the assistant director of personnel and personnel division offices.

BLOCK C

The ground floor houses the office of the assistant director of arts and designs the art Gallery-Head of Public Relations Office and Statistics Office. Exhibition Hall, films and festival offices, ceramic unit and studios.

4.32. MERITS

1. It has some presence of cultural elements such as the mud huts, thatched roof structures etc.
2. Strategically located
3. Auxiliary facilities are charted for.
4. Ample utilization of floor area.
5. Acoustics being put into consideration
6. Excellent zoning of structures.

4.33. DEMERITS

i. There is no element of traditional architecture on any of the main structures could pass for any contemporary building.

ii. The traditional arcade could not be easily accessible.

iii. There is inconsistency in the roofing materials for the structures such as thatched roofs and in some corrugated long span aluminum and some burnt bricks.

4.4. CASE STUDY THREE

SYDNEY OPERA HOUSE, SYDNEY AUSTRALIA

The Sydney opera house is located at Bemelong point a peninsular 51/2 acres in size on the Sydney harbor. The structure has four performing halls, an exhibition hall a reception hall, a recording hall, two restaurant, foyer/lounges and six public bars, rehearsal rooms, dressing rooms, a library, a studio room for artists, administrative offices and technical as well as services areas. A broad walkway for strollers extends right around the buildings.

4.5. SCOPE

FACILITIES

A. **CONCERT HALL**: this is the largest revenue in the entire complex with seating of 2679 people bed for a wide variety of programs such as performance including symphony, concerts chamber music, opera dance, choral concerts, pop, Jazz and folk concerts, variety of shows comedy and conventions. The ceiling rises 22metres above the stage platform, upper walls and seats are

paneled with birch plywood. The lower walls stairs, boxes, and plat forms are constructed from brush box, a hardwood timber both these Australian woods are used extensively throughout the building.

B. **OPERA THEATRE**:- With seating of 1547 people the opera theatre is the second largest venue at the Sydney opera house and it presents performance of opera, ballet and contemporary dance. In addition to the brush box and white birch plywood, yellow Caribbean wood is used on the ceiling for acoustics it is painted black to get the audience attention to the stage.

C. **DRAMA THEATRE**:- there are four theatres the presentation theatre and contemporary dance, the drama theatre seats 544 people. The auditorium is painted black also. The ceiling is made from refrigerated aluminum panels and are low to help maintain constant temperature.

D. **THE STUDIO**: - first opened in March 1999 as a contemporary performance space with flexible seating of up to 364 people. The studio presents innovative and existing new music and some contemporary performance arts.

E. **THE PLAY HOUSE**: - seats at a time 398 people, the playhouse is used for small cost plays, lectures as well as seminar presentations.

F. **THE RECEPTION HALL**:- the reception hall is a multi purpose venue suitable for reception, meeting, catered functions, product launches, media conferences exhibitions and small theatrical presentation and recitals.

4.51. **MERITS**

1. Adequate parking spaces provided and this also doubles as out door recreation.
2. The building structure it self is aesthetically fine and
3. The structure is acoustically sound.
4. The architectural composition as well as its concept is in total harmony with its natural environment.
5. The facility permits a lot of activities to be performed at the same time.

4.52. **DEMERITS**

1. For users that have forbear for water will not enjoy the facility.
2. The height of the building could be very deceptive, the voids created between the roof and the ceiling is very large.

3. The external land area is small compared to the total area of the site.

4. The environment could be generally cold.

CASE STUDY FOUR

4.6. THE NATIONAL ARTS THEATRE IGAMMU LAGOS

The national arts theatre Igammu Lagos was initially conceptualize during the preparation to the second world black African Festival of arts and culture held in Lagos - Nigeria in 1977 is as a results of Nigerians gain from the oil boom. This is a major recreational centre, which is used largely for entertainment; it has area coverage of about 23,000 msq and its undulating site (contours).

Its proportions and radial development gave it a character of deep shades and contrasts, which form a fitting monument for the role that it has been playing. It is located in Lagos metropolis, bordered in the west by water co and in the east by water body.

4.61. FACILITIES AND SCOPE

The complex comprises the following

1. The main Hall
2. Conference / Banquet Hall
3. Cinema Hall

4. Exhibition Hall
5. National Gallery of Modern Arts
6. Press Conference Halls
7. Entrance
8. Maintenance

1. **THE MAIN HALL**:- The main Hall has a total seating capacity of 3,500 when used in a proscenium arrangement but could actually seat 5,000 when used as theatre which is made possible by the use of revolving stages. The seating arrangement is on three different levels, which depends on the category of ticket, it was essentially designed for concerts; it could be converted for indoor activities (games and drama) etc. Access into the hall can be from four entrances while exits numbers up to seven. Other auxiliaries are 16,35,10,20 projectors, interpretation booths and cubicles, audio and video communication room, sound light room.

2. **CONFERENCE/BANQUET HALL**:- It has a capacity of 1,200 people with a floor area of about 1,800m^2, it is designed to have activities such as symposia, conference and musical shows. The hall is equipped with seven different language interpretation booths and a proscenium kind of stage.

3. **CINEMA HALL**: - There are two cinema halls each with a large capacity seating of 676 audience per seating. The hall is equipped with 16,35 and 70mm projectors and is occasionally used for drama and meetings.

4. **EXHIBITION HALL**: - There are two exhibition hall each about 1,800m^2 with one of the halls permanently used by the black and African art while the other is used for exhibition of goods made in Nigeria.

5. **NATIONAL GALLERY OF MODERN ARTS**:- This is situated between the entrances B; it functions as museum for arts works of Nigerians and black artists.

6. **PRESS CONFERENCE HALL**: - The Hall is designed to seat 80 people for press briefing and meetings and is equipped with electronic gadgets such as close circuit television, telex machines and typing pool etc.

7. **THE ENTRANCES**: - There are four major entrances, which is highlighted by ramps entrance A is the VIP entrance which bears the coat of arms. Entrances B, C and D are for the members of the public depending on the category of tickets. Entrance C leads to the artists dressing rooms.

8. **MAINTENANCE UNIT**:- This is subdivided into sub-section viz electrical electronics, machine shops, plumbing refrigeration, painting and automobile. All these sections have departmental heads called the technical officers. Other facilities in the complex includes foyers which introduces exhibition halls, snack bar and stores which are located near the box office are hired out to interested parties. Storage facilities which are situated under the ramps restaurants and kitchen, clinic, offices, banking services, dressing room and bureaus.

The main catalyst for these projects was for the hosting of the World Black and African Festival of Arts and Culture in 1977 (Festac '77). These led to the birth of the theatre. The concrete management started in 1973. The design for the exiting National Theatre in Lagos was taken from the palace of culture and sport in Vienna, Bulgaria.

4.7. MERITS

1. The centre has a unique design and it is aesthetically fine.
2. The theatre naturally pulls crowd as a result of the type of activities that goes on in it.
3. The Craft huts are easily accessed from the gate.
4. The VIP lounges are well furnished while the entrance A has the reception with well-positioned security.

5. Adequate provisions for parking is made around the complex.

4.8. DEMERITS

1. No spaces provided for the traditional craft like the black smiths, Gold smith etc.
2. The structures are makeshifts.
3. The theatre is not naturally lighted and ventilated.
4. No effective display area for African art works etc.
5. Foreign conceptualization without giving much consideration for our African tradition.

CHAPTER FIVE

5.0 DATA COLLECTION.

CLIMATE CONDITIONS.

5.1 THE FEDERAL CAPITAL TERRITORY ABUJA.

A new national capital design as a variable urban environment for the seat of government. The federal capital territory (Abuja) lies between latitude 8.25 and 9.20 North of the equator and longitude 6.45 and 7.39; East of the Greenwich medium. This geographically places it at the center of Nigeria. Shown below.

The Federal Capital Territory is an 800 Sq. Km is bordered by Niger, Kogi, Plateau and Kaduna States. Also it lies just North of alluvial plains, formed by the confluence of Niger and Benue rivers.

WATER AND POWER:

The Federal Capital Territory is supplied by a 330 / 132 kv service from the National Electricity grid. The Usman and Guarara rivers are major sources.

5.1.1 RAIN FALL.

Rainfall begins in April and reaches its maximum in September. Rainfall is orographic in nature and always accompanied by strong wind and thunder.

The mean monthly distribution shows a tendency for concentration in three or four months. In the F.C.T. 60 percent of annual rainfall is in the month of July, August and September.

Due to the concentration of rainfall resulting in strong winds that can cause damages to buildings drainage systems capable of handling large volumes of water quickly are required.

5.1.2 WIND.

Two major air dominate the climate of Federal Capital Territory. These are the tropical maritime air mass and the tropical continental air mass. The tropical maritime is formed over the atlantics ocean and is therefore warm and moist, this air mass gives the south west monsoon winds and is associated with the wet season.

5.1.3 TEMPERATURE

In Human terms, net radiation is felt as air temperature, the response to which is greatly

influenced by the humidity conditions in the air.

The FCT records its highest temperatures during the dry season when there are if any clouds. Changes in temperature of as much as $17C^0$ have been recorded between the highest and the lowest temperature in a single day. During the rainy season, the maximum temperature is lower due to the dense cloud cover. Disernal annual range is also much lower. Sometimes no more than 7^0C in July and August.

5.1.4 HUMIDITY:

Human sensibility to temperature is greatly affected by relative humidity. The figure below shows mean monthly temperature and Humidity for the FCT taken at 0700hrs and 1600hrs.

During the dry season, relative humidity falls in the afternoon to as low as 20 percent in the city site zone. This low relative humidity, coupled with the high afternoon temperatures, account for the desiccating effects of the dry season. In the rainy season, the relative humidity is much higher, especially in the morning hours when it can reach as high as 95 percent. Even though the temperature is slightly lower, the effect is to create a heat trap. When this situation occurs, the general feeling is to be uncomfortably hot.

5.1.5 SUNSHINE:

In Nigeria, there is a general increase in the total hours of sunshine further north from the climate coast. the amount of sunshine of ranges from a minimum of 1,300 hours in the extreme north east of the country. The Federal Capital Territory is exposed to over 2500 hours of sunshine annually see fig 1.

5.1.6 GEOLOGY AND TOPOGRAPHY.

GEOLOGY:

The physiograhical constraints includes the olders precambrican unit of metephoric sedimentary rock and an intrusion of younger precambrican igneous rock. The Federal Capital consist of titled alluvial plains of Guarara and Usman with several ranges of hills as Zuma rock and Katampe hills.

