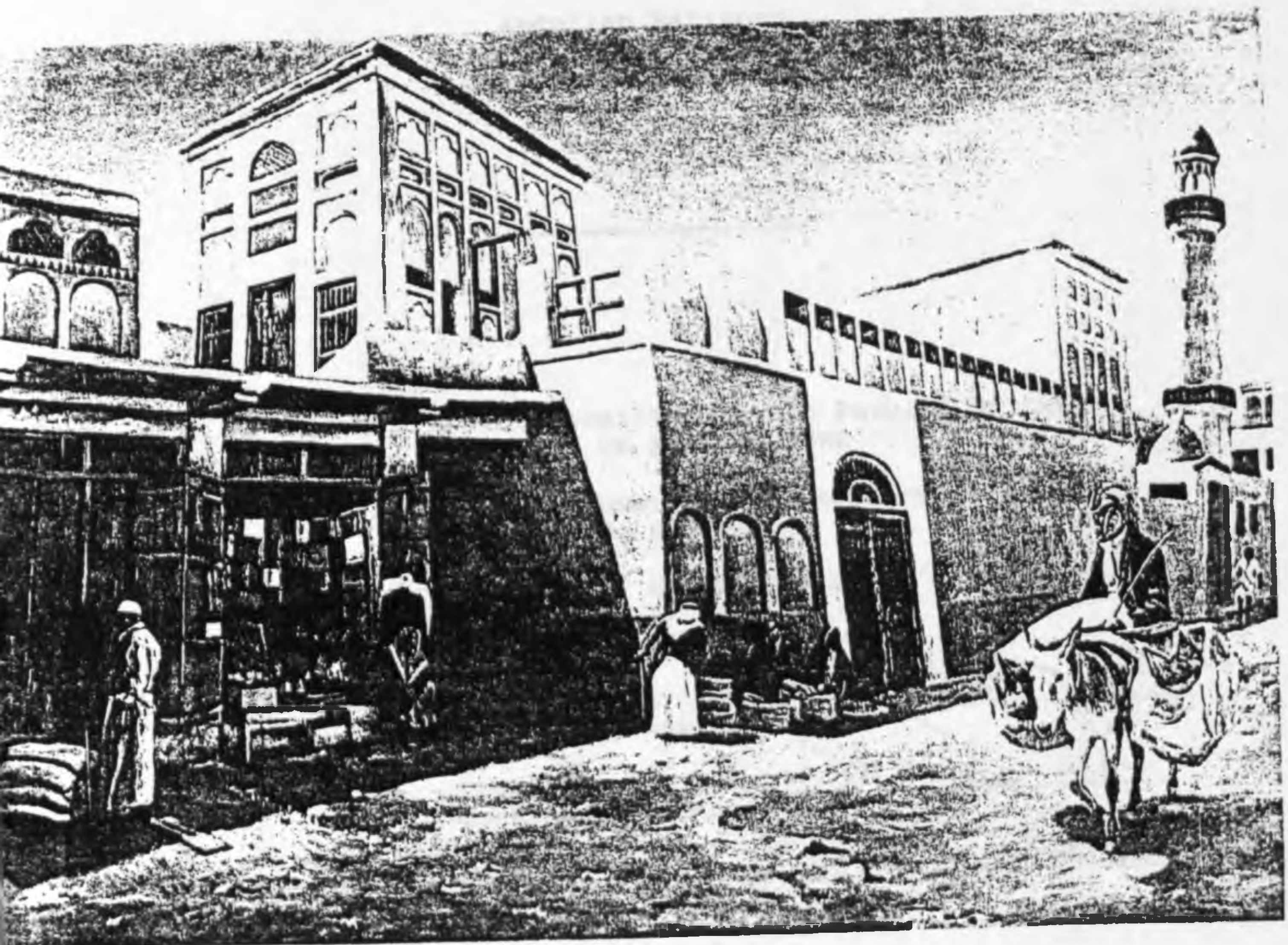
COMMUNITY MOSQUE



1988

COMMUNITY MOSQUE: CHANGES AND CONTINUITY OF ORGANIZATION AND DEVELOPS WITH A CASE STUDY TO CREATE A DEVELOPED COMMUNITY MOSQUES IN DAMMAM AND AL KHOBAR, SAUDI ARABIA

by

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A Master's Report Submitted to the Faculty of the
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Master of Architecture

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بسم الله الرحمن الرحيم

قال الله تعالى :

﴿ فِي بُيُوتٍ أَذِنَ اللهُ أَن تُرْفَعَ وَيُذْكَرَ فِيهَا ٱسْمُهُ يُسَبِّحُ لَهُ فِيهَا بِٱلْغُدُوِّ
وَٱلآصَالِ * رِجَالٌ لَّا تُلْهِيهِمْ تِجَارَةٌ وَلَا بَيْعٌ عَن ذِكْرِ ٱللهِ وَإِقَامِ ٱلصَّلَاةِ
وَإِيتَاءِ الزَّكَاةِ يَخَافُونَ يَوْماً تَتَقَلَّبُ فِيهِ ٱلْقُلُوبُ وَالأَبْصَارُ * لِيَجْزِيَهُمُ اللهُ
أَحْسَنَ مَا عَمِلُوا وَيَزِيدَهُم مِّن فَضْلِهِ وَٱللهُ يَرْزُقُ مَن يَشَاءُ بِغَيْرِ
حِسَابٍ ﴾ .

(سورة النور ٣٦ ـ ٣٨)

36. (Lit is such a Light)
In houses, which God
Hath permitted to be raised
To houour; for the celebration

By men whom neither
Traffic nor merchandise
Can divert from the Remembrance
Of God, nor from regular Prayer,
Nor from the practice
Of regular Charity:
Their (only) fear is
For the Day when
Hearts and eyes
Will be transformed
(In a world wholly new),

That God may reward them
According to the best
Of their deeds, and add
Even more for them
Out of His Grace:
For God doth provide
For those whom He will,
Without measure

(The translation of the Holy Quran sura XXIV)

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TABLE OF CONTENTS

		Page
LIST OF ILLUSTRATIONS		vi
LIST OF TABLES		viii
ABSTRACT		ix
	INTRODUCTION	1
1.	HISTORICAL BACKGROUND	3
	The Prophet's Mosque	3
	Umayyad and Abbasid Period	6
	Ottoman Period	9
2.	AL-KHOBAR AND DAMMAM BACKGROUND	13
	Community Developments	17
	Modern Developments	19
	Physical Determinants	24
	Natural	24
	Temperature	25
	Humidity	25
	Wind	25
	Rainfall	26
	Daylight	26
	Natural Ventilation	28
	Radiation, Glare	28
	Insulation	28
	Interior	28
	Landscape	28
3.	CASE STUDY	30
	London Central Mosque	31
	The Islamic Cultural of Brussels	35
	Friday Mosque in Saudi Arabia	37
	Ulaya Housing Project	39
4.	MOSQUE AND THE COMMUNITY ELEMENTS	40
	Mosque	42
	Types of Mosque	42
	Mosque Elements	46
	Praying Hall	46

TABLE OF CONTENTS (Continued)

Page

Praying Hall Criteria. 47
Users. 49
Size 51
Structure and Span 54
Natural Light and Ventilation. 55
Acoustic 56
Site Zoning. 56
Quibla Direction 59
Social Function. 61
Commercial and Multipurpose Hall 61
Flexibility in Design. 63
The Mosque Elements. 63
Minaret 66
Ablution Area 66
Minrab. 72
Minbar. 73
Classroom 73
Library 73
Commercial. 74
Playground Area 75
Multipurpose Hall 76
Housing 77
Final Program Daily Mosque 78
Final Program Friday Mosque. 79

5. SITE ANALYSIS AND DESIGN 81

Dammam (Daily Mosque). 83
Al Khobar (Friday Mosque). 91

LIST OF ILLUSTRATIONS

Pages

Figures

1. Layout of Prophet Muhammad's mosque in Medina. 5
2. Baghdad, the round city of al-Mansur 7
3. Baghdad, al Mirjan Madrasa 8
4. Baghdad, khan al Mirjan. 8
5. Tripoli, complex of Admad pasha. 8
6. Beyazids Kulliye in Edirne 10
7. Map of Arabian Gulf region 14
8. Major elements in the area 15
9. Dammam and Al Khobar growth. 22
10. Dammam metropolitan area 23
11. Temperature graph. 27
12. Humidity 27
13. Energy conservation. 29
14, 15, 16, 17, 18, 19 London Central Mosque 32-34
20. Islamic Cultural of Brussels 36
21. Ministry's Friday Mosque 38
22. Ulaya housing project. 39
23. Kind of mosque 43
24. Direction of Kaaba from various cities 44
25. Diagram showing timings of daily prayers . . . 45
26. Mosque elements. 48
27. Alternative designs for praying areas. 50

LIST OF ILLUSTRATIONS (Continued)

		Page
28.	Prayer hall unit	52
29.	Praying hall requirement	53
30.	Zoning concept	57
31.	Site zoning.	58
32.	Mosque's social active area.	62
33.	Minaret.	64
34.	The process of performing wudhu.	67
35.	The relation between praying & ablution. . . .	68
36.	Ablution area.	69
37.	Wudhu area	70
38.	Miscellaneous storage and hooks for ablution area.	71
39.	Matrices	80
40.	Al-Khobar site analysis (Friday Mosque). . . .	91
41.	Dammam site analysis (Daily Mosque).	83

LIST OF TABLES

Page

Table

1. Dammam and Al Khobar population. 16

2. Distribution of total population 16

3. Number of days with sandstorms 26

ABSTRACT

Allah and his apostle Muhammad (may peace be upon him) emphasized the importance of the neighborhood as recorded in the Holy Quran and the traditions and the sayings of the Prophet. Since the muslim society is based on religious traditions, the muslim city was built to accommodate all the muslim needs, be it religious, social, educational or recreational.

To understand the historical development of the muslim neighborhood and specially the mosque, which is the most important elements of that neighborhood, and to understand the character, and the relationship between the mosque, the urban space and the neighborhood, this study is conducted to evaluate the characteristics of the mosque in the past and to study its recent development. In addition, this project is concerned with the design of an optimum community center for a special neighborhood in Dammam and Al-Khobar in Saudi Arabia.

This research will be divided into four chapters. The first chapter will discuss the development of the mosque as the center of the neighborhood. The second chapter discussed the historical background of Dammam and al-Khobar. Some study cases are presented in chapter three. The fourth chapter will discuss the mosque and other design elements

for a community. The final chapter will concentrate on designing developed mosques as a case study.

INTRODUCTION

A city is much like a large museum in that it is a large and varied collection of people and places. A city is a scene wherein our actions as human beings and our relationships with each other grow and our lives flourish. Naturally, people like to be with each other; as a family, as friends, and on a larger scale as a community. In this sense of community, the city serves as a stage upon which our lives are played out and our interactions with each other are strongly affected. The city, indeed, shapes much of our lives.

For the Muslim, Islam provides a foundation of support which strengthens community life in the city. Islam has given us basic roles and principles that establish and protect our community. As a matter of fact, Muslims built their new settlements based on Islamic principles. They created a lot of beautiful and successful communities. The Muslims built their communities to fulfill their socio-religious needs which include:

1. Mosque
2. Open communal spaces
3. Public Requirements:
    a. Schools
    b. Markets

There has been a strong tie between the neighborhood and the mosque. This tie has weakened in our modern society.

The function of the mosque in the neighborhood has lost its basic principles of being the center for the society. Nowadays, the mosque is used only as a place to pray and hardly any other activities take place inside or around it. Such activities may include a shopping center, a center for education, i.e., a library and school, and many other social activities and recreation.

In our modern Muslim cities we have missed many of the Islamic principles. I would like to focus more about Islamic cities and will illustrate in detail the basic concepts of the Islamic community to show how the mosque shaped the development of Muslim communities throughout history.

CHAPTER 1

HISTORICAL BACKGROUND

A Mosque is a house for Muslims to worship Allah. Muslims gather in the mosque five times a day. IN addition to this, the mosque serves as a center for the social life of all Muslim communities. Beside praying, Muslims use mosques for educational functions, community gatherings, and shelter for the poor and travelers. From these very human principals the communities evolved from a simple and functional settlement to a developed and complex city. Historically, mosques developed from a simple building and increased in form, function, and design of some of the most beautiful architecture ever built.

For this reason, this project will show how the mosque developed according to its needs and requirements. Therefore, I would like to discuss the Prophet's Mosque, and Umayyad, Abbasid and Ottoman mosques.

The Prophet's Mosque

The Prophet Mohammad (may peace be upon him) and his companions built a simple building just after they arrived in Madina. The building consisted of a shaded area, portico for daily praying and an open area (courtyard) for Friday prayer. They built it from mud and trunks of palm trees to support the roof, which was made from palm leaves and mud. Al Bukhari reported that Abdullah (Bin Umai) said, "In the lifetime of Allah's apostle the mosque was built of adobe, the roof of date-palm fronts, and its pillars of the trunks of date palms."[1] See Figure (1).

They also attached onto the northside of the mosque nine rooms for the Prophet and his family. They built a small shelter (suffa) in the mosque for the poor and visitors to use as their house. The Prophet and his companions used the mosque for different activities.

Al Bukhari reported "Narrated Nafa, Abdullah Bin Umar said: I used to sleep in the mosque of the Prophet while I was young and unmarried."[2]

Narrated Aisha: "Once I saw Allah's apostle at the door of my house while some Ethiopians were playing in the mosque (displaying their skill with spears).[3]

narrated Aisha: "On the day of Al-Khandag (Battle of the Trench) the medial arm vein of Sad was injured and the Prophet (may peace be upon him) pitched a tent in the courtyard of the mosque to look after him."[4]

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[1]Al Burkhari, p. 260.

[2]Al Bukhari, Vol. 1, p. 258.

[3]Al Bukhari, Vol. 1, p. 264.

[4]Al Bukari, Vol. 1, p. 269

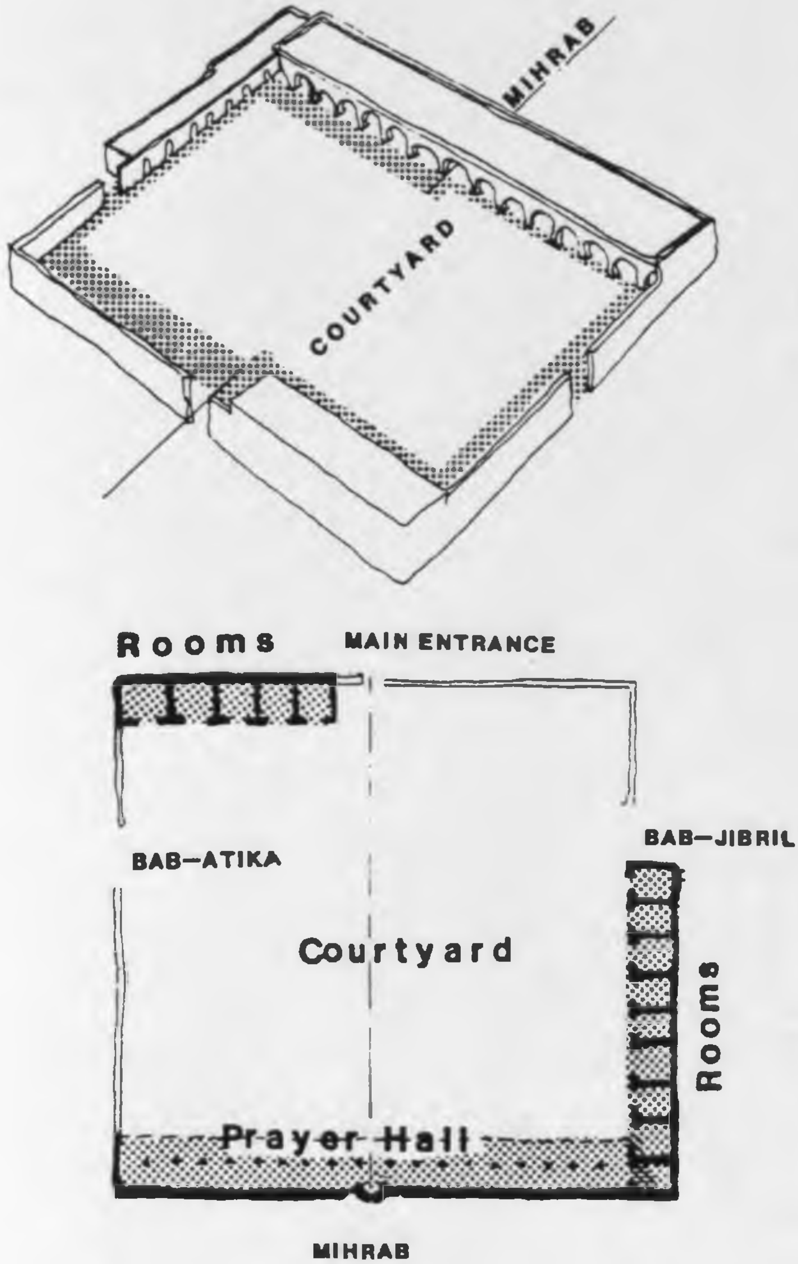

Figure 1. Layout of Prophet Mohammad's mosque in Medina

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It is clear from all these statements that muslims used the mosque as a multipurpose building. As a place brought the community together for various purposes, it occupied a very important place in their life.

The Umayyad and Abbasid Mosques

During the beginning of this period, Islam spread over a large area. Many people entered Islam and they wanted to learn Islamic teaching. Many of the Prophet's companions left Mecca and Madina for new cities to spread the teachings of Islam. The Muslims gathered in the mosque to pray. They also learned Islam from scholars in the mosque. Students from other cities and villages converged on these places where scholars were teaching Islamic religious principals (Tafser, hadith,...). Because of an increasing number of students, the caliph and other rich people endowed dormitories and other facilities for their use. This implies to us that the concept of the Madresa (school) as a separate building started during this period.

Muslims developed this concept more and more, especially during the Abbasid period when they built the Madresa near the mosque and they provided a public library also. So, during the Umayyad and Abbasid periods, the mosque developed greatly. (See figures 2, 3, 4, and 5).

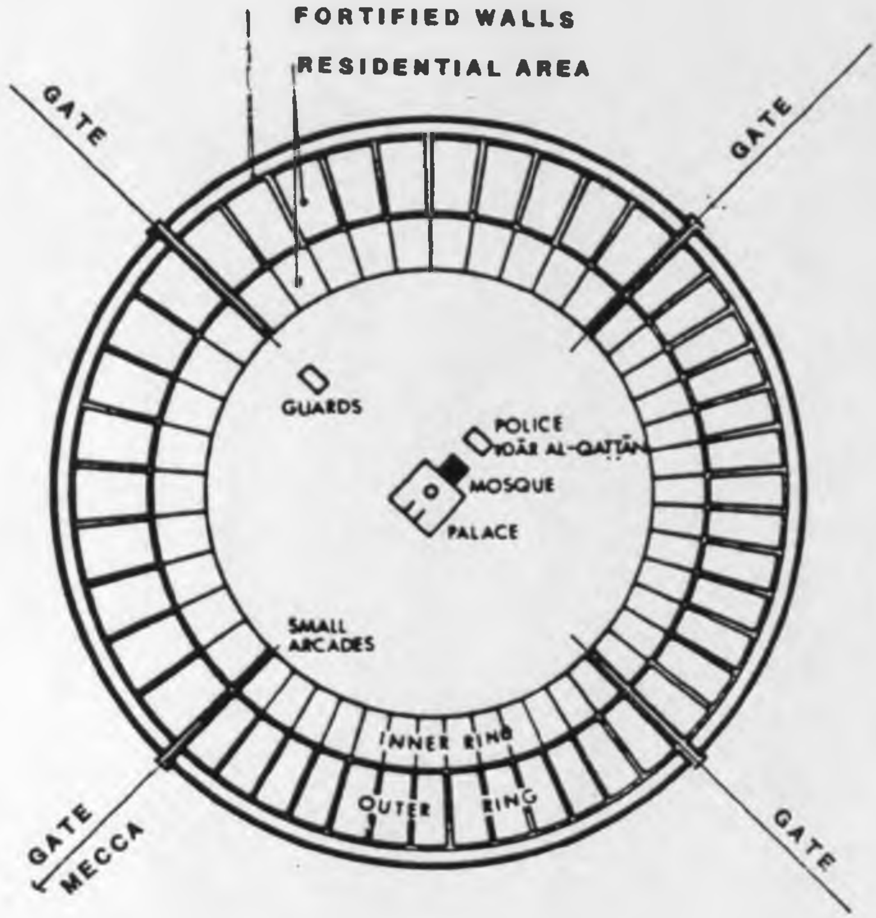

Figure 2. Baghdad, the round city of al-Mansur

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Figure 3. BAGHDAD, AL MIRGAN Madrasa
The two storied complex contains a school, a mosque, and a mausoleum.(1)

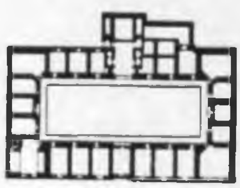

Figure 4. BAGHDAD, Khan al-mirjan, 1359. Al-mirjan built this khan as a wagf for his Madrasa.(2)

Figure 5. Tripoli, Complex of Ahmad pasha built by Ahmad Pasha (1736-7). This complex consists of a mosque, madrasa and tombs, surrounded on all sides by Suqs.(3)

(1)(2)(3): Architecture of Islamic World Ernst J.

Ottoman Period

During this period, mosques developed not only in shape and interior decoration and ornamentation but also they constituted complete communities, consisting of mosques, madresa, dormitories, hospitals and kitchens. Ulya Vogt Goknil reported about the Ottoman mosque: "Building a mosque and madresa interconnected or in close proximity was an ancient Islamic tradition, through the addition of public buildings; hospital, library lunatic asylum, baths and alms-kitchen as a unit creating a small independent community within the city - was innovation."[5]

Then he described the madresa. "The basic design of the sunnitian madresa is an arcaded courtyard surrounded by small student cells, surmounted by domes and containing lecture halls at the four corners."[6]

From this description, we can see the extent to which the mosque developed during the Ottoman and Turkish period (See figure 6).

Asfahan

In Asfahan the Safairid Empire built one of the greatest mosques in the Islamic world. Shah Abbas I, built a great Meidani 1, 709 by 525 feet to accommodate the

[5]Living Architecture, p. 47.

[6]Living Architecture, p. 47.

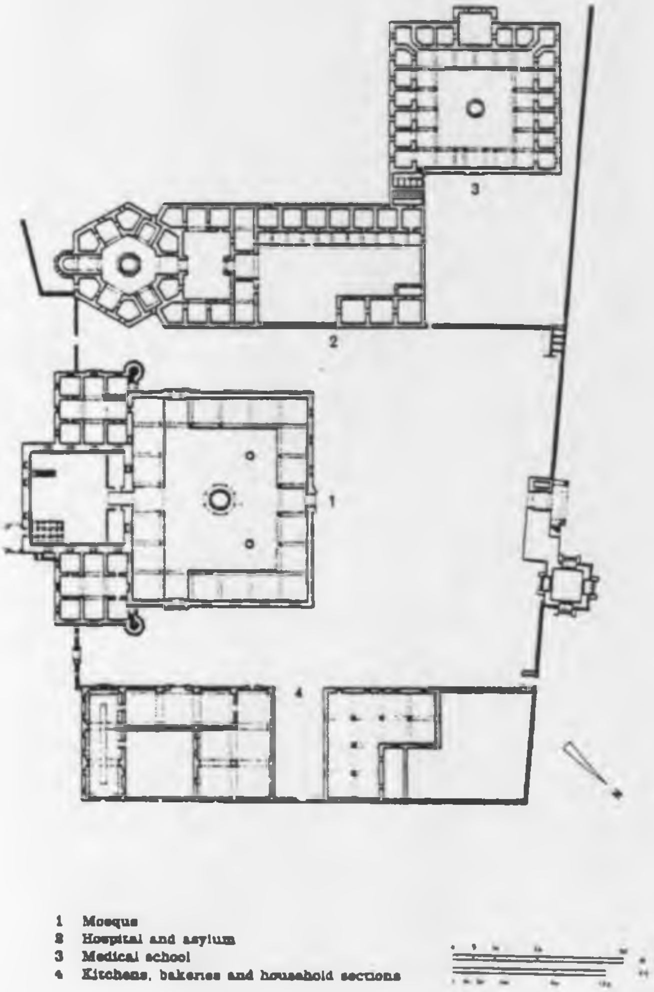

Figure 6. Beyazids Kulliye in Edirne

Living Architecture Ottoman by Vogt Goknil celebrations. The great Meidani-Shah connected with Friday mosque and Shah Abbas rebuilt the meidan, providing it on all four sides with a covered bazaar lined with stalls and with another row of stalls facing the square. Row of trees and a water channel, since filled in, separated these from the central open space used for temporary markets, polo games, public executions and other spectacles. At the south end of the Meidan arose the great Friday Mosque. . . Another entrance leading to a great complex of bazaars, bath and caravansaries comprising the commercial quarter of the new suburb."[7] According to that, the relationship between Mosque, market and open space was very strong. Most of the Islamic cities were divided into small quarters and each quarter has its own mosque as part of the public open space. Town and city quarters, perhaps, occupying just a single street are formed by relatively small, usually homogeneous communities bound by common religious, ethnic or occupational ties. . . and have a strong feeling of group solidarity with reciprocal cities and obligations."[8] The city of Baghdad was built by Al Mansur in the 8th century and was divided into individual quarters, each of which was to have a bazaar and a mosque. In each quarter the citizens,

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[7]History of World Architecture, Islamic Archit, John D. Hoag, p. 347.

[8]History of World Architecture, Islamic Archit, John D. Hoag, p. 347.

both poor and rich, shared mosques, fountains, markets, and so on. More over, the mosque provided for the people a social meeting place; they converged on the mosque five times a day. Generally, older people met in the open space which surrounded the mosque for their meeting after each prayer to talk to each other. Also the Imam, the leader, used the mosque to educate the neighborhood people in Islam.

Thus, from its inception, the neighborhood mosque was used for educational, religious, social activities and other community need. Islamic communities should consider the importance of the mosque in all its many aspects as the most important determinate in developing and maintaining traditional Islamic values and social interaction.

CHAPTER 2

AL KHOBAR AND DAMMAM BACKGROUND

Saudi Arabia is one of the largest countries in the Middle East. Its population is between 5 and 8 million people. Saudi Arabia is considered the heart of the Islamic world because it is the country of Prophet Mohammed (May Peace be upon him), Islam's Prophet. Also, all Muslims in the world turn their faces five times a day toward Mecca for their prayers.

Saudi Arabia geographically consists of four regions, each of them differs in climate and topography. These four regions are: The west province; Hijaz, The middle province; Neid, the east province, and the southern province; Asir. The most important cities of the west province are Mecca and Medina. The middle province (Nejd) is the largest region in Saudi Arabia. Riyadh is the important city of this region, and it is the capital of Saudi ARabia.

