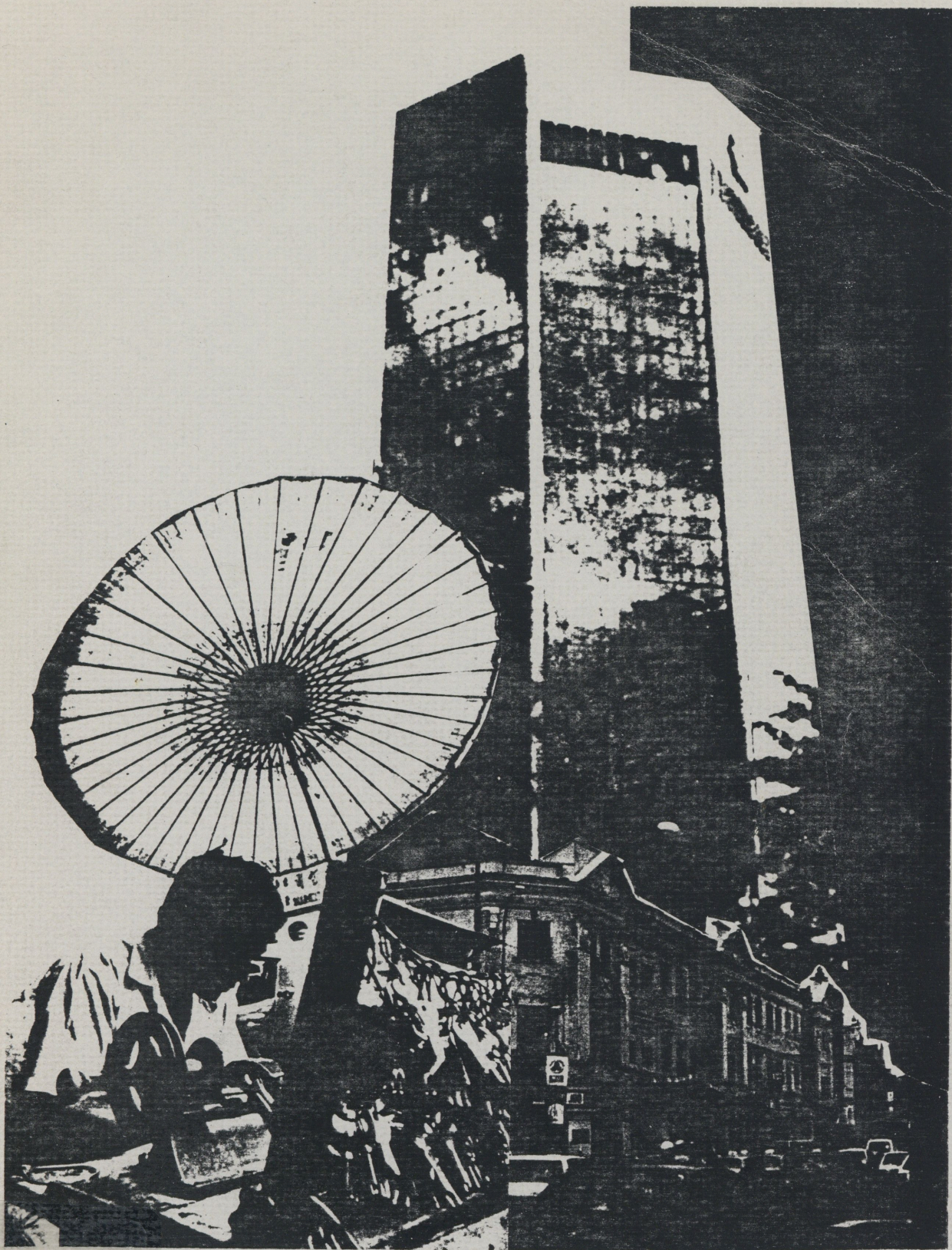
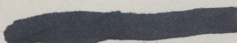




P378
.Ar121

AN COURT CENTER • KUALA LUMPUR • MALAYSIA

MIXED USE COMPLEX


LIBRARY
Montana State University
Bozeman

SULAIMAN COURT CENTER: A MULTI-USE CENTER
IN KUALA LUMPUR, MALAYSIA

by

ARAHIM, MOHD JALANI

A professional paper submitted in partial
fulfillment of the requirements for the degree

of

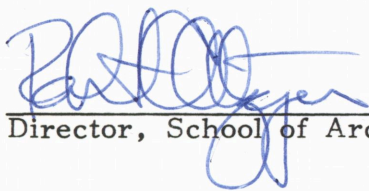
BACHELOR OF ARCHITECTURE

Approved:

Advisor



Thesis Coordinator



Director, School of Architecture

MONTANA STATE UNIVERSITY
Bozeman, Montana

December 1987

~~920.6~~ ~~NA2540~~ P378
m76 Ar121
Ar121

TABLE OF CONTENTS

INTRODUCTION

Statement	.1
Project Description	.1
Approach	.4

ANALYSIS

Malaysia	.5
Kuala Lumpur	.10
Climate	.21
Architectural Context	.29
The Site	.54

PRECEDENT

Mixed Use Developments	.58
Building System and Technology	.74

THE PROGRAM	.85
-----------------------	-----

THE CONCEPT	.90
-----------------------	-----

SULAIMAN COURT CENTER • KUALA LUMPUR • MALAYSIA

I N T R O D U C T I O N

PROJECT

To develop an appropriate project within a block in the Central Planning Area of Kuala Lumpur, Malaysia.

STATEMENT

To develop an appropriate work of architecture based upon an analysis and understanding of the natural environment and the culture.

PROJECT DESCRIPTION

The project is to develop a 126,000 sq. ft. site within the Central Planning Area (Central Business District) of Kuala Lumpur. The city of Kuala Lumpur was developed rapidly, especially in the Central Planning Area, due to the country's economic boom in the 1970's and 1980's. The development of the Central Planning Area was based on economic rather than cultural concerns. The existing mixed use organization pattern of the city is changing towards total commercial development due to the short sighted laissez faire planning policies.

The predominant building type of the city, which is shop houses where residential quarters are located above the commercial floors, is gradually being replaced by office towers and shopping centers. The street hawkers, who often can be found along the street line in front of the shop houses, are being re-accommodated away from their prime location. Gradually the activities, the continuity, the intimacy and the picturesque character of the traditional streetscape of Kuala Lumpur are being eliminated.

This particular site was chosen because of its location in the center of the new and old architectural developments. The site is bounded by two major roads that have different land use organization: a total commercial land use organization along Raja Laut Road; commercial and residential mixed use organization along Tunku Abdul Rahman Road. Furthermore, there is going to be a station for the LRT system for the city adjacent to the site.

The existing shop houses, the street hawkers, the office tower, the shopping centers, the transportation nodal point and a high

pedestrian movement, all within the general vicinity, create a rich, complex atmosphere to the site and its surroundings. Therefore, the development of this project is to conserve the traditional streetscape elements of the city by incorporating them in the existing land use structure of the surroundings.

For the purpose of this thesis, it is assumed that the city will lease the site to a developer who can come up with the best solution to develop the site. I was chosen by a developer to be the designer.

THE APPROACH

The goal of this project is not to create an architecture that can be called a "Malaysian" architecture, but an architecture that conveys the spirit of the region and the people. "Our arguments for regionalism are not based on a wish to call a halt to the march of modernist architecture, but on the idea that identity can only be found through criticism and analysis of the region in question, its history, culture, economics and politics."¹

The process of this project begins with the analysis of the city structure, the history, the built form, the culture and the natural environment. Furthermore, the site was analyzed beforehand. By understanding this analysis, I also believe that it helps me as a tool for developing an appropriate project for the site and design concept.

SULAIMAN COURT CENTER • KUALA LUMPUR • MALAYSIA

ANALYSIS

MALAYSIA

Malaysia is located in the Southeast of Asia. This country is composed of two major regions, which are West Malaysia on the Malay Peninsula and East Malaysia on the Island of Borneo. The total land area of this country is 127,316 square miles. It has a population of about 15 million.

This country is a focal point of Southeast Asia and is located along the Strait of Malacca, which is one of the major sea lanes in the world.

Landscape - West Malaysia

This long strip peninsula is about 500 miles long and about 200 miles wide at its widest east-west axis.

Geologically, about half of this peninsula is covered by granite and other indigenous rocks, about one third is covered by stratified rocks older than granite, and the remainder is covered by alluvium.

Typographically, this peninsula is dominated by a mountainous core and more than half of the land is 500 feet above sea level. The mountain range aligns north-south, and is bordered by a coastal lowland.

Peninsular Malaysia has an equatorial climate which is influenced by the monsoon wind, the Northeast Monsoon (December-March) and Southwest Monsoon (June-October). The mean annual rainfall is about 100 inches. The area has a uniformly high temperature, averaging 78°-82°F for most of the lowland areas. The relative humidity is also persistently high, averaging from 82% to 86% annually. The climate of

this peninsula is hot and humid. The vegetation of Malaysia is dense evergreen rain forest.

Economy

Malaysia's main sources of national income are agriculture, forestry, fishing and mining. The majority of this country's population continues to depend upon agriculture for livelihood. Malaysia produces a large amount of the world's rubber, tin and oil palm.

Malaysia's power resources are coal, peat, wood, petroleum and hydroelectricity. The country depends primarily on imported fuel oil for power generation.

Attempting to broaden its economic base by industrialization, Malaysia's economy still relies on a few raw materials for export. About 1/2 of the total laborers of this country are still engaged in primary production, and because of this, the country's industrial sector is still insignificant.

Economically, Malaysia remains one of the rich countries in the southeast Asia region.

Cultural Life

Malaysia is a mixture of people and culture. It is a melting pot of several important cultural traditions, stemming from the Malay archipelago as well as from China, India, the Middle East and West. The four major racial groups are the Malays, the Chinese, the Indians, and the Pakistanis.

The Malays are originated from different parts of the peninsula as well as the Malay archipelago. They comprise 50% of the total

population and are politically the most important group. The Malays are adherents of Muslim religion, and because of this, Muslim religion is regarded as one of the most important factors distinguishing a Malay from a non-Malay. The number of Malays who are not Muslim is negligible.

The Malay culture in the Malay Peninsula and other parts of South-east Asia was strongly marked by pre-Islamic Indian and early Islamic influences during the first one and a half millennia, A.D. Islam, which is the dominant religion of the Malays, was introduced to Melaka (the first Malay empire) in the 15th century. Western culture, which was introduced in the 19th century, affected many aspects of Malay life, especially in technology, law, social organization and economics, mainly in the cities. The contemporary Malay culture is multi-faceted, consisting of many standards -- animistic, early Hindu, early and modern Islam. This collective pattern thus established is distinct from other cultures and recognizably Malay.

The Chinese are the next major group, who make up 35 percent of the country's population and are an economically important group. They were originally from the province of Southeastern China and ethnically homogeneous. They are, however, less homogeneous than the Malays in terms of language and religion.

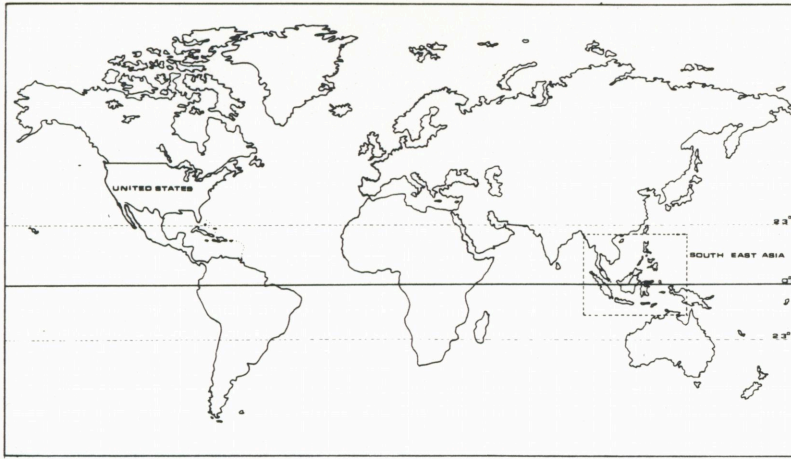
The early Chinese traders who settled in Melaka and Penang during the 15th century were partially assimilated (to the extent of adopting the Malay language), but the Chinese who emigrated to Malaysia in the late 19th and early 20th centuries in large numbers are usually transients who established self-contained communities. They are not a homogeneous group and their cultural influence on the country

has consequently been minimal. The Chinese culture in Malaysia has its roots in the civilization of pre-revolutionary China, with modifications brought about by local circumstances and environment.