The Federal Capital city itself has the classification of rocks (major) in the categories.

i. Metamorphic

ii. Igneous Rock

iii. Sedimentary Rock

5.1.7 TOPOGRAPHY:

Topographic, the area is typified by gently undulating terrain interlaced by riverine depressions,

Generally, the height variation from crest of hill to water course varies around 50 metres, more or less.

5.1.8 VEGETATION:

The vegetation of the Federal Capital Territory is predominantly Guinea Savannah characterize by tall elephant grasses and scattered trees with occasional patches of forest or heavily wooded areas. This is more noticeable along the river banks, flats and undulating plains, the shea – butter tree, locust beam and oil beans trees are the commonest trees found.

5.1.9 SURFACE WATER:

The site can be more or less neatly be grouped into small contiguous water shed, all covering on one point with a rough fan shape network of valley and depression draining the crescent of development area.

The Gwagwa plain drain into the Usman River. Streams typically originated in broad Fadama's comprised of poorly drain alluvian deposit. Extremely low flows occur during the dry season,

with stream corridors containing water limited to the trunk of the Usman river and Yewu river, much of the rivers become stagnant pool during the dry season.

5.2 SOCIO – CULTURAL LIFE:

The Gwaris are the predominant ethnic group found around the Federal Capital Territory Abuja. The Gwaris are farmers by occupation both their males and the females. The Gwaris were the original inhabitants of the federal city before some of the groupings were relocated or resettled their main activity are farming of local crops. Mostly yam, cultivation here the females also play an active role in farming both for commercial and for house hold consumption. And in the evenings the Gwaris sit around being entertained with their local music usually from flute and enjoying their local liquor and cigars.

5.2.1 ECONOMY AND COMMERCE:

Abuja, being the federal capital of the nation, was originally designed to be an administrative headquarters but due to heavy inflow of human into the territory, it has become very imperative that commercial activities spring up. Resulting city becoming high commercial centre of the nation after Lagos, Kano Aba and Onisha etc.

5.2.2 TRANSPORTATON AND TRAFFIC FLOW:

The territory is presently served by the four roads A- 2 running North – South between Koton – Karfe and Abuja – Kaduna, others are Abuja – Keffi-Nassarawa, as well as Abuja – Okene. The Abuja-Kaduna and Keffi-Abuja linked The Federal Capital to some part of the middle - Belt and Northern States, while the Abuja-Okene linked the southern part of the of the country.

5.2.3 EXISTING LAND USE AND FUTURE TRENDS:

Abuja is the federal capital is the sit of government and the centre of the nation's administration. Abuja has a lot of public buildings such as the federal ministries, parastatals head quarters. Other land uses for agricultural purposes, commercial areas, Residential, Institutions and Schools, open spaces.

5.2.4 FUTURE TRENDS.

Abuja being still relatively new as the nations federal capital, is experiencing more and more immigration from other parts of the country and consequently there is an increase in land for residential purposes. The inflow requires an expansion in facilities such as

institutions and other public facilities which will lead to the use of more land for schools and recreational purposes.

5.2.5 DEDUCTIONS:

From the above one can deduce that Abuja the federal capital is suitable for the project based on its climatic conditions which is favourable. Also the friendly communities around the city. Available facilities such as water supply, power (Electricity) supply good access roads and the Geographical position of the city.

CHAPTER SIX

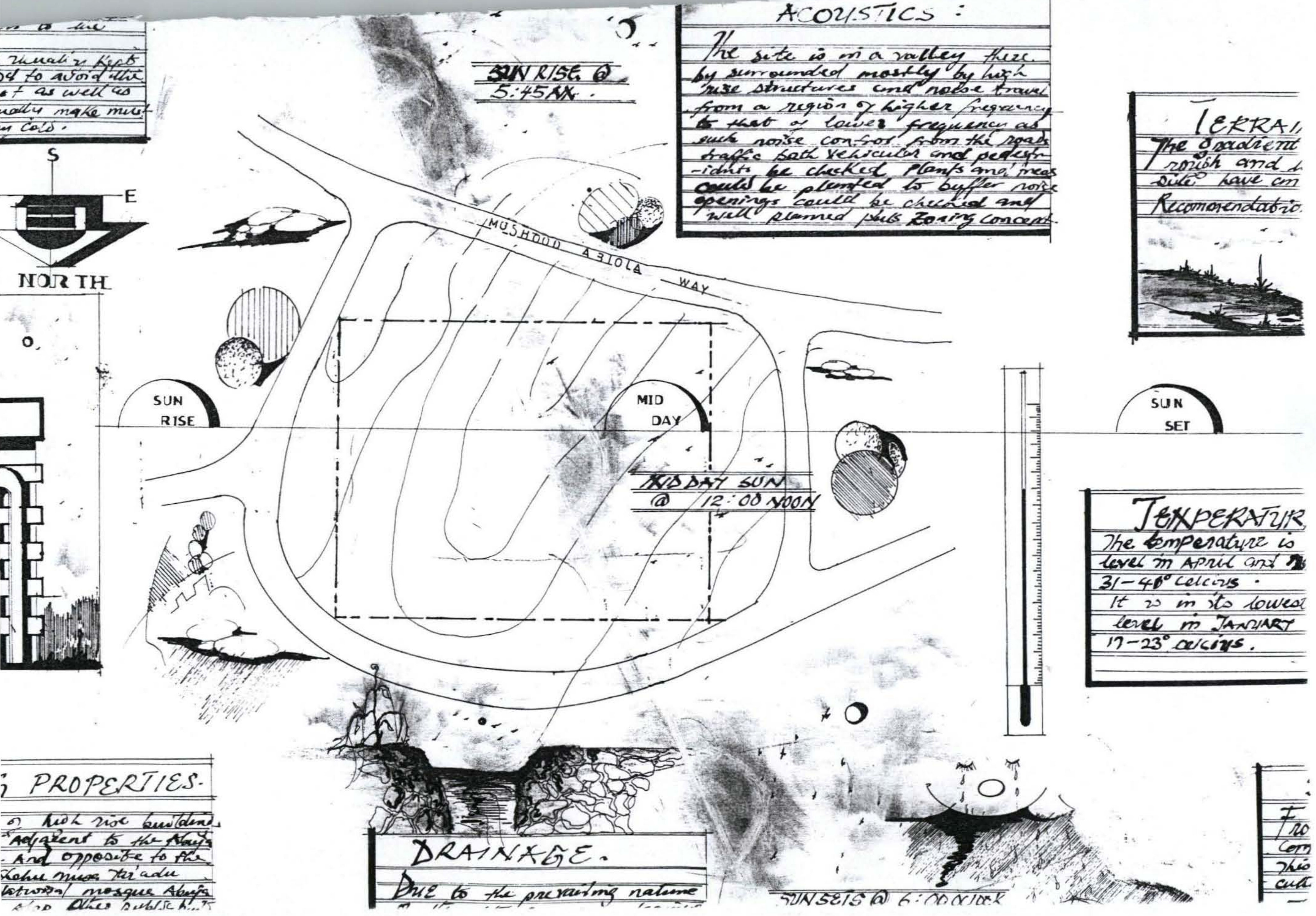
6.0 SITE ANALYSIS

6.1 CRITERIA FOR THE SELECTION OF SITES

Traditionally every man must have had his origin. As such, in Africa there are various countries, tribes and dialects. Nigeria is one of African leading country either due to the population or its bountiful number of cultural inclination infact there is the belief that out of every three West Africans one is a Nigeria. And the central capital of Nigeria is Abuja the Federal Capital Territory where these project is to be situated. And other kinds or likes of these projects in these parts of the country. The site is being reserved for the purpose of a cultural center, it is situated in the commercial area of the capital city, its proximity to Sheraton and Towers Abuja adds as one criteria for the site selection.

6.2 LOCATION

The site is located adjacent General Shehu Musa Yar'adua foundation and to the right is being bordered by the National Mosque. To its extreme left is bordered by the Abuja Sheraton and towers. There are possibilities of access into the site from every coordinate except from the south west of the site which has the over head bridge.



ACOUSTICS :
The site is in a valley there by surrounded mostly by high rise structures and noise travel from a region of higher frequency to that of lower frequency as such noise con-for from the road traffic both vehicular and pedestr-idents be checked. Plants and trees could be planted to buffer noise openings could be checked and well planned plus Zoning Concept.
SUN RISE @ 5:45AM.
SUN RISE
MID DAY
SUN SET
MIDDAY SUN @ 12:00 NOON
MUSHOOD ABIOLA WAY
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S
E
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The gradient rough and site have con
Recomendatio
TEMPERATUR
The temperature is level in April and 31–40° celcius.
It is in its lowest level in JANUARY 17–23° celcius.
PROPERTIES.
of high rise building adjacent to the Abuja And opposite to the Kehu mosq. Tir'adu letwora mosque Abuja also Other public buil
DRAINAGE.
Due to the prevailing nature
SUNSETS @ 6:00 O'CLOCK