<u>The Eastern Province</u>: The Eastern Province extend south along the Arabian Gulf. In the past, the Eastern Province consisted of two oasis and small fishing villages. Al Hassa and Qatif are the most historical agricultural parts of the Eastern Province, and the past Dammam and Al

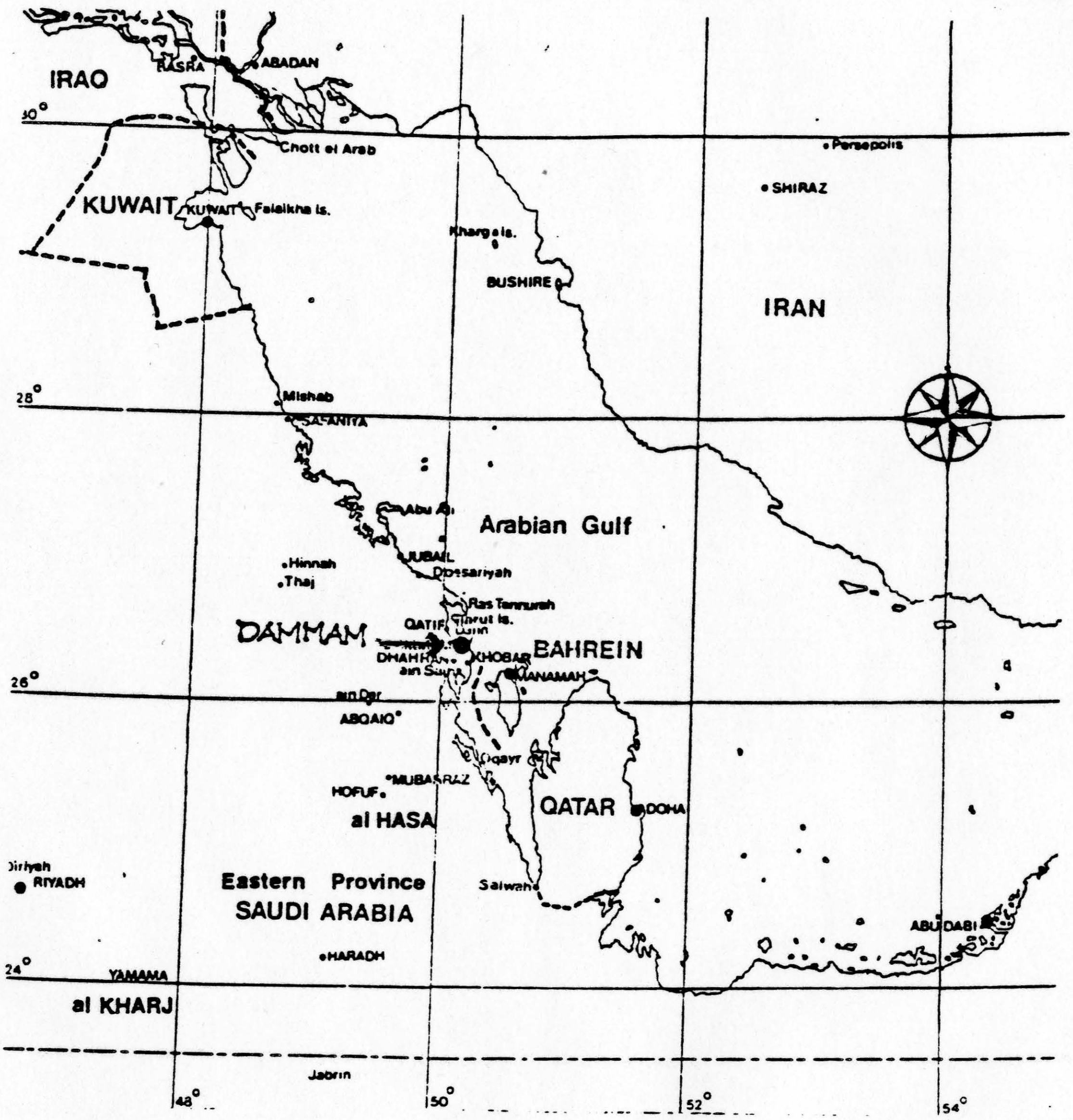


Figure 7. Map of the Arabian Gulf region

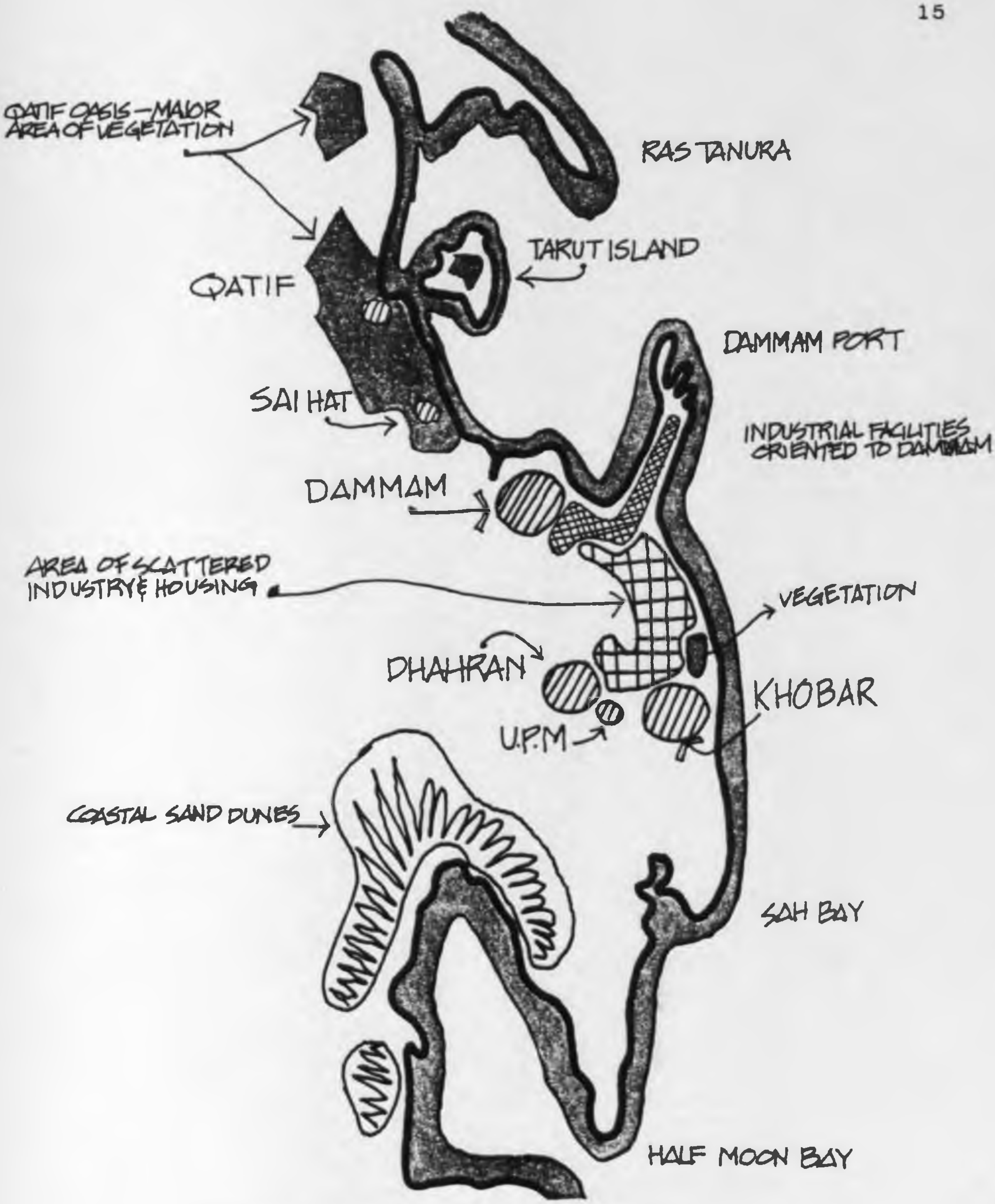


Figure 8. Major elements in the area

	POPULATION	
YEARS	NUMBER	%
1934	FEW FAMILIES	
1956	FEW FAMILIES	
1974	70,750	
1978	93,000	
1980	105,000	13
1985	153,000	50
1990	208,000	30
1995	261,000	20

Table 1. Dammam and Al Khobar population[9]

	1970 (H 1390)	1975 (H 1395)	1980 (H 1400)
Percentage living in metropolitan centres (Population more than 100,000)	20	35	42
Percentage living in small towns	20	16	12
Percentage living in rural areas	60	49	46
TOTAL	100	100	100

Table 2. Distribution of Total Population (%)[10]

[9]CH2M page 30

[10]CH2M, page 30

parts of the Eastern Province, and the past Dammam and Al Kobar were just small fishing villages. Historically, the whole area has been called Bahrain. Also Al Hassa itself was called Hajer. Dammam and Al Khobar are about 150 km northeast of Al Hassa and around 20 km south of Qatif. (See figure 7.)

There is a natural barrier between the Eastern and the Middle Regions, which is the extension of the Rubua Al Khali and the extension of Dahna desert. This desert slopes down to the east in which the Al Hassa is located. This desert causes a lot of dust for the Eastern Province. (See figure 8).

Community Development

The traditional Muslim communities were built with a more humanist and social integration than modern Muslim communities. In order to prove that I will take Eastern Province in the past, and in the present to clarify the changes of character of the neighborhoods. When the design of the neighborhood had been changed, everything in the neighborhood had been changed or effected by that change.

In the past people built their communities by themselves according to their needs and the first thing they built was the Mosque. Around the Mosque all public buildings such as schools and shops were erected. an open area surrounding the Mosque was provided for activities such as wedding parties (people usually started their wedding parties right from the Mosque) and other gatherings. The open space was used as a playground for the children, and adults used it for their afternoon meetings. People used that area for Friday prayer if the Mosque didn't have enough space to hold all the people. This is the main concept of the traditional community. The traditional Muslim's community achieved many goals such as:

1. Unity: The patterns of the neighborhood are organic patterns which achieve unity for the neighborhood. The whole community is structurally connected in a manner to form continuity of the neighborhood. To make the neighborhood as one unit, they provided one or two main gates to insure unity and security. INside that kind of neighborhood you will observe the unity strongly. The whole design of the neighborhood made the people relate to each other. They met each other five times a day at the neighborhood Mosque. Moreover, they gathered after prayer to talk to each other, or from the Mosque they gathered to visit their friends and so on. Most of the time the Imam of the neighborhood Mosque developed programs to educate the people, a program for children, another for adults and another for women. You could find most of your needs in the neighborhood. There was no need to go out for most things. In this manner, you felt unity.

2. Mosque: The Mosque dominates the main open space of the neighborhood. Not only that, the Mosque itself is part of the swelling structure; it is not separated from the dwelling. They wanted to emphasize the relationship between the mosque and the neighborhood with the height of the minaret dominating the neighborhood.

3. Safety: The public space provides security and safety for the neighborhood. Also, it holds all the activities especially children's activities. In other words, the public space protects the children from hazards.

4. Hierarchy of the Open Space: The community characteristically comprises a tripartite of public, semi-public and private space, varying in the degree of accessibility and enclosure.

Overall, the planning of the traditional Muslim communities was built with good and strong relationships to insure unity and humanity.

Modern Developments

Dammam and Al Khobar are examples of modern cities where the communities are developed better than other cities.

People from Al Hassa and Al Qatif Oases had been moved to Dammam and Al Khobar. They built their small villages along the coast of the Arabian Gulf which sustained life in these fishing villages. Most of the people fished in the sea and a few of them were farmers.

Another group from Bahrain Island immigrated to this area.

No one knew the importance of this area, until 1353 (1933) when oil was discovered in this area. After that people started to move to Dammam and Al Khobar for work. Fishermen, nomads and farmers left their jobs and went to work in the oil companies.

From different parts of Saudi Arabia, people moved to the eastern province, especially Dammam and al Khobar. That is why the population increased incredibly in Dammam and al Khobar in a few years. (See tables 1 and 2).

ARAMCO (oil company) reserved large areas in Dammam and Al Khobar as residential areas for its employees. The company built two communities in Dammam and in Al Khobar for its employees. In planning, ARAMCO chose a grid pattern for its communities and provided a few open spaces as playgrounds for the children.

Before ARAMCO built these communities, the municipality starting thinking about planning regulations. The municipality asked ARAMCO for help in planning and construction. The municipality considered a grid pattern as the base for planning in Dammam and Al Khobar.

Over the last twenty to thirty years, Dammam and Al Khobar communities have changed greatly. People started to move from villages into cities. The cities expanded extremely rapidly in a very short time (See figure 9, 10). So Dammam and Al Khobar communities grew in size in a very short time without providing amenities to meet the people's needs, or where there are amenities, they are misappropriated. Sometimes, you find two mosques near each other, while in other communities you find none. Sometimes people change part of the residential areas into commercial to meet their needs.

Generally fast and rapid development without strong regulations or control creates great problems: neighborhoods without open space, markets without parking and so on. As a matter of fact, people faced a lot of problems such as:

A. Open space (parks): ONe of our community problems is lack of open space. In general, we have some open space, but the relationship between neighborhood and open space is so weak that the open spaces are usually without adequate facilities for activities.

B. Neighborhood: The city divided into large communities only. You will not find any farther division like neighborhood.

C. Safety: The streets divided the residential area into small blocks, to consist of hazardous

c) Dammam (1963)-General skeleton network aerial picture.

d) Dammam (1973)-General skeleton network aerial picture.

e) Al-Khobar (1934)-General skeleton network aerial picture.

f) Al-Khobar (1973)-General skeleton network aerial picture.

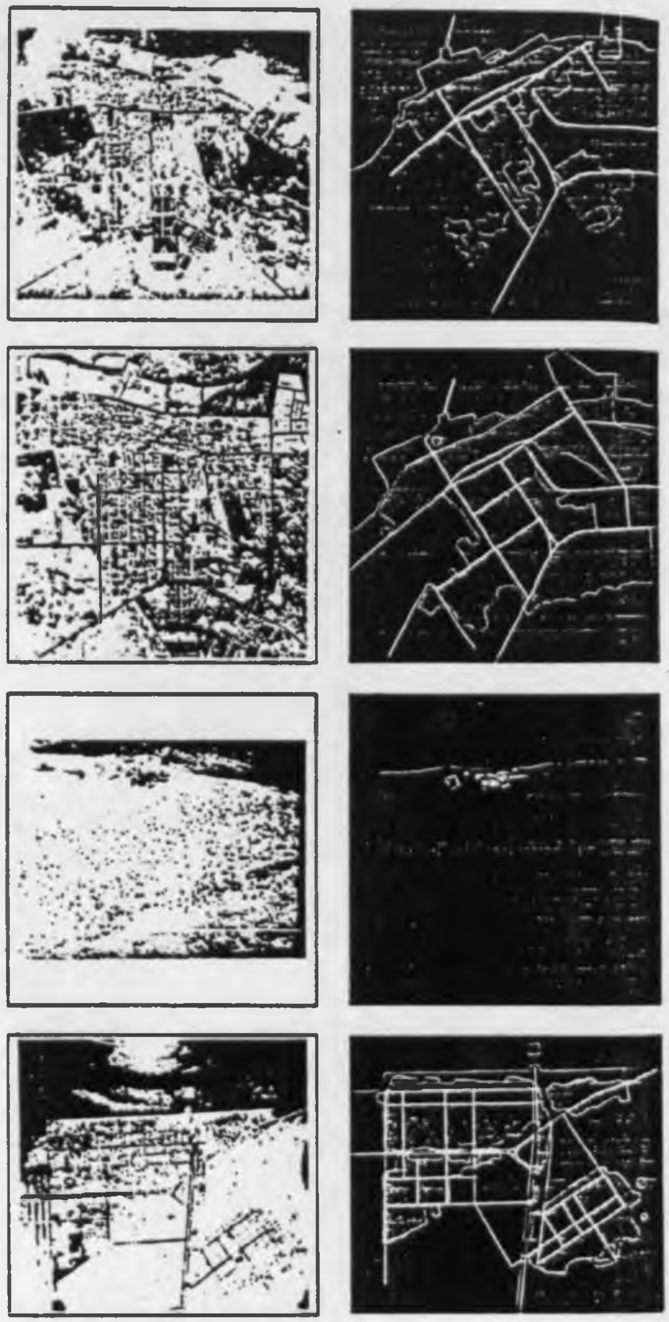


Figure 9. Dammam and Al Khobar growth

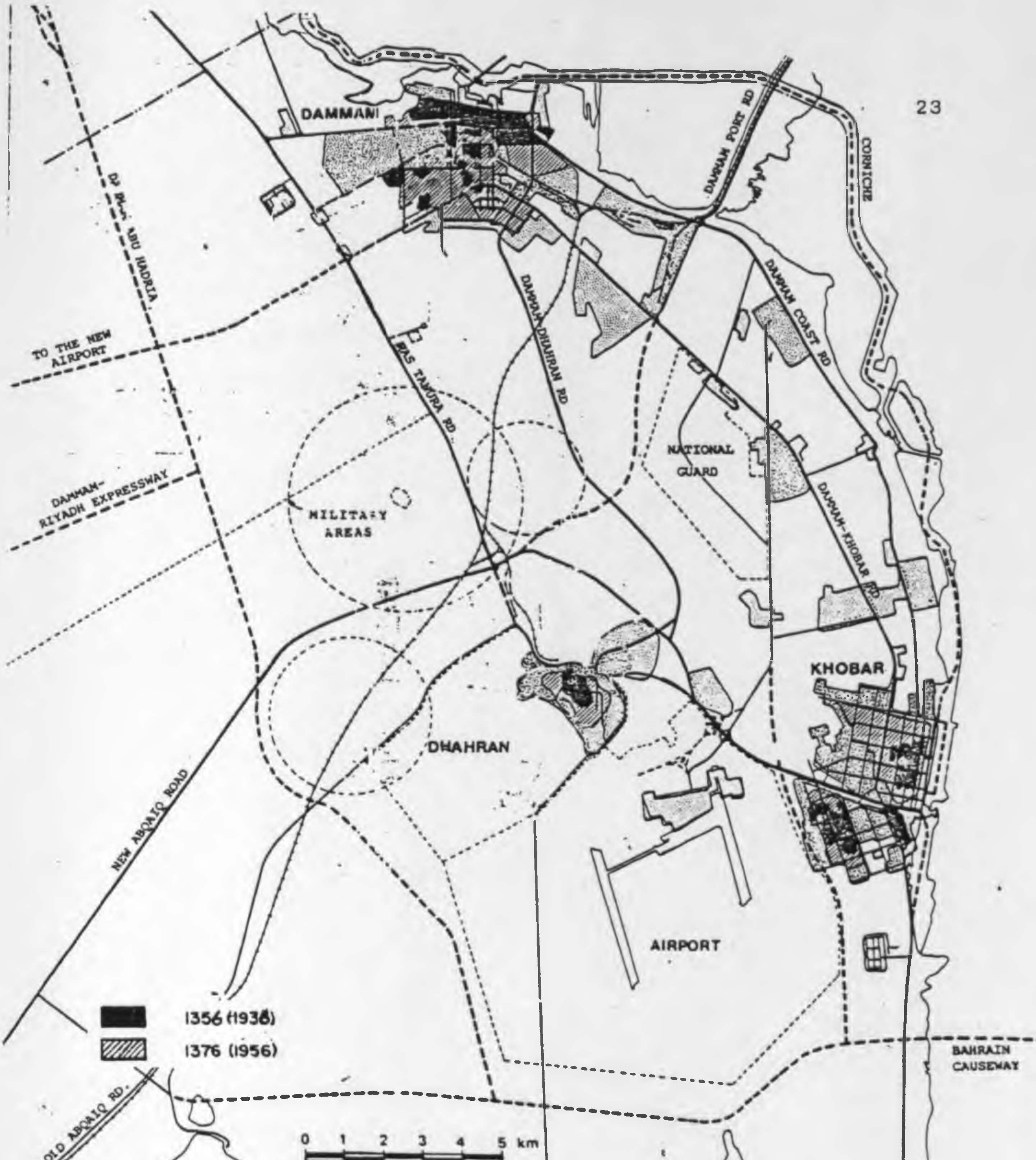


Figure 10. Dammam metropolitan area urban growth

hazardous intersections with unlimited speed limits. That means cars dominate the residential area.

D. Public space: A view area left for the public uses. Sometimes public space has a weak relationship to the community.

E. Human scale: The master plan forgot human scale such as walking distance to the public uses, schools, open space, Mosque and so on. They concentrated on city scale only.

This is why we miss the neighborhood and the quality of the neighborhood. The relationship between families was lost also.

As a conclusion, the traditional neighborhood is more suitable and successful than modern communities for our lifestyle.

Physical Determinants

I. Natural

A) Geography: Dammam and Al Khobar are located on the Arabian Gulf on longitude 50° 06' and between latitude 26° 06' and 26° 30'. The area is bordered by the sea on three sides (north, east and south) while the desert bounds it from the west. The Dammam metropolitan area slopes gently toward the Gulf.

B) Geology: The soil in Dammam and Al Khobar was formed from sand and sabkhas (salt flats)--silt, clay, muddy sand, common saline, underlying coastal and inland playas--cover all the tidal zone along the coastline. Groundwater varies, but usually it is found 3 feet below the surface. That is why the soil contains a great deal of salt.

C. Climate: Climate in Damma and Al Khobar is composite--maritime inland desert climate. In general, it is hot and humid during summer and mild the rest of the year.

Temperature. High temperatures varies between 35°C to 42°C. The hot period lasts from May to October. It reaches the maximum during July and August. The minimum temperature is 10° during the winter months of January and February. The average temperature is about 22° during the pleasant months of December, January and February.

Humidity. Relative humidity in Dammam is very high due to the large surface of open water of the Arabian Gulf.

The maximum humidity occurs during winter months. It is relatively lower during summer than the winter months. Relative humidity ranges from 96% to 53% and from 15% to 75% in July.

Wind. The prevailing winds come from north and northwest between 290° and 360°. During late spring and early summer, high velocity winds cause dust storms.

Table 3. Number of days with sandstorms

1963	1967	1969	1970	1971	1972	1973	1974
29	82	35	16	18	8	12	5

Rainfall. Rainfall in Dammam is light and irregular. the drier period lasts form June to October. Most of the rainfalls are between November and April.

In summary, there are some factors that affect our buildings. Therefore, to build passive buildings, considering these factors is very important.

First of all our climate (East Province climate) consists of "two cycles--hot-dry and hot-humid, that is maritime inland and desert climate." To design a passive building for such a climate, certain factors should be considered at the design stage such as daylight, insulation, ventilation, interior, radiation and landscape.

Daylight. Indirect daylight is preferred, and the best orientation for windows to provide daylight is north to avoid excessive heat, but not from the east and south to avoid direct daylight and heat.

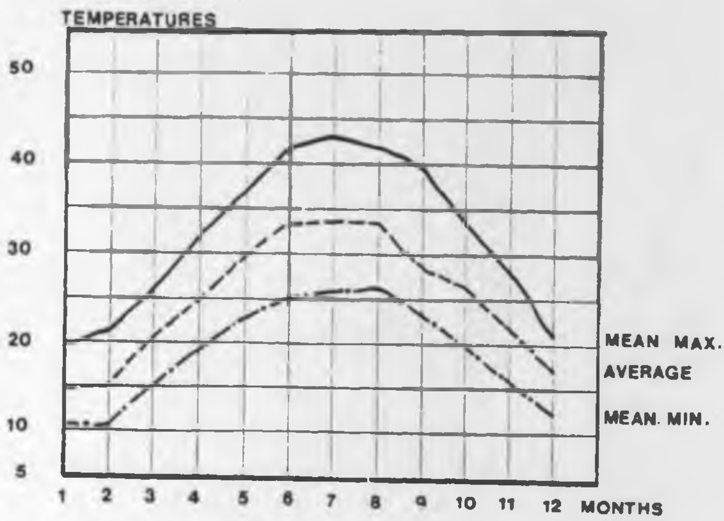
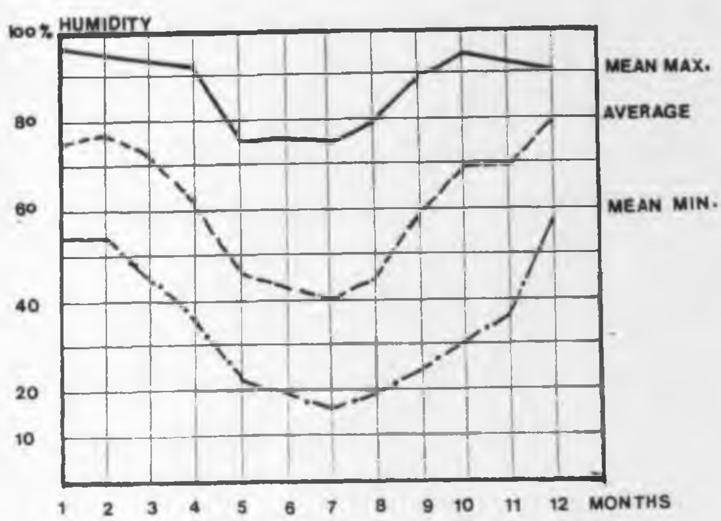
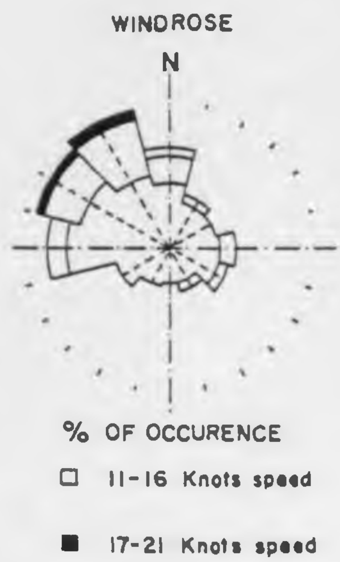


Figure 11. Temperature ranges





mean max	96	95	94	92	75	76	75	79	91	95	93	92
average	74	77	73	63	46	43	40	46	59	66	63	78
mean min	53	53	46	37	22	19	15	19	25	31	37	53

Figure 12. Humidity ranges

Natural Ventilation. If the building has good ventilation in addition to insulation, the use of air conditioning will be reduced greatly. Cross ventilation during hot-humid period is required. The only problem that makes us reduce using natural ventilation is dust, especially during late spring and early summer. North and northwest are the best orientations for windows for natural ventilation.

Radiation, Glare. Our sky is clear most of the time all year round so radiation is very high. Therefore, radiation is avoided by using shading, landscape and careful design for paved areas around the buildings.

Insulation. High thermal capacity is required to protect concrete buildings from outside temperature. This is especially so in the case of the roof because the maximum solar radiation impact is on the roof.

Interior. In addition to insulation and good ventilation, high ceilings will produce a passive building for such a climate.

Landscape. Southwestern sides can be protected by high branching trees. Plants and ground cover between buildings will reduce glare and dust. Also paved areas should be minimized to reduce glare and heat.

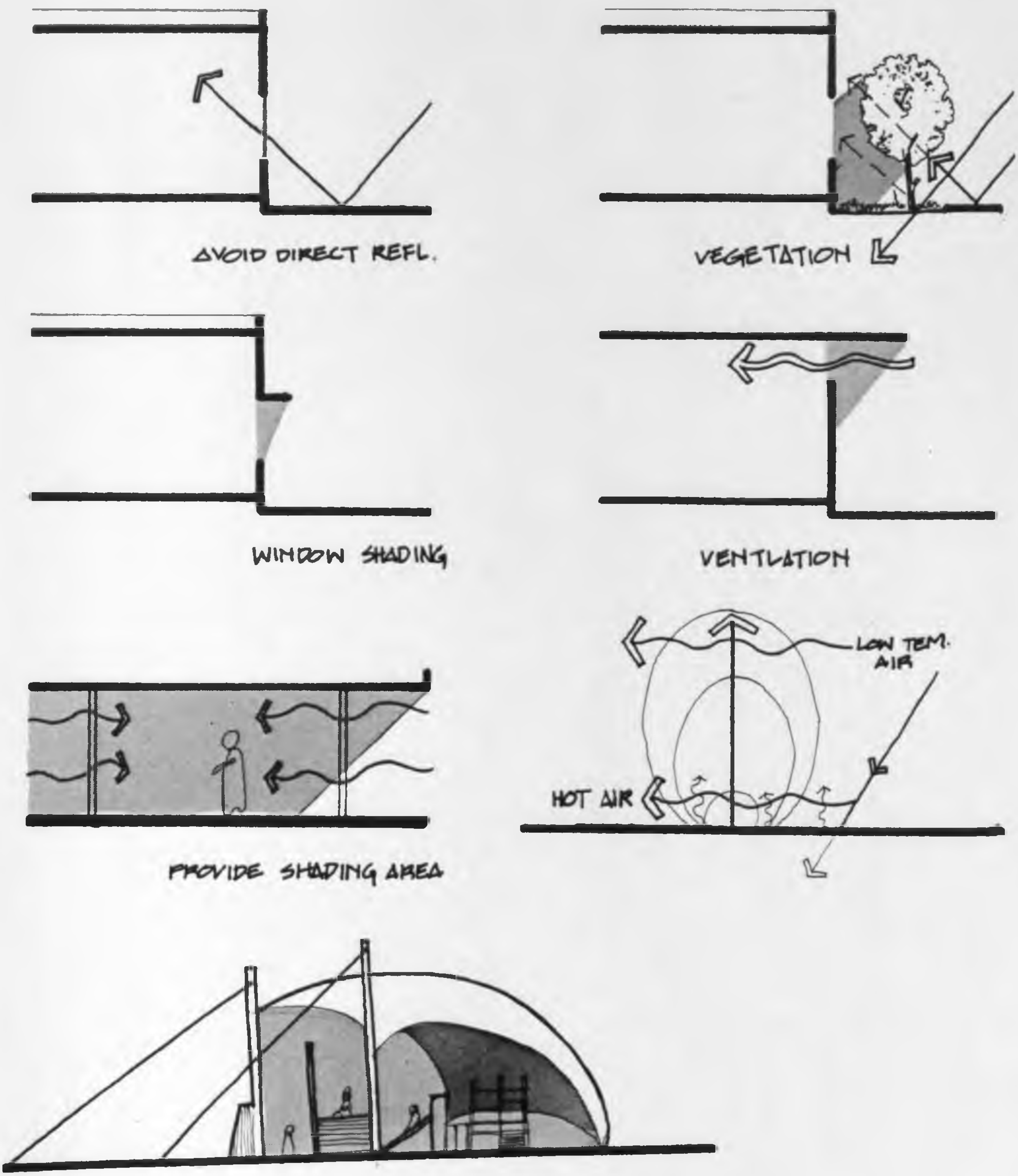


Figure 13. Energy conservation

3

CASE STUDY

CHAPTER 3

Case Study I

1. London Central Mosque

This mosque serves half a million residents who live near Regents Park. It serves as a community center for all the muslims living in that area. It consists of the following compartments.