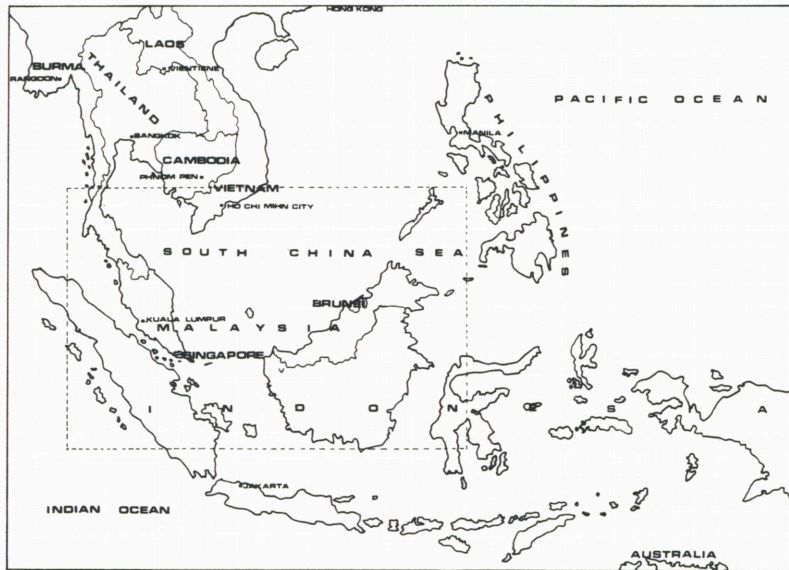
The Indians, Pakistanis and Ceylonese are the people from the Indian subcontinent, which constitute about 11 percent of the total population of West Malaysia. Most Indians and Ceylonese are Hindus, while the Pakistanis are predominantly Muslim. Most Indians are immigrants and originally came as laborers to work in the coffee or rubber plantations. Like the Chinese, they too, until World War II, were mainly transients, living in closed communities and remaining virtually unassimilated.

The population also includes small numbers of Europeans and Americans, Eurasians, Arabs and Thai.

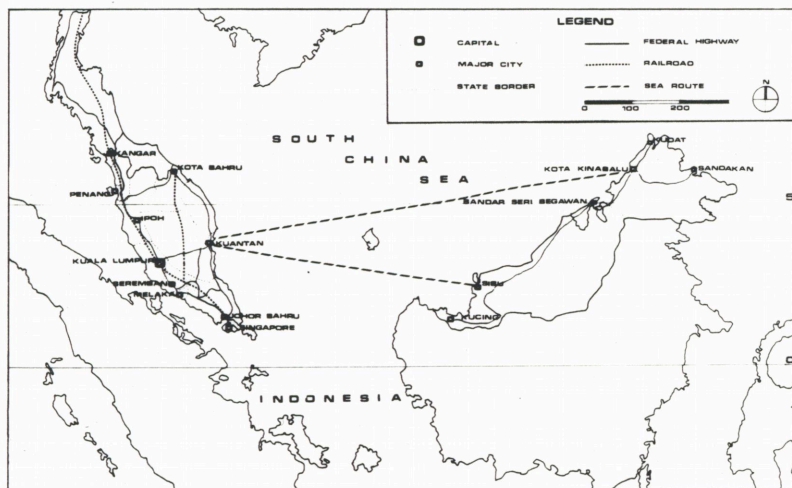
Because of the past British colonial rule and present western modernizing influences, the communities of Malaysia have all been affected. The western cultural influence has been greatest in education and institutional forms. Traditions and cultural institutions have least been affected in the rural areas, whereas in the cities cultural changes are happening rapidly.



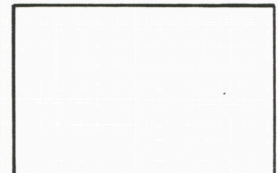
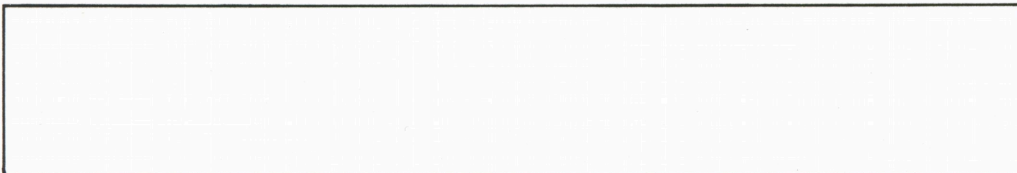
SOUTH EAST ASIA



MALAYSIA



SULAIMAN COURT CENTER • KUALA LUMPUR • MALAYSIA

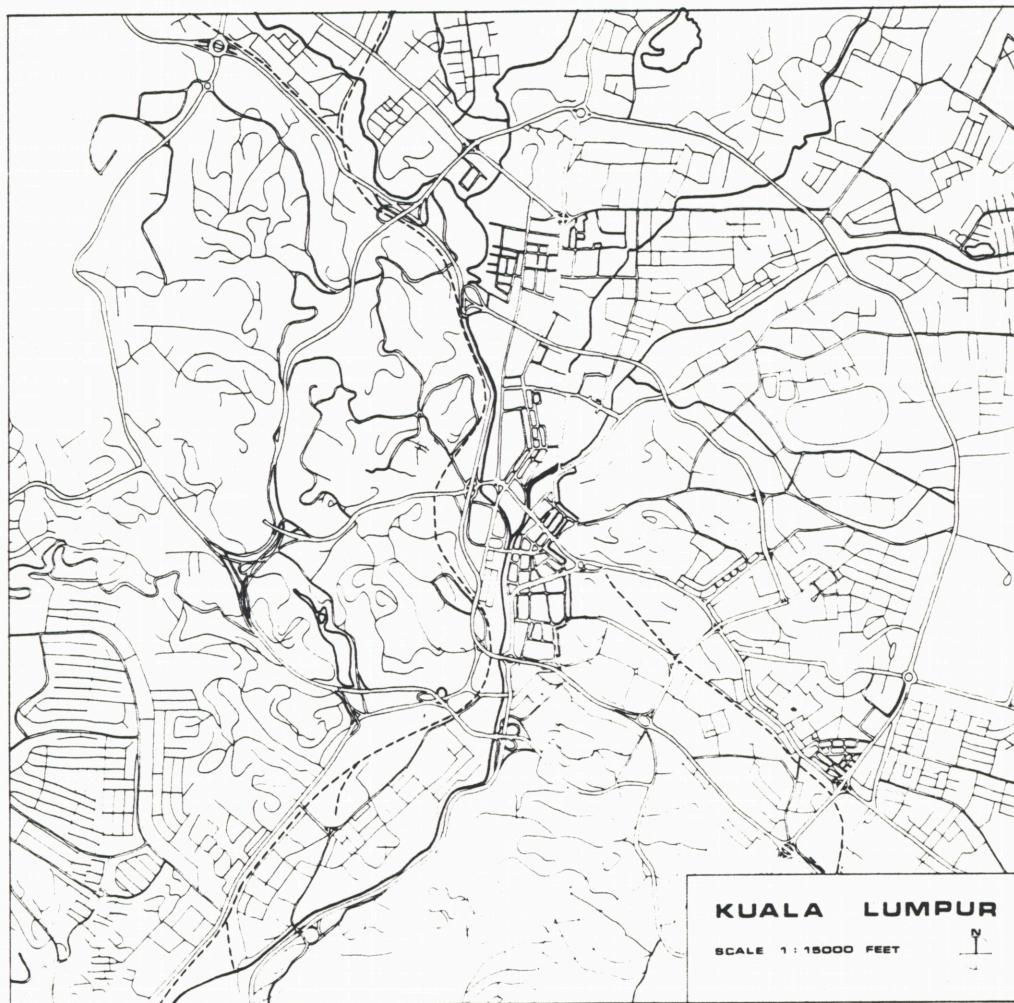
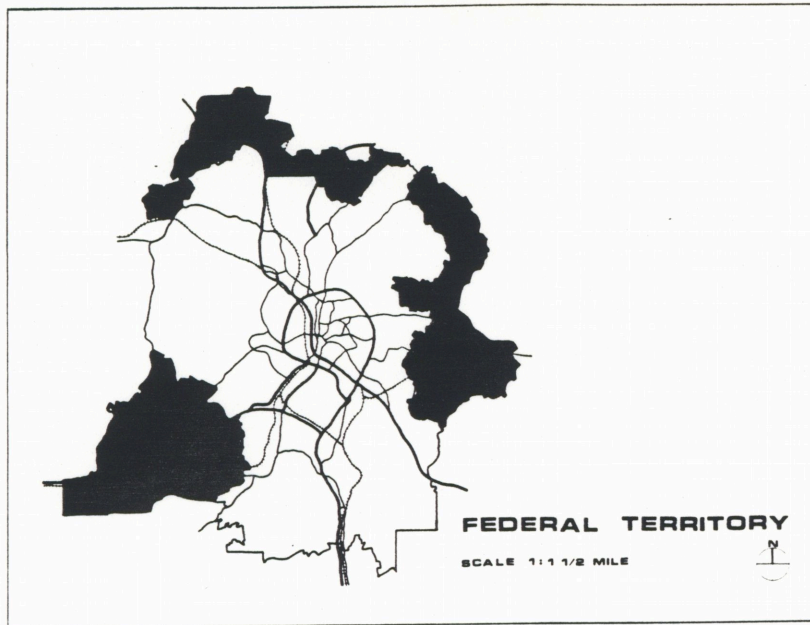


KUALA LUMPUR

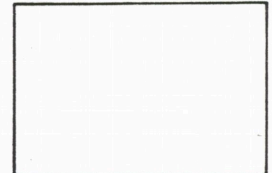
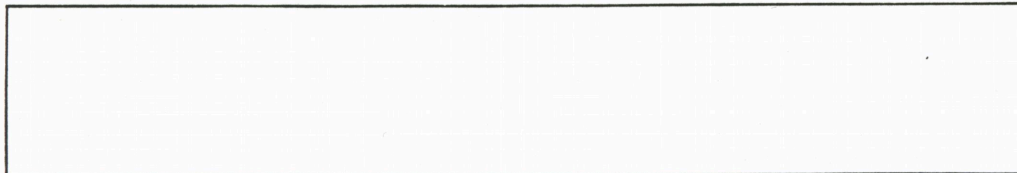
History

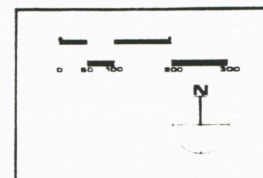
The city of Kuala Lumpur was founded in 1859 at the confluence of the Gombak River and the Kelang River by Chinese immigrants who were engaged in tin mining operations. It was then a trading post for the mining communities, controlling the movement of goods up and down the two rivers. Within a brief period after it was founded, it became a great mining center and rubber plantation of Malaya (the name for Malaysia before its independence). Tin mining and rubber plantations have played a great role in the growth of the city. In 1882 the British transferred their administrative headquarters from Klang (a port which is about 50 miles northwest of Kuala Lumpur) to Kuala Lumpur. Due to this change of role, from a mining town to a government administrative center, many railway systems and road networks were connected to Kuala Lumpur from the surrounding tin mines and rubber plantation estates, which enhanced its development and also influenced an increase in the indigenous population (the Malays) in the city. In 1884 the population of Kuala Lumpur had grown to 4,000, and 19,000 in 1891.