parking
parking
parking
parking
parking
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access
exit
A
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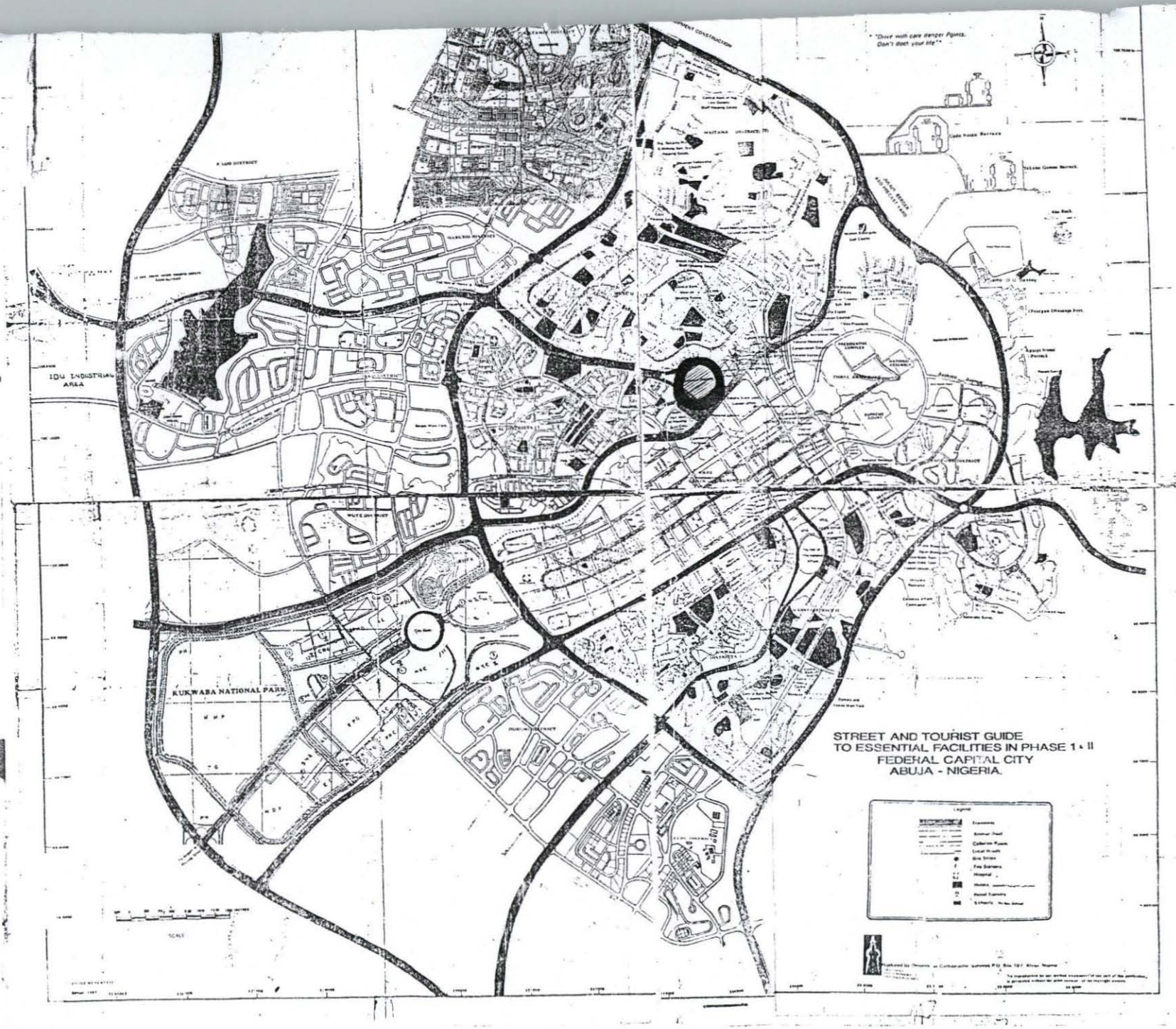

IDU INDUSTRIAL AREA
KUKWABA NATIONAL PARK
STREET AND TOURIST GUIDE
TO ESSENTIAL FACILITIES IN PHASE 1 & II
FEDERAL CAPITAL CITY
ABUJA - NIGERIA.

6.3 SITE INVENTORY

6.3.1 VEGETATION:

Generally the Federal Capital Territory Abuja is generally characterized as Guinea Savannah belt, and riverine depression are typically skirted by fringes of thickets and high trees with some occasional patches of heavy forest. Noticeable along flat undulating areas. Three like locus bean, sheabutter and oil bean are a common site in the Federal Capital.

6.3.2 TOPOGRAPHY

The site is generally undulating in nature with some deep riverine depressions so deep that collects almost at the heart of the site. With some rocky features these help form valley (ies) and some times collect water and its channeled out of the site in natural form. If properly channeled and checked could enhance the beauty of the site and help give the site a natural torch, but drainage has to be seriously considered before any structure is being put in place. And the undulation could be tapered with to create undulating structures or organic architecture but structurally or in terms of landscaping. Natural scape of the area is beautiful as such could enhance the whole scenery compliment the structures.

Rocks are generally cool, because it stores water in it, as such the presence of rocks around the Federal Capital not only provide or serve as environmental coolant but add to the beauty of the scene.

6.3.3 GEOLOGY

The Federal Capital consists of titled alluvial plains of metamorphic sedimentary rock. The surroundings are predominantly dominated by either igneous, sedimentary or metamorphic rocks. Including botite Granite Rhyolite. The soil around the site is reddish brown in nature, and falls under the category of clay soil and silt.

6.3.4 DRAINAGE

Due to the undulation of the site and its rocky nature, where there are any converging point gutters are now formed where rain water and water from the rocky rocks and ground water collects and drains out of the site, already proper drainages have been made available to drain all water of this site both surface and under ground water.

6.3.5 ACCESS AND CALCULATION

The site is easily accessible both from the main city the Federal Capital as well as from out of town – there are access roads that lead into the site the site to an island, surrounded by busy roads in a ring

like nature, so both pedestrians and traffic (human and vehicular traffic could easily access into the site without difficulty. Tourists could have easy access into the site and accommodation could easily be sort as Abuja Sheraton is the next over neighbor to these proposed center for Africa traditional arts. There are noticeable structures around these proposed site as it is here that the Abuja national mosque is, also very close to it that is adjacent to the Abuja Sheraton is the Shehu Musa Yar'adu development center. And also around these are a lot of other public buildings are sited. God access roads sufficiently provided to charter for the heavy inflow of traffic incase of activities and festive periods.

6.3.6 UTILITIES

Electrical power lines passes across the face of the site. This could be interrupted to allow for electricity supply to the site, telephone line cables and exchange box is located along the site so connection access to the facility could be easily be done. Commercial transaction and official transactions will require a lot use of communication services so telephone is an essential service required here. Also, express mail telefax, television satellite and pocket switching capacity, digital SPC, PABX system with a lot of extensions

will serve the internal and external communication needs of the computer room. Pubic address system will also help guide the tourist around the complex.

In view of the undulating nature of the site the layout will require land leveling in the form of terrace. In some areas, the natural scape of the ground shall be preserved to form a natural scape and add to the beauty of the scenery.

6.3.7 SCENERY AND MAN MADE FEATURES

The site provides a natural undulation, as such there is the presence of a drainage like patterned structure these forms a natural drain for all the water that collects on the site to a spot that is valley like which naturally drains the water out with ease without difficulty, both the drainage and the undulation forms a very beautiful atmosphere (Scape) and these when further hindered that is tempered with form a beautiful scape like stepped terrace could be formed organically conceptual architecture could easily be achieved as the gradients could easily be adopted. Other man made features like adjoining structures, connecting /access ways, street lamps road side kerbs, hedges (flower beds) other plants could enhance the beauty of these structure also the ring like nature of the site and the way the road formed an island of the plot will enhance its scenery.

6.3.8 DEDUCTION

The site has been originally been preserved for use as site for Arts and theatre. So the site suites this project that is the proposed center for traditional arts. And Abuja provides a conducive atmosphere for the project, as Abuja is center for unity that is Nigerian Unity and project like the Ecowas office has its presence here also the Organization of Africa Unity (O.A.U) has its office here and very soon European Union will have its (EU) building. African Embassies have their head office here also some missions abroad have there base in the Federal City. Abuja on its own its full of culture the Gwari's are very cultural people, traditionally oriented from the design of their buildings to the way they design their fashions. So all these will provide a condusive atmosphere for the project.

CHAPTER SEVEN

7.0 CONCEPT AND DESIGN

7.1 CONCEPT (GENERAL)

The basic concept in the design is an elevation concept that is looking at the structures themselves they give more details of what the entire project is all about. The project is a center for African traditional arts so one would expect a lot of traditional conception, a lot of African motifs be displayed and African cultural and traditional touches be played with on structures. Also circular structures as Africa Art of building emphasizes on circular or round huts with thatch roofs from the kilimanjaros to the rocky mumbilas of Northern Nigeria Hills. The mother earth (clay) is an alternate means of building. So in combination with the contemporary building materials one will have a monolithically sound structure, just like the researched works in MOTNA the museum of traditional architecture in Jos and that of Essence International School Kaduna.

7.1.1 DESIGN

In designing a structure of this nature, a lot of consideration must be made, putting into consideration some thing like.

1. Site selection

2. Acoustics

3. Planning

4. Structural and architectural identification

5. Design Requirements

6. Other auxiliaries

7.1.2 SITE SELECTION

The first step to take in ensuring better utilization and patronage of projects of these magnitude site selection counts a great deal as in security of users be put also into consideration. Abuja the Federal Capital is known for its high security network as it seat s the Federal Capital and the seat of government, also a lot of foreign embassies have their head qualities here in the Federal capital (Abuja).

Abuja the Federal Capital is a highly secured zone of the country. As the whole world is a global village and no one operates in isolation, so there is need for security of both the country and individuals to be put into consideration.

7.1.3 PLANNING

The design is taking into consideration the basic concept in planning both the general site planning, structural planning and basic functional flow. The site is general going to be accessed from one

major entrance for some reasons i.e security reasons and accountability so that there is a proper record and account of what is happening in and around the complex. Also on emergency exist be put in place to take care of supplies and other auxiliary deliveries and emergencies. Also when there is heavy traffic inflow these exist could enhance other traffics out of site.

7.1.4 THE CONCERT OF A CULTURAL CENTER

Cultural centers where in the past not so emphasized as village squares, chief palaces or large compound belonging to Obi's or Emir's or Obas influence members of society, served as the central meeting place for the consolidation of important affairs of the society especially cultural events. As such traditional values and art including crafting where passed on from generation to generation ensuring continuity. Each individual grows with a sense of belonging and association to one cultural heritage. Cultures were reserved in the minds of people and define as a total way of life of people and complete existence. As such issues of preservation and documentation never came up.

Now in modern day, settings the proposed center for African traditional Arts takes places of what use to be the village squares and palaces, as a rallying point for people. The whole concept or

conceptually the center is to serve as an avenue for uniting various interest, groups and people indigenously and internationally.

Functionally efficiency and constructionally sound both in techniques and technology and aesthetically sound and homogenously representing its conception. The structures shall be user friendly shall accommodate both contemporary activities and traditional (cultural activities). The design shall have both contemporary and traditional stability and cultural motifs.

7.1.5 HINDERANCES AND APPRAISALS OF CULTURAL CENTER

The factors hindering the cultural center settings are total silence and neglects in design and planning of cultural features in the center. For example the National arts theatre Igammu Lagos is just another contemporary structure that could be put for another used and it shall accommodate any other functions. So elements and features that could enrich cultural centers be used. Flexibility be employed to ensure that design flexibility takes care of monotony that other Africa cultural performance could easily be performed, that is why the Sydney opera house was taken as a case study because the Australians also have their own traditional values like the Nigerians. So if the center for African traditional arts be conceived based on its functions then ideally a lot of

hindrances may not be encountered. One major problem is the financial commitment both in the realization of dreams and publicizing.