1) The main hall, which serves as the male praying area. It has the capacity to accommodate 965 worshippers.
2) The female praying area. This is located over the entrance of the main hall. It is good for 245 female worshippers.
3) A library.
4) Offices for administrators
5) A cafeteria

See figures 14, 15, 16, 17, 18, and 19.

The design of this center Mosque is suitable for that community where the Muslims satisfy their needs such as their religious, social and educational needs.

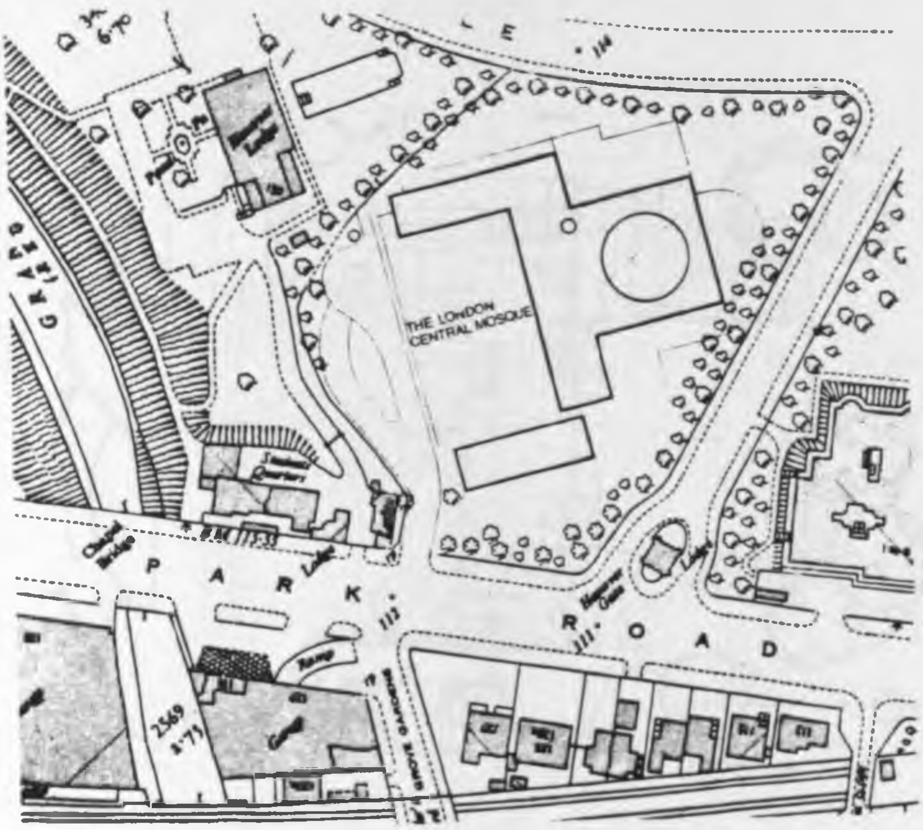


Figure 14

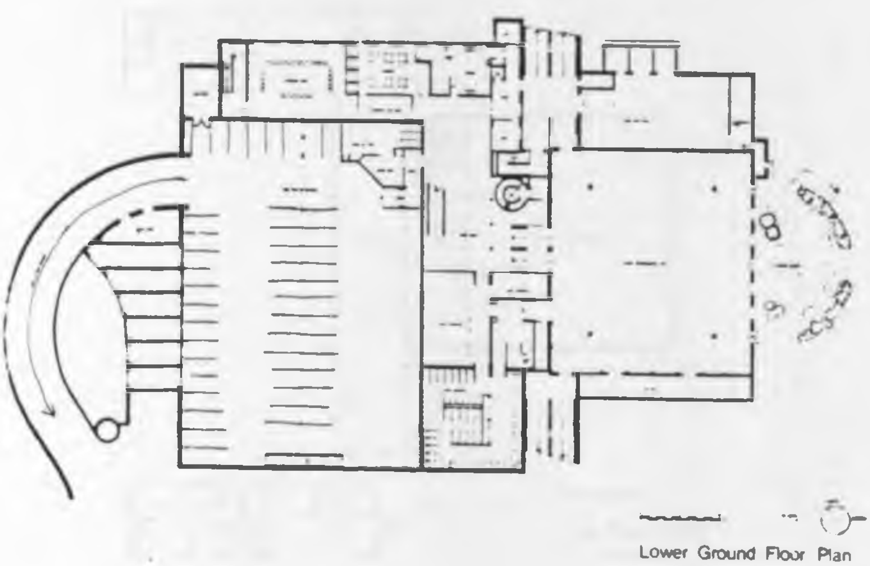


Figure 15

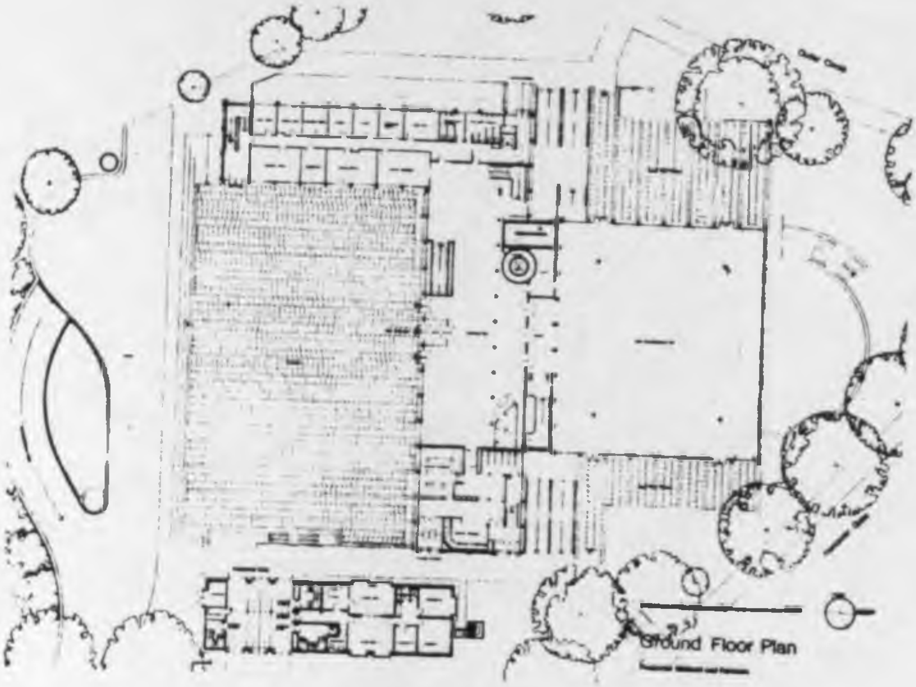


Figure 16

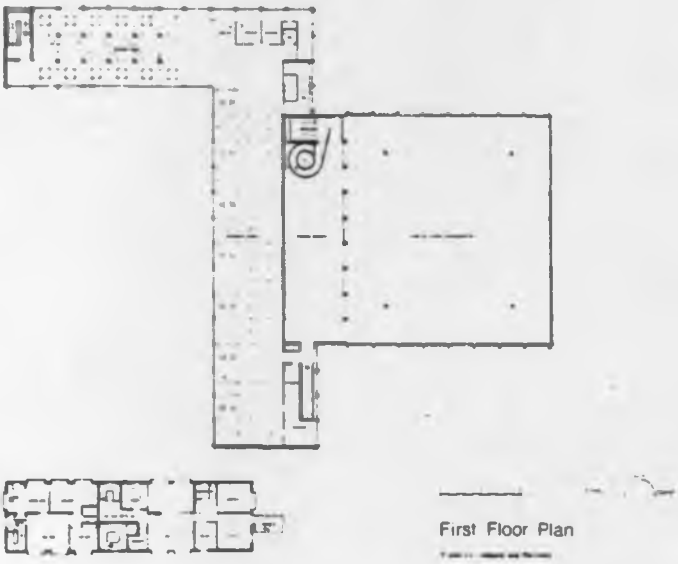


Figure 17

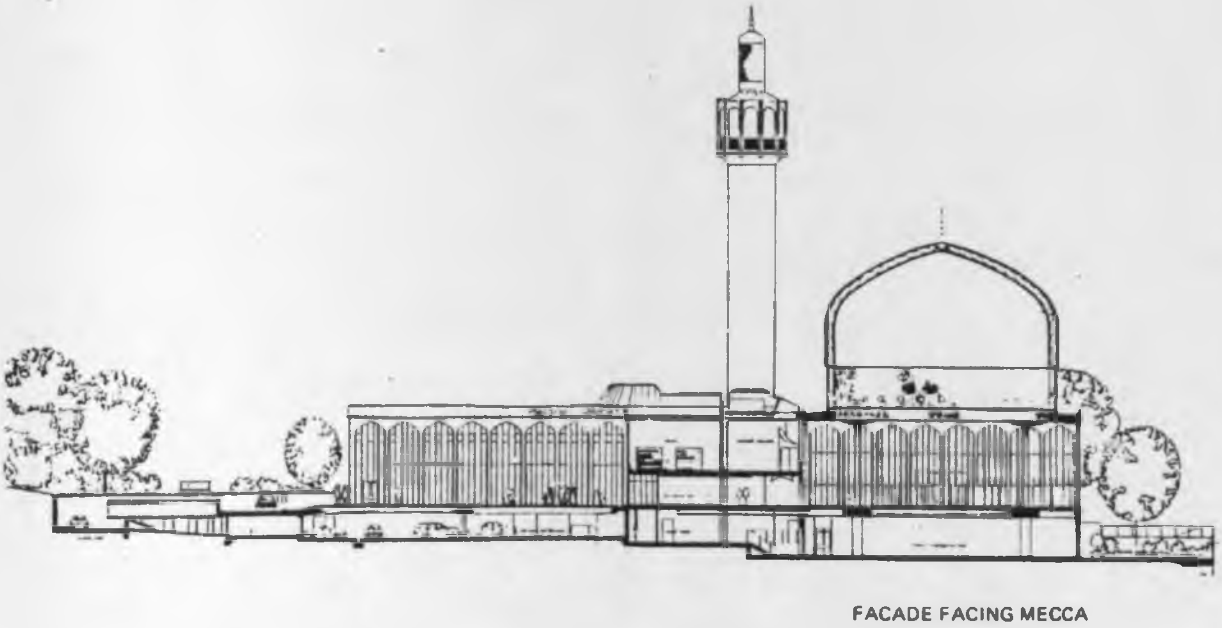


Figure 18

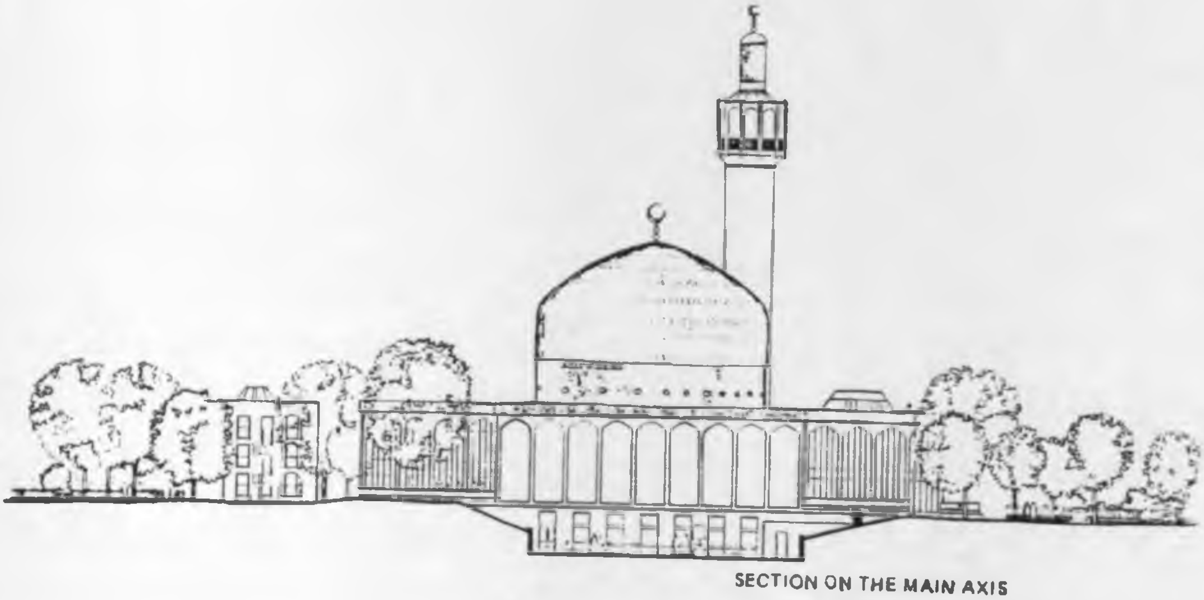


Figure 19

Case Study II

The Islamic Cultural Center of Brussels:

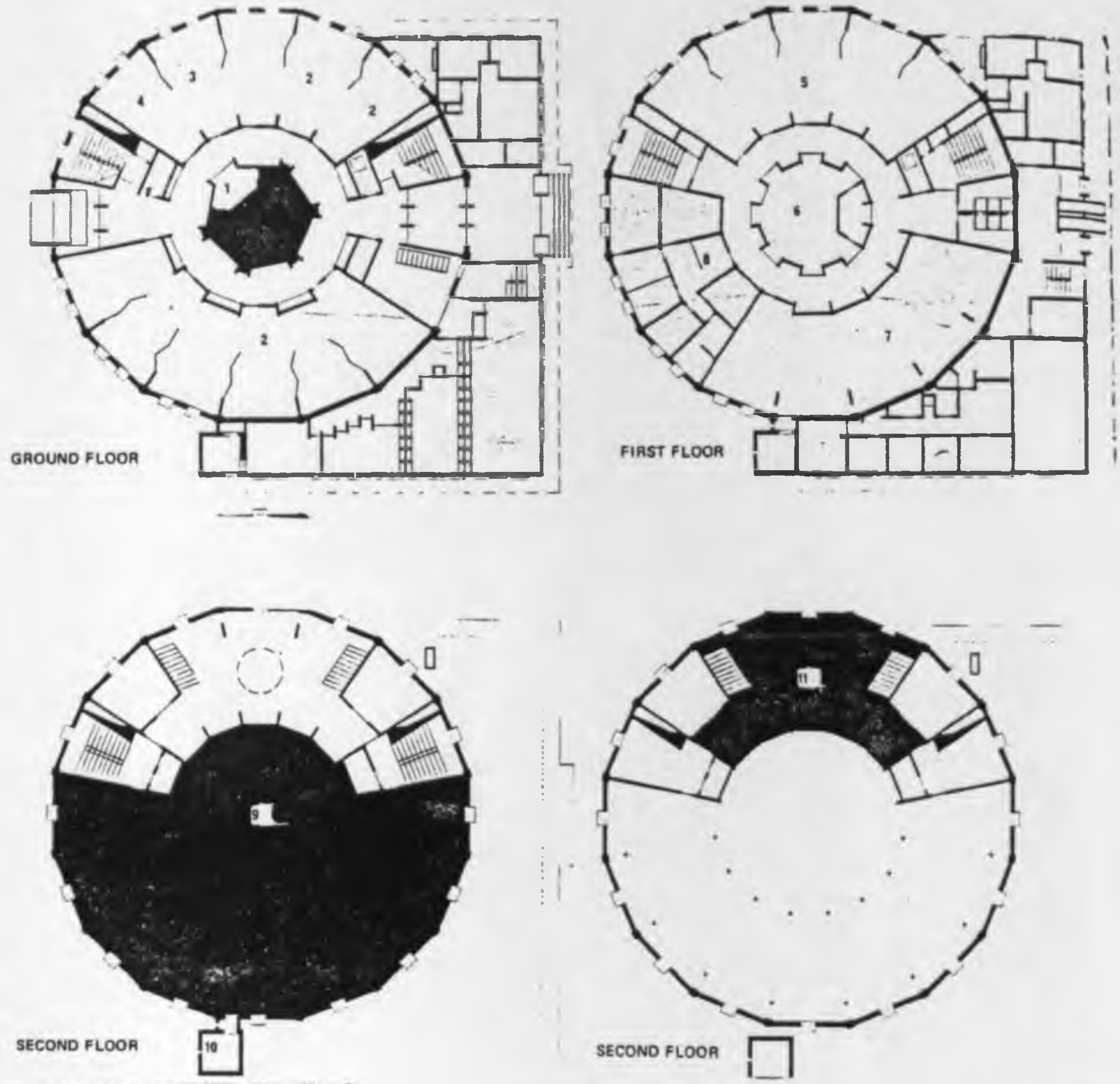
Location: Jubel Park, Brussels, Belgium.

This center is built to serve Muslim communities in Brussels. It consists of:

1) The whole building: The whole building is used by worshippers on Friday and for other Muslim festivals. During these occasions, classrooms are also used as a praying area.
2) Daily Hall: This space is used for daily prayers.
3) A separate hall used as women's praying area
4) A library
5) Offices
6) Study rooms - classrooms

This center provided the Muslim communities with all their cultural needs such as praying, social activities, education and administration.

The circular shape for this building created some problems, especially the praying area. This problem comes out when the prayers start and all Muslims line up for prayer in the direction of Mecca. The circular shape prevents the use of the space of the praying area wisely. See figure 20.



1-Small Prayer hall
2-Classrooms
3-Congregation hall
4-Leisure hall
5-Conference hall
6-Language laboratory
7-Library
8-Administration
9-Great Prayer hall
10-Minaret
11-Women's gallery

Figure 20: Islamic Cultural Center of Brussels

Case Study III

In Saudi ARabia

The ministry of pilgrimage receives many requests concerning the construction of mosques all over the kingdom of Saudi Arabia. As a result of this increasing number of requests, the ministry has planned to build 130 Friday mosques throughout the kingdom.

The Ministry uses one model design of Friday mosque as a blueprint for all the new mosques all over the kingdom.

It consists of:

1) Main praying hall; for men only.
2) Storage area: two small rooms to store equipment.
3) Two small houses for imams and the caller for prayers (mathen).

The plans omitted provisions for certain functions such as a women's praying area, the library, the classrooms, the parking area and the daily praying hall. Moreover, the design of such mosques does not maintain natural ventilation and daylight.

Therefore, these Friday mosques do not serve the socio-cultural functions of the first built mosques. See figure 21.

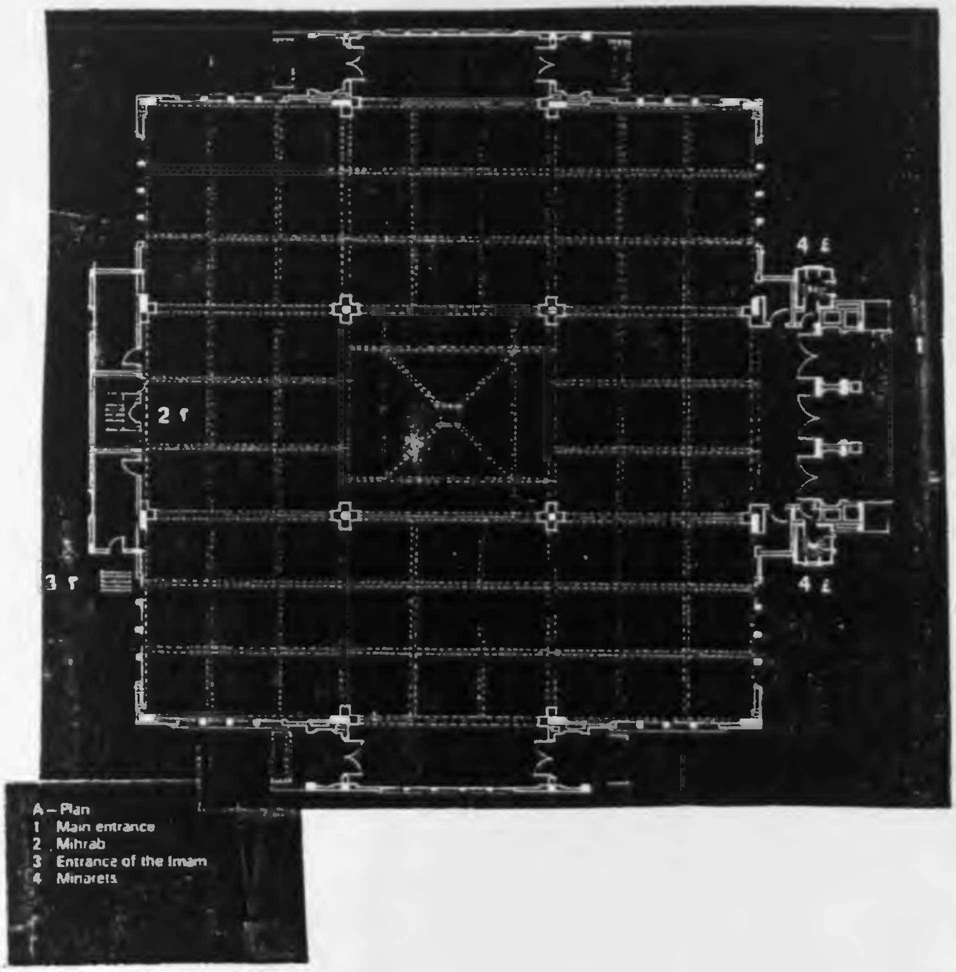


Figure 21. Ministry's Friday Mosque

Case Study IV

In Saudi Arabia

Ulaya Housing Project.

Location: Riyad, Saudi Arabia

The Ulaya Housing Project is located eight km north of Riyad. The total area of the whole project is about 42 hectares (420,046M^2), but the construction area is about 489,640M^2. The expected population is about 7,000. This project includes:

1) Public housing
2) Social and recreational activity area
3) Open space
4) Commercial buildings
5) Parking area

The main feature of this project is the community center which is connected to the mosque.

The mosque in this project is not used as a focal point in the whole site and this is the weakest point of the project. (See figure 22)

Figure 22

4

MOSQUES AND THE COMMUNITY ELEMENTS

CHAPTER 4

MOSQUES AND THE COMMUNITY ELEMENTS

To build a beautiful city, one has to start first of all with a small scale which is the neighborhood. If one starts from the neighborhood scale and applies the design requirements on that scale, then one gets the ideal design of the neighborhood. Today the Saudi Arabian neighborhood is greatly influenced by western design and planning which is not suitable for the Muslim culture. The modern neighborhood in Saudi Arabia lacks the proper design for urban space in the mosque which affects the social of the neighborhood. In order to design a city that fulfills Muslim's needs, one should take advantage of the urban space to be used for social activities and to design a mosque in the heart of that neighborhood to provide society with its educational, cultural and religious needs. There are many advantages to this design.

First of all, the number of trips through the neighborhood will be limited because most of the resident's needs will already be provided for within the neighborhood.

Second, there will be less cars and eventually a minimum demand for parking space. In this case the neighborhood will have more control over planning and zoning. Hence to plan the desired neighborhood, provisions should be made for the following minimum requirements.

1) A mosque
2) A library
3) A small shopping area
4) Open space (green area)
5) Multipurpose hall
6) Parking

Mosque

The mosque is the main element in this project and it is important for the neighborhood. We could use the mosque as a landmark for the neighborhood, since the minaret is the highest point in the neighborhood. In fact, in the past, people used to call the neighborhood by the name of the mosque in that neighborhood. The same tradition is followed today. In this project I will concentrate on the mosque under the following categories because of the mosque's important role in Muslim daily life.

1) Types of mosque
2) Mosque element
3) Site zoning
4) Communities mosque elements

1. Types of mosque. There are three kinds of mosques. Each one serves part of the city. The daily mosque serves the neighborhood on a small scale. Friday mosque

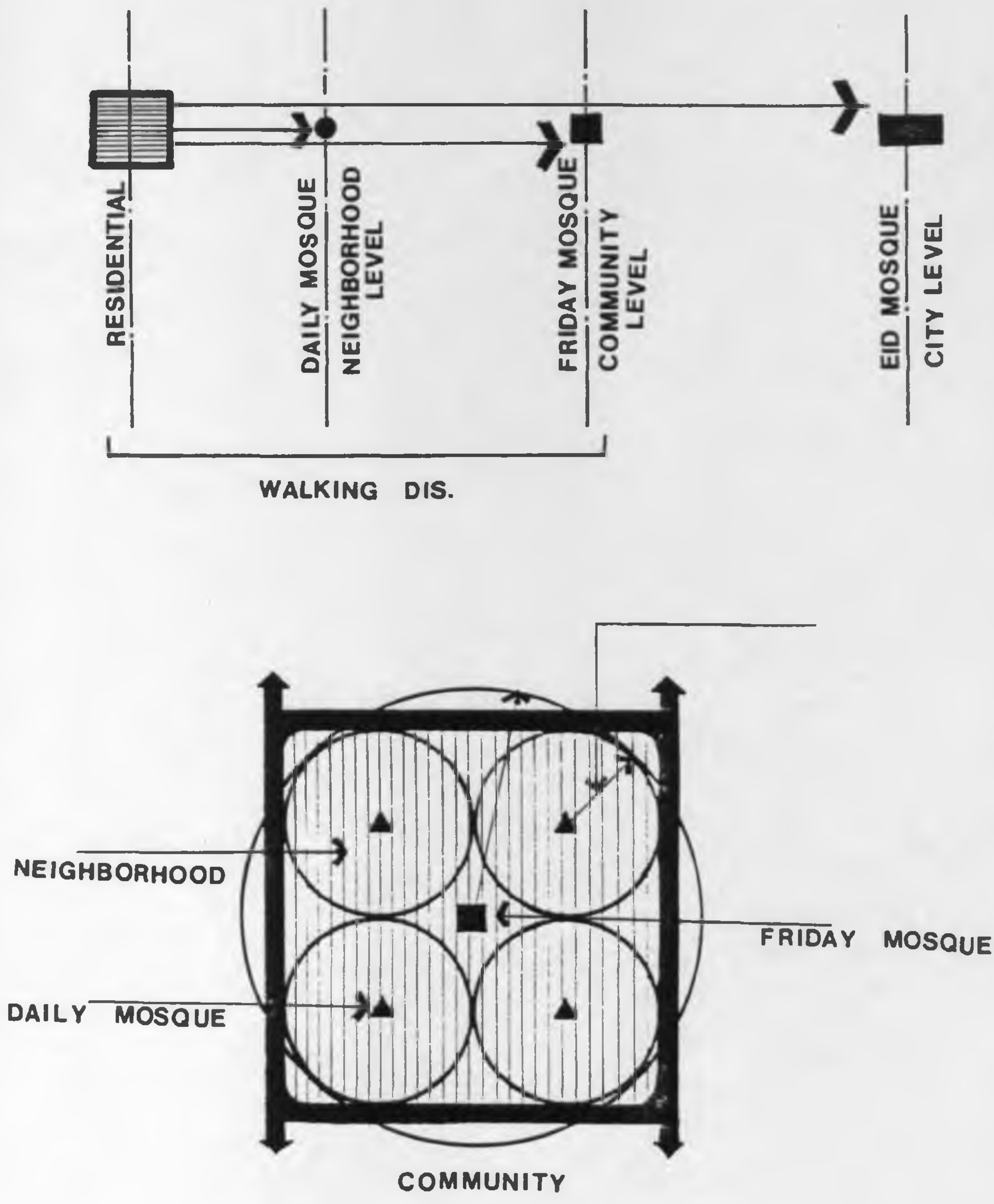


Figure 23. Kinds of mosque and how they are related to the city.