Kuala Lumpur became the national capital of Malaysia in 1957. With its initial development link the tin mining and rubber plantation industries, the city is now transformed into the administrative and commercial center of Malaysia, with the total population close to 1.5 million and covering an area of 96 square miles.



SULAIMAN COURT CENTER • KUALA LUMPUR • MALAYSIA

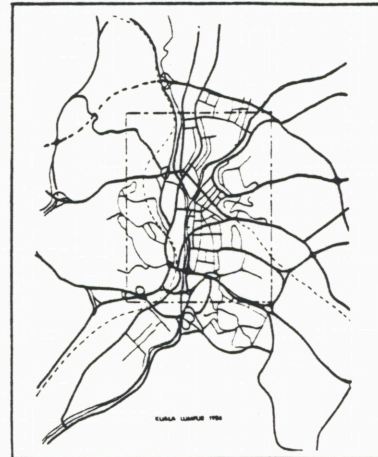
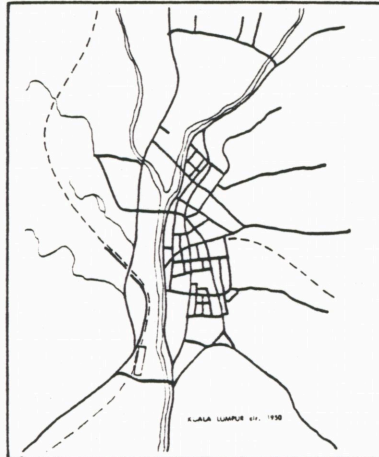
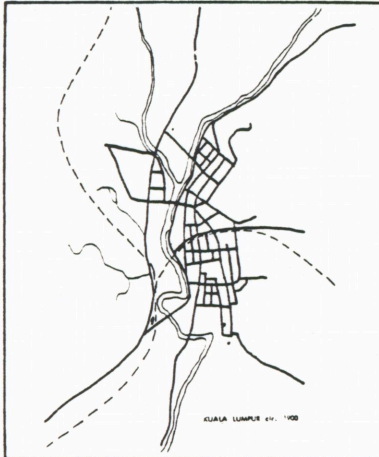
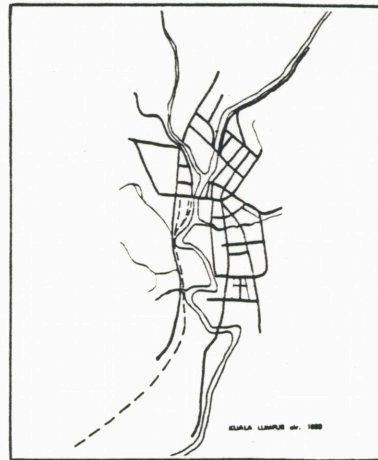
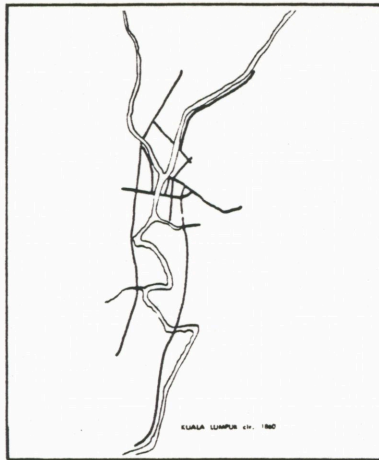




The Road Network

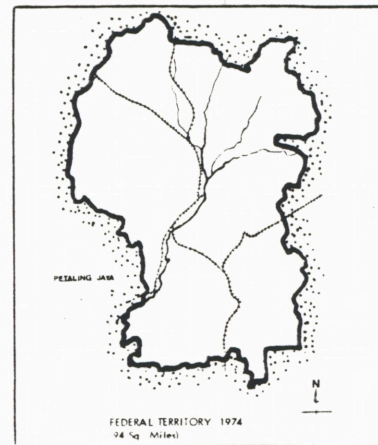
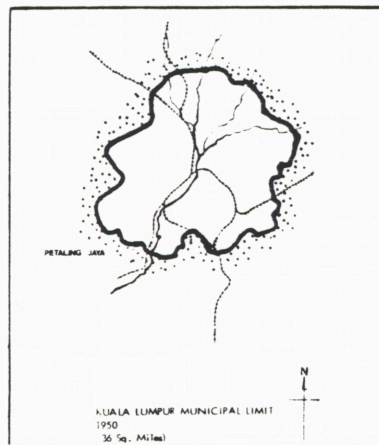
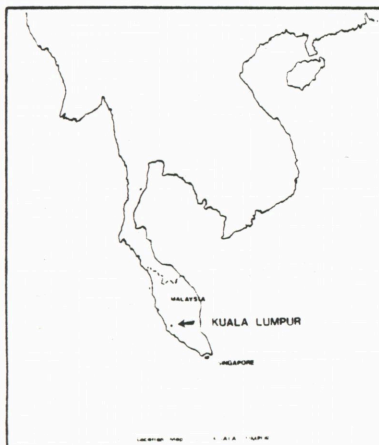
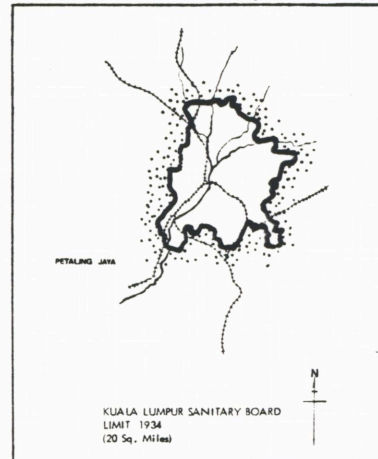
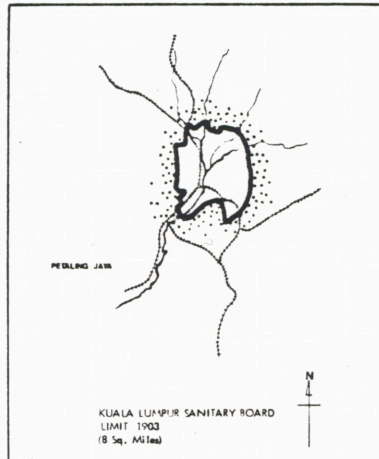
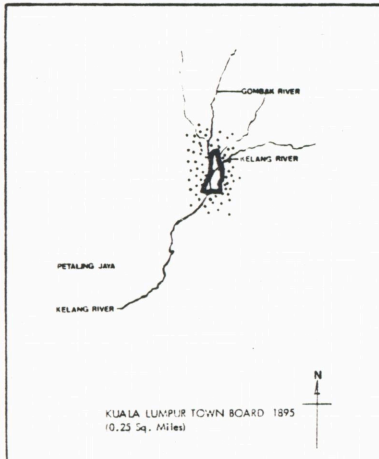
The road network has played an important role in the development of Kuala Lumpur. The initial road network began around the actual Central Area of the city. The rapid development and the increased population has created a radial road development to the north, south, east and west, in an organically and topographically responsive manner. The streets were built for a more leisurely era and are not sufficient for automobile use because they are very narrow and very often congested. Traffic congestion in the Central Area is created by the increasing number of working population due to the land use reorganization which is more towards commercial development. Ring Road was later built to connect the major radial roads to reduce the traffic congestion of the Central Area.

Development of Kuala Lumpur



Above: Historic development of the road system.

Below: Growth of the urban limits of Kuala Lumpur



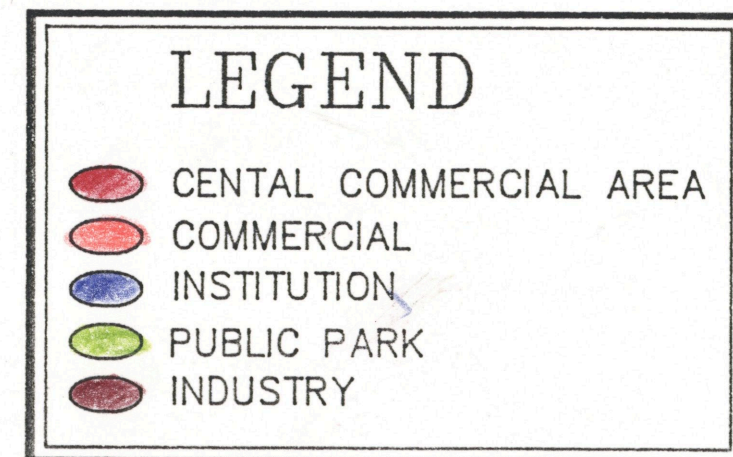
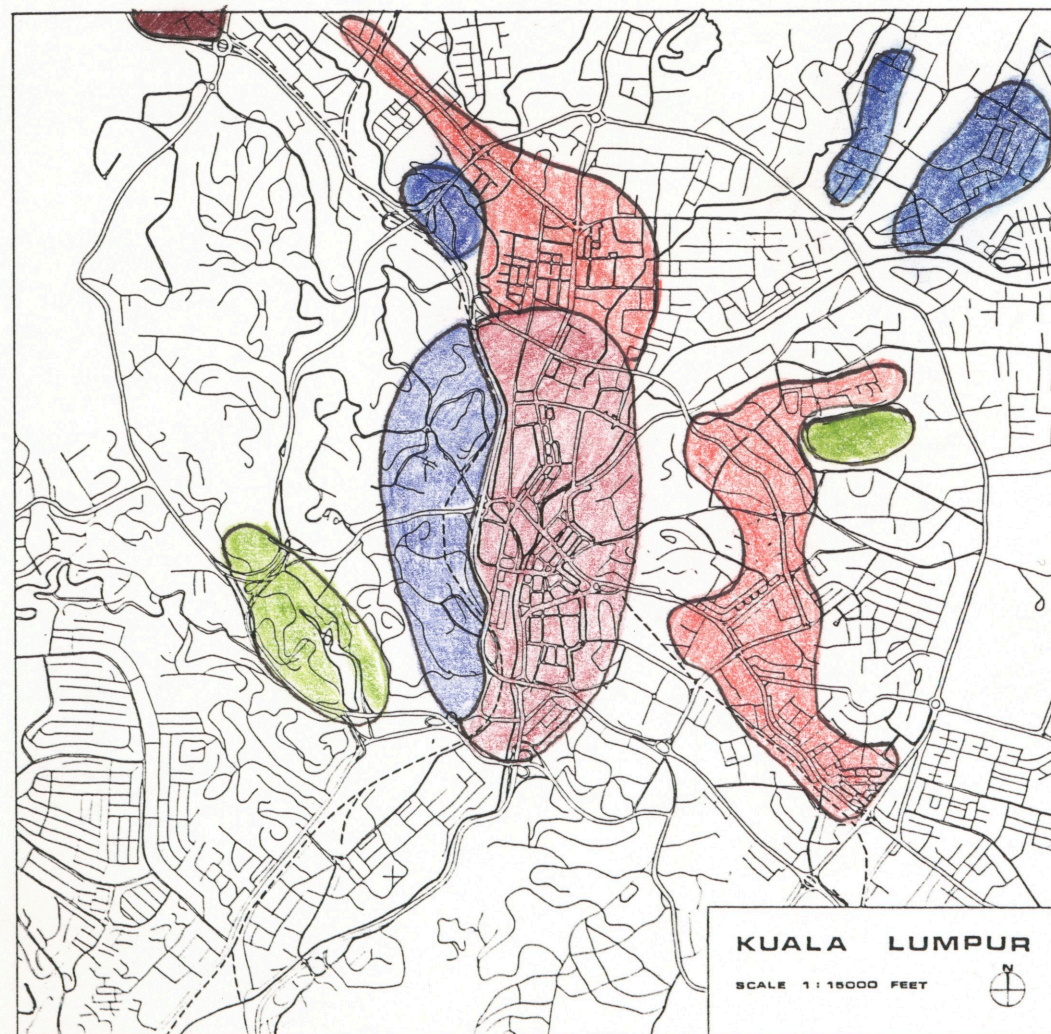
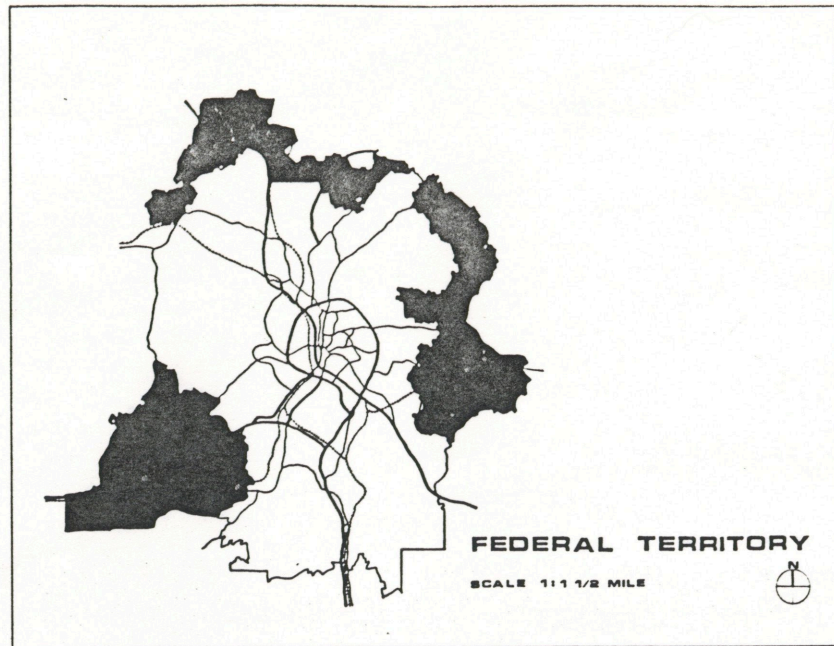
Land Use