In the case of Nigeria, our non challant (non fanatical) attitude towards achieving our African values and fighting strongly to defend what is ours that is our African heritage which should serve as our inheritance and most not be taken away and replace fast by what is called total recolonization that is "westernization".

There is a great deal the need for cultural re-awakening, which could be achieved through a great deal of cultural evangelism programs that could create an indelible mark in the minds of people.

7.1.6 THE DESIGN

"Architecture is subjective but objective", and flexible. "The architect must be closely associated with total process of socio-economic and cultural changes, the changing pattern of the way of life of the people and the attempt to improve their human physical environments". R.L. Barolag.

7.1.7 PHYLOSOPHY OF THE DESIGN

The words cultural and architecture can not be separated they have been closely associated together. The word culture meaning way

of life of people, where as Architecture means building of life (mans environment).

"The Arts, crafts and culture are called to restore our awareness of honesty, integrity and simplicity in contemporary society. If all this can be achieved the whole of our life will be profoundly affected". H Muthesis 1907,

Note here the design philosophy for this project is aimed at achieving a multi-dimensional module rather than uni dimensional that is between contemporary and traditional elements.

Creativity and crafting be both emphasized in their true form and nature, also Art be exhibited. And these shall create a strong balance between traditional arts crafts and culture and contemporary enhances or foreign influence on our lifes.

7.1.8 THE SITE CONCEPT PLANNING

The concept of site planning is to enhance that site conditions satisfy the building and structural requirements. Also there is spatial organization of all analysed function on the ground. The main objective is to create affectivity. Circulation be well planned by controlled allocation of space.

The basic flow pattern is a free flow pattern to allow for easy vehicular and traffic movement in and around the site. For easy

decongestion of the site both provision for main entrance and service entrance also known as emergency exists be provided.

7.1.9 BRIEF DEVELOPMENT

Developing of brief involves a careful analytical study of the standard used in providing a systematic staff programming in Nigeria and other Nations. The process of establishing minimum standard that is then becoming maximum allowable facilities of fundamental criteria. The following activities are expected to take place within this center.

(A) MULTI PURPOSE UNIT

The multipurpose hall has a lot of auxiliary facilities that are suppose to complement the activities that are expected to take place within the center and these include areas like:

i. Reception Hall

ii. Banquet hall

iii. Auditorium

iv. Conference hall

v. Restaurants

vi. Rest rooms/convenience

vii. Exhibition halls

viii. Storage facilities

ix. Cinema hall etc.

7.2 ADMINISTRATIVE UNIT/THEATRE HALL

The main theatre halls and the administrative block will go hand in hand as most activities occurs in this two areas and has provisions for facilities like.

i Reception hall

ii. Art gallery

iii. Maintenance office

iv. Curator office

v. Heads of facilities office

vi. Other offices

vii. Computers room

viii. Convenience

ix. Museum/Galleries

x. Storage facilities

xi. Security post.

(ii) THEATRES

- The main theatre
- Mini theatre
- Changing rooms

- Rehearsals

7.2.1 OUT DOOR

- Traditional restaurant
- Snack bar
- Changing room
- Storage facilities
- Convenience
- Kitchen
- Servery
- Washing/Preparatory

7.2.2 CRAFTS VILLAGE

This unit is where the actual crafts and arts activities are carried out. It serves as a training ground for people and entails.

i. Vocational center

ii. Brass smith

iii. Cloth weaving

iv. Dying

v. Wood/cane work

vi. Laboratories

vii. Class rooms

viii. Storage facilities

ix. Convenience

x. Directors office

7.2.3 RESEARCH/MUSEUM

This unit serves as a documentation and preservatory unit of all artifacts, research to take care of preservation of out cultural heritage both built forms and cultural norms and culture, with the following facilities.

i. Museum

ii. Research laboratory

iii. Archeologist office

iv. Curators office

v. Library

vi. Convenience

vii. Show Galleries

7.2.4 AMPHI THEATRE

i. Stage/podium

ii. Changing rooms

iii. Audience

7.2.5 OTHER AUXILLARIES

i. Fire Station

ii. Gate house/security

iii. Walk ways road net works

iv. Gazebo

v. Gardens/landscaped surroundings

vi. Parking

7.2.6 ACCOMMODATION

Due to acute shortage of accommodation in Abuja provision is made in the design both staff housing and guest chalets either in traditional round huts shapes or high rise accommodation.

7.2.7 MOTAR FOR BRICK CONSTRUCTION

Motar is bonding material, use to join two solids together into a cohesive unified mass or bonding them together to serve for structural support. Motar strengthens the design strength of masonry walls. Mortar for unit masonry is a mixture of well graded aggregates, Portland cement, clean water- and when required hydrated lime. These materials are mixed thoroughly in a mechanical mixer for not less than 1.5 minutes this is so for thorough mixing rather than manual.

The aggregates for unit masonry may be natural sand, some time called "bank sand" "manufactured sand" which constitutes of aggregates of crushed stone gravels or air cooked, iron blast finance slag. The aggregate should conform to the grading limit. This requires grading by using the listed sieves sizes and the percentage passing that particular sieve.

The above gradation limitation provide for a well-graded and even distribution of different grain sizes.

Mortar sands should be non-straining and free from Organic material. Sand is tasted for Organic impurities by placing 3% solution of sodium hydroxide into a bottle containing sample sand. A discoloration appearing other 24 hours indicate the presence of Organic matter. A standard colour chart indicates the suitability of the sand for mortar use.

7.2.8 TERRAZO FLOORING

Terrazzo wearing surfaces are constructed in a manner similar to concrete wearing surfaces, but a special aggregate at marble chips or other decorative materials is always used.

7.2.9 SPACE REQUIREMENT

Vocational work shop for 25 students	3.9m^2/student	98	1	98
Local Craft workshop for 25 students	3.9m^2/student	98	1	98

STUDIOS

Fine art studio for 25 students	2.1m^2/student	52	1	52
Music studio for 25 students	2.1m^2/student	52	1	52
Typing pool for 25 students	2.4m^2/student	60	1	60
Technical drawing lab for 25 25 students	2.0m^2/student	50	1	50

HOTEL ACCOMMODATION

PER GUEST	2.4m AREA 4m/ 9.6m^2
Round huts PER GUEST	Radius 2m 8.0m^2

7.3 SPACE REQUIREMENT

CLASS ROOMS AND LABORATORIES

General Class room	1.4m^2 per	unit/m2	no .req
490	Student	19.6	4

-Wood work 90	3.6m^2/student	90	1
Laboratory For 30 students			
-Metallurgical lab. For Students 90	3.6m^2/student	90	1
-Brass lab for 30 students 90	3.6m^2/student	90	1
Craft/cane Works for 30 students 90	3.6m^2/student	90	1
Auto mechanical 98 Workshops.	3.9m^2/student	98	1

7.3.1 SOLAR CONTROL

Sunlight is important, but when it becomes so intensive then it is now a nuisance and most be gotten rid of or at least be channeled and put to another use. Structurally the use of sun shading devices like the window Hoods or canopies be employed to reduce the hash effect of sunrays on the structures and occupants (user) both internally and externally. Window blinds, stained window glasses roof over hangs and repellant colour and finished could be administered to reduce all these to the bearable level.

7.3.2 TERRAZO FLOORING

Terrazzo wearing surfaces are constructed in a manner similar to concrete wearing surfaces, but a special aggregate at marble chips or other decorative materials is always used and grinding the surfaces exposes this aggregate.

The mortar base course should be at least 1.25 inches thick and should be composed of 1 part Portland cement and four parts sand with only enough water to produce a mortar of the stiffest consistency that can be struck off accurately with straight edge.

The mortar base can be placed directly on the concrete slab and bonded on it by first cleaning this slab, thoroughly wetting its and apply a thin coat of neat cement broomed into the surface for a start distance ahead of placing mortar base.

The terrazzo mixture should consist of 1 part of gray, while or coloured Portland cement, according to the decorative effect desired, to not more than two parts weight marble chips. After the mortar base has hardened enough to stand rolling, the terrazzo mixture should be placed to the level of the taps of the dividing strips and struck off. It should be rolled in both directions to secure a thorough compacting.

7.3.3 CERAMIC FILE

Ceramic file are usually set in Portland cement mortar when used on the interior of buildings. Ceramic file are divided into many classes depending upon the processes of manufacture. Burning special clays or mixtures of clays, which have been pressed clays or desired shape, makes ceramic tiles. Two processes are used. The plastic process and the dust pressed process.

7.3.4 LOW TRANSMISSION GLASS

Tinted or coated glass is designed to reduce light transmission. Called low transmission glass, it is made in several shades of gray and bronzes. These glasses are identified by their transmission capabilities, which are expressed as a percentage of the light that passes through.

7.3.5 FLASHING

Flashing and calking are important factors in reducing rain water penetration and damage of walls, water penetrating the outer face of finish layers may continue until it finds on outer face over a door, window or other opening. Flashing are used as additional precautions of critical locations, such as the junction of dissimilar roofing materials or under the copings on parapet walls or under windowsills.

The function is to exclude water, and conducting water outward to lessen its harmful effects. Flashing materials are sleets of cupper, lead, zinc aluminum, galvanized steel and plates.

7.3.6 STAINLESS STEEL

These steel are sometimes referred to as architectural metal, is used where corrosive conditions make maintenance costly and where appearance may be a factor, it is ideal for roofing parts that require a metal, such is spires, gutters, fascias downspouts, flashing, expansion joints, and flagpoles. Stainless steel is widely used on interiors such as lobbies, elevators, entrance, stairways and doorways.

Stainless steel has a non-staining character that permits its use in conjunction with other, non-staining materials without the danger of deterioration through galvanic action with dissimilar materials.

7.3.7 CONSTRUCTION

"Future architects ever if they can entrust the final calculation of a structure to a specialist most themselves first be able to invent it and to give it correct proportions only then will a structure be born healthy, vital and possibly beautiful" – pier luigi Nervi.

7.3.8 SITE CLEARING

The site clearance is the preliminary stage of the construction process. The construction of the cultural center can be considered is the product of building contractor and supervising architect.

Site clearance in this case shall be selectively done, there is no existing building on site, and so the main exercises in the clearance is the grafting out of bushes and trees and the removal of soil to reduce levels.