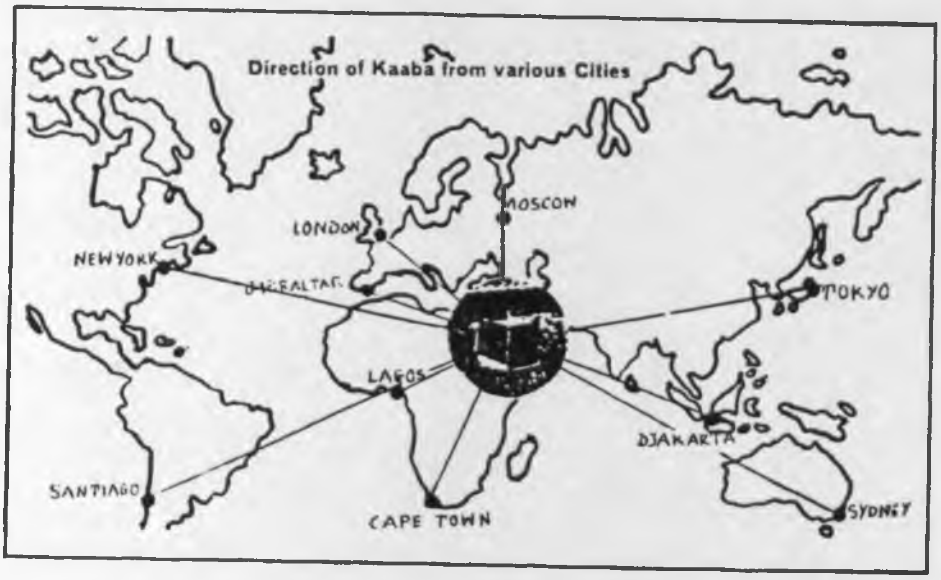


Figure 24. Direction of Kaaba from various cities

Allah said in the Holy Quran, "So from whencesoever thou startest forth, turn the face in the direction of the Sacred Mosque; and wheresoever ye are, turn your face thither..." S.II v.150

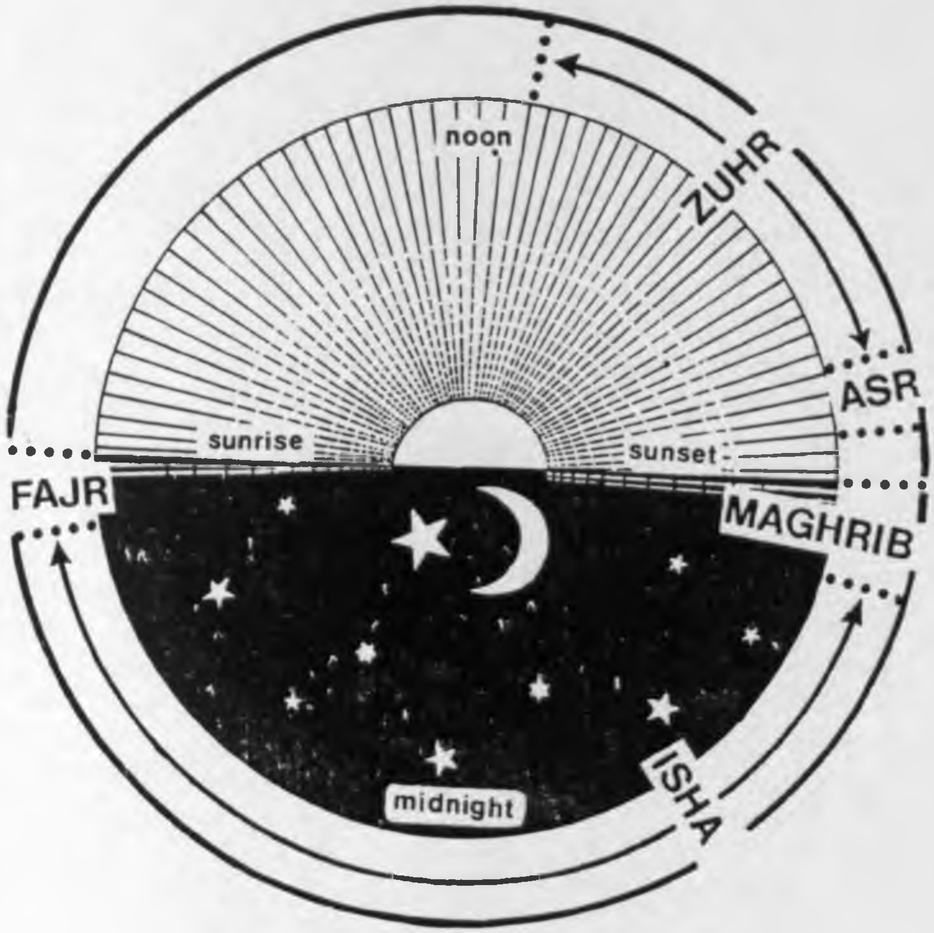


Figure 25. Diagram showing timings of daily prayers

Each of salah must be offered at or during its proper time. No salah can be said before its time. There are five obligatory prayers in a day.

Fajr	the morning prayer
Zuhr	the early afternoon prayer
Asr	the late afternoon prayer
Maghrib	the sunset prayer
Asha	the night prayer

serves the community on a large scale while the Eid mosque serves the whole city on a large scale. (See figure 23).

2. Mosque elements. Praying hall, ablution (wudu) area, studying area, library and storage area. (See figure 26).

Praying Hall. The main purpose for this area is the gathering of people for worship, reading the Quran and giving speeches to the people. "For prayer in common, believers gather in a mosque. The muslim prayer (salah) is a well defined ritual. It has to be performed in parallel rows in order to follow the movements of a leader (imam), and to face Maca."[11]

For this reason, it is very important to figure the number of worshippers who attend each mosque. An average number of worshippers can be estimated for each type of mosque. It is also important to study the shape of the mosque to provide the best possible space for the worshippers.

Under the praying hall, the following will be considered:

A. Praying hall criteria

B. Users

C. Size

---

[11]Kuban, D. Muslim Religious Architecture. Part I: The Mosque and Its Early Developments, page 2.

D. Structure

E. Shape

F. Design quality

G. Acoustics

A. <u>Praying Hall Criteria</u>

To establish a good design for the praying hall, we should consider the following categories:

1) One continuous space: the praying hall should be designed without a change in level or separation in space in order to have continuous rows, because the worshippers have to follow the imam's movements.

2) Women's place. The women's place should either be in back or on a different level or place. The best thing is to provide a separate place and entrance for female worshippers.

3) Imam's place: The imam should stand in the middle and in front of the rows so that worshippers see the imam's movements.

4) One continuous row: Islam prefers continuous rows without any breaks. This means there should be as few columns as possible.

5) Views are not required for the praying hall for worshippers should concentrate totally on the prayer. Therefore, the hall is expected to be simple without

external views. Noise and external views may cause distraction and reverie during prayer.

6) Decoration: Islam prefers to have a simple praying hall without decoration or paintings. Umar, the second kalifa ordered a mosque to be built and said, "Protect the people from rain. Beware of red and yellow decorations for they put the people to trial."[12]

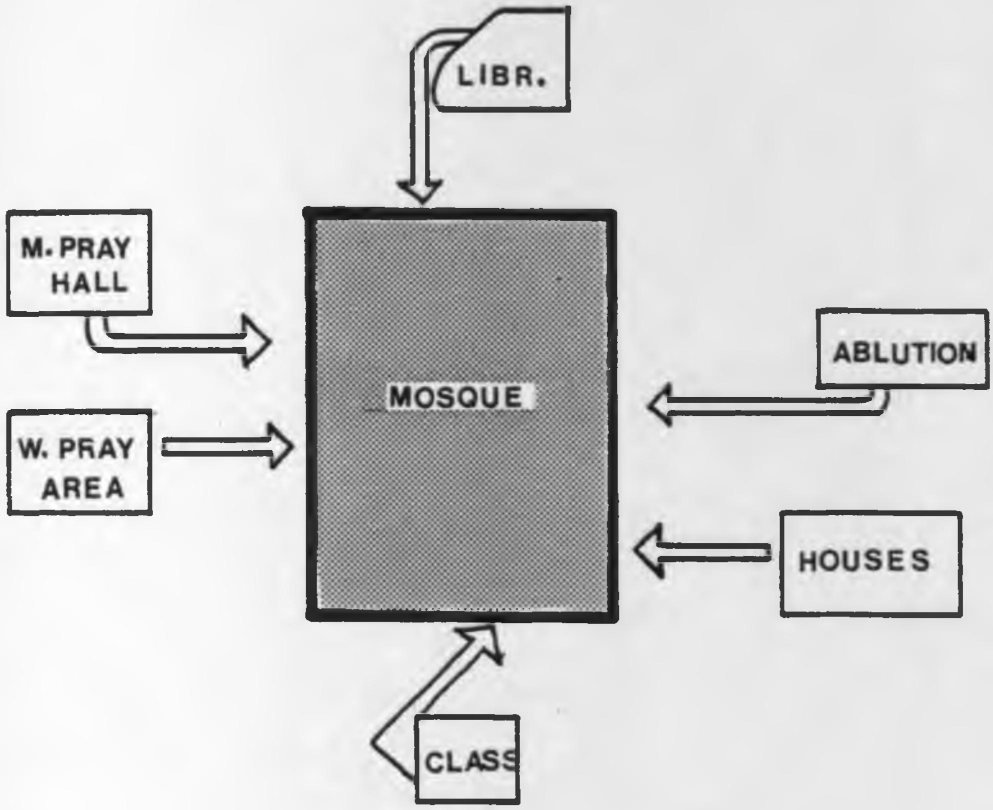


Figure 26. Mosque elements

[12]Sahib Al-Bukari, p. 260, Vol. I.

B. Users

The mosque serves all types of people: men, women and children. In regard to men, they should pray at the mosque. However, women are given a choice to either pray in the mosque or stay at home. However, it is recommended that women perform their prayers at home. The prophet (may peace be upon him) said "Don't prevent God's maid-servants from attending the mosque."[13] If we want to provide a place for women, two things should be considered.

1. Men should be in the front of the mosque and the women should be in the rear.

2. Visual-separation between men and woman. (See figure 27).

As for children, there is no specific place for them.

Usually most women use the mosque about one month a year during the fasting month of Ramadan. Every year the same problem occurs: where to put the women. If there is space, there usually is not a convenient entrance for that space. Therefore to design a mosque that meets the Islamic requirements, it is important to consider the women's place during the design stage. This place can also provide some flexibility for the mosque to use the space for women as a separate place or for the men if needed.

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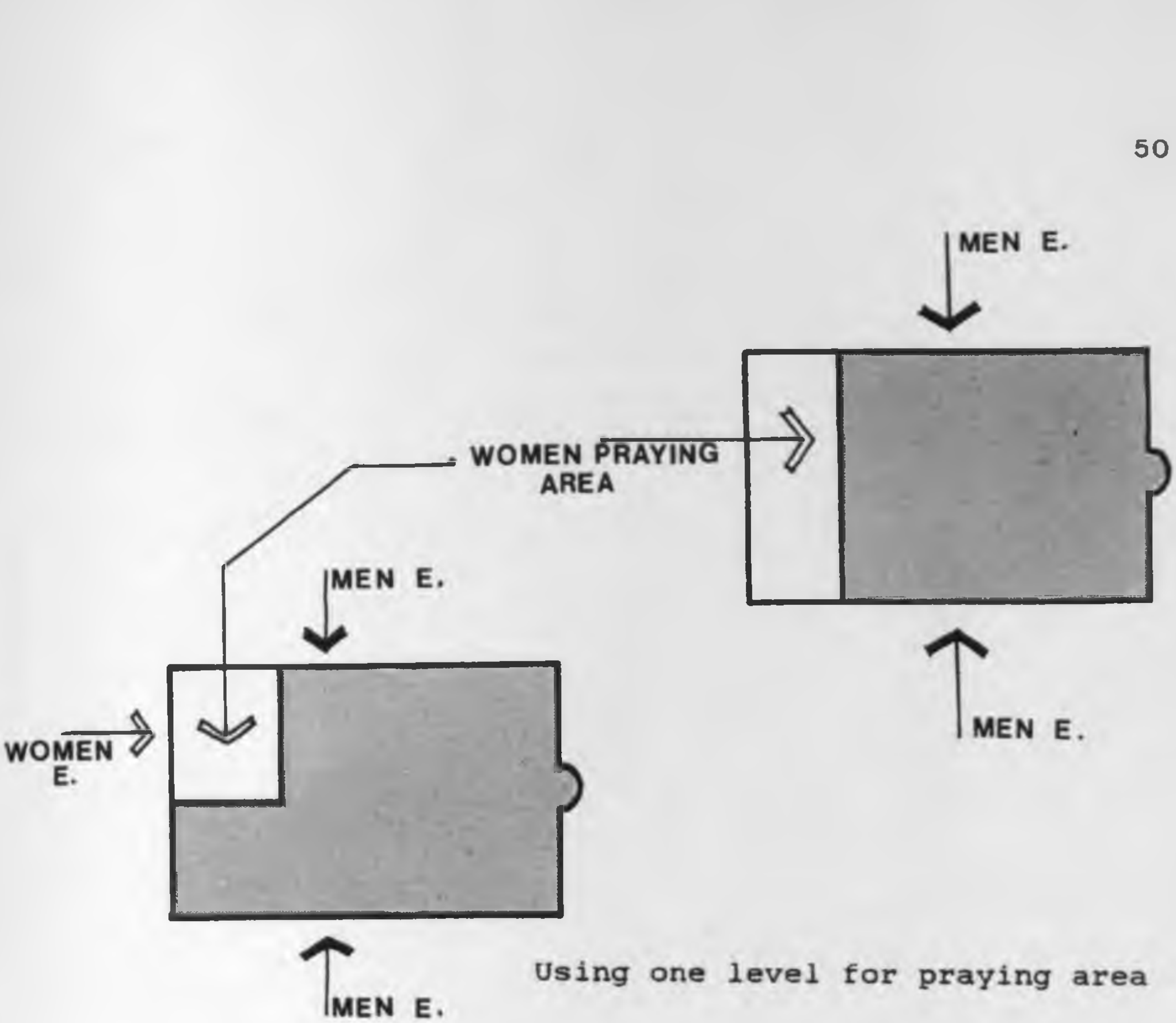
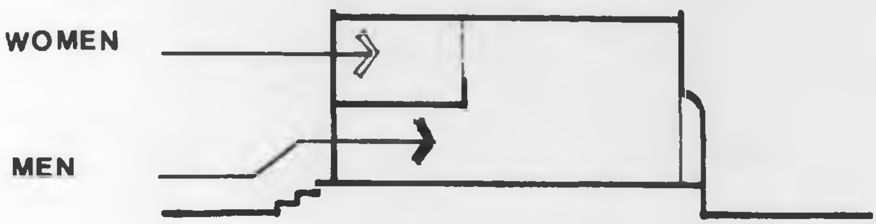
[13]Sahib Al-Bukhari, p. 6, Vol. II.



Using one level for praying area



Using two levels

Figure 27. Alternative designs for praying areas

C. Size

The size of the praying hall depends upon the number of users. For the daily mosque, the most convenient service number for the praying hall is between 80-150 worshippers.

The service number for Friday mosque is between 800-1000 worshippers. This kind of mosque is used both as a daily mosque and as Friday mosque. Therefore, it is important to have a small place within the mosque for daily use, enough for about 150 worshippers as a maximum. Also it is important to set aside about 1/4 of the praying hall for the women.

For the daily mosque, the prayer hall should be:

For 150 prayers x $1M^2$ = $150M^2$ = 1667 sq. ft. (see figure 28)

One quarter of the praying hall for women comes to about 40M = 444 sq. ft.

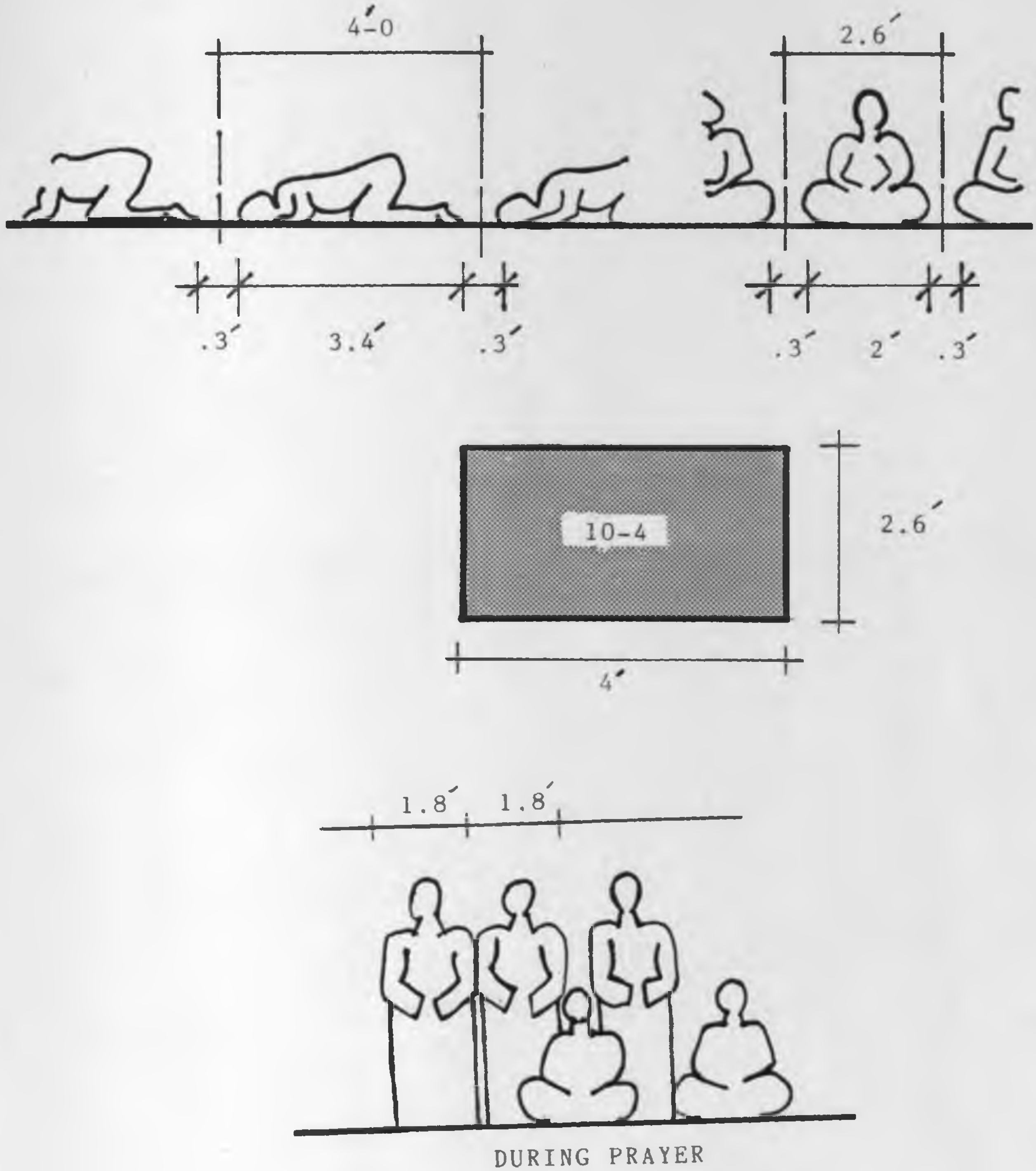
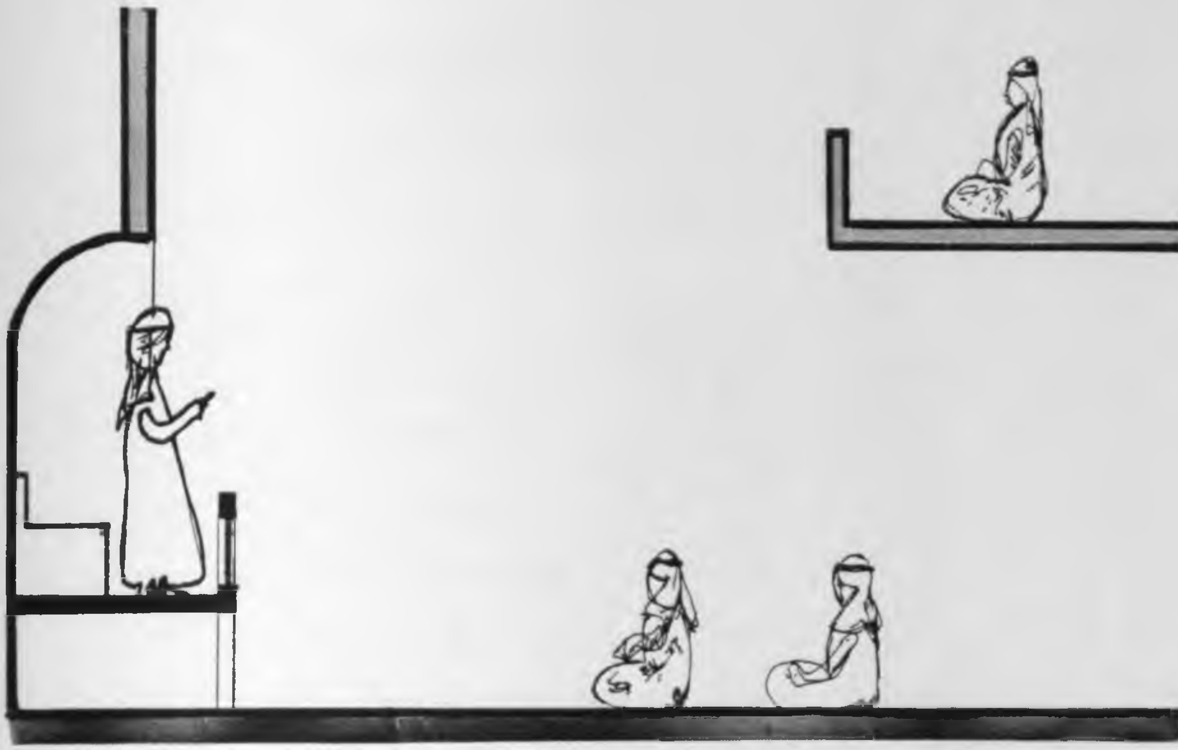
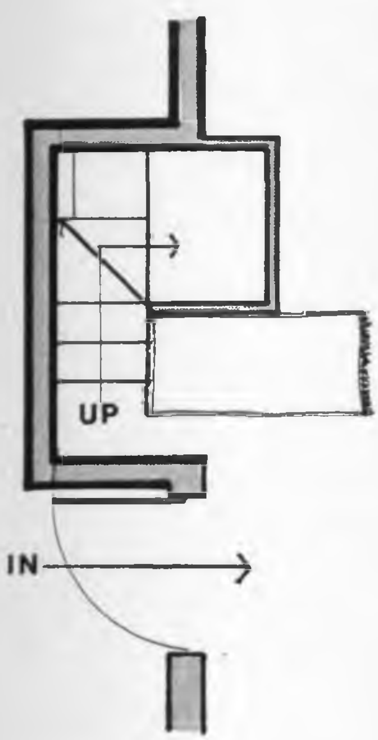


Figure 28. Prayer Halls Unit



Praying Hall - section



Friday Mosque
Praying Hall Requirements:
*Mihrab and Minbar
*Parallel Rows
*Separation between men and
women

Figure 29. Plan of Mihrab and Minbar

Friday Mosque:

For 1,000 worshippers the praying hall should be $1{,}000M^2$ = 1111 st. ft. while $150M^2$ is for daily use (See Figure 28).

C. Structure and Span

Islam requests and prefers to have on convenient place without a change in level or separation or using many columns. If the number of columns can be reduced in the praying hall, then it will be much better

In order to see the imam's (leader) movements during prayers and to have one continuous line, we should have a long span. However, the design of the mosque nowadays includes a short span, such as 4mx4m or 5mx4m. Sometimes the municipality uses the 3mx3m.

To have a long span, we could use the T section, for example

D. Shape

The main function of the mosque is to gather as many people in one convenient place as possible. Also Islam encourages people to come early to the mosque. That is why there is a greater reward by Allah for the first people to arrive and for the first row. Therefore, the first row should be the longest and the rest of the rows can be the same length or less. A square or a rectangular shape best fits this need. On the other hand, a circular shape or any other shape might not be convenient in areas when utilizing the space efficiently and for the comfort of the worshipper. As mentioned earlier, Islam recommends that the number of columns should be held to a minimum in order to get straight, continuous lines in the praying hall. A square or a rectangle shape, with a long span, is the most convenient shape for the praying hall and the mosque. For a rectangular shape, the best ratio between the length and width is 1:2.

E. Natural Light and Ventilation

To get the best environment in a mosque, a design consideration must be given to the lighting and the ventilation. Natural light from the ceiling and the windows are used. However, the number of windows should be limited because its presence, while useful in providing light and ventilation, can also be distracting to the worshippers. This is so that the mosque is perfectly insulated from external noise and other attractions which may be distractive to the worshippers. Therefore, the window should be located in such a way that they serve the dual function of providing natural light and ventilation without bringing in too much external views and noises.

F. Acoustic

All of the basic requirements for good hearing must be med in a mosque. All of the worshipping functions in the mosque require good hearing so that people can follow the leader (imam), and hear the speech, (khatba). For that reason, it is important to transfer sound to each worshipper and to avoid reflected sounds. To avoid reflected sounds in the mosque, it is good practice to have sound absorptive ceiling materials.

The most convenient sound system for the praying hall is a distributed system. For this type of sound-amplifying system it is extremely important to have an adequate number of loud speaker units. They are generally on the ceiling facing down. Each loud speaker unit is expected to cover between 60 to 90 degrees.[14]

3. Site Zoning

It is not easy to have a good zoning and good relations between project elements, especially in this project on hand (community mosque). To meet the community requirements, to establish a suitable design and to classify our needs into major functions, it is requires that the community must be classified into four major functions: religious, educational, open space (for recreation and social), and commercial elements.

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[14]Time saver standards for Architectural Design Data, p. 722-723.