"The nuclear of the Central Area of Kuala Lumpur coincides with the 'Old Town' constructed before 1884 and defined by the areas reserved for railway station, bus terminal and central market. The distinct characteristic of the Central Area is the high percentage of working and residential population."²

The Central Area is now under the continuous process of revitalization, reorganization of land use, and new commercial development which is gradually replacing the existing residential shop houses. This land use reorganization is somehow seemingly unorganized and hampered by the existing road system, which is basically as it was in 1895.

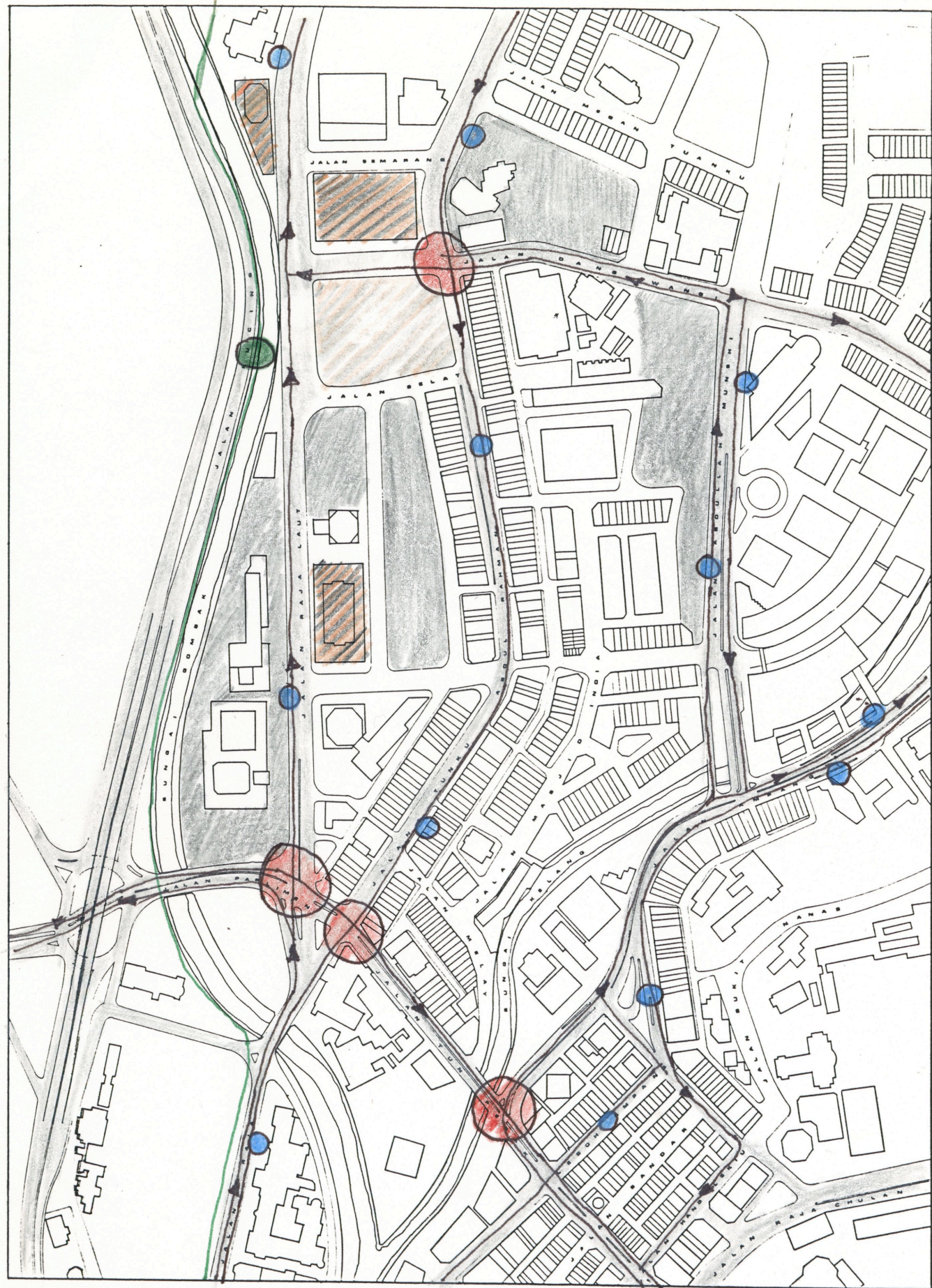
The population increase of the Central Area has resulted in a ribbon development along the major radial road, Tunku Abdul Rahman Road to the north and Pudu Road to the south. In the mid-50's, suburban residential and shopping areas were established around the fringes of Kuala Lumpur, such as Petaling Jaya, Ampang, Bauransara and other satellite townships.

"The gradual decentralization of the urban center, and amalgamation of resettlement villages (established during the anti-terrorist war between 1948-60) with secondary centers linked to the central area, have transformed Kuala Lumpur and its immediate environs into an extensive urbanized region, by the mid-70's."³



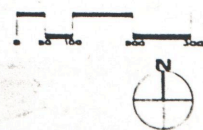
SULAIMAN COURT CENTER • KUALA LUMPUR • MALAYSIA

CITY STRUCTURE



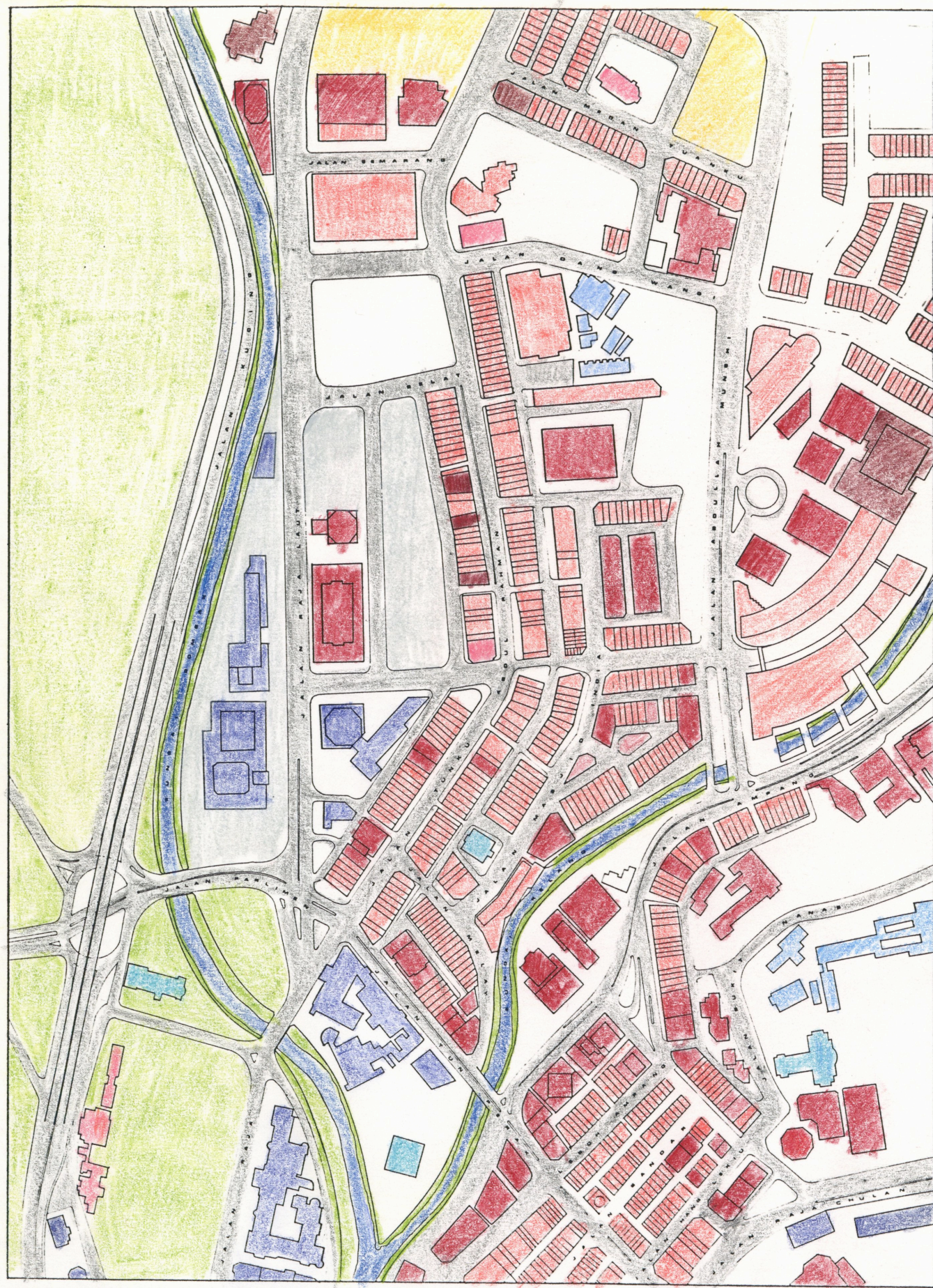
SULAIMAN COURT CENTER • KUALA LUMPUR • MALAYSIA

TRANSPORTATION



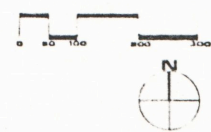
LEGEND

-  IMPORTANT ROAD
-  PARKING GARAGE
-  PARKING LOT
-  BUS ROUTE
-  BUS STOP
-  CONGESTION POINT
-  LRT
-  LRT STATION (PROPOSED)