The ground to be covered by the building shall reasonably be free from vegetable matter. This implies that the topsoil shall be cleared to pave way for the structural stable soil.

7.3.9 FOUNDATION

A foundation is the base on which a building rests and its purpose is to safely transfer the load of a building to a suitable subsoil. The preliminary site analysis had shown that the soil was made of laterite. This prompts the choice of foundation type for the different functional spaces in the cultural center. Expansion joints are introduced at cultural intervals in the design. However, all structural details of the foundation system are subject to the structural engineer specifications and detail drawing.

7.4 DOORS

Doors may be broadly, defined as a means of closing off areas of entrances/existing in buildings in specifying types of doors, the number of people expected to pass through the door considered along with the control desirable.

Glazed doors in aluminum frame with bronze tint are provided in the reception, restaurant and multipurpose hall while doors with high fire rating were specified for workshop and kitchen area.

7.4.1 WINDOWS

Economic considerations in the use of materials for windows are done on the pairs of fire resisting cost, aesthetics and durability.

In the choice of windows, the primary function of obtaining natural ventilation and light in buildings are the determining factors.

7.4.2 ROOF

Simple roof construction with corrugated aluminum, roofing sheet are extensively utilized on the craft village main auditorium, thatched roof over corrugated aluminum roofing sheet is also used. Also applied in accommodation thatch are used.

7.4.3 CEILING

Generally, suspended ceiling of aluminum railing with paper pulp sheet are used in the complex. This product has an advantage of smooth, flame resistant and good acoustic value.

7.4.4 BOND ARRANGEMENT

The arrangement of brick tying units together in various ways is called the bond. A course is a bond of continuous horizontal layer forming part of a wall. Courses are measure vertically. A width is a tie or a course of masonry unit measured horizontally through the wall.

7.4.5 BRICK WALLS FACED WITH STONE

Brick is laid as backing for walls faced with stone masonry. Stonework veneer, not less than 4m, thick, should be reasonably uniform in thickness, although not necessarily of the same thickness. Each stone should be bonded into the backing with non-corrosive metallic anchors.

7.4.6 REINFORCED BRICK MASONRY

Un reinforced brick masonry has considerable compressive strength but very little tensile or flexural strength. Embedded steel

reinforcing bars in some of the horizontal bed joints provide horizontal tensile resistance. In addition, a vertical bar grouted in the vertical joints between widths increases compressive strength. By omitting the center width of brick of vertical interval in a three – width wall, a grout surrounding reinforcing bars is placed. These larger bars provide greater resistance. The head and bed joints in the outside widths are made in the usual manner: care must be taken to keep the joints between widths free form loose droppings. This type of construction is called grouted masonry.

7.4.7 HEADERS AND STRETCHES

Bricks are placed in a variety of positions in walls. If they are laid on the with the end or cull exposed, they are called headers, but if they are laid with the face (long side) exposed, they are called stretches. Half-brick are used as false headers giving the appearance of headers but rat projecting into the backing. Brick placed in the side with the end exposed are called bull headers or rowlocks and are used for sills or for belt courses. Occasionally, they are laid on the side with the bed exposed forming bull stretches or flatters.

Belt course and flat arches formed of brick set on end with the harrow side exposed are called soldiers; with the bed exposed they are called sailors.

Quoins are brick placed at corners with one end and one free exposed. These are the positions and types of brick.

CHAPTER EIGHT

8.0 DESIGN SERVICES

For every building its occupants require to have maximum degree of comfort, safety and security as well as standard must not be compromise such services be provided, these include lighting, water supply, good drainage system, ventilation and effectives sound distribution acoustics.

8.1 HEATING

Heating is required during the winter period when there is serve cold that is the harmmattan season, some outlets will be required to remain shot to keep occupants from staying warm. Other heating devices are installed like the heater to heat or warm up interiors to the required degree of warmth.

8.1.1 COOLING

Cooling could be required as artificial aides such the A.C. system be employed others like fan could also be employed. The traditional raffia (Zana) serves as natural coolant and used of mud (clay) this preserves heat and conserves cold. The site has some elements of rocky particles that could serve as natural coolant to the

structures. Large windows will aide natural cross ventilation and the courtyard like design for effective air circulation and movement.

8.1.2 VENTILATION

Enough outlets and courtyards as well as other open spaces for cris-cross ventilation. And well positioned windows and outlets.

8.1.3 WATER SUPPLY

All pipe works (shall be in specified diameter pipe size). The buildings are not high-rise so problem of water supply pressure shall not be encountered even where high-rise pressure pumps and generators be attached.

Water is needed in public places for drinking, cooking, washing and other domestic utilization also use for recreation.

Water tank and reservoirs be made available for all these purpose to ensure cleanness and healthy surroundings, the main water source of the federal capital is the lower Usman Dam.

8.1.4 DRAINAGE

Sewages are to be laid in a straight line underground to dispose off all sewage collected into the septic tanks should be also be at a uniform gradient to prevent blockage. The usual inspection chambers

should be provided at each change in direction of the sewage. Gutters will be provided to collect all water to the mains already provided by the F.C.D.A. considerations of two issues, one the treatment and secondly disposal of sanitary waste must be done in a manner to check and control diseases vectors.

The objectives suggested below are guidelines of wastewater management.

1. Protect public health
2. Provide quality water management
3. Protect the aesthetics of watercourses by maintaining streams flows and quality.
4. Promote water conservation.

8.1.5 ELECTRICITY SUPPLY

The main source of electricity shall be from NEPA also supporting it is an adequate size of generating plant could be selected when the energy needed for the center is calculated to guide against power failure. For safety and aesthetics purpose, conducting shall be used for electricity distribution in the buildings.

8.1.6 NOISE CONTROL: Acoustics

Considerable natural noise control had been achieved through the prior zoning of the whole center into noisy, semi noisy and quiet zones. Acoustics is the science of noise control acoustics is highly required in a research environment as well as an environment where public enlightment and address is going to take place, So to control noise zoning concept could also be adopted and to buffer noise form surrounding existing facilities as well as traffics pedestrian noise by planting of plants.

Note that all noise sensitive areas like the library, auditorium and others be giving heavy additional acoustic treatment. The floors, walls are treated with such acoustic materials such as pvc tiles and screed flooring to prevent echoes. Also the use of sound insulation and control materials be adopted. Inaudibility and other problems associated with sound be addressed. The use of suspended ceiling, celotex boards be administered to check the problem of reverberation time (R.T). Rugs could also go along way to solve some acoustical problems.

8.1.7 PLUMBING SYSTEM

In plumbing, the number of fixtures such as water closets, urinals and lavatories must be equal to quantity of users.

The storm drainage system for the roof and paved ways on the site drainage to fit into the natural topography. The drainage patterns are to drain with ease. Manholes are provided at regular intervals for maintenance purposes. There is also provision for inspection chamber.

8.1.8 LIGHTING

Generally light reveals different views. It serves as a source of aiding vision at night and also to compliment the structures and landscape features natural lighting would not pose any problem as design will be made to enhance light within the interior, also to prevent light penetration, the use roof of lights, skylights be administered. Care should be taken to take care of the individual activities considering where necessary and needed.

8.1.9 NEIGHBOURING COMMUNITY

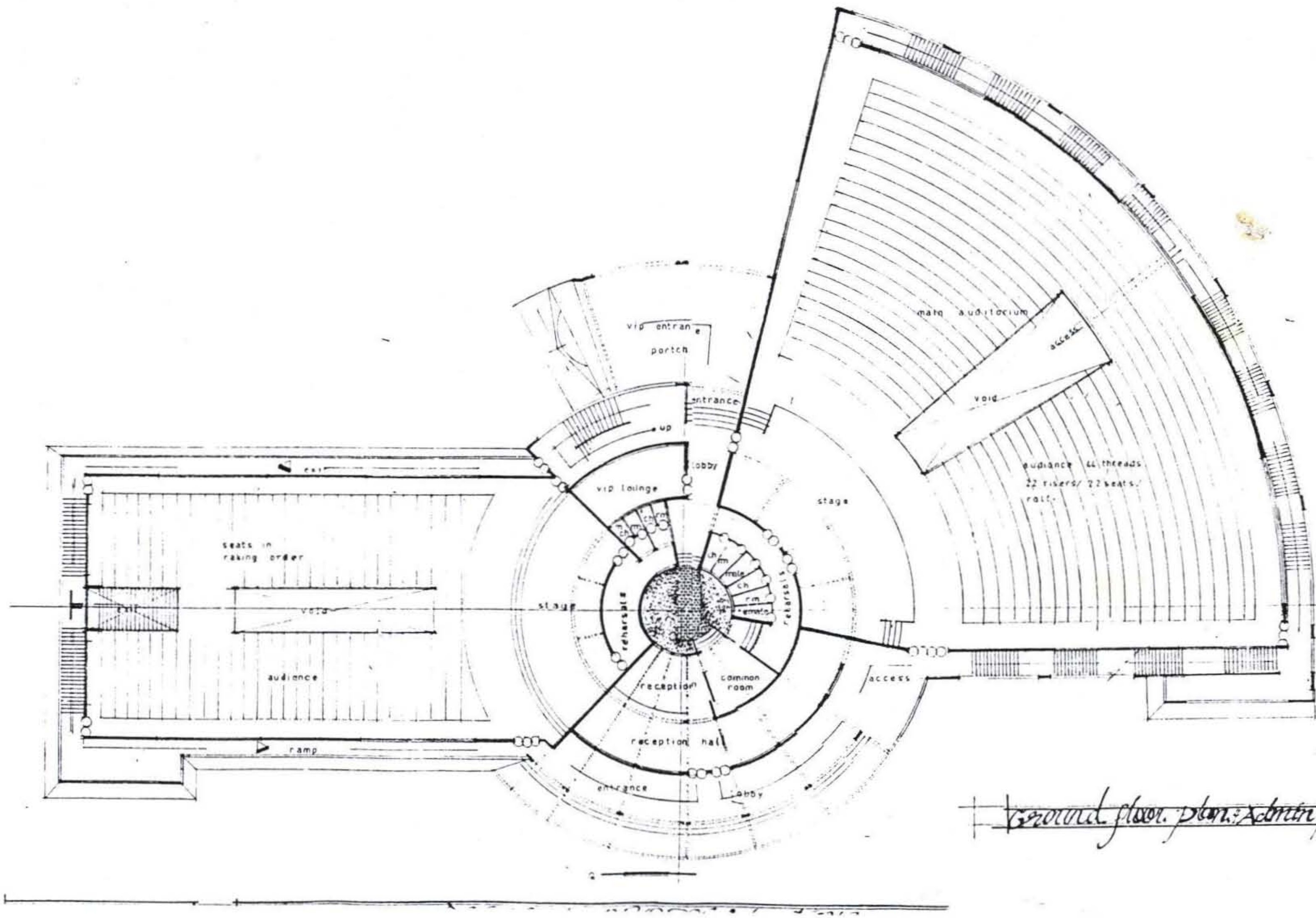
The neighboring community here are the Abuja Sheraton and towers mostly occupied by travelers and holidayers. Also is the national mosque where Muslims go to prayer. And some office blocks.