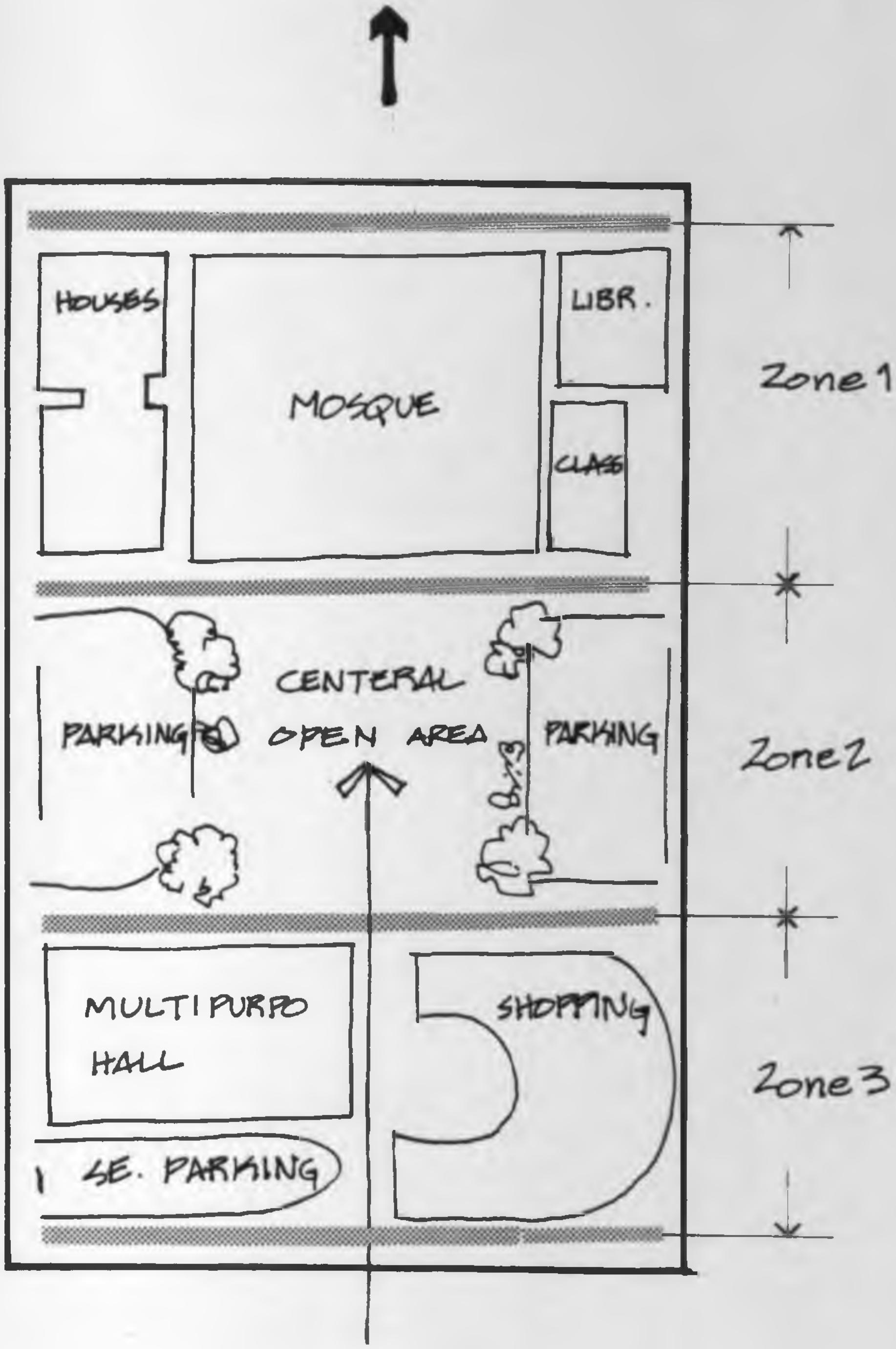

Figure 30. Zoning Concept

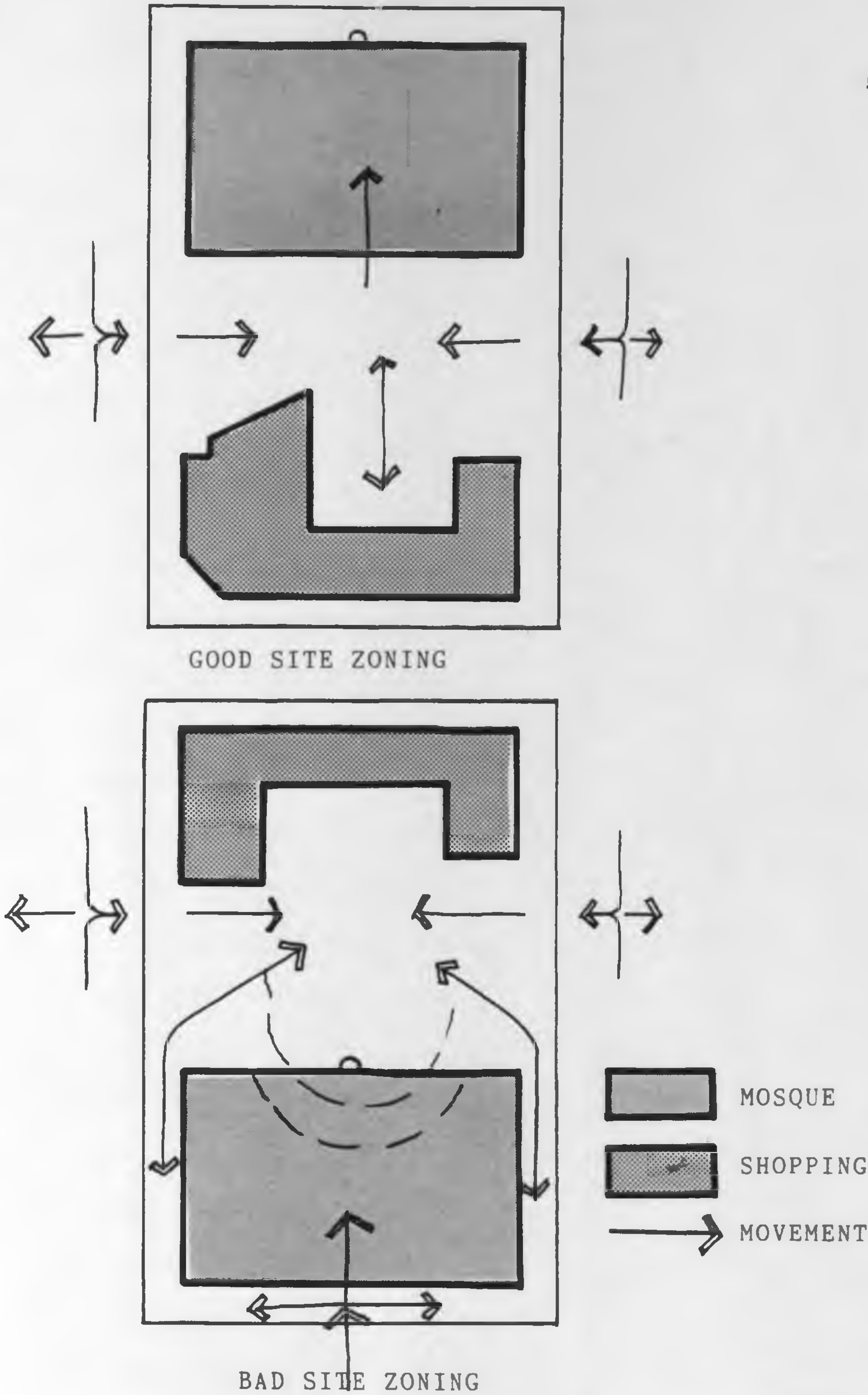

Figure 31. Examples of good and bad site zoning

To zone the site with the above mentioned elements successfully, one should consider two factors: the behavior of our communities and the function of each element. Also there are many major points to guide us in zoning our site, such as Quibla direction (Mecca direction), praying, flexibility of the site and so on. The major points which affect the site of the community mosque are the following.

A. Quibla direction. The first and the most important point to consider in the site is the Quibla direction because a mosque should be directed toward Mecca. Allah said in the Holy Quran, "Turn then thy face in the direction of the sacred mosque: wherever ye are, turn your faces in that direction."[15] The direction of Quibla change according to the position of the site of Holy Kaba. In Dammam and Alkhobar the municipality does not put into consideration the direction of Quibla in the planning for the city. For that reason a lot of problems come out when considering efficient utilization of the site. Allah said in the Holy Quran, "We inspired Moses and his brother with this message: 'Provide dwellings for your people in Egypt, make your dwellings into places of worship."[16]

The problem reaches its peak when the site is small

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[15]Sura Bagara vair 144, p. 58.

[16]Sura X: Ynis vair 87, p. 506.

because the result will be inconvenient and the site will be inefficiently designed.

The second important point is praying. The convenient place for praying should be built away from noise or anything that disturbs worshippers during prayer time. Also view is not preferred for the praying hall, especially in the Quibla wall. This point guides and directs us while zoning the site and designing the mosque. Also the movements of the site users inside the site direct us to put the mosque in axis, because the praying hall acts as the main occupier of space for the site and the neighborhood. In other words movements should be directed to reach the praying hall easily. Also the praying hall acts as a land mark for the neighborhood. To establish this, two things are considered: visibility and design.

Visually, two things are considered in order to make the mosque into the most prominent structure visible from a distant point. The first point is the volume of the building. The mosque should be the largest and the highest building on the site. This has a psychological function of naturally attracting people toward it. The second visual effect to consider is the minarate. The minarate serves as the identification mark of the mosque. The minarate distinguishes the mosque from all other buildings. In designing the site, the mosque should be the focal point of the site and all the movements to and from the neighborhood should be directed toward the mosque.

<u>Social function</u>. After <u>Salah</u> (prayer) most of the people leave the praying hall. Large numbers of them use the exists from the praying hall axis doors more than side doors. People start socializing as soon as they are outside in the open space. Meanwhile children use the open space as a playground, especially during muslim holidays. So open space will act as a meeting place for adults and as a playground for children. (See figure 30).

Furthermore, the open space will act as a space between the praying hall and the commercial space. It could be added to the mosque to increase praying area if the praying area does not have enough capacity to hold all the worshippers. Therefore, it will be good if the open space is located between the mosque and the retail stores and the multipurpose hall. This is because the open space could be added either to the mosque or to the multipurpose hall during Eids and wedding parties.

<u>Commercial and multipurpose hall</u>. To make better use of the site, the following two elements should be considered: the commercial and the multipurpose hall. Thus the open space will adjoin the commercial building with the

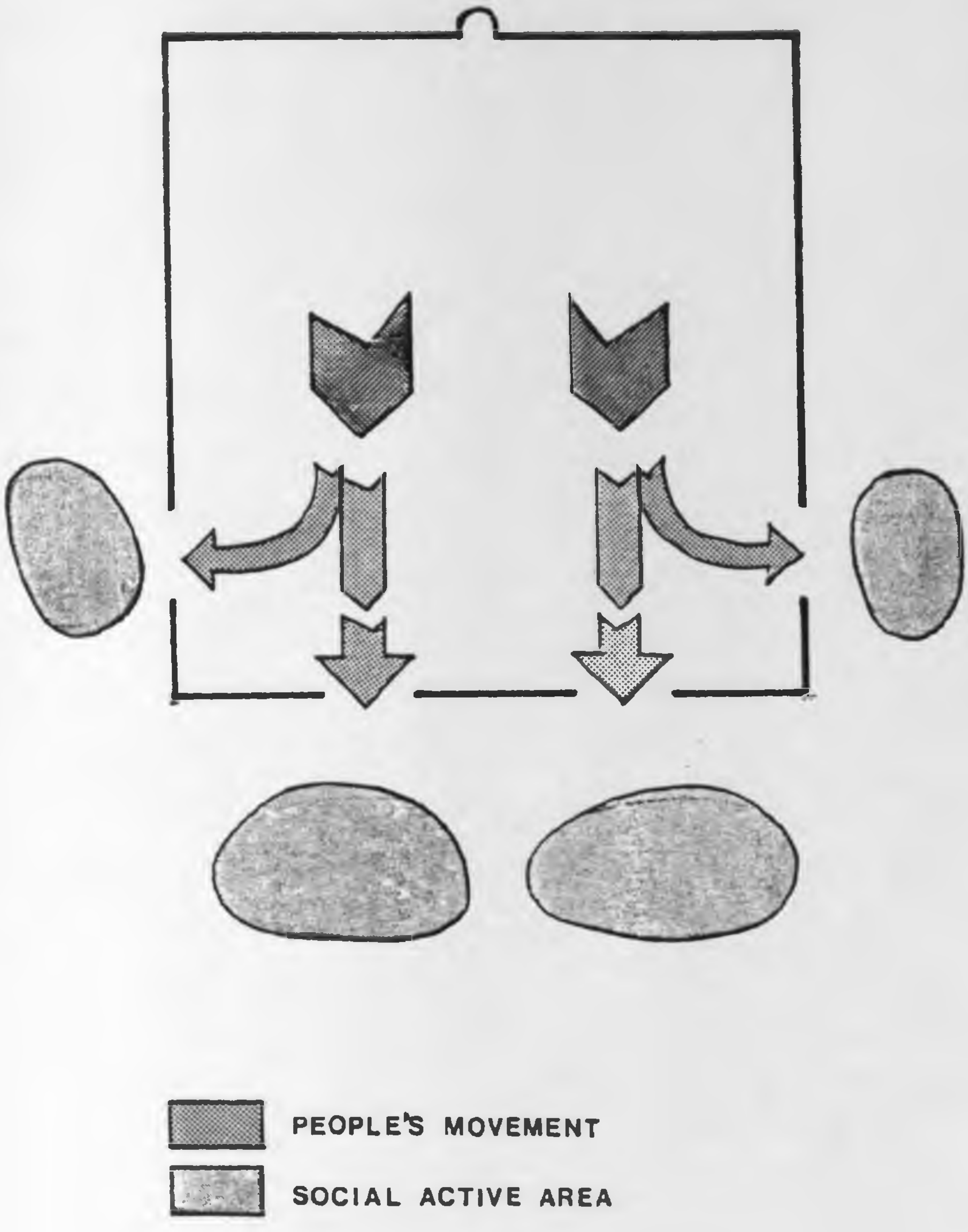

Figure 32. Mosque's social active areas

mosque. During shopping, lecture, feasts and wedding parties, kids can use the playground when their parents are engaged in one of the activities just mentioned.

Flexibility in design. Flexibility is desired in design, especially in public buildings. For example, the classrooms could be used for praying or used as one large classroom. The multipurpose hall could be also used for educational as well s for indoor recreation.

The mosque elements. People gather in the mosque five times a day. These prayers are performed at certain times. Allah said in the Holy Quran that prayers at fixed hours have been prescribed to the faithful believers and they must use the praying hall to perform prayers. To perform the prayer in the praying hall, it is required that the mosque should consist of the following elements: Minaret, Ablution, Mihrab and Minbar.

To call people for prayer five times a day, we need a platform or tower (minaret). So that his voice can be heard from far in the past the moathen (caller) used the minaret to perform adhan (call for prayer). But now the moathen uses a loudspeaker which is usually located at the top of the minaret. It is used at the highest point to cover a large area with the adhan. (See figure 32).

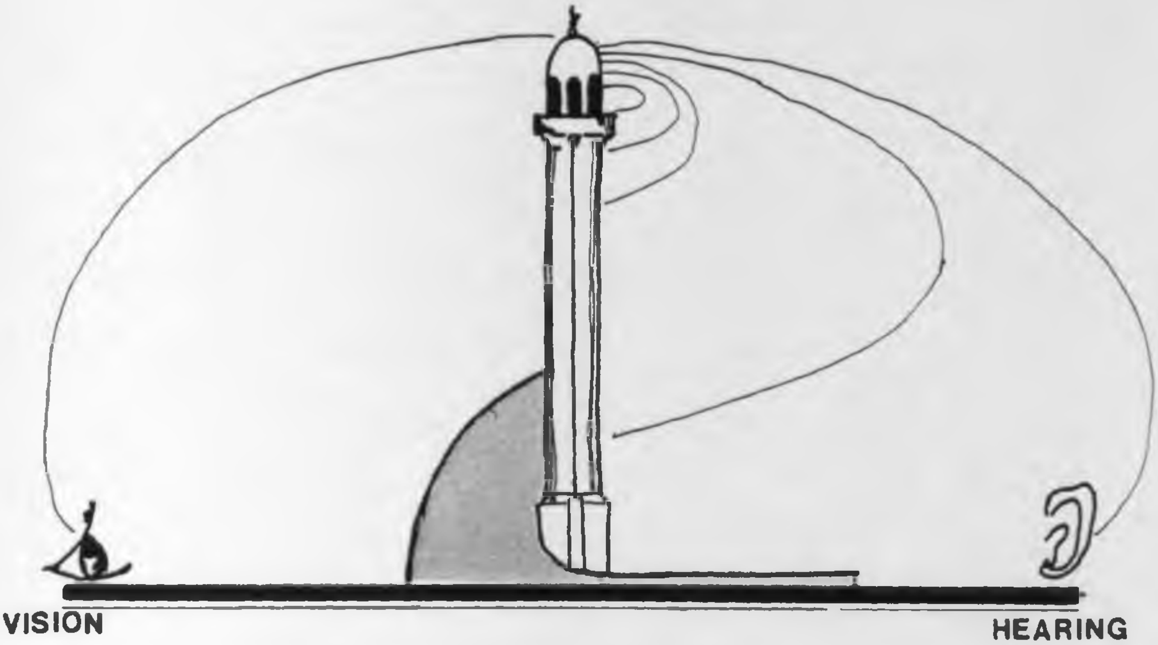

Figure 33.

Believers start to move to the mosque after adhan. They perform wudu (body purification) before they enter the praying hall. This wudu is performed either at home or at the mosque. Therefore the ablution area is a necessary element for all mosques. Thus a basin or fountain is required and it is convenient to place it outside the praying hall next to the main entrance to the mosque. Since the imam gives a sermon every friday and on other special occasions, there is a need to build a minbar (pulpit) for that purpose. Before entering the praying hall, muslims take off their shoes. That is why it is desirable to have shoe cases in front of the praying hall Therefore, the basic elements for the mosque are:

1. Minaret-high platform or tower to perform adhan to gather people for prayer. The believers must be called together at the appointed time; a structure had to be provided from which the call, adhan, could be heard by all. A high platform or tower, a minaret, provides for this necessity.

When the mosque was first built, the purpose of the minaret was to be used by the prayer caller so his voice could be heard from afar. Nowadays, the muazen (prayer caller) uses a speaker to increase the wave of his voice so that he can be heard from afar. However, the minaret is still built as a distinguished part and a symbol of the mosque.

2. Ablution Area

Bodily purification is necessary before the prayer, thus a basin or fountain was conveniently placed outside the prayer hall for ablution (wudu).

Islam encourages people to perform wudu in their homes, so most of the neighbors perform wudu in their houses.

15% of the male worshippers
perform wudu in the mosque[17]

Less than 15% if the women
perform wudu in the mosque.
It could be 5%.[18]

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[17] Roles of the Mosque, Page 13.

[18] Roles of the Mosque, page 13.

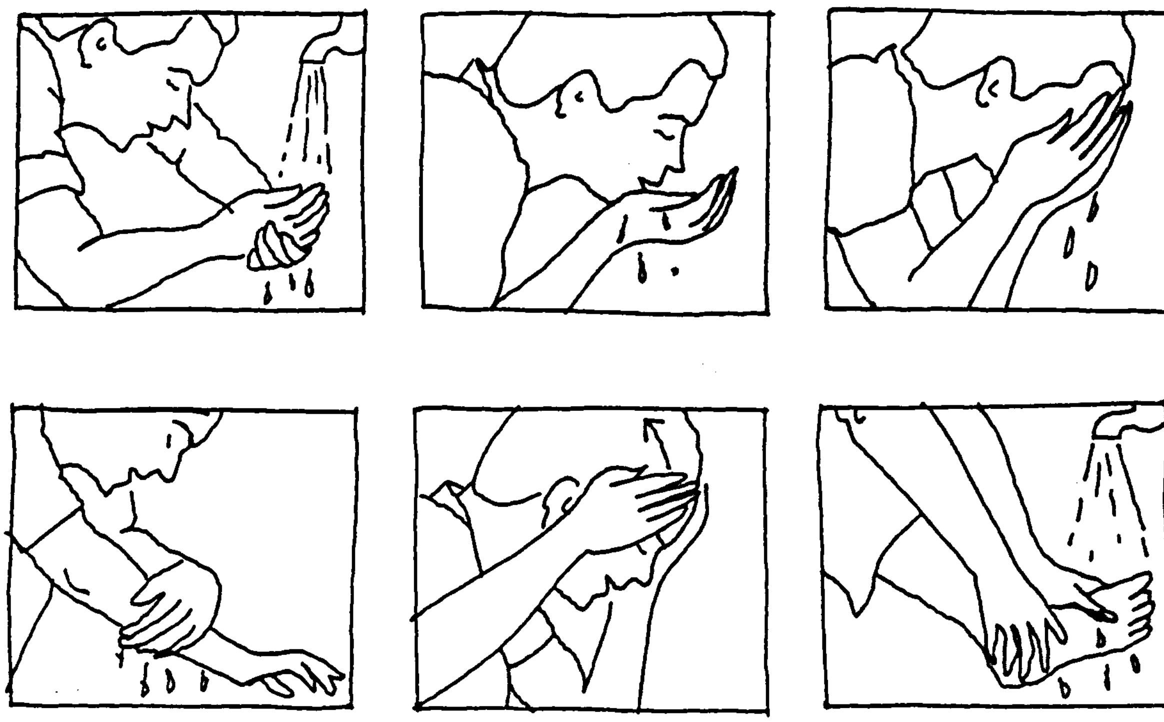


Figure 34. The process of performing wudu

Allah said in the Holy Quran: "O ye who believe when ye prepare for prayer, wash your faces, and your hands (and arms) to the elbows; rub your heads (with water); and (wash) your feet to the angles..." S.V.7

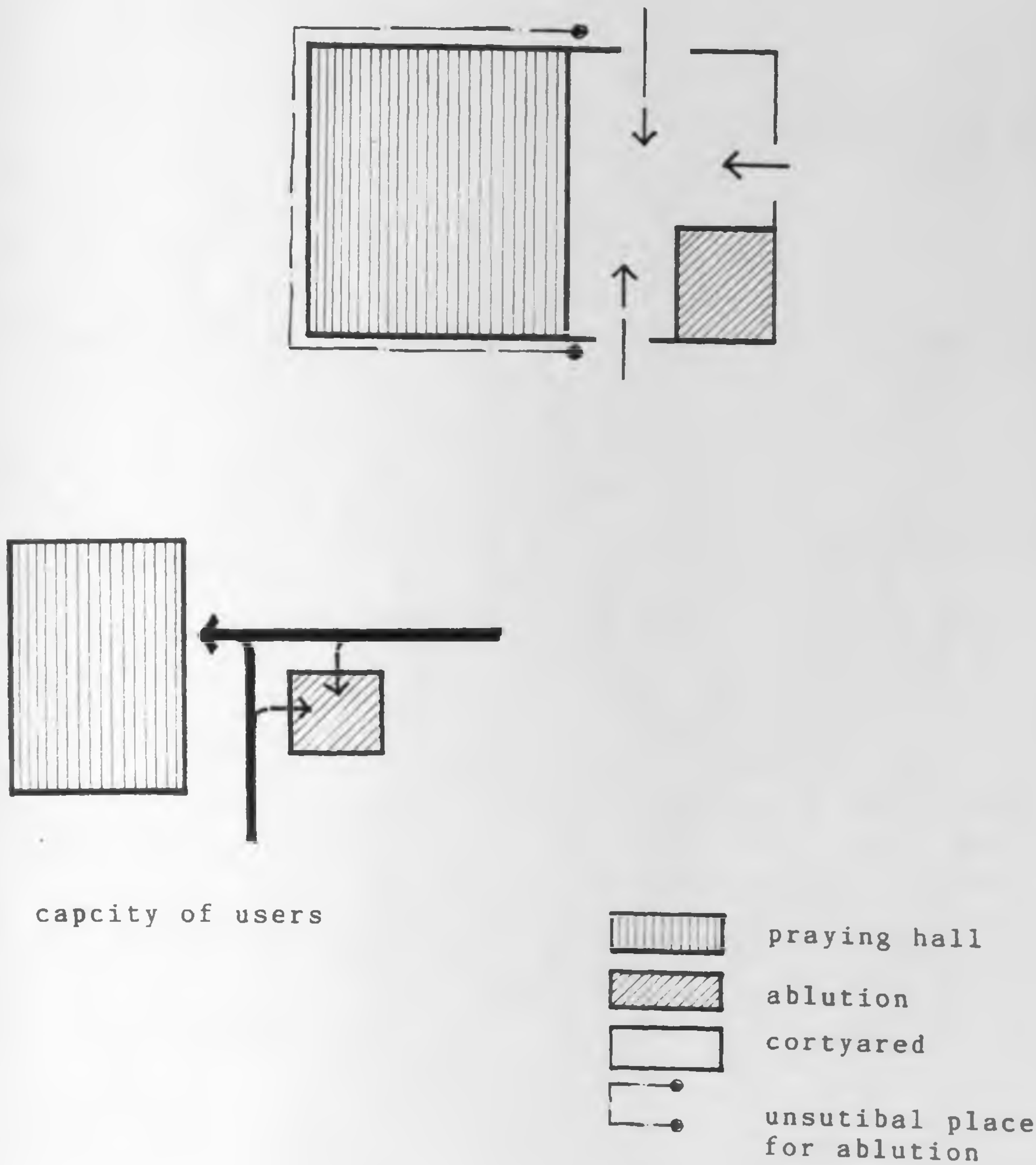


Figure 35. Relation between praying area and ablution area

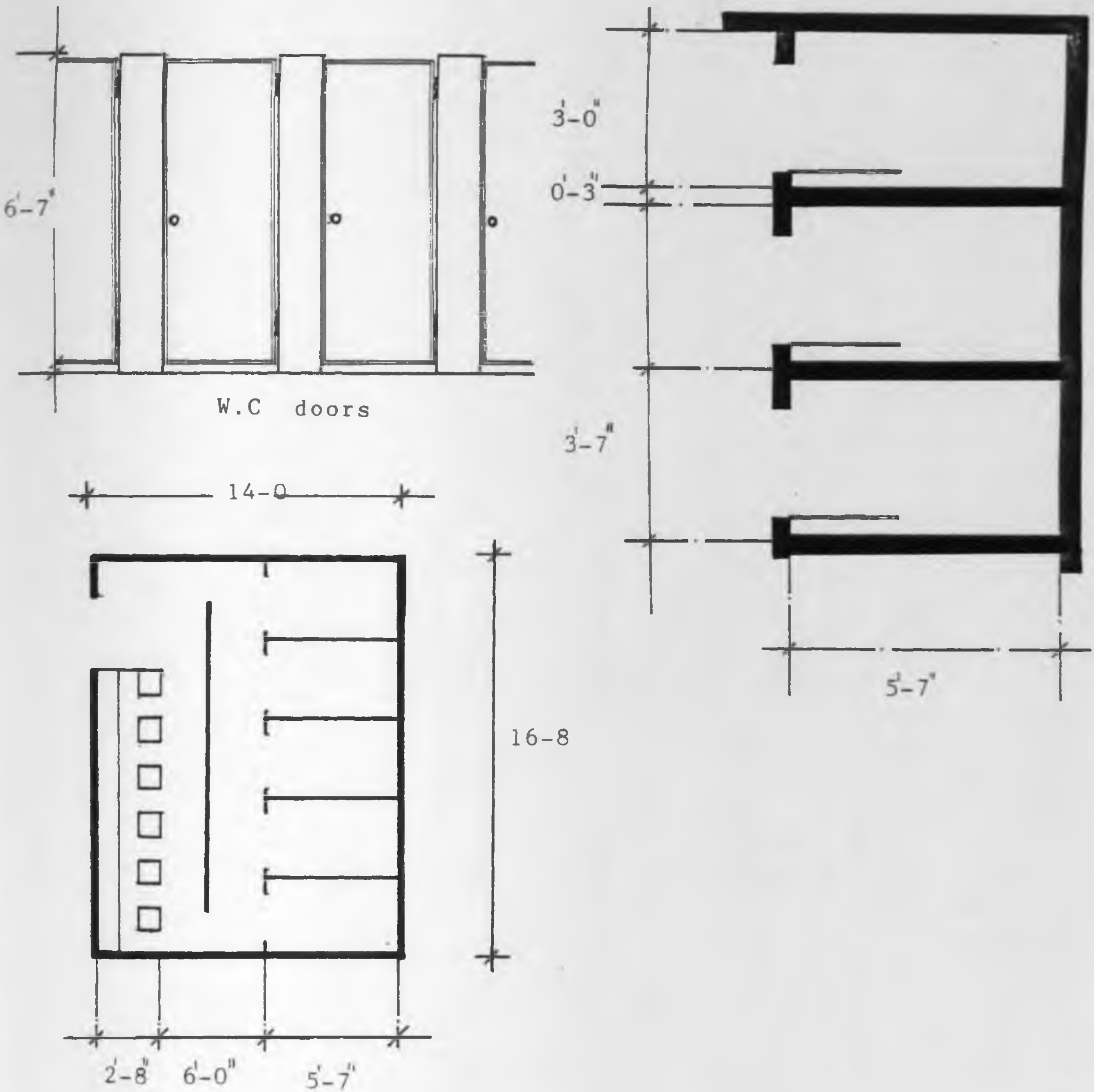
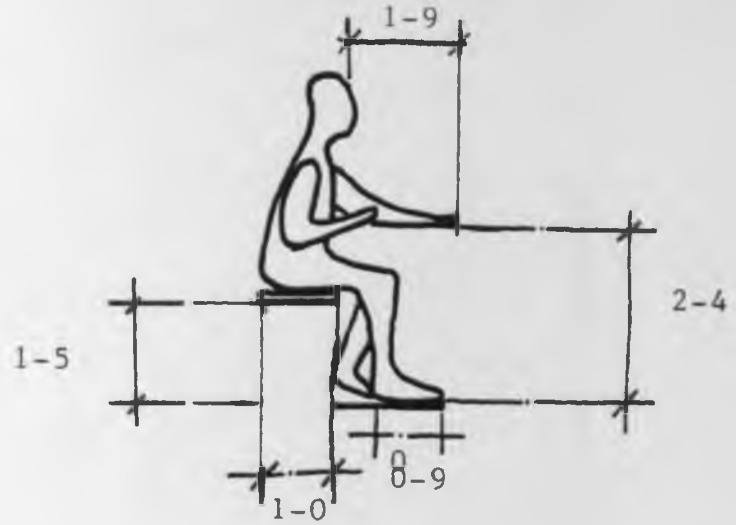
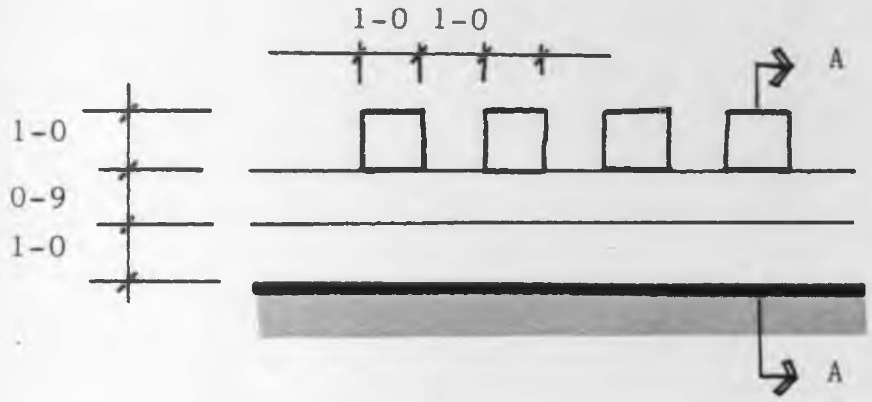