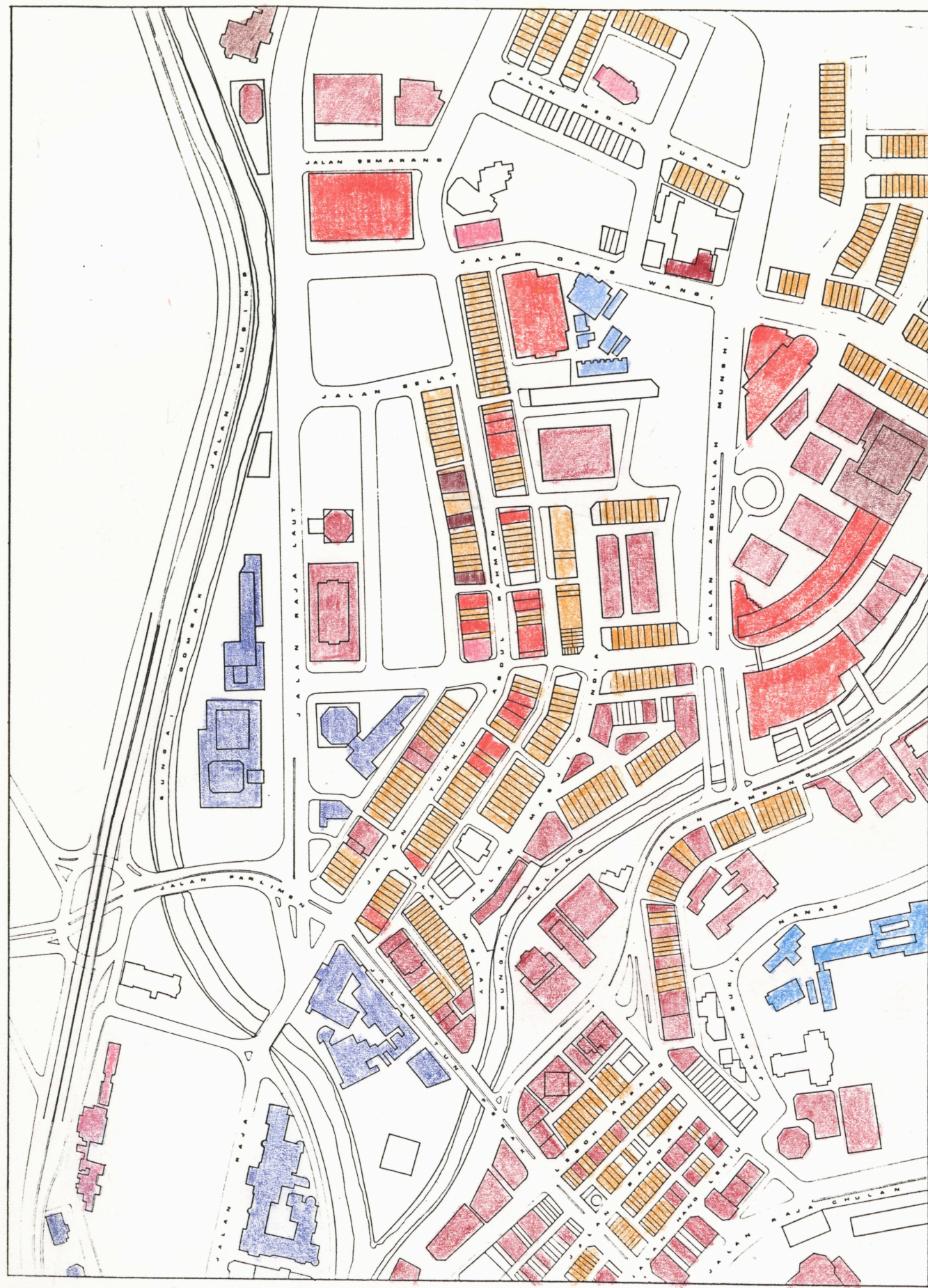
SULAIMAN COURT CENTER • KUALA LUMPUR • MALAYSIA

LAND USE
LEVEL ONE



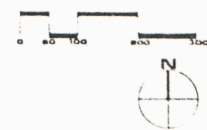
LEGEND

- RESIDENTIAL 918
- COMMERCIAL, RETAIL 926
- COMMERCIAL OFFICES
- HOTEL 937
- GOVERNMENT OFFICES 933
- ENTERTAINMENT 929
- SCHOOL 903
- POLICE 904
- RELIGIOUS BUILDING 910
- PARKING LOT
- PUBLIC PARK
- DERELICT SPACE 941



SULAIMAN COURT CENTER • KUALA LUMPUR • MALAYSIA

LAND USE
LEVEL TWO



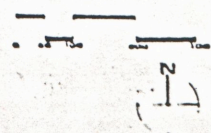
LEGEND

- RESIDENTIAL
- COMMERCIAL, RETAIL
- COMMERCIAL OFFICES
- HOTEL
- GOVERNMENT OFFICES
- ENTERTAINMENT
- SCHOOL
- POLICE



SULAIMAN COURT CENTER • KUALA LUMPUR • MALAYSIA

LAND USE
LEVEL THREE



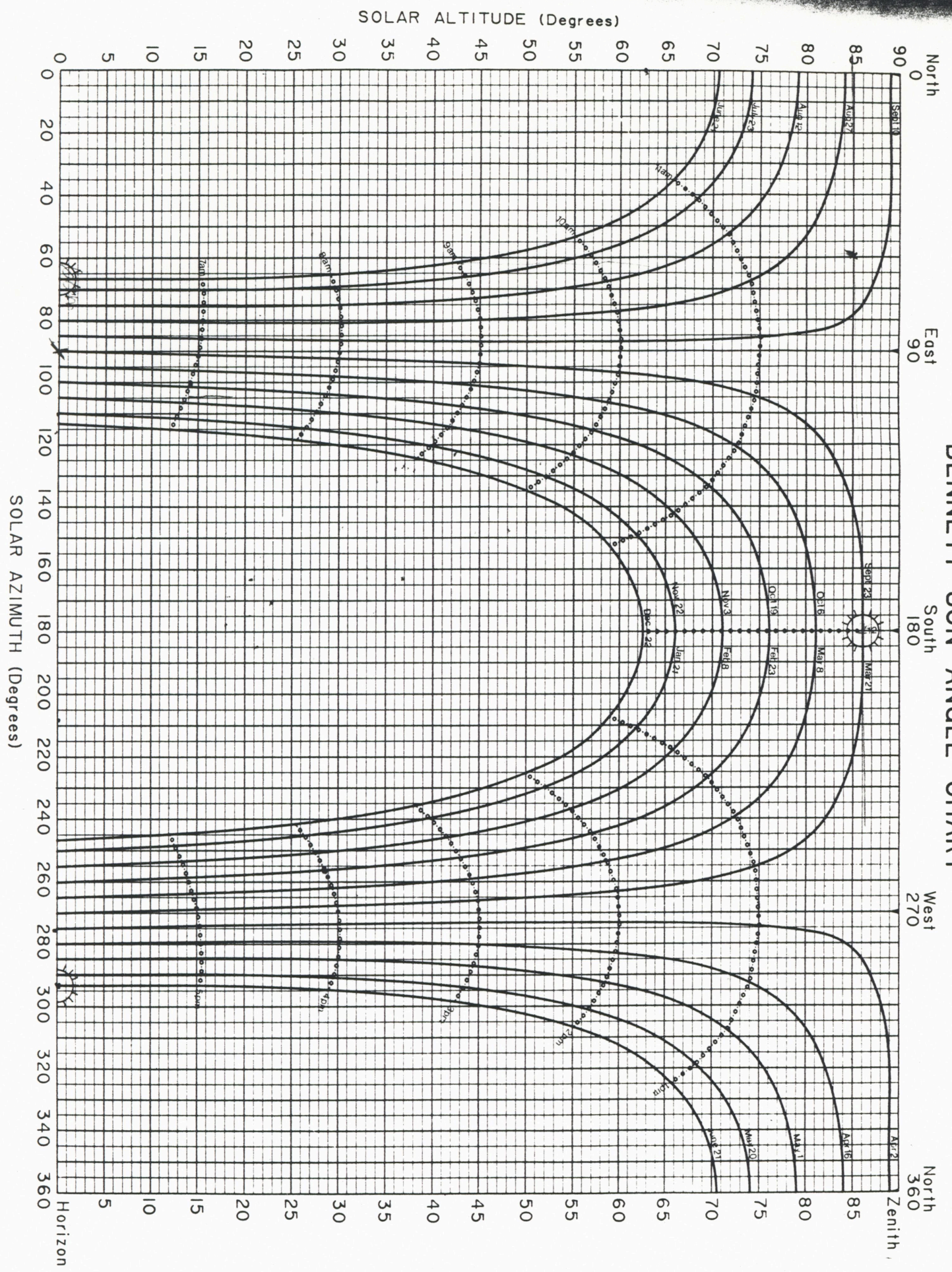
LEGEND

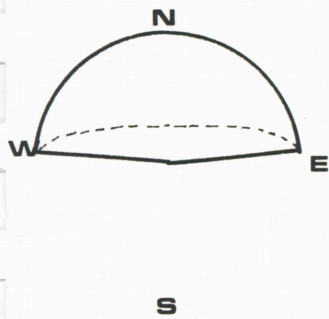
- RESIDENTIAL
- COMMERCIAL, RETAIL
- COMMERCIAL OFFICES
- HOTEL
- GOVERNMENT OFFICES

THE CLIMATE

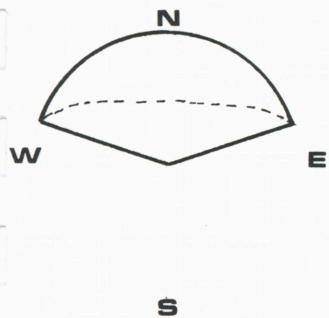
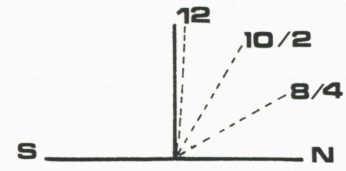
The climate of Kuala Lumpur is hot and humid, which is influenced by the two dominant wind directions, which are the Northwest Monsoon and the Southwest Monsoon. A graphic analysis of the climate follows.

BENNETT SUN ANGLE CHART

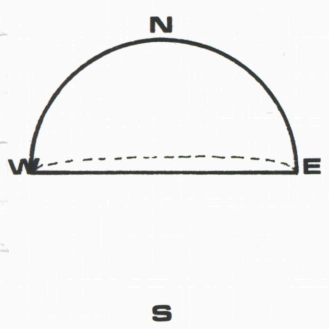
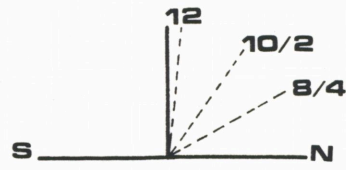




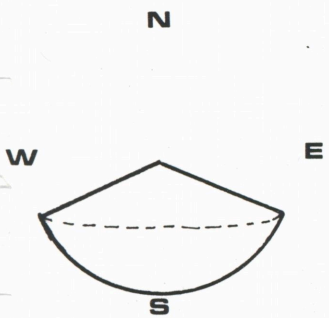
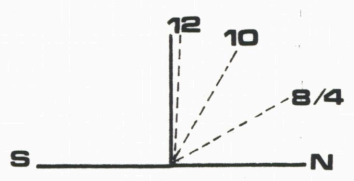
APRIL 21	ALTITUDE °	AZIMUTH °
SUNRISE	0	85°
8	30°	86°
10	60	87°
12 NOON	89°	0°
2	60°	273°
4	30°	274°
SUNSET	0°	275°



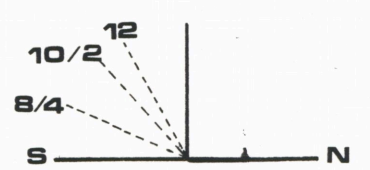
JUNE 21	ALTITUDE °	AZIMUTH °
SUNRISE	0°	67°
8	29°	65°
10	55°	53°
12 NOON	87°	360°
2	55°	307°
4	29°	295°
SUNSET	0°	293°