8.2 SECURITY

The security is adequately chartered for in and around the federal capital city and security gadgets and installations shall be provided to check and enhance security.

8.2.1 MAINTAINANCE

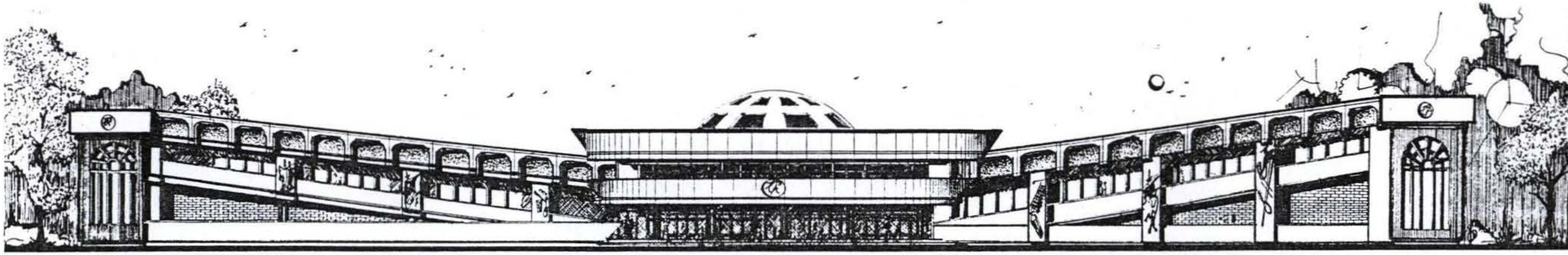
Most of the building materials are easily secured and maintain as to be changed as a result of tear and wear factor. A lot of structures are left to depreciate as a result of in compression of complex and not easily secured materials as such there is the need that most materials be locally secured so that it could be replaced when ever necessary. These covers all items from paint to building materials and furniture as well as fittings most be carefully selected not to be so complex. Care most be taken to ensure that standard most not be compromised.



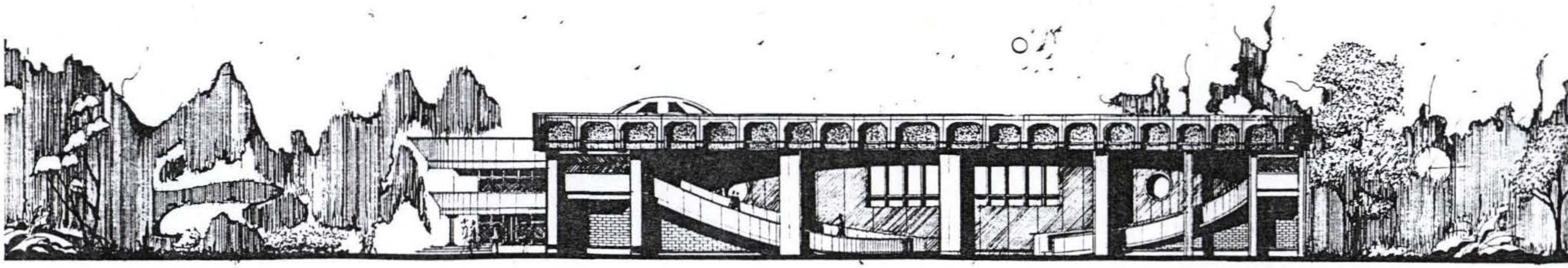
Ground floor plan: Admin/ thea

Section

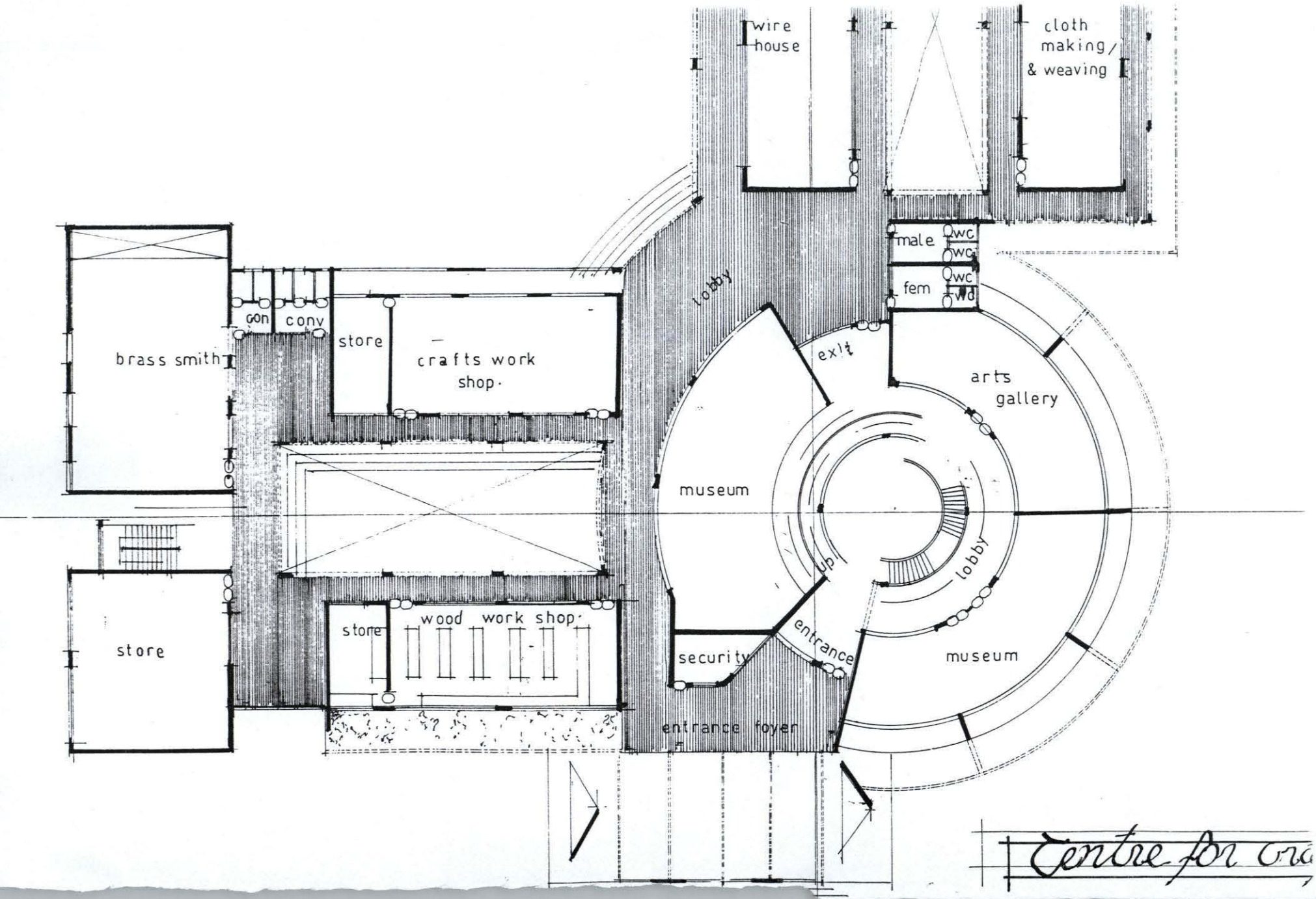
Exte



APPROACH facade



SIDE VIEW typical.