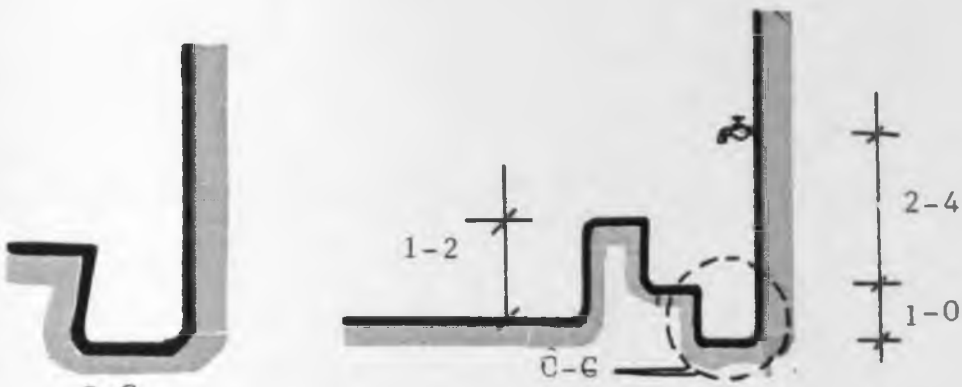
Figure 36. Ablution area



HUMAN SCAL



PLANE OF WUDHU AREA



SECTION A-A

Figure 37. Wudu area

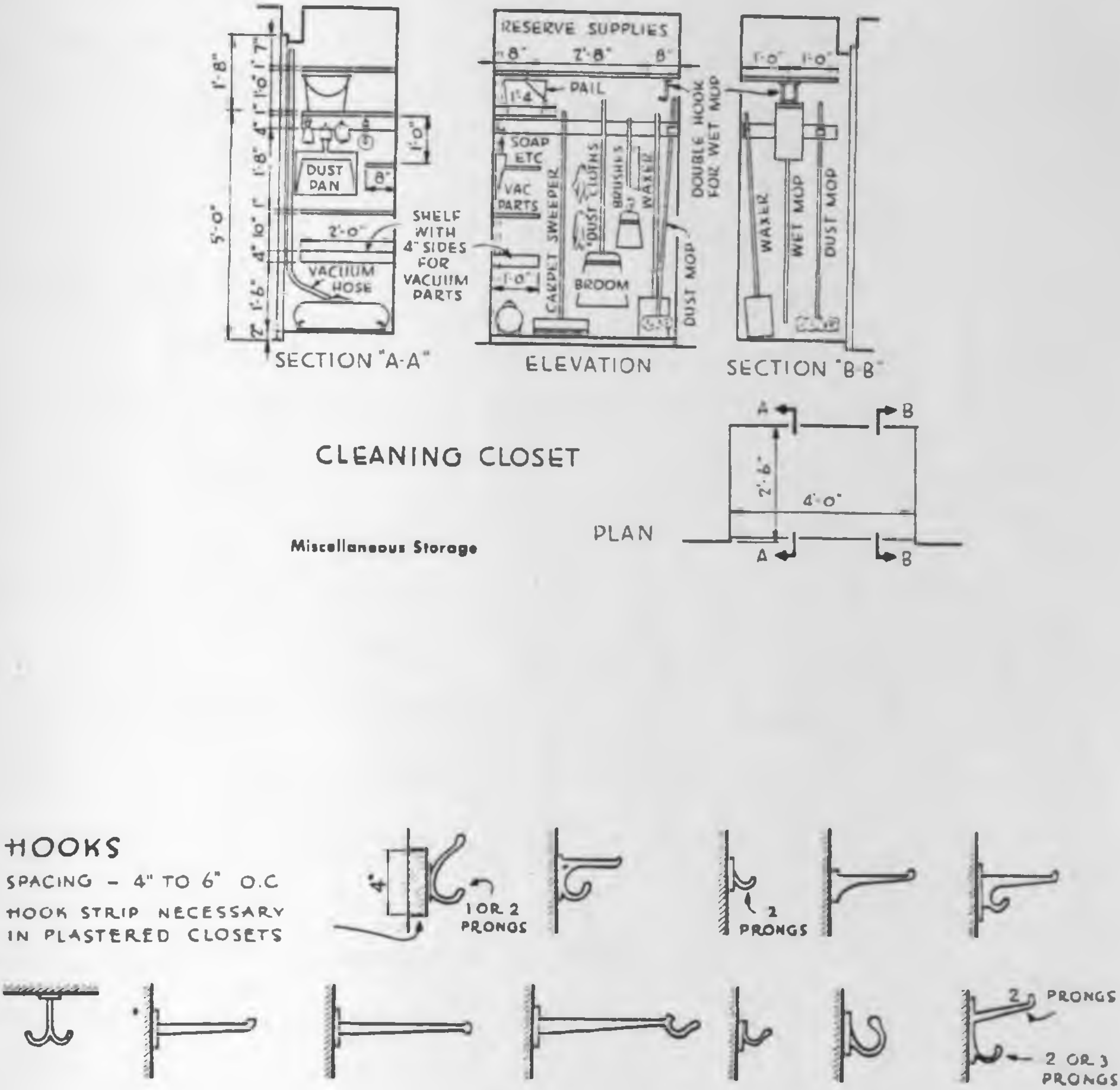


Figure 38. Miscellaneous storage and hooks for ablution space

3. Mihrab

The most important wall in the praying hall is the Quibla wall. Worshippers face Mecca and follow the leader (imam) when they perform the prayer. Allah said in the Holy Quran, "So from whencesoever thou startest forth, turn thy face in the direction of the sacred mosque, and wheresoever ye are turn your ace thither."[19] And about following imam Anas Bin Malik, one of the prophet's companions, said that the Prophet Mohamad said, "An imam is meant to be followed, so when he says Allahu Akbar, say Allahu Akbar and when he bows, bow and when he prostrates, prostrate and if he prays standing, pray standing."[20]

To indicate the position of the leader (imam) of the congregation and to emphasize the direction of the Quibla, mihrab is necessary. Mihrab is an insertion of a niche into the wall which faces Mecca. Islam prefers no decorations at all in the praying hall especially in the Quibla wall.

Mihrab in Friday mosque should be large enough to have minbar (pulpit). The plan of a mihrab niche could be rectangular, polygonal or semi-circular.

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[19]Holy Quran S.II, V.150.

[20]Al Bukhari Vol. 1, p. 229.

4. Minbar

The imam gives two gotbahs (sermons) before Friday prayer and before Eid prayers. Usually many people attend these sermons. Therefore the imam uses the minbar, which is a high platform, so he can be seen by all worshippers. The minbar (pulpit) consists of three steps and an additional one for the imam to sit in in between the break of the two gotbah. Usually minbar is built to the right of mihrab or sometimes, it is put with mihrab (one niche for mihrab and one for minbar). (See figure 27).

5. Classroom

Children usually study the Holy Quran in the mosque after school for about two hours. Most of them are from elementary schools. About one to two teachers are enough for them. On the average there are normally between 15 to 20 children. So two classrooms with an areas of (500 sq. ft) is suitable.

To be more practical in designing the classrooms, there should be a provision for flexibility. A good design practice is to make the separation wall moveable to be used as one or two classrooms depending on the need.

6. Library

The presence of a library in the mosque can be very valuable to the people who frequent the mosque. "A branch library can play an important role as a cultural center. In addition to providing books, it can provide records and tape lending, listening facilities,, visual aid facilities, lecture series, and act as a general information centers."[21] Providing these services for the neighborhood use makes the site more active. A reasonable size for the library is 1111 sq. ft. It is recommended that the library should be close to the classrooms so that the users can benefit from the library sources.

7. Commercial

Commercial services are there to attract people to the community center and to provide the commercial needs for the neighborhood. Usually all are of the 'service' type, catering to people in their daily shopping.

To prevent people from changing zoning, we will provide a commercial area for 500 families as an average. They may need a grocery store, drug store, barber shop, ladies and children's wear, a tailor and a bookstore. It is required that each family will have 20 sq. ft., so the total area requires is about 10,000 sq. ft.

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[21]Time Saver Standard for Residential Development, p. 207.

8. Playground area

In Dammam and Al Khobar most of the open spaces are far away from the neighborhood and most of the front yards of the houses are small with not enough space for activities. Therefore, children use the streets for their activities. "In their study of children's behavior in a Turnkey III housing developing in a southern city, Henry Sanoff and John Dickerson found that much more activity occurred in the streets and sidewalks than in the central playground and open field designated for activity."[22] When designing a playground, we must put into consideration the need for sand boxes, swings, climber-slides and a green area for sitting and talking as a minimum requirement. 1667 sq. ft. is found to be a reasonable area for this purpose.

Design Recommendations

Since the weather in Saudi Arabia is very hot during most of the year, we should put the safety of children into consideration while designing a playground for children. "The play area should be shaded as much as possible. Eliminating metallic play equipment can avoid many cases of skin burns. Wood play equipment is the safest equipment available for children. Clean, sandy soil is the best material for the ground of play area since it attracts most

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[22]Neighborhood Space, p. 29.

of the children and provides a chance for them to touch, feel and develop their understanding and love of the land."[23]

9. Multipurpose Hall

This hall could be used for indoor recreation, wedding hall, or meetings, Eid celebration and as a lecture hall. Since such halls are not available in the community, multipurpose halls can be of value to the community.

"Multipurpose rooms should be provided for meetings, viewing and listening to cultural, educational and civic groups unless such facilities are readily available elsewhere in the community."[24] Twelve sq. ft. per person should be allowed and we want to provide a place for 250 people as a maximum. Therefore, 3,000 sq. ft. is necessary.

The multipurpose hall may consist of a food preparation room. The food is usually brought from outside and it will be already cooked. Therefore, the food preparation room can be used to arrange the food, serve it on plates and send it to the eating area.

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[23]Park for Saudi Arabia, p. 92.

[24]T.S.S. for Residential Development, p. 208.

10. Housing

In order to accommodate the imam and the moathen, it is desirable that the design of the site should include two houses, one for the imam and the second for the moathen. Each house must consist of two bedrooms, guest room, kitchen, two baths and a living room. A reasonable area for this purpose is 1223 sq. ft.

Parking will be designed to accommodate 60 cars for daily Mosque and 100 cars for Friday Mosque.

FINAL PROGRAM FOR DIALY AND FRIDAY MOSQUES:

1.	<u>MOSQUE</u>			
		praying hall	5382 sq. ft.	
		courtyard	889 sq. ft.	
		ablution	556 sq. ft.	
		storage	1111 sq. ft.	
		mechanical	222 sq. ft.	
		TOTAL		8160 sq. ft.
2.	<u>CLASS</u>			
		two classes	1211 sq. ft.	
		TOTAL		1211 sq. ft.
3.	<u>LIBRARY</u>			
		library area	2778 sq. ft.	
		storage	556 sq. ft.	
		mechanical	222 sq. ft.	
		TOTAL		3556 sq. ft.
4.	<u>HOUSES</u>			
		Iman house	2500 sq. ft.	
		caller house	2500 sq. ft.	
		TOTAL		5000 sq. ft.
5.	<u>RETAIL AREA</u>			
		shopping area	8889 sq. ft.	
		storage	667 sq. ft.	
		circulation	1556 sq. ft.	
		service	300 sq. ft.	
		mechanical	667 sq. ft.	
		TOTAL		12079 sq. ft.
6.	<u>MULTIPURPOSE HALL</u>			
		the hall	7445 sq. ft.	
		service	444 sq. ft.	
		storage	667 sq. ft.	
		mechanical b	444 sq. ft.	
		TOTAL		9000 sq. ft
7.	<u>OPEN SPACE</u>			
		recreation area	45973 sq. ft.	
		social outdoor	6667 sq. ft	
		TOTAL		9227 sq. ft.
8.	<u>PARKING</u>			
		60 cars	4000 sq. ft.	
		TOTAL		4000 sq. ft.

FINAL PROGRAM FOR FRIDAY MOSQUE

1. Mosque for 1300 meximum

praying hall	14376 sq. ft.	
1/4 for women	3611 sq. ft.	
courtyard	2222 sq. ft.	
ablution	1777 sq. ft.	
storage	1111 sq. ft.	
mechanical	1111 sq. ft.	
TOTAL		29108 sq. ft.

2. <u>CLASS</u>

TOTAL		1615 sq. ft.

3. <u>LIBRARY</u>

TOTAL		3556 sq. ft.

4. <u>HOUSES</u>

TOTAL		5000 sq. ft.

5. <u>RETAIL AREA</u>

TOTAL		12079 sq. ft.

6. <u>MULTIPURPOSE HALL</u>

TOTAL		16593 sq. st.

7. <u>OPEN SPACE</u>

TOTAL		20000 sq. ft.

8. <u>PARKING</u>

parking for 100 cars	6200 sq. ft.	
TOTAL		31000 sq. ft.

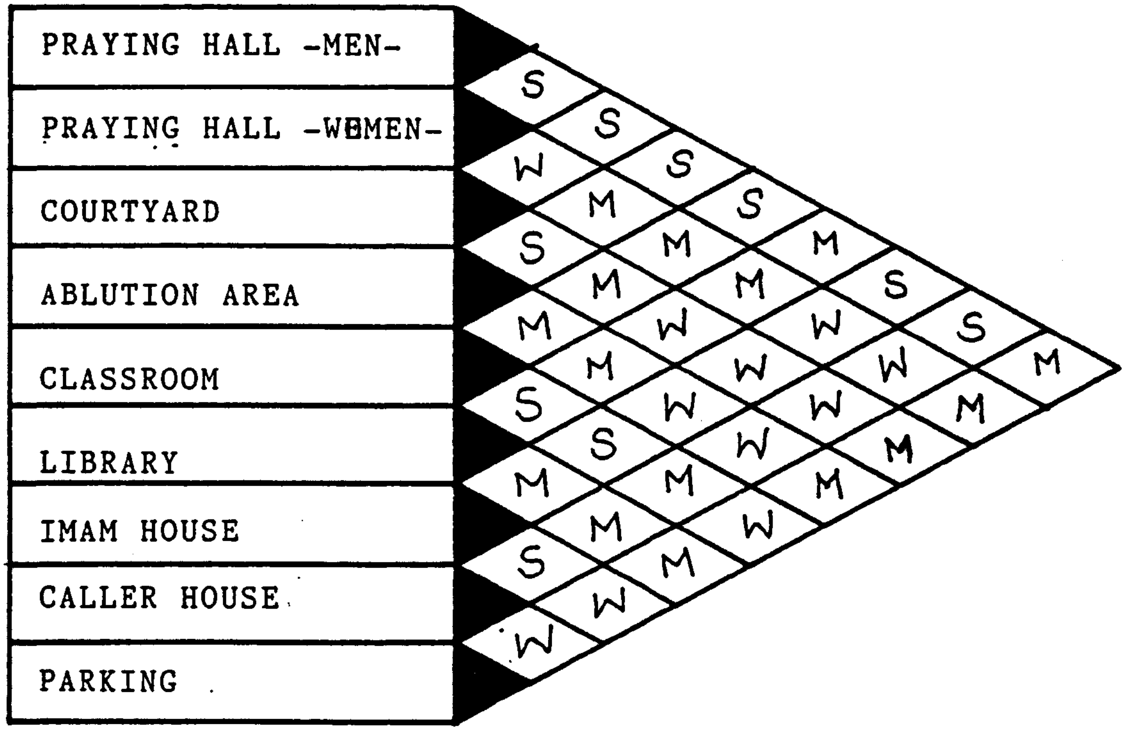
	QUIET AREA	NOIESY AREA	DRY CLEAN AREA	WET AREA	ACTIVE AREA	PERSONAL AREA	GROUB AREA
PRAYING AREA	○	•	○	•	◓	◓	○
CLASSROOM	◓	◓	○	•	◓	◓	○
ABLUTION	•	⊙	•	○	◓	•	○
LIBRARY	○	•	○	•	•	○	◓
PLAYGROUND	•	○	◓	•	○	•	○
MULTIPURPOSE HALL	•	◓	○	•	○	•	○
HOUSING	◓	•	○	•	•	○	◓
COMMERCIAL AREA	•	○	○	•	○	•	○
PARKING	•	◓	○	•	•	•	○

○ –STRONG

◓ –MIDDEL

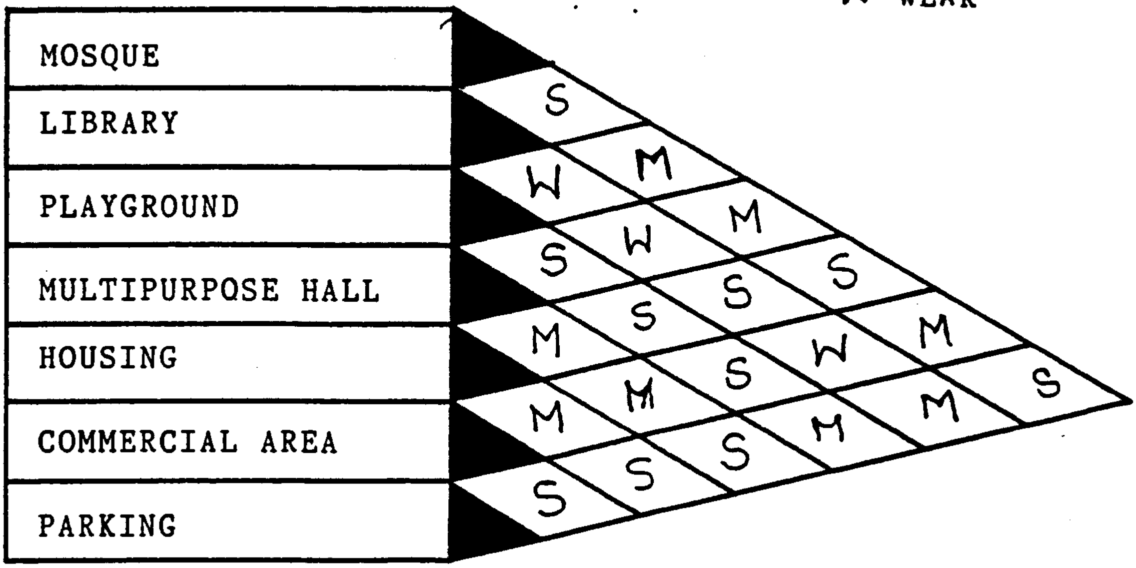
• –WEEK

MOSQUE MATRIX



S-STRONG
M-MIDDLE
W-WEAK

PROJECTS MATRIX

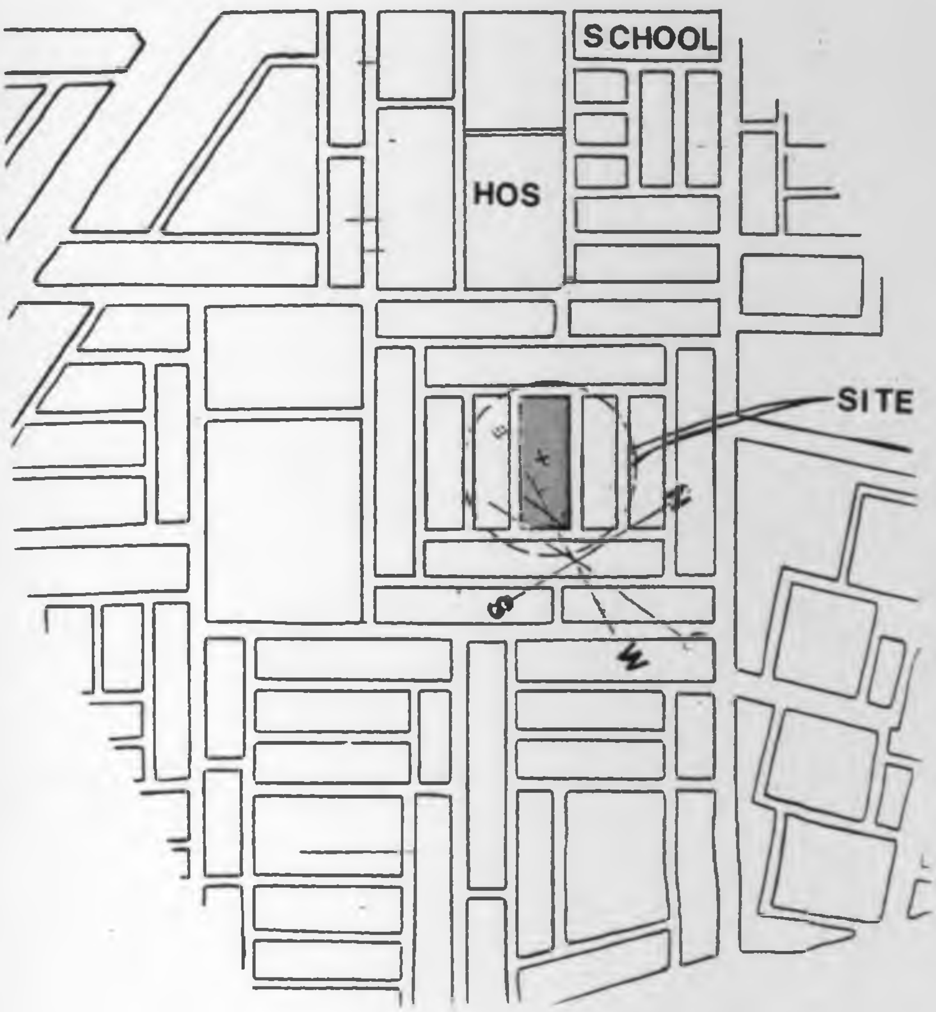


5

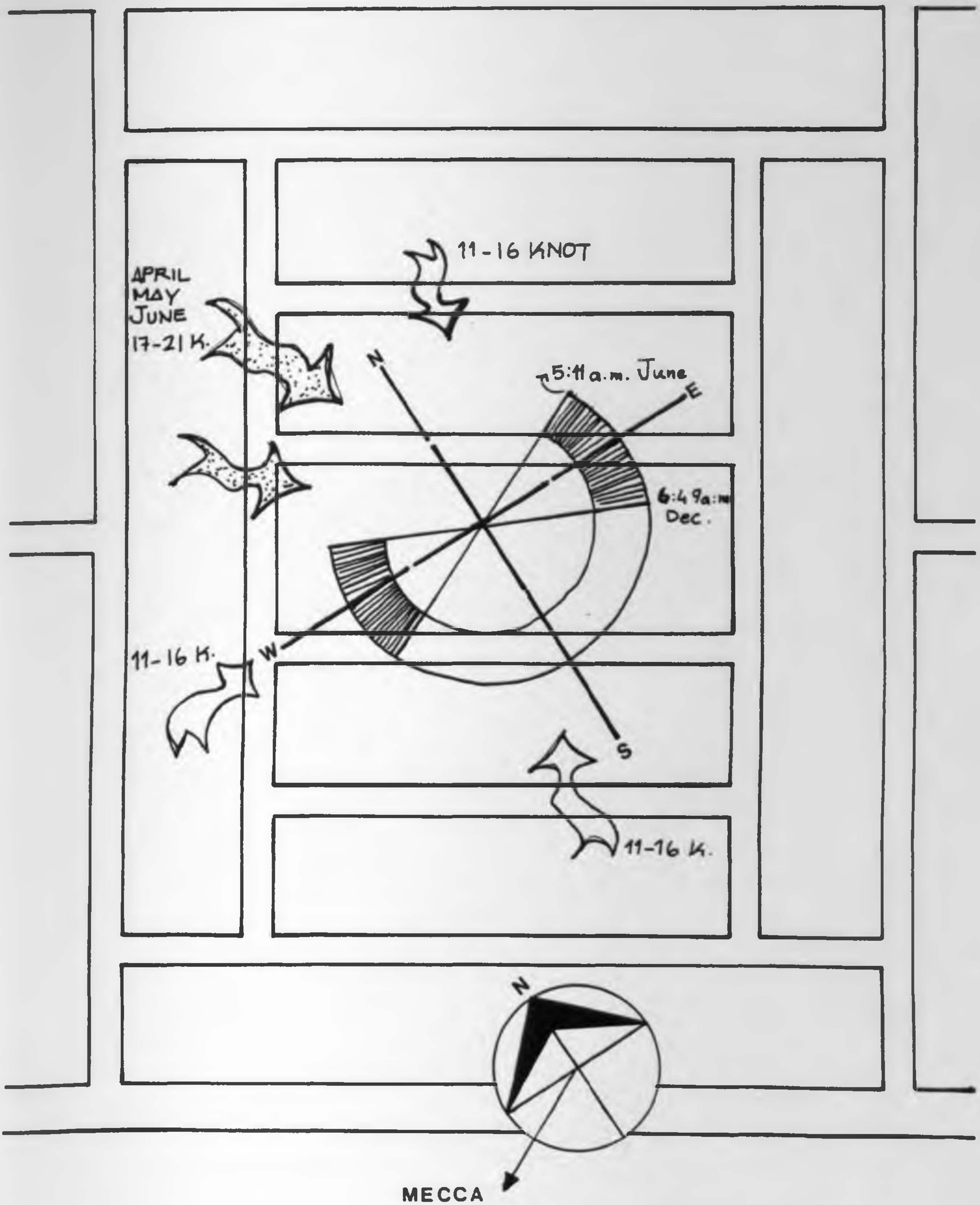
SITE ANALYSIS & DESIGN

DAMMAM DAILY M.

AL-KHOBAR FRIDAY M.