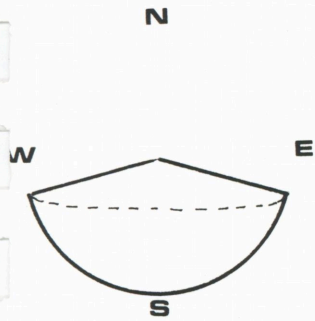


SEPT. 23	ALTITUDE °	AZIMUTH °
SUNRISE	0°	90°
8	30°	93°
10	60°	97°
12 NOON	86°	180°
2	60°	203°
4	30°	267°
SUNSET	0°	270°

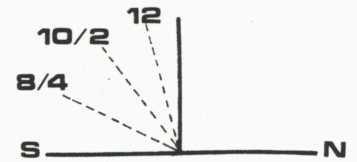


DEC. 22	ALTITUDE °	AZIMUTH °
SUNRISE	0°	113°
8	25°	118°
10	50°	135°
12 NOON	62.5°	180°
2	50°	208°
4	26°	242°
SUNSET	0°	247°





FEB 23	ALTITUDE	AZIMUTH
SUNRISE	0	100°
8	28°	105°
10	57°	115°
12	76°	140°
2	57°	245°
4	28°	257°
SUNSET	0	260°

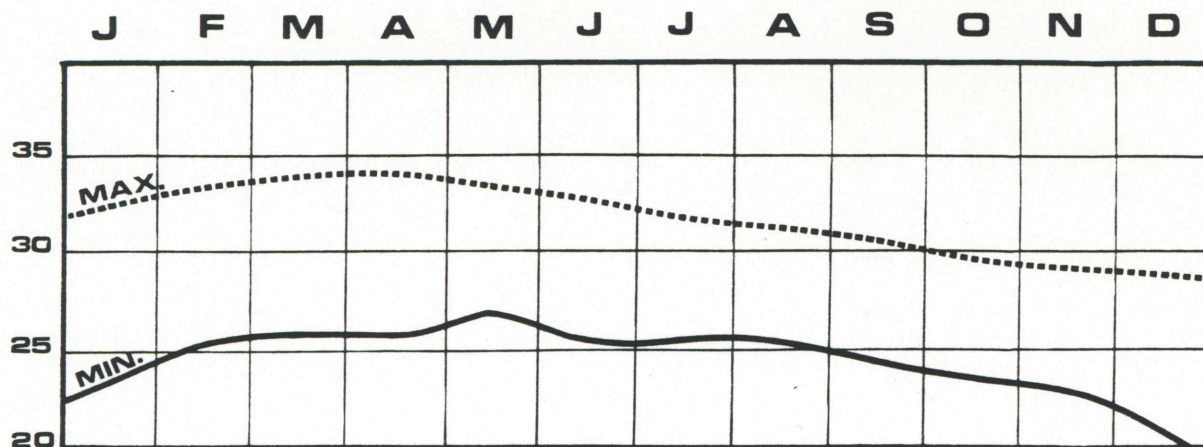


Sun

The sun altitude is almost constant every day of the year, with its azimuth moving slightly north and south of the equator. The east face and the west face of a building are always affected by the sun all through the year. The highest sun altitude is at noon time and the lowest sun altitude is during the morning.

TEMP.

°C

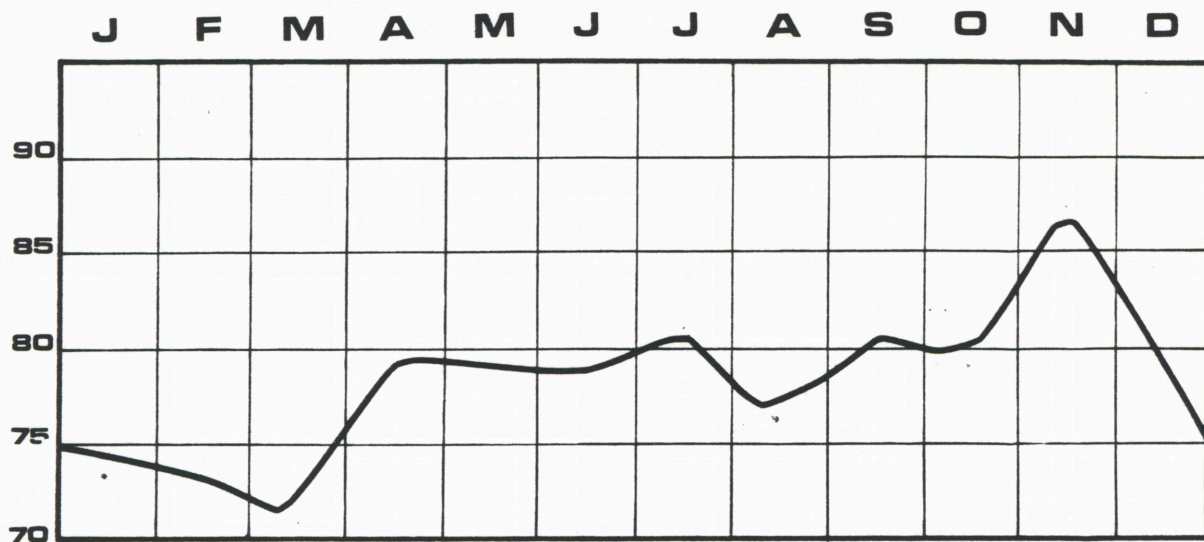


Temperature

- . High is the months of March and April.
- . Average temperature is 82°F.
- . Annual range is 4°F.
- . Diurnal change is 5.5°F.

HUMIDITY

%

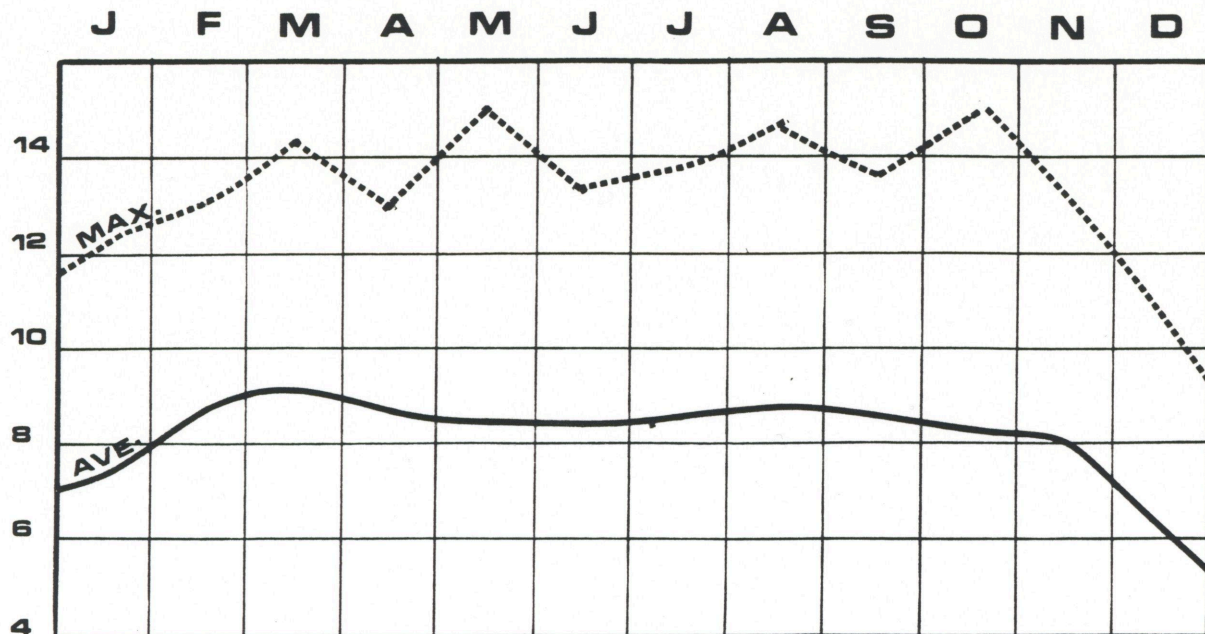


Humidity

- . Relative humidity is always high.
- . High humidity is during the months of October, November, December and January.
- . Average relative humidity is between 82%-86%.

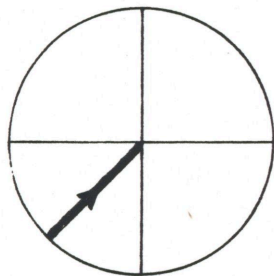
WIND

KNOTS



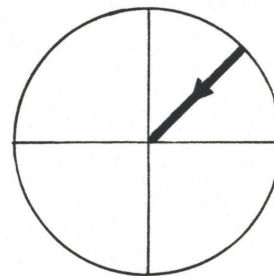
WIND DIRECTION

SOUTHWEST MONSOON



JUL.-SEPT

NORTHEAST MONSOON

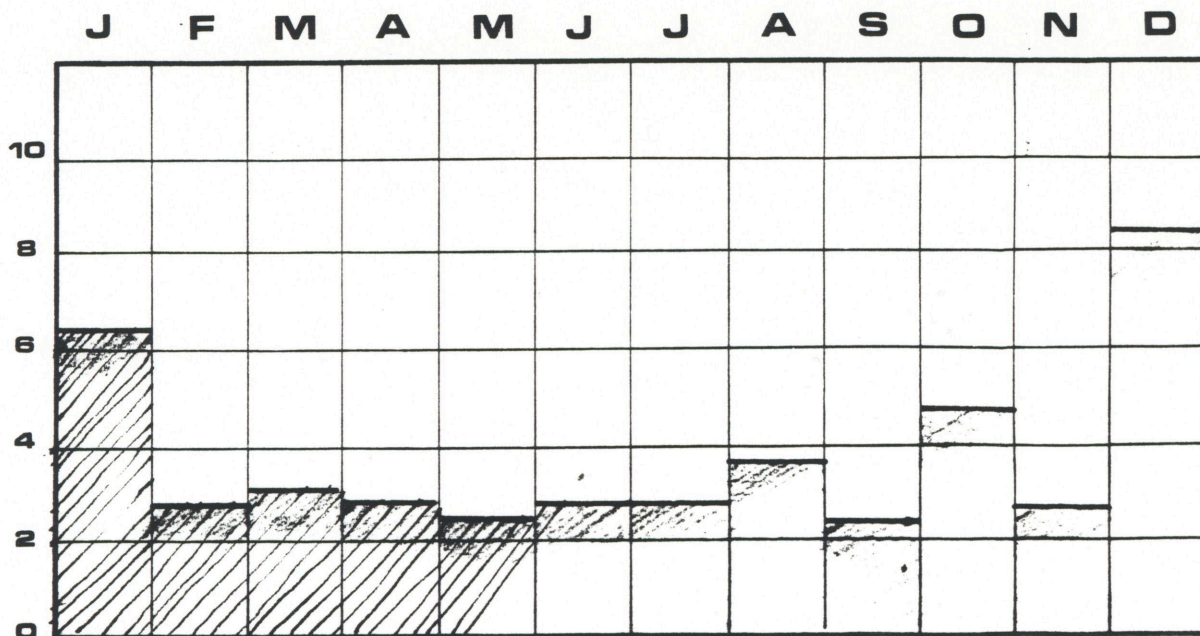


OCT.-MAY

Wind

- . High wind during the months of July, August and September is brought by the Southwest Monsoon.
- . The speed of the Northeast Monsoon is hindered by the central mountain range.

RAIN
INCH



Rain

- . Rainstorms are about 120-140 days a year.
- . Average yearly precipitation is 2000 mm/year.
- . Rainy season is during the months of October, November, December and January.

ARCHITECTURAL CONTEXT

Kuala Lumpur and many other cities in Malaysia are under a process of rapid transition. The architectural context of the cities ranges from a simple timber construction, Malay traditional house to a complex high-rise construction.

The following pages are the analysis of architecture that can be found in Malaysia. Even though most of the buildings that were analyzed are not from the area surrounding the site, they have the same general characteristics in most parts of the country.