wire house
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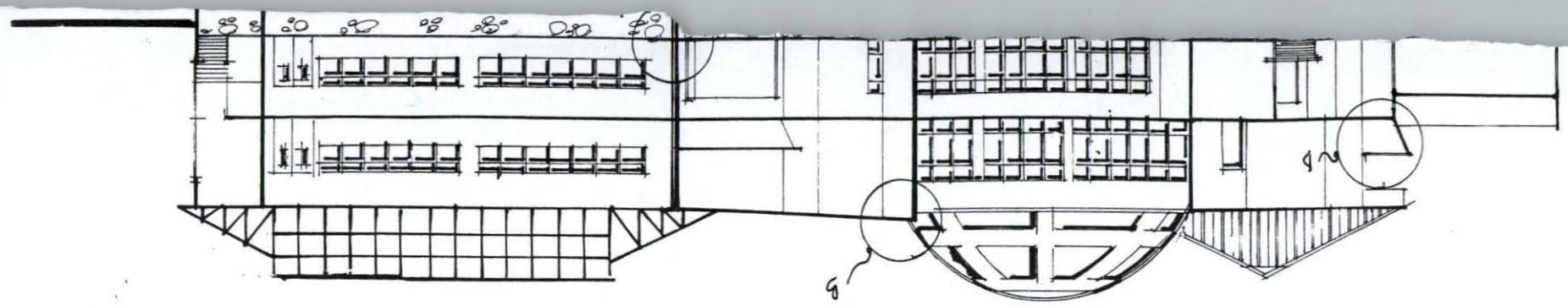
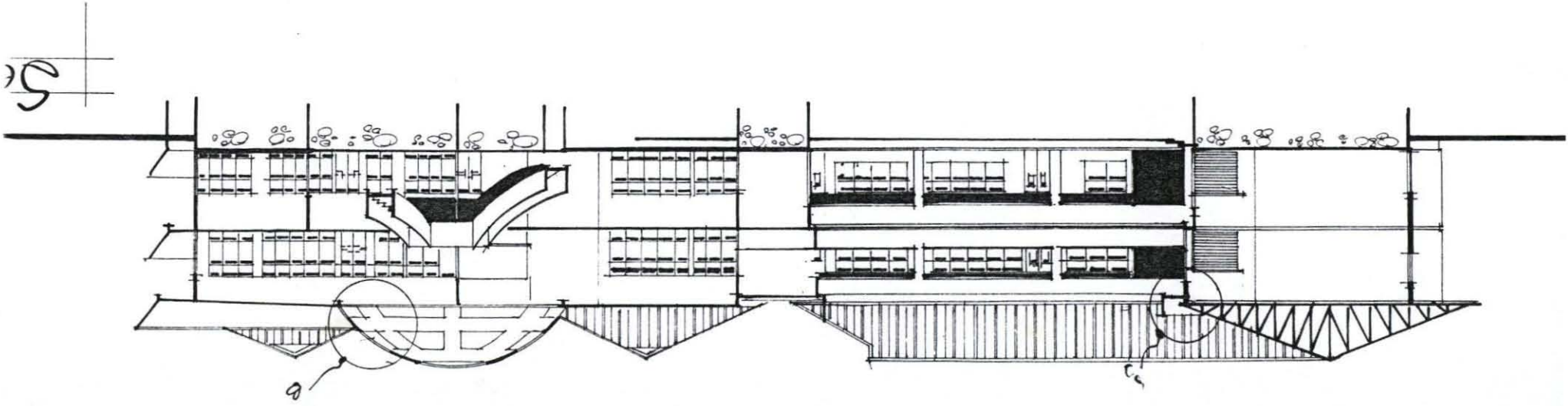
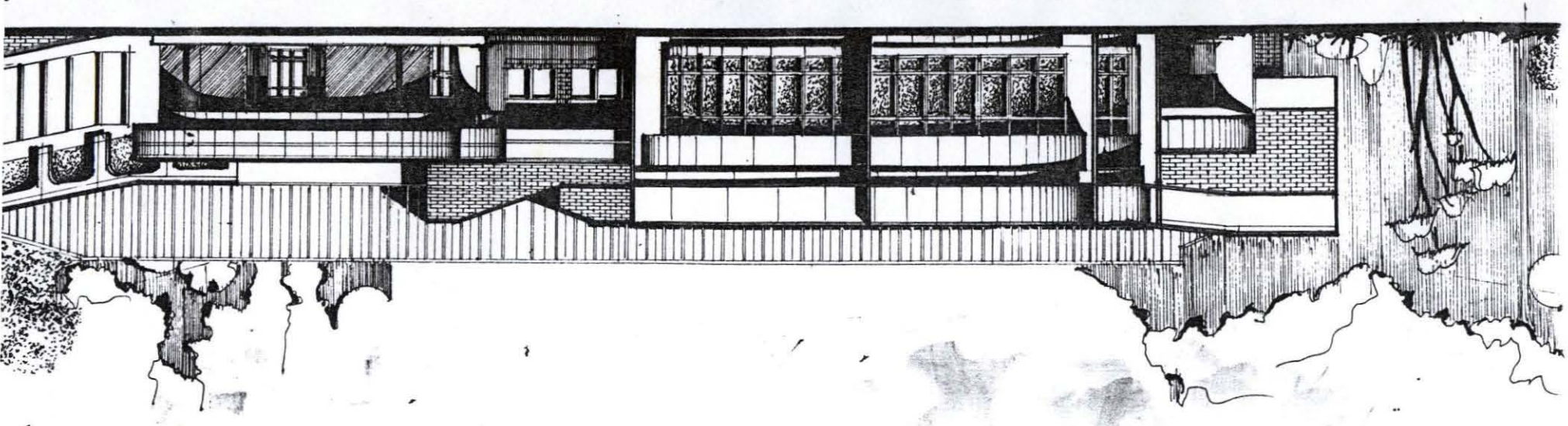
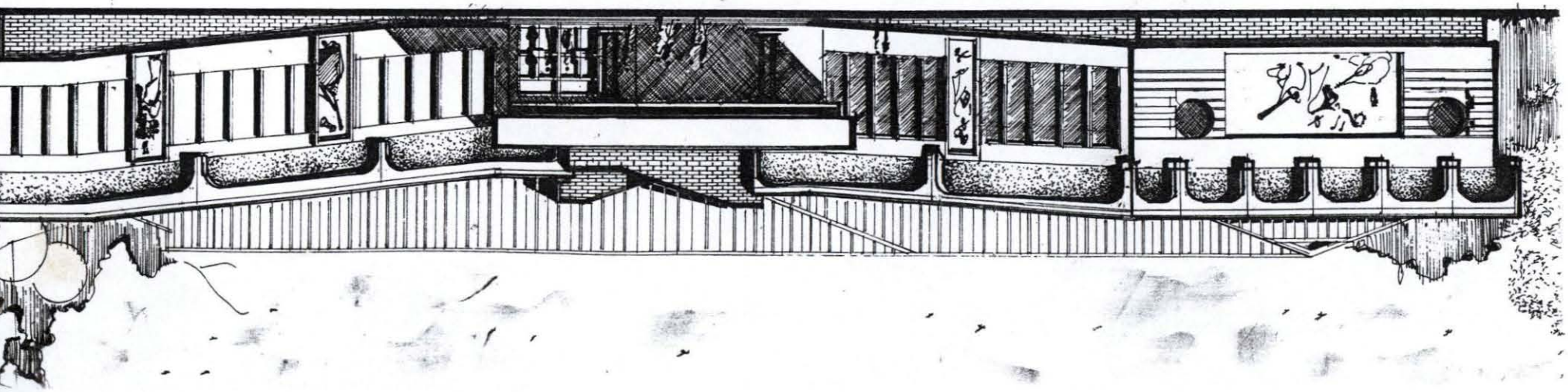
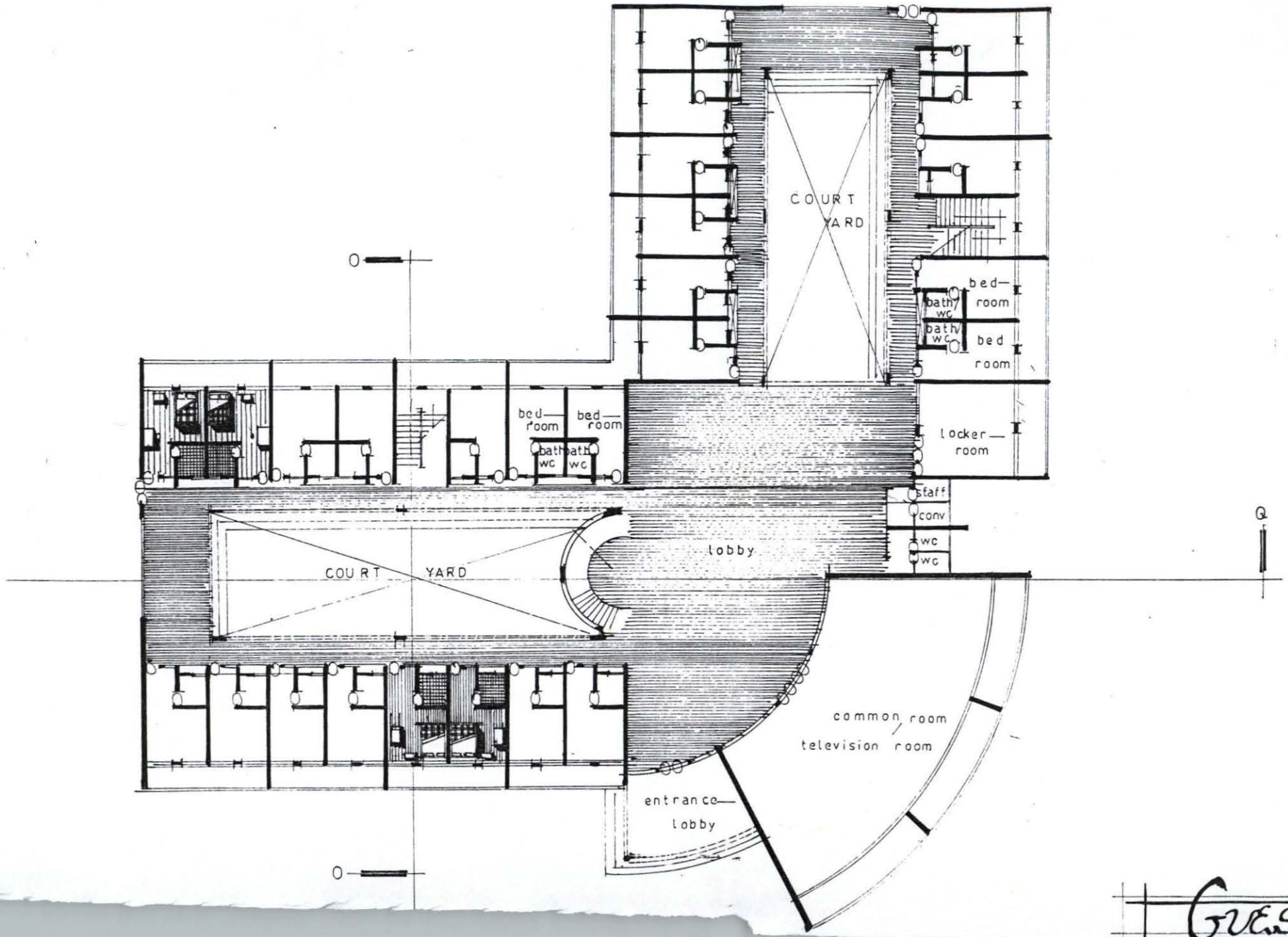