DAMMAM SITE DAILY MOSQUE DESIGN



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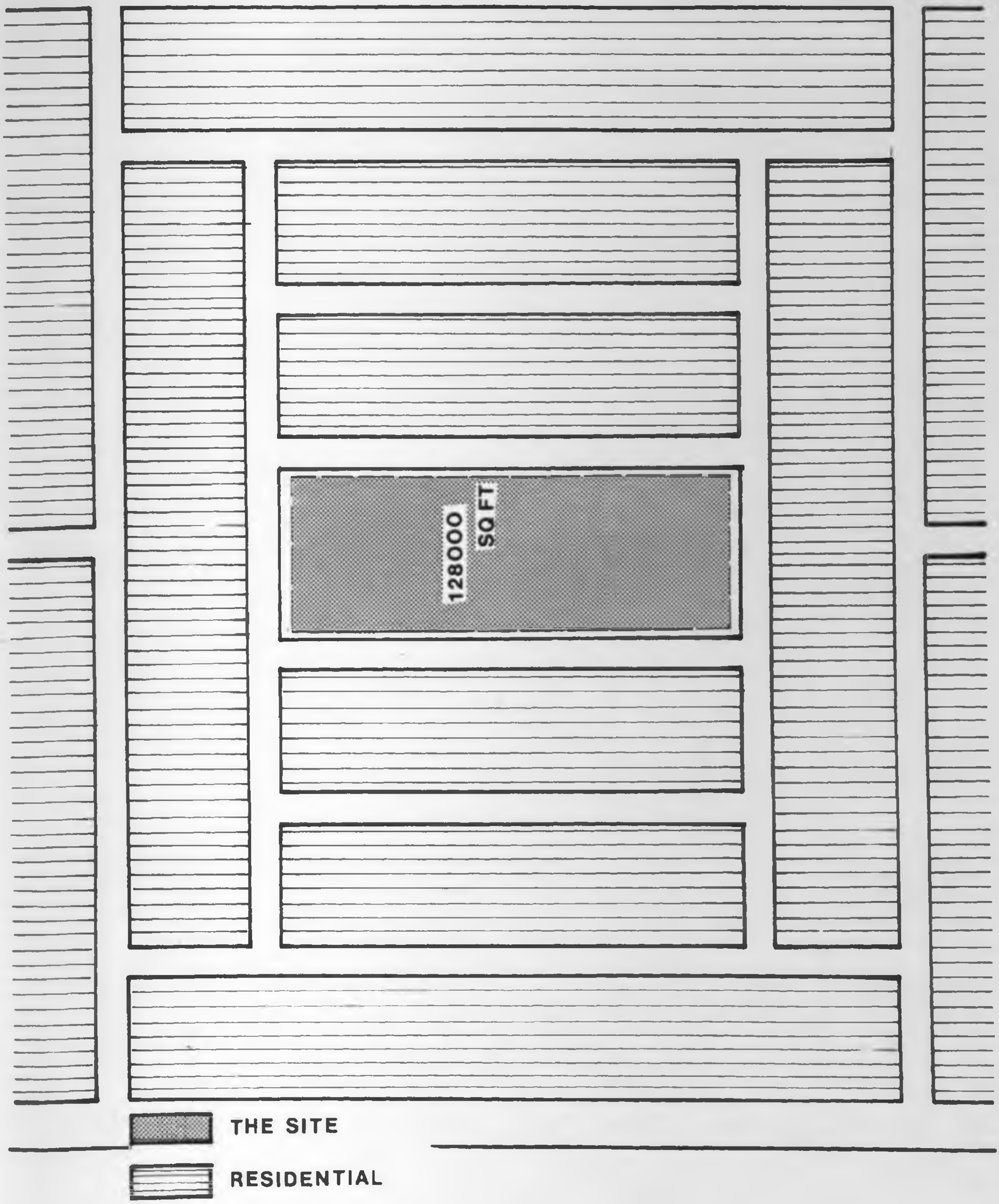
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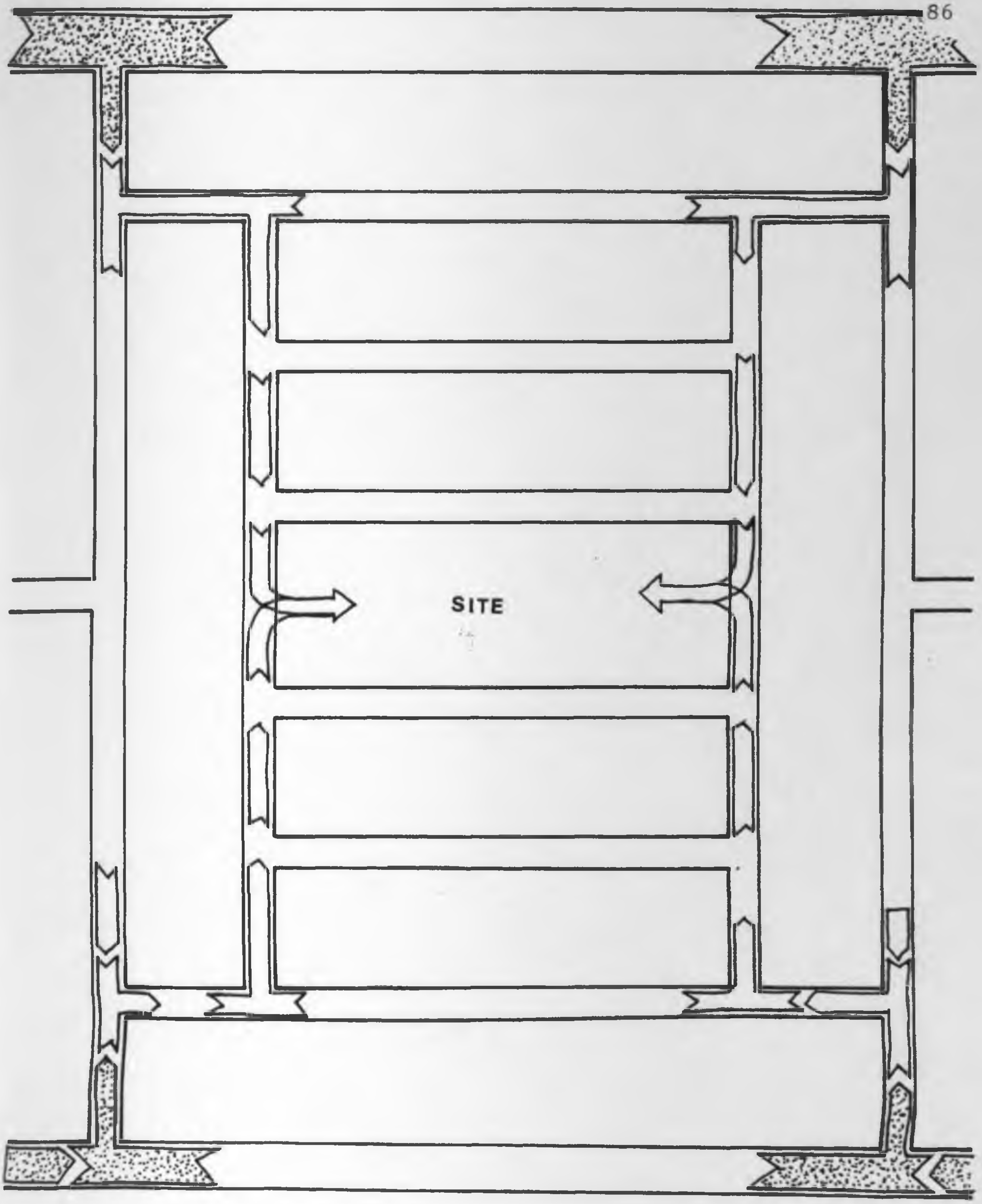
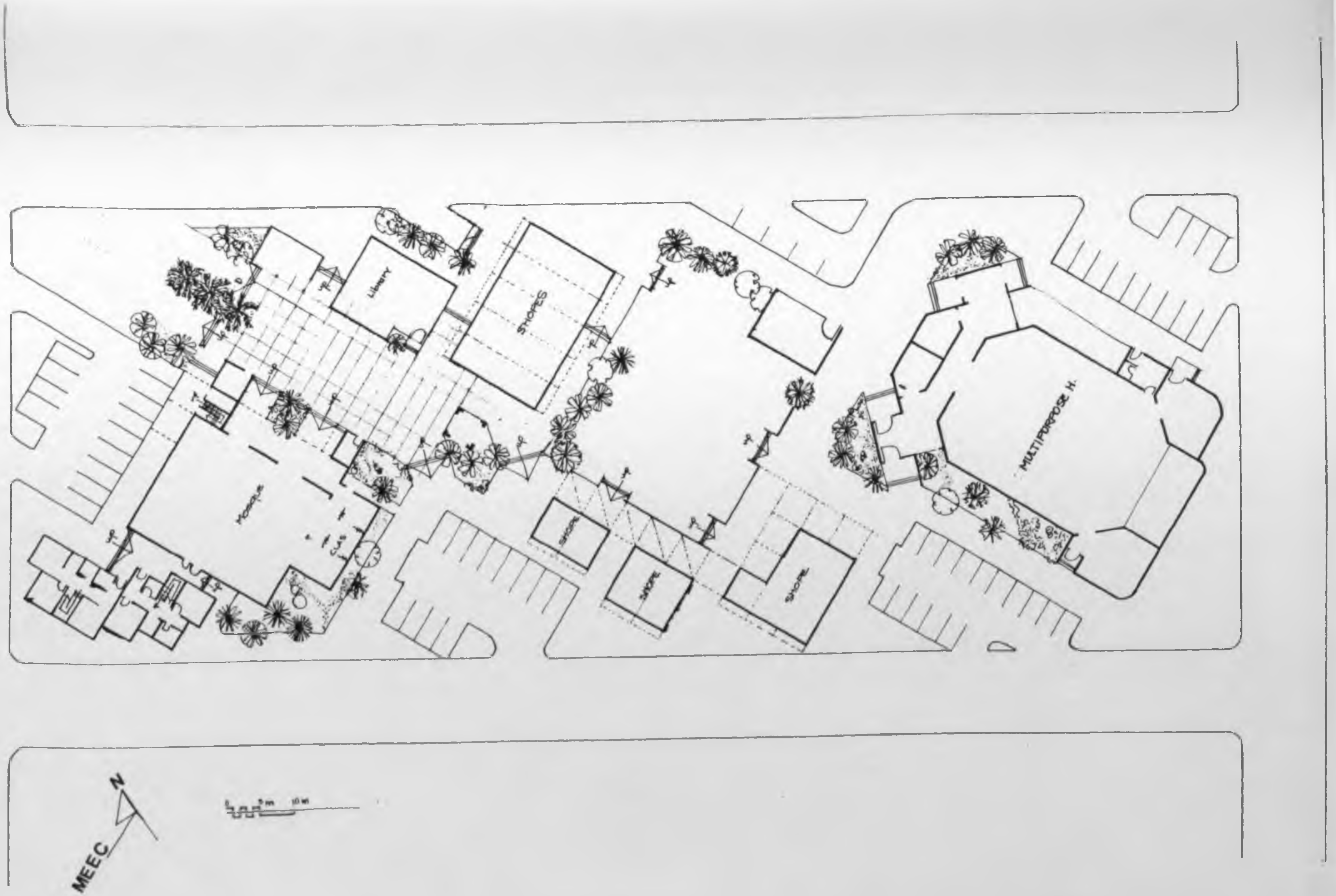
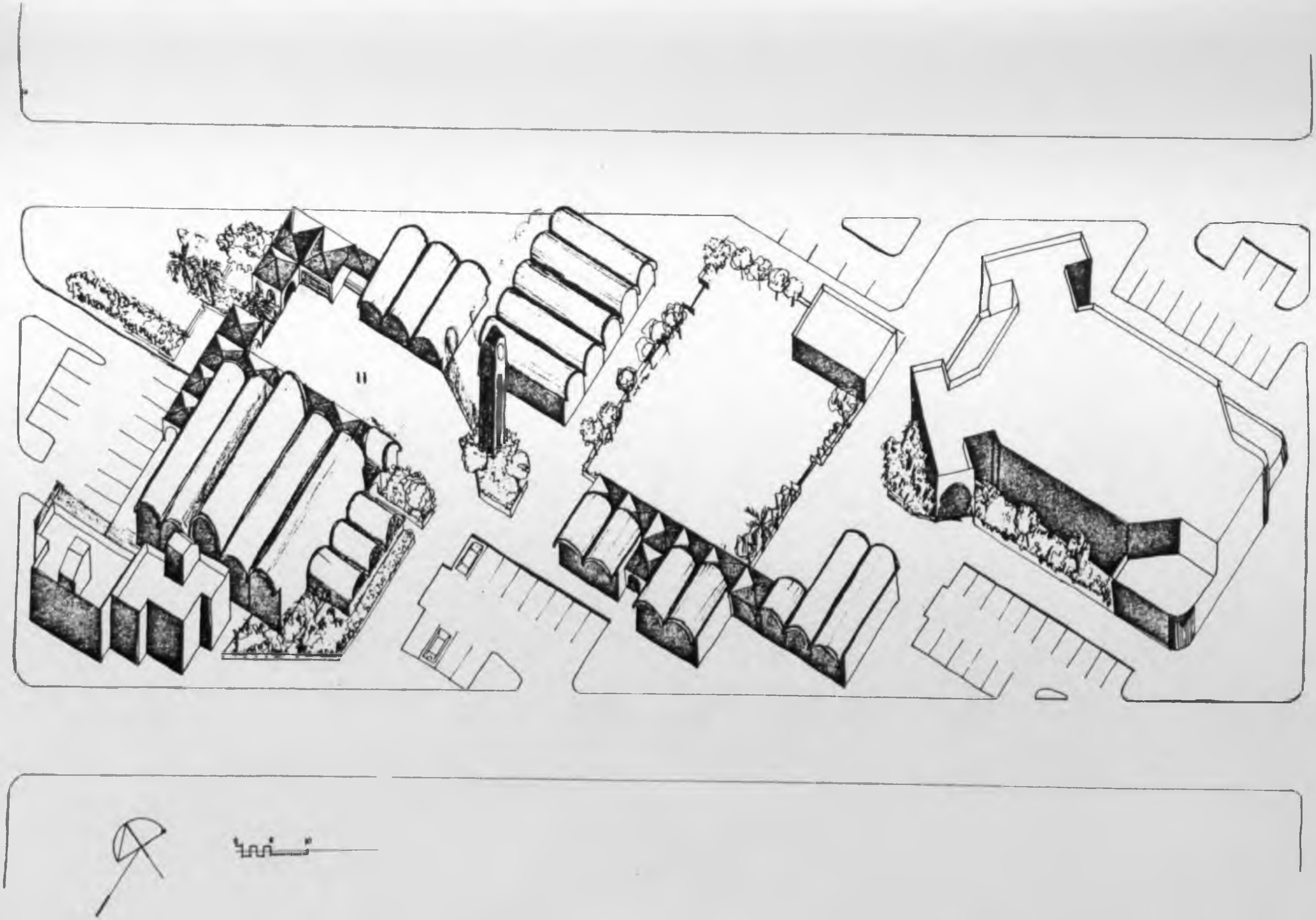
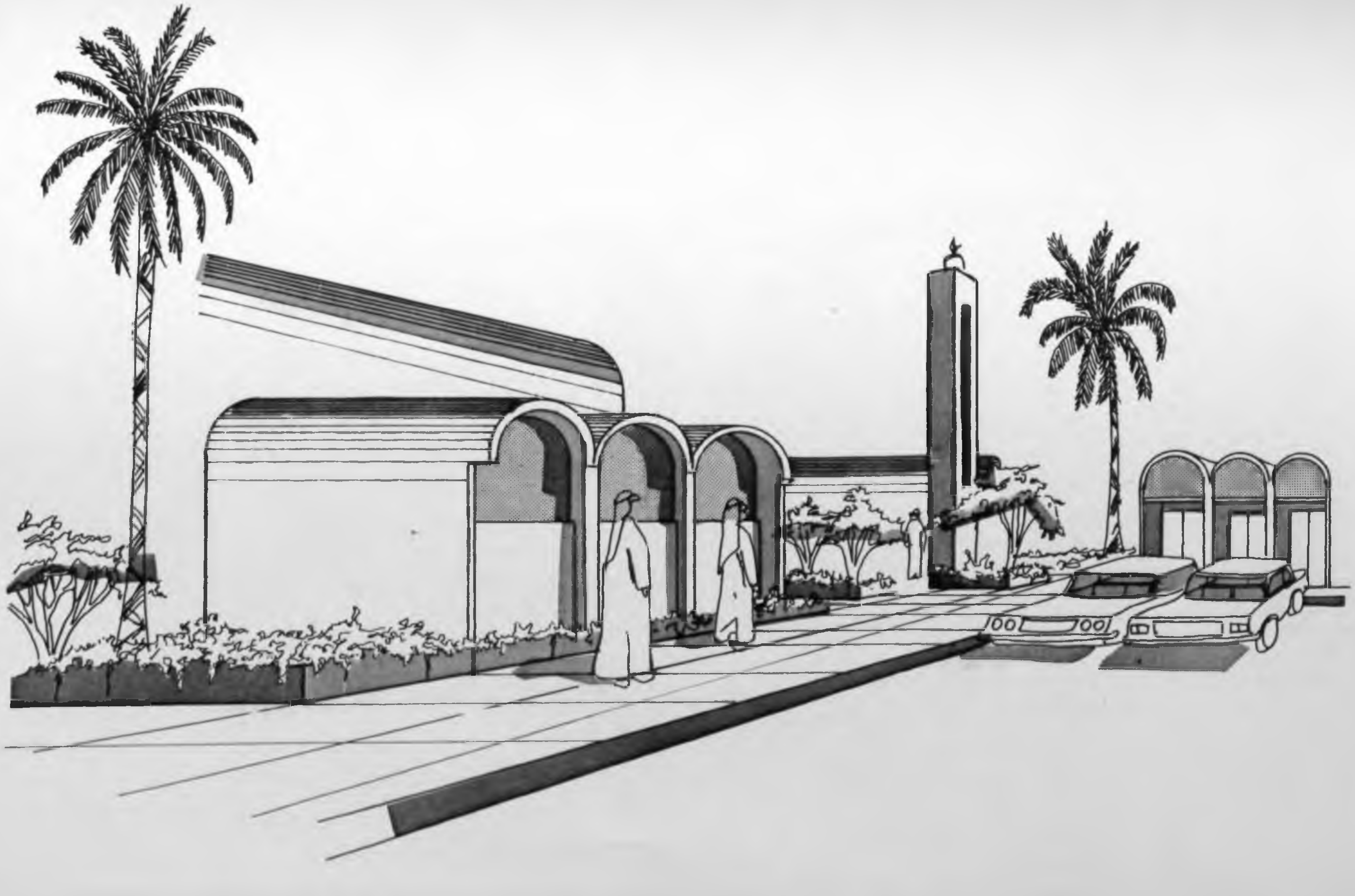
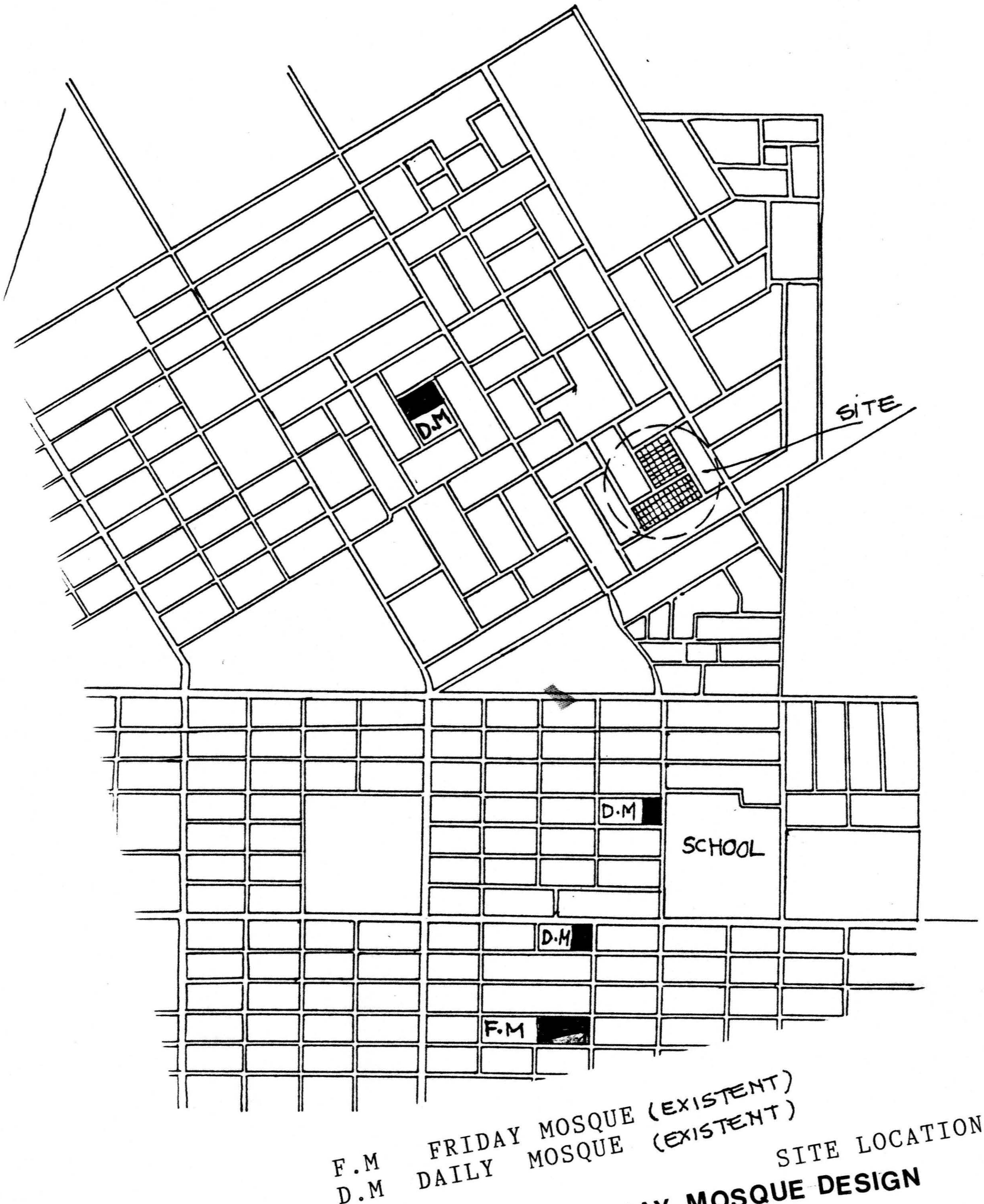
THE SITE
RESIDENTIAL