The Traditional Shop Houses

The shop houses are the basic components of urban fabric of all Malaysian cities. This type of building is more associated with the Chinese. The variations of this building type were in existence by the late 18th century, from Batavia to Calcutta and Madras. This type of building was brought into this country in the early 1800's by the British colonials for the Chinese merchants who settled in major cities during that time. Such cities are Penang, Melaka and Singapore.

Most of the shop houses in Kuala Lumpur are new. They were built during the first half of this century, and the earliest examples are no older than the late 19th century.

The earlier shop houses were predominantly timber construction and can be identified by the use of Chinese motif, curved gabled end roofs, glazed ornamental tiles for the facade decoration and clay roof tiles. The facade treatment of these shop houses became quietly elaborate by the turn of this century with endless experimentation that paralleled the late 19th century European eclecticism, to give the illusion of false front to the more permanent brick structure.

The depth of the shop houses vary from 100 feet to 150 feet and the widths vary from 12 feet to 28 feet, with a width to depth ratio of 1:3 to 1:7.

These are the basic elements in the earlier shop houses:

- 1) Covered colonnade that forms a verandah way and provided shade from the sun and the rain when they are linked together.

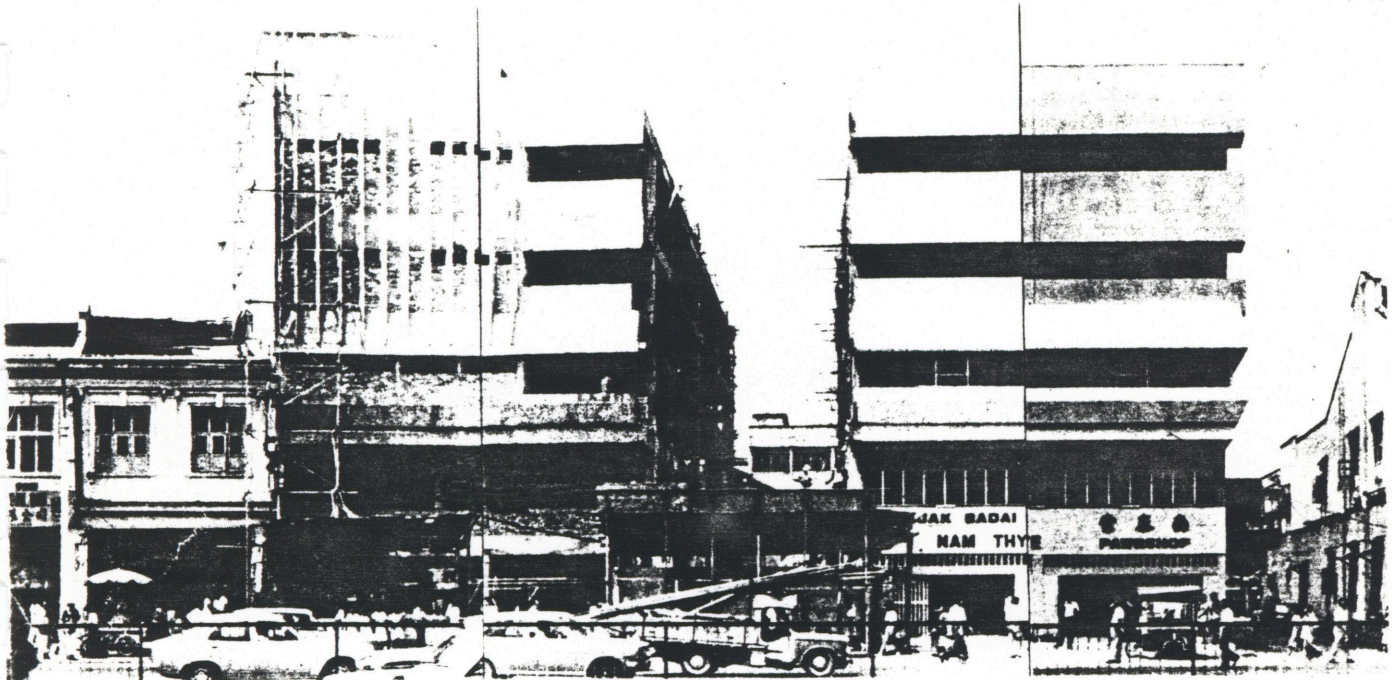
- 2) Two story high; shop in the front, courtyard in the middle, and storage at the rear of the first level; living, dining, kitchen and sleeping on the top.
- 3) Central air well for natural lighting and ventilation.
- 4) Jack roof on the ridge of the roof, allowing natural draughts to enter through the openings to cool the heated roof and reduce radiation to the rooms below.
- 5) Tiled roof.
- 6) Full height windows on the facade which have openings that are taller than they are wide and are closed by window shutters.
- 7) Openings protected by a rail or balusters at the bottom to prevent people or objects from falling off.
- 8) Window shutters sometimes are fitted with louvers between the framing.
- 9) High ceiling, which is about 12 feet or more.
- 10) Linear arrangement, which creates a regularity along the street.

Recently, the traditional shop houses are eroded from two sides: firstly, due to the process of land use reorganization and the increased land value in the city center, which makes the city's two story structures uneconomical to maintain; secondly, the government policy, in an effort to formulate a "'Malaysian' identity in architecture, has tended to dismiss such traditional types as 'contaminated' by colonialism.⁴

The change in family structure has also played a great role in the diminishing of the traditional shop houses. The extended family structure is slowly changing towards the nucleus family structure. The

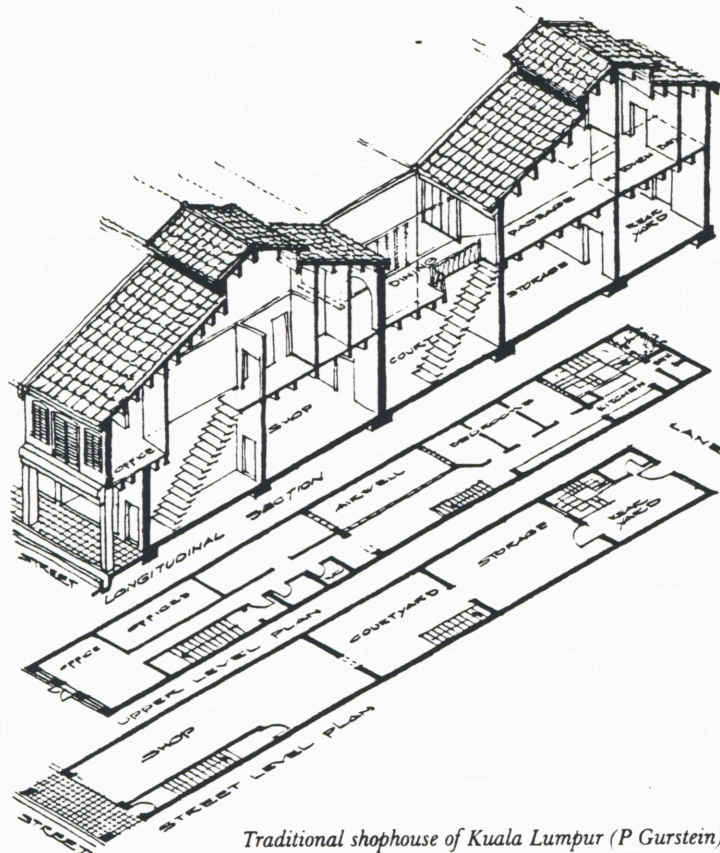
functions provided by the traditional shop houses do not seem to fit the need of the current family structure.

The new shop houses are overlooked as an architectural resource because of their utilitarian functions. They tend to be insensitive to the existing environment. Even though the second floor of these new shop houses is cantilevered to give a suggestion of verandah way, they are often high and inadequate for pedestrian environmental protection. The height of the verandah way often disrupted the scale and the intimacy of the streetscape.



401.2





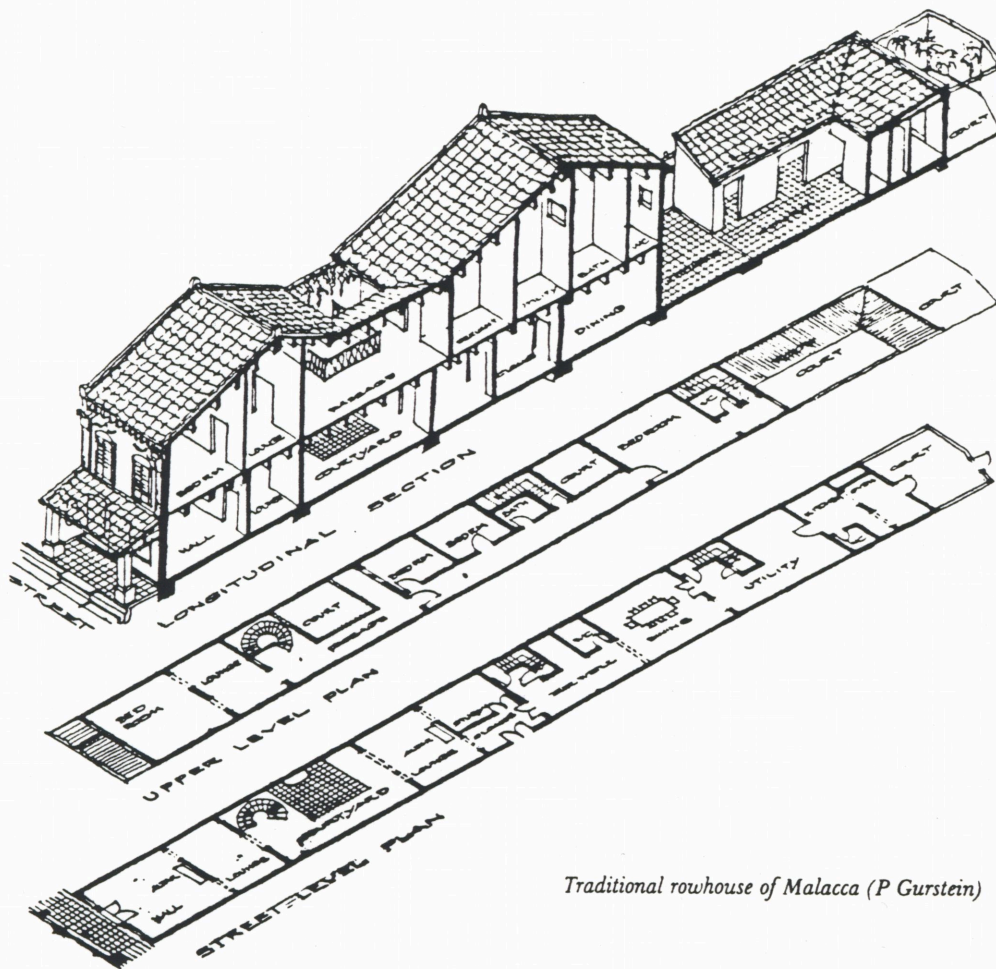
Traditional shophouse of Kuala Lumpur (P Gurstein)



Row House

The row house is the forefather of the shop house, link house, terrace house and town house in Malaysia cities. All these houses are in a row, sharing all the load bearing party wall.

The earliest shop houses were built in Malacca for the residences of wealthy Malaccan Strait born Chinese merchants. The row houses are a typological variation of the shop houses; their construction, detailing and ventilation is the same as the shop houses with the exception that the ground floor is adapted for residential function and the verandah way is not created by the overhung second floor but by a lower secondary roof.



Traditional rowhouse of Malacca (P Gurstein)

The Traditional Malay House

There are many Malay cultural regions in Peninsular Malaysia. Each of these regions has its own traditional architectural style. Even though these houses vary in their form, they have not departed from the social and cultural norms of the Malay people. They were also determined by the dictates of the society and custom, rather than individual wishes.

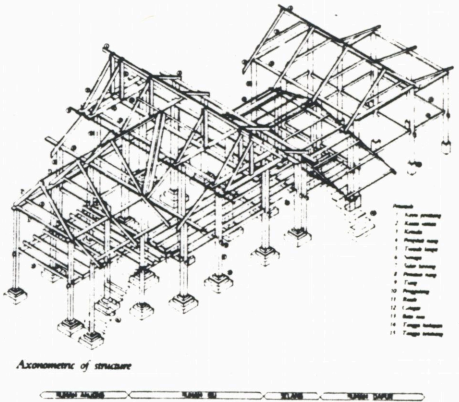
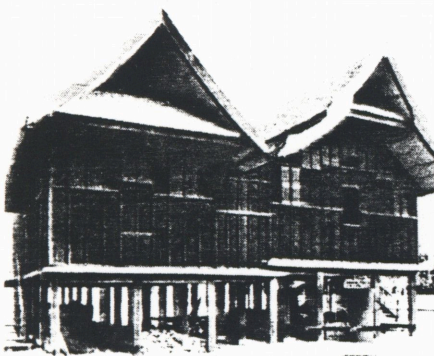
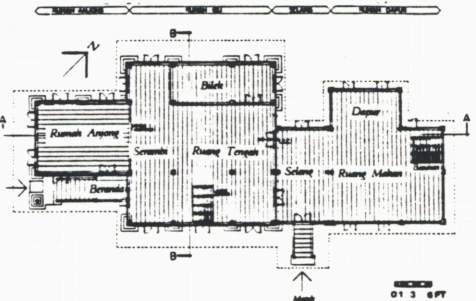
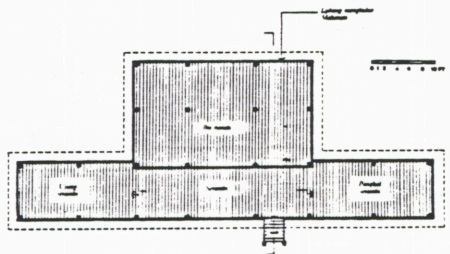
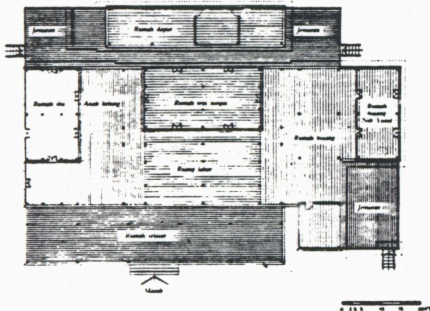
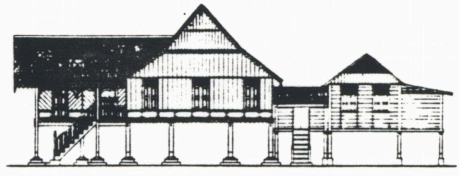
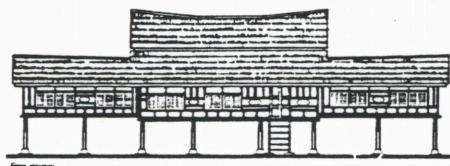
These are the common features that can be found in each of the houses in different regions even though they have their own distinctive character.

- 1) Raised on stilts
- 2) Timber construction for the structure; floor and wall
- 3) Thatch roof
- 4) Open plan with several different levels
- 5) Uses familiar building materials and construction system, which allows for additions and recycling components
- 6) Lots of window openings
- 7) Faces the morning sun and the Qiblat in Mecca
- 8) High pitch roof

The houses are divided into three major spaces: the main house, the kitchen house, and a bedroom which is located in the main house. The functions of these spaces are not specific but depend on the occasion. The women are forbidden to be in the main house if there is a religious or social occasion; they congregate in the kitchen house. An eating place can also be a sleeping place during the night.

In general, these houses reflect the cultural background of the Malay people and the climatic condition of the country.

There are only a small number of traditional Malay houses in the Central Planning Area. They can be found in Kampung Baru, which is a resettlement village that was established during the anti-terrorist war between 1948-60. This village is about 3 miles northeast of the site.



Mosques of Peninsular Malaysia

A mosque is a prayer and gathering place for a Muslim community. There are two categories of mosques that can be found in Malaysia.

- 1) Mosques that were influenced by the traditional and regional style.
- 2) Mosques that were influenced by styles from the outside, such as the Middle East and Northern Indian styles.

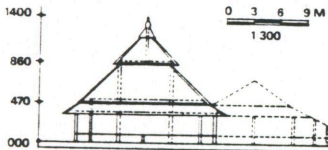
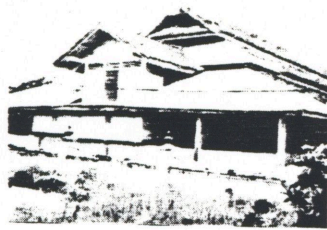
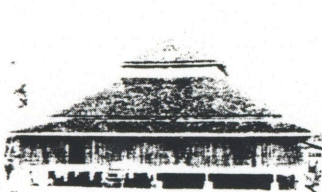
There are a variety of architectural styles that can be found in the traditional mosques of Peninsular Malaysia. This is because it was built by different ethnic groups of Malay people that live in different regions of the country. The basic elements that can be found in a traditional mosque are:

- 1) High steep pitch roof
- 2) Floor raised above ground level on stilts
- 3) Wood construction
- 4) Thatch roof
- 5) Three-tiered roof
- 6) Silang gunting (scissors cross) roof
- 7) Rectangular or square plan with a section on the south side that juts out (a place for the imam or a prayer leader)

There are only a few of these mosques left. Most of the wooden structures have been replaced by more permanent materials such as bricks and tile roof.

Mosques with onion shape domes were brought in in the 20th century by the British. Most of the earlier mosques of this type were built near the Sultans' palaces by the British in order to please the

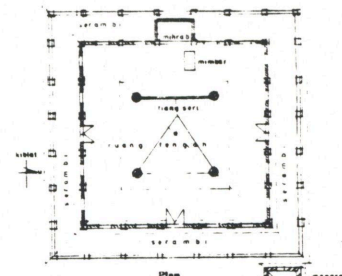
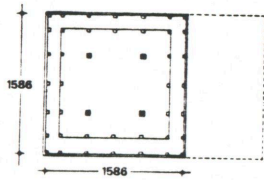
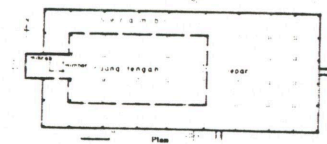
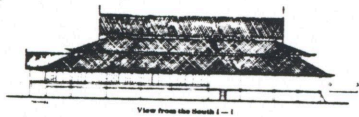
Malay rulers. Mosques with onion-shaped domes can be seen in almost every part of Malaysia now.



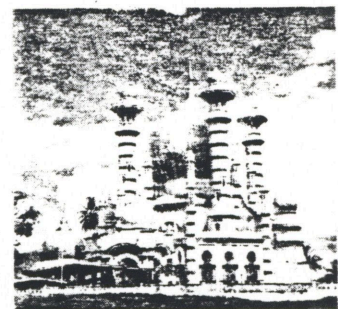
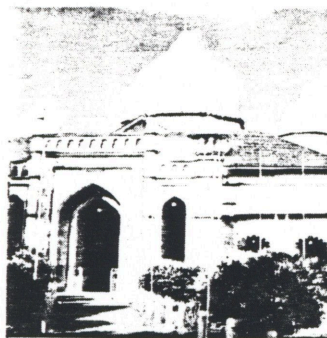
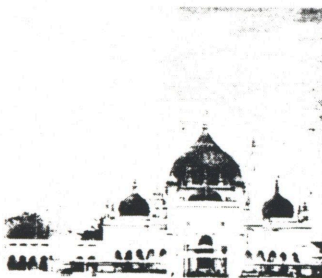
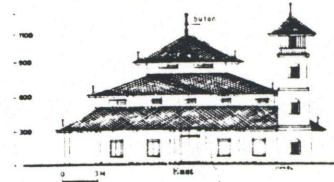
The Kg. Laut Mosque



The Langgar Mosque, Kota Bharu, Kelantan



The Old Paloh Mosque



The Street Hawkers

The street market activities can commonly be seen along the street in front of the shop houses in most Malaysian cities. Their activities can also be found in parking spaces that are unoccupied after the working hours. The street markets are created when a large number of vendor carts are grouped together.

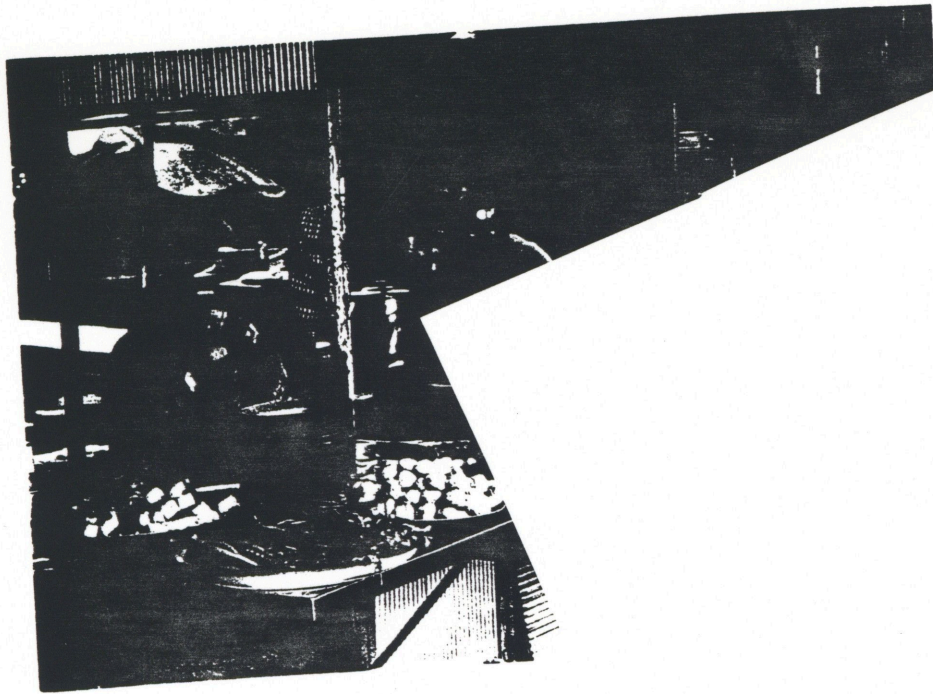
There are two general groups of vendors in the street markets. The first group is the street hawkers. They are a portable version of a speciality store where certain goods from a certain group of products will be sold by each individual vendor. Such goods are toys, household products, fruit, clothing and many more.

The second group is the food stalls where each stall has its own chef who offers his/her own meal in great quantities, which is very fast and very cheap.

Even though these street markets are organized in a certain manner, their location contributes problems such as congestion along the sidewalk and they are often considered unhygienic. They make inefficient use of limited valuable land. Due to this problem, they are reaccommodated away from their prime location, which has changed a lot of the picturesque quality and the street activities of the Malaysia cities.

Recently, the government has recognized the role of these street markets as providing a first economic foothold in Malaysian urban life. Consequently, they are encouraged and protected, a special provision is required for them in any major urban development. In most cases, they are paradoxically banished from the street levels and relocated in

the basement or the upper floors of a development due to economic reasons.

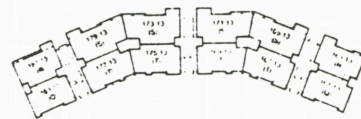
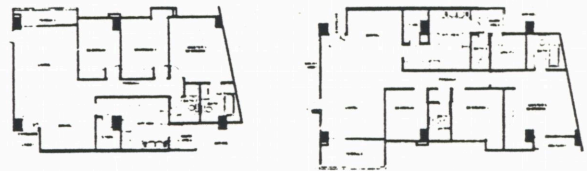


Housing