APPROA






COURT
YARD
bed—
room
bath/
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bed
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bed—
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bath
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bath
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locker—
room
staff
conv
wc
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lobby
COURT
YARD
common room
television room
entrance—
lobby
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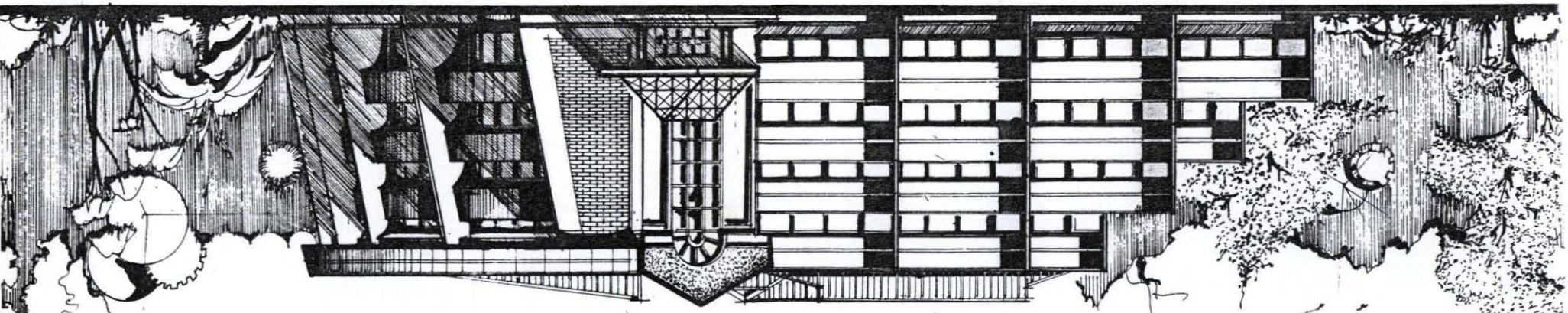
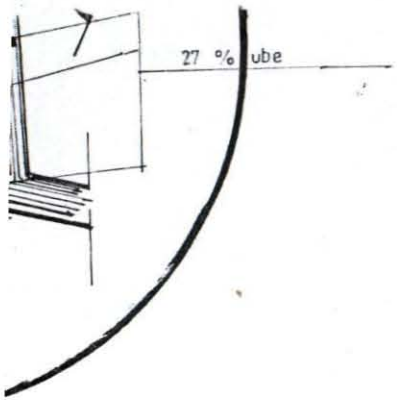
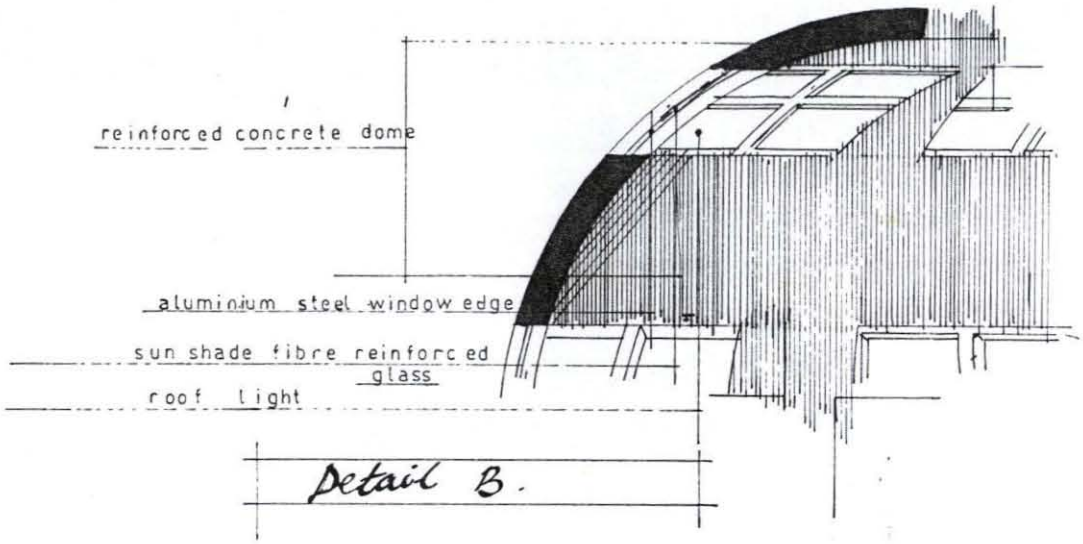
Guest

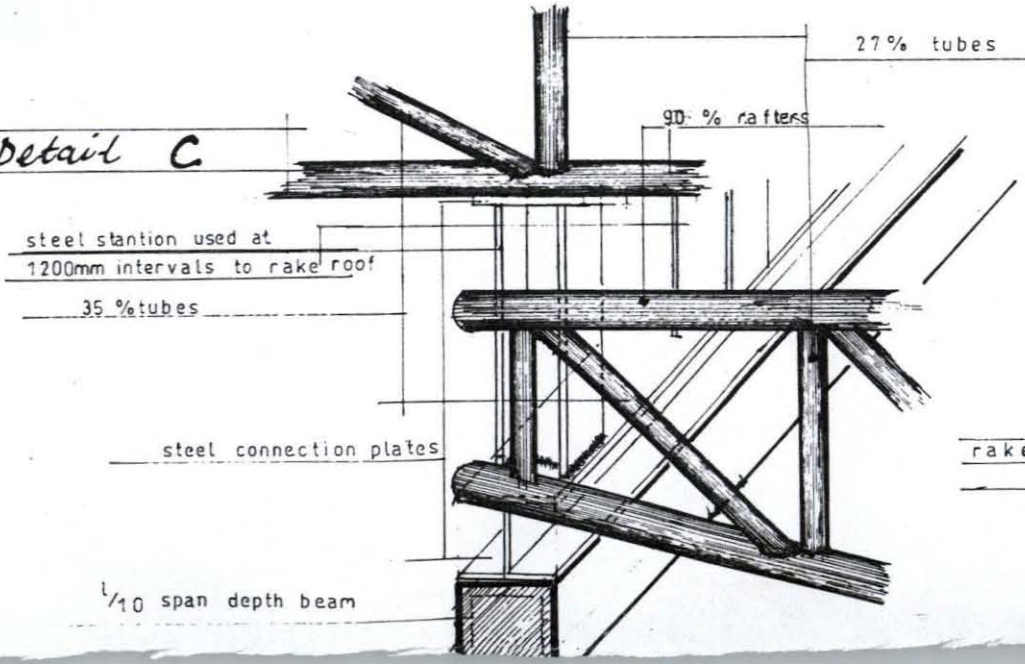


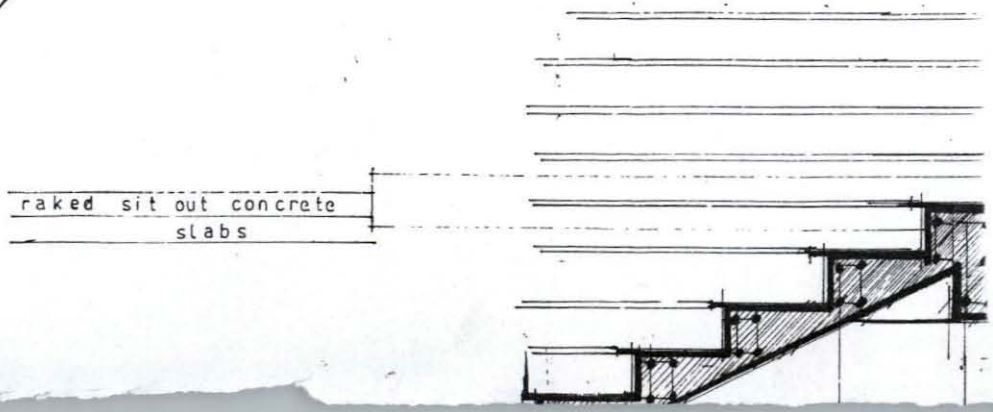


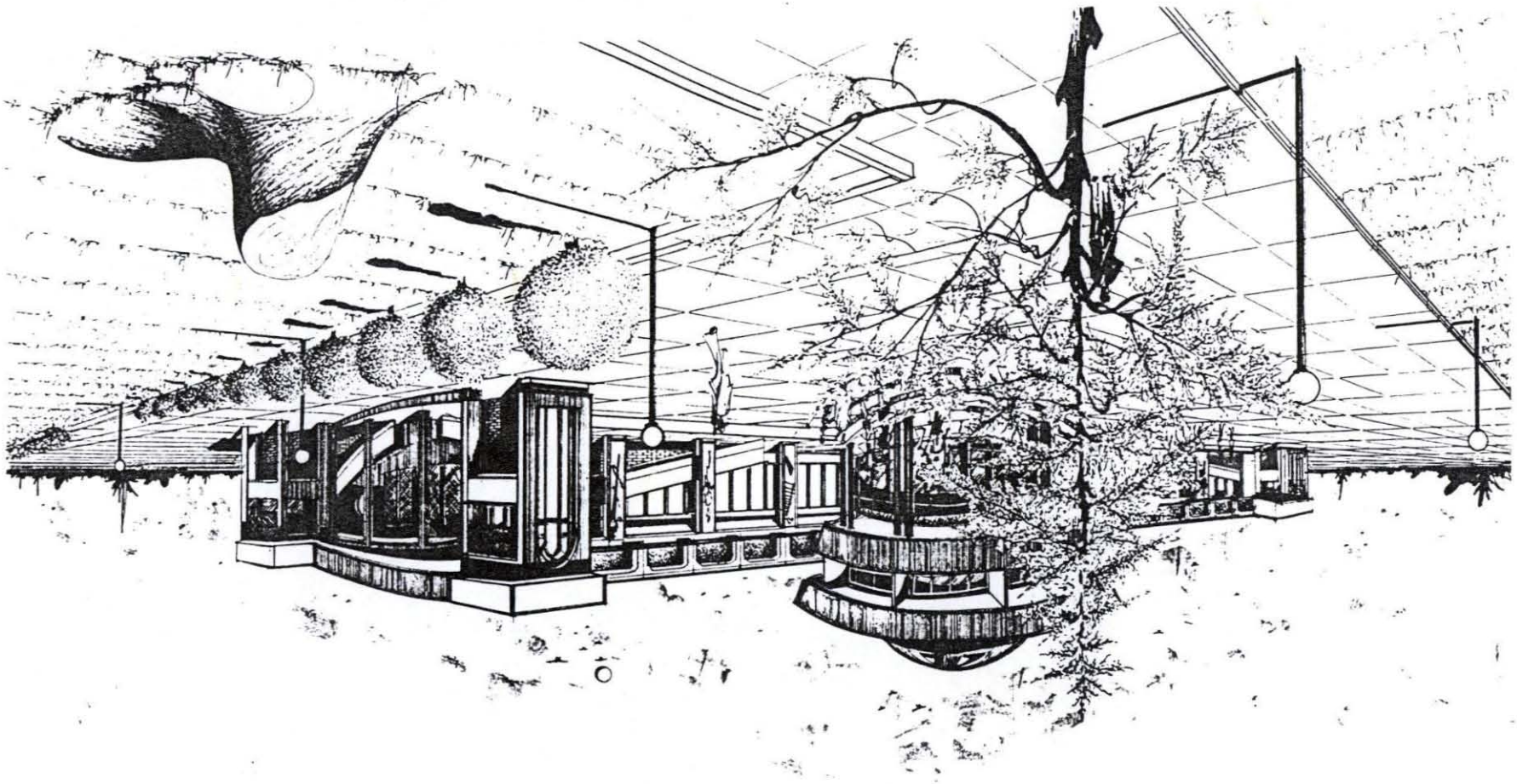


Detail B.

Detail C.







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