SITE


SHOPES
SHOPE
SHOPE
SHOPE
MULTIPURPOSE H.
N
MEEC

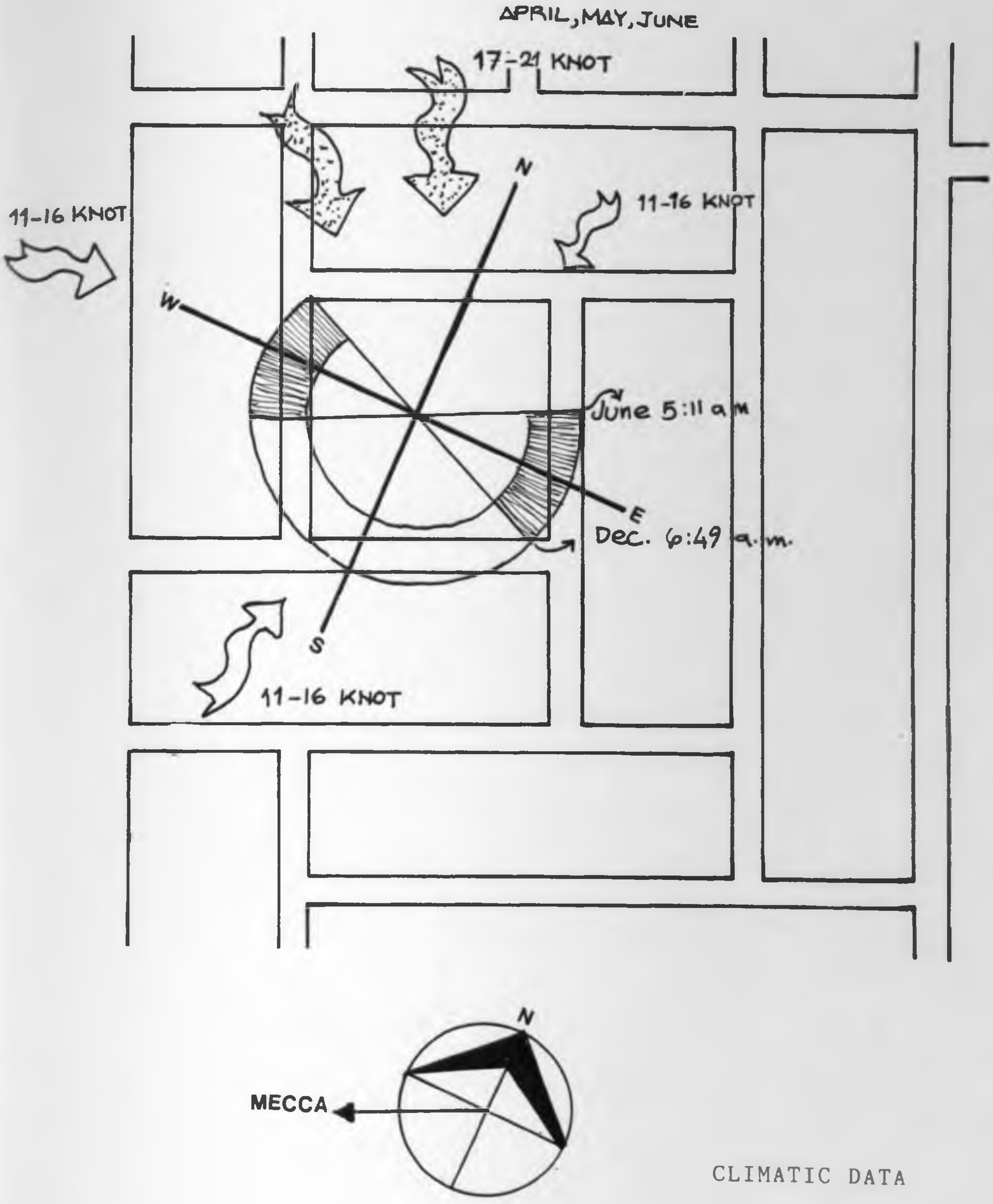






F.M FRIDAY MOSQUE (EXISTENT)
D.M DAILY MOSQUE (EXISTENT)
SITE LOCATION

ALKHOBAR SITE FRIDAY MOSQUE DESIGN



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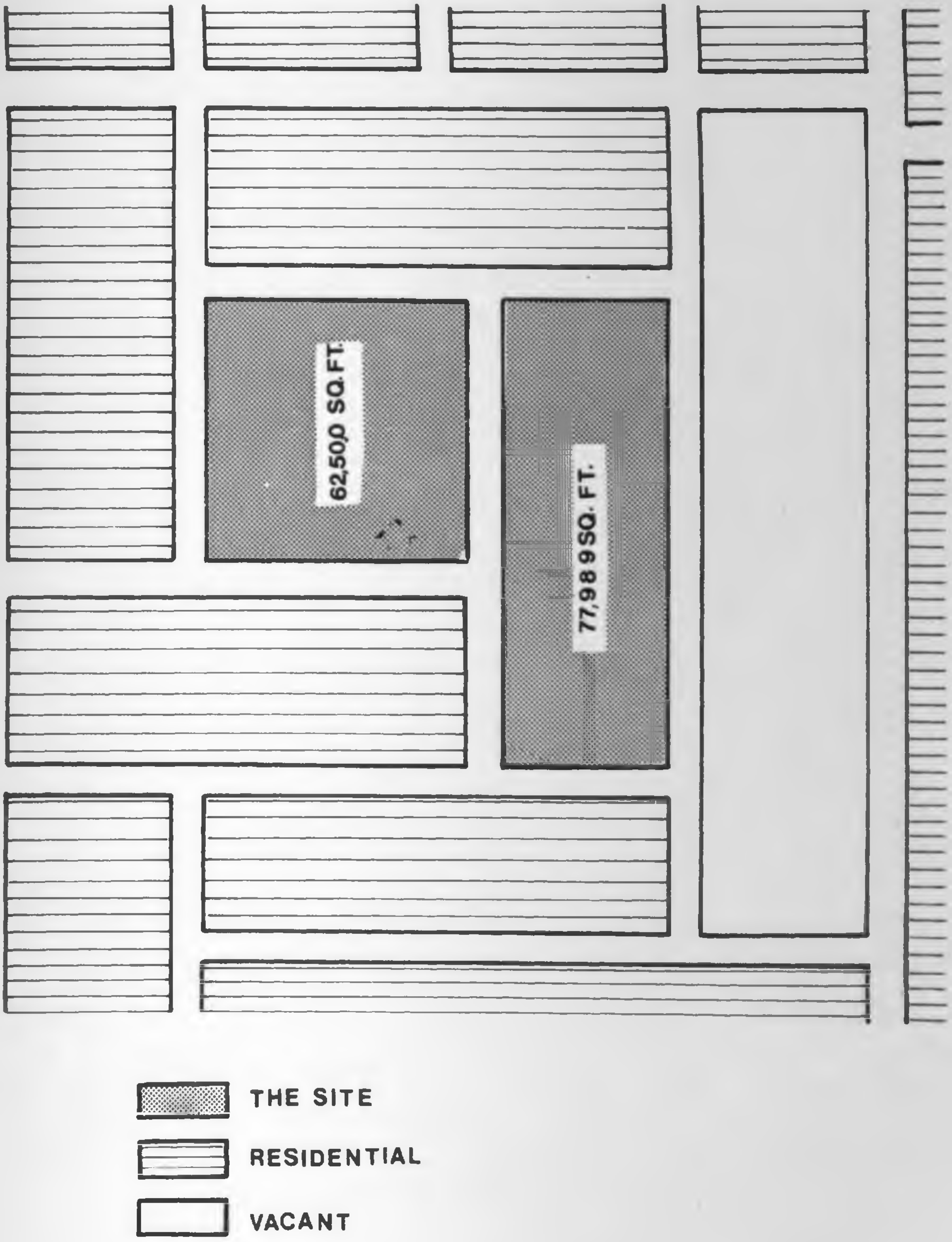
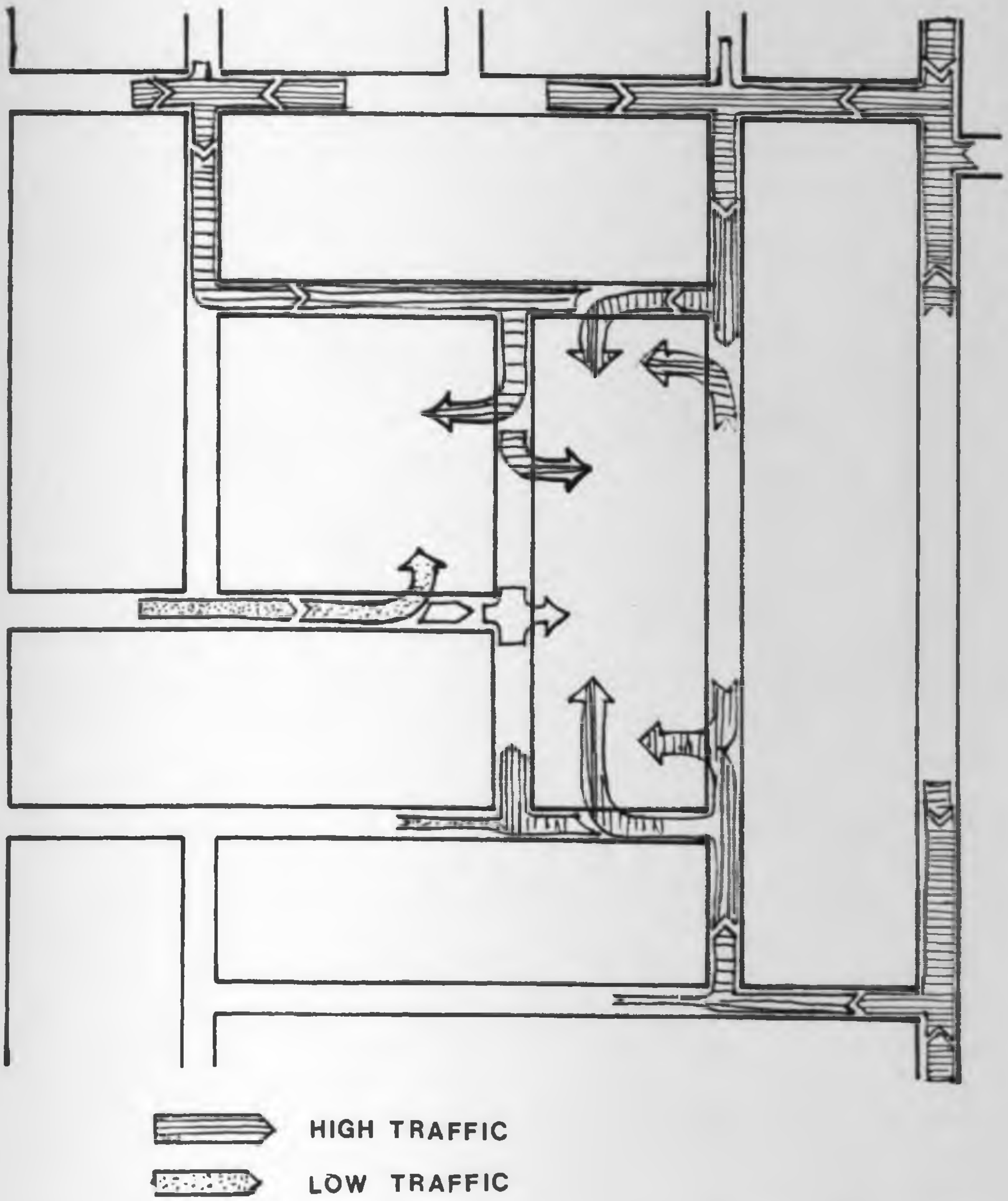

62,500 SQ. FT.
77,989 SQ. FT.
THE SITE
RESIDENTIAL
VACANT



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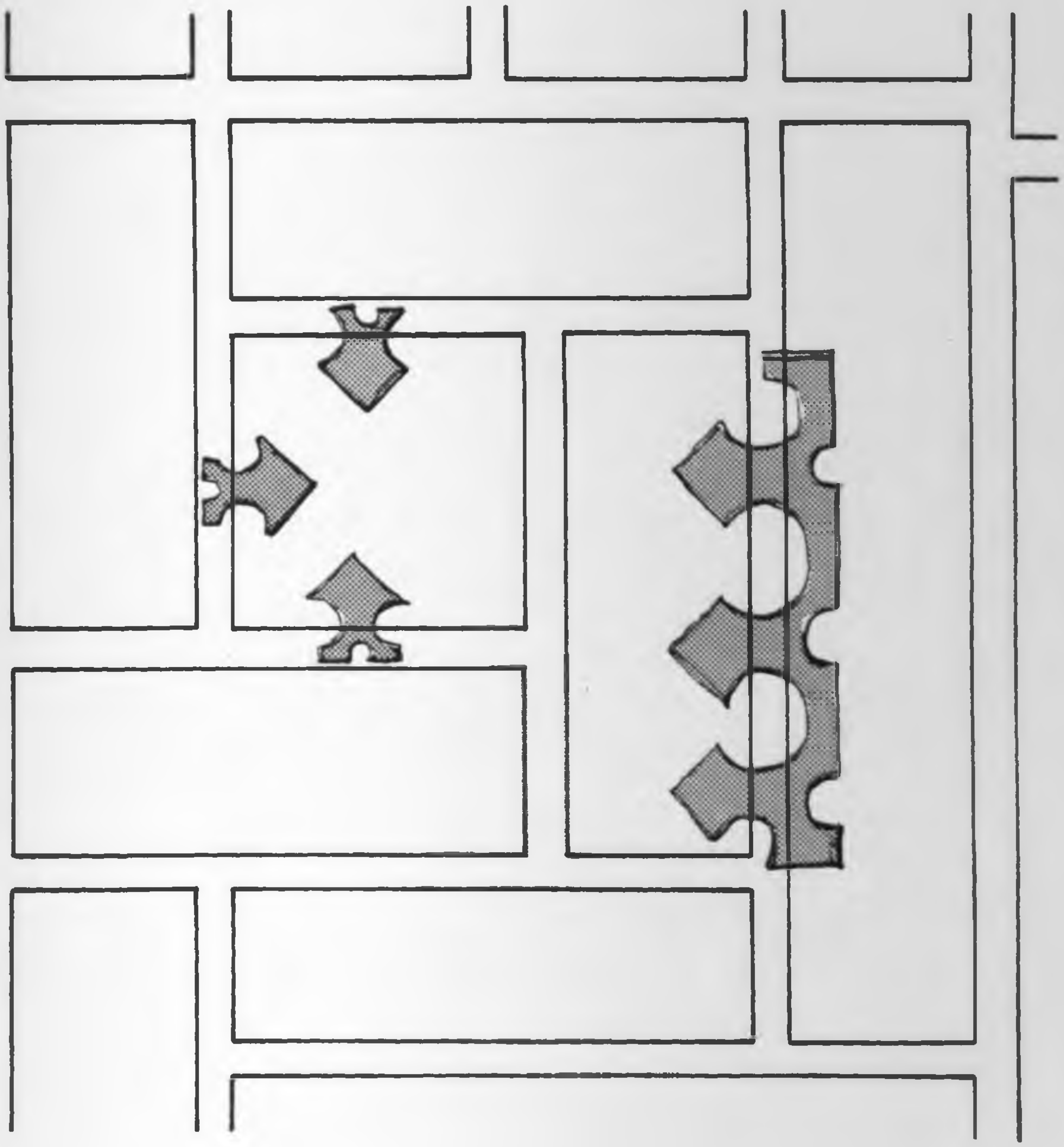
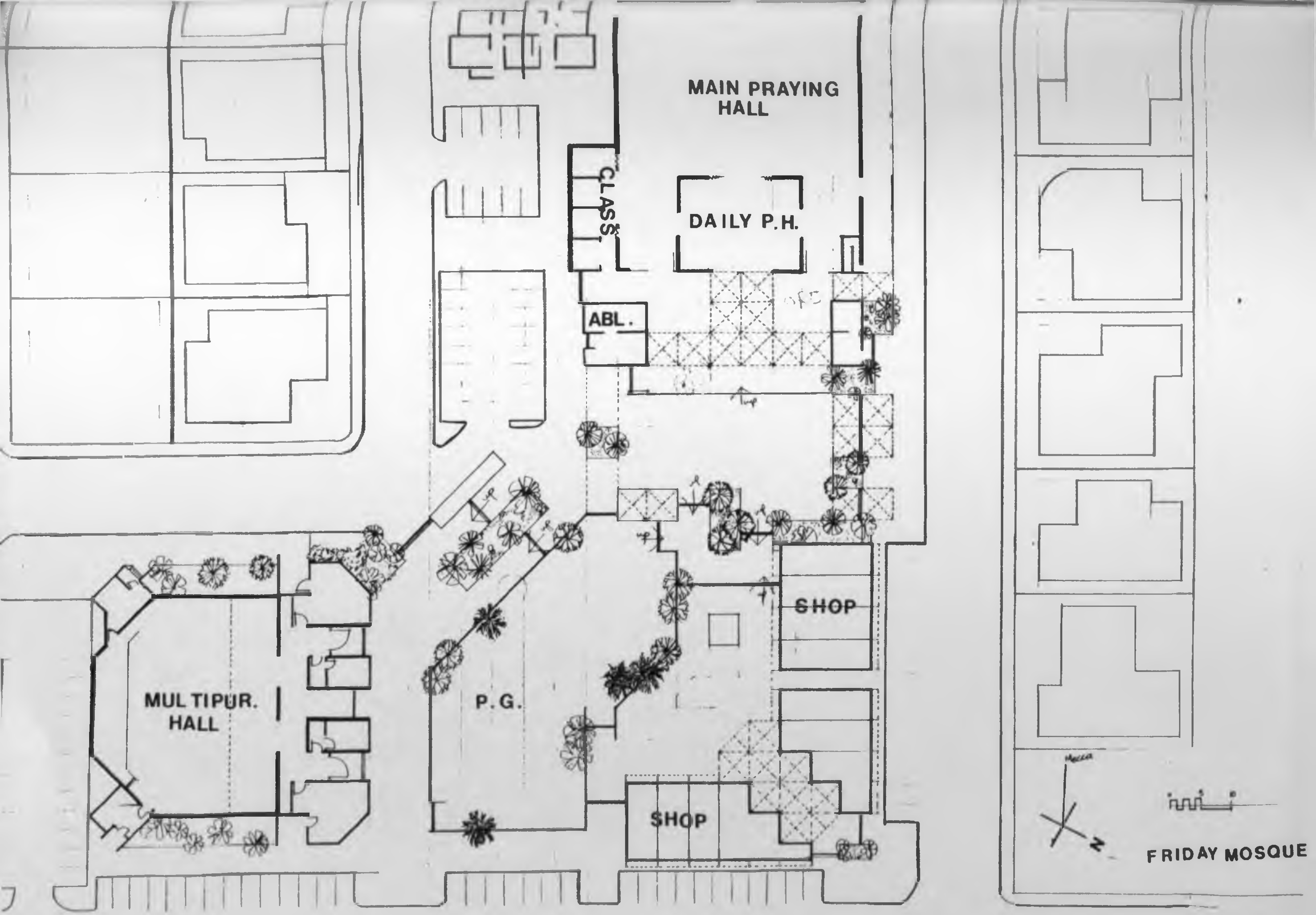
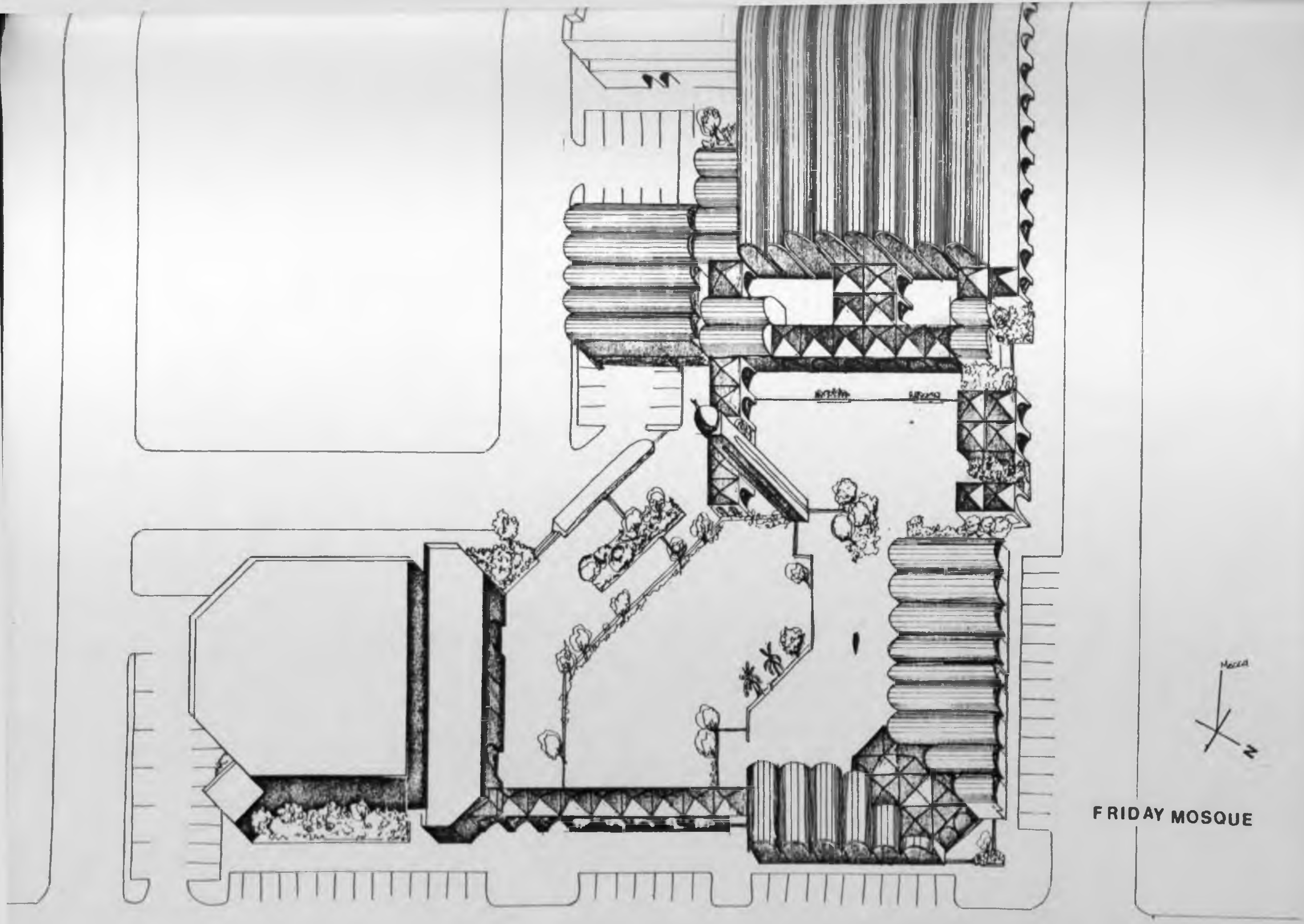
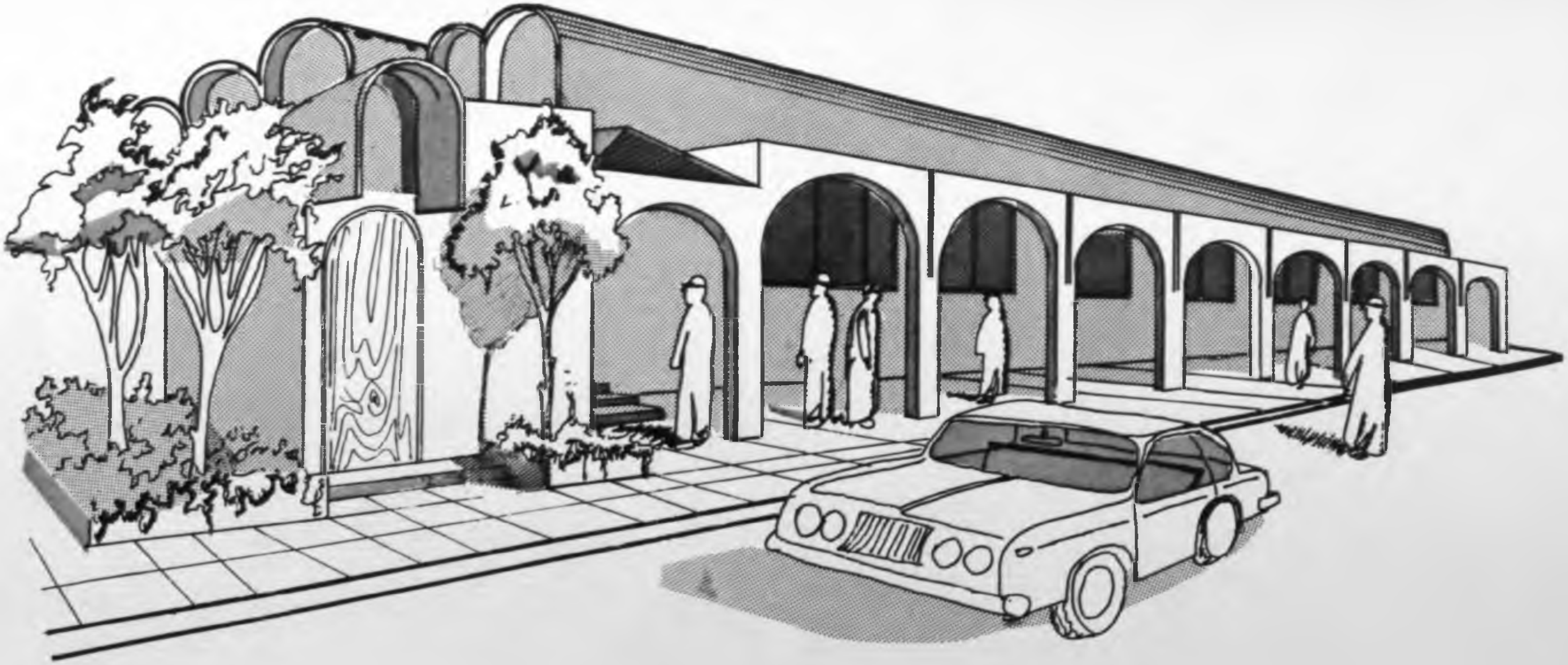
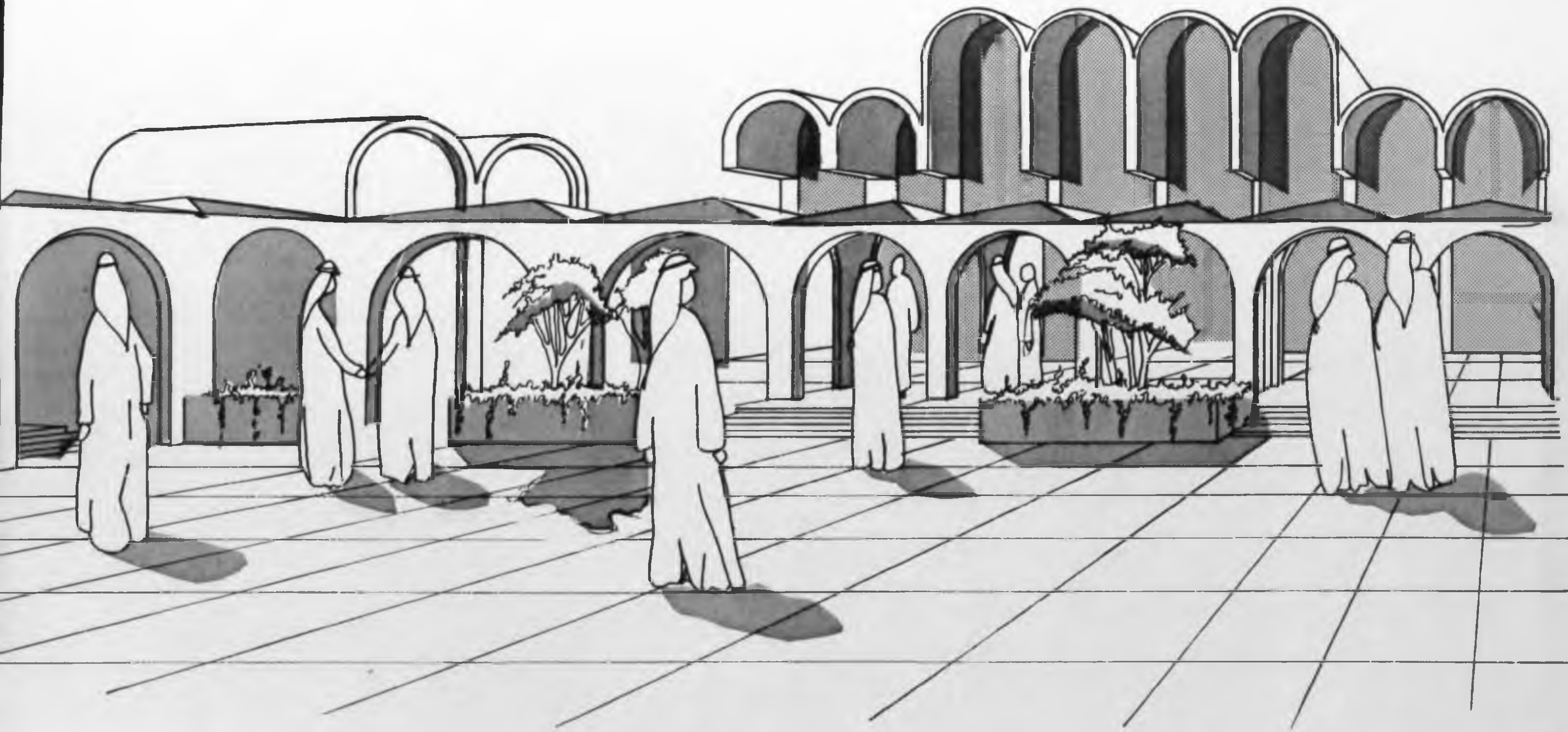


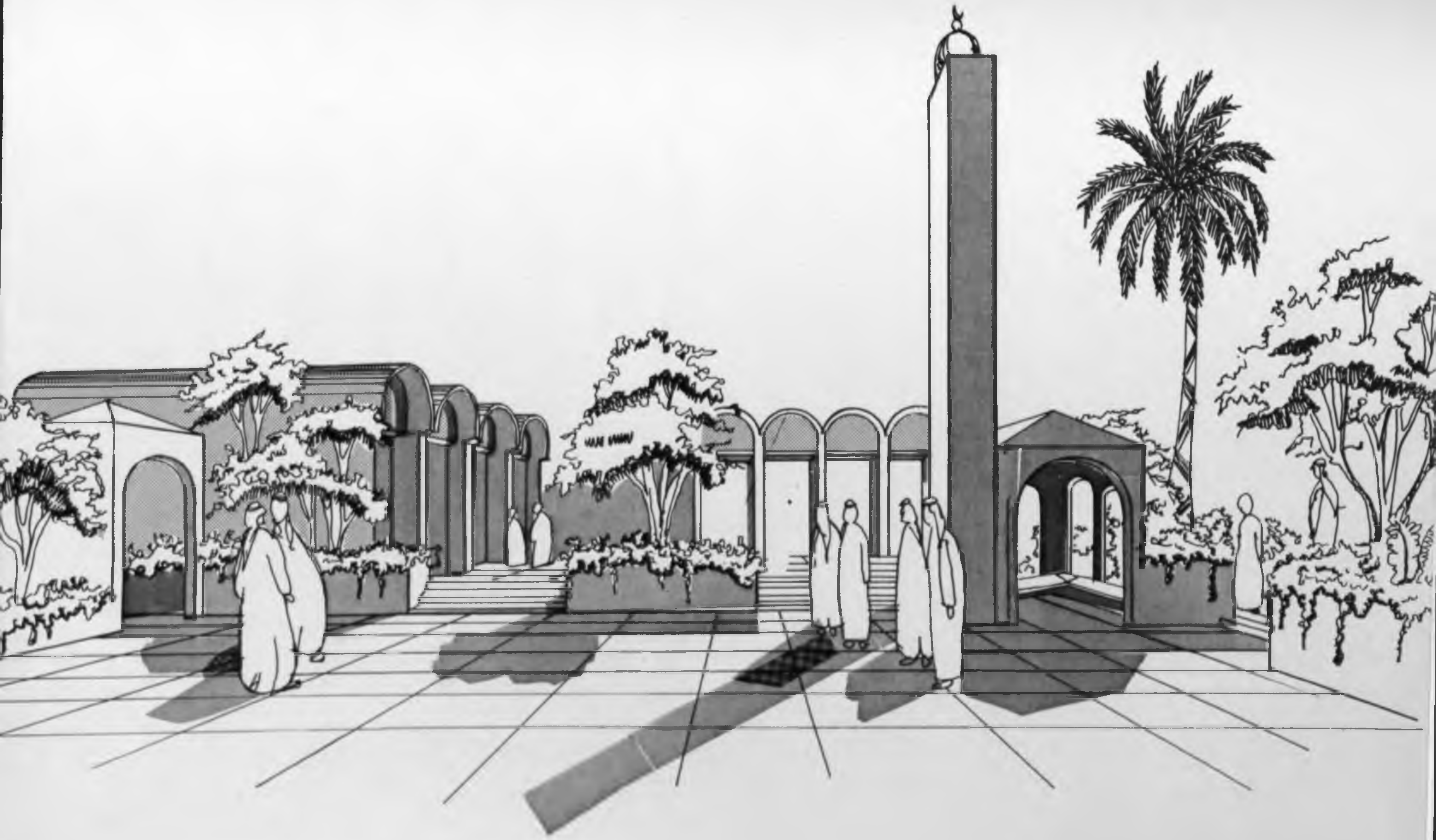
VIEW TO THE SITE


MAIN PRAYING HALL
CLASS
DAILY P.H.
ABL.
SHOP
MULTIPUR. HALL
P.G.
SHOP
N
FRIDAY MOSQUE


Mecca
N
FRIDAY MOSQUE







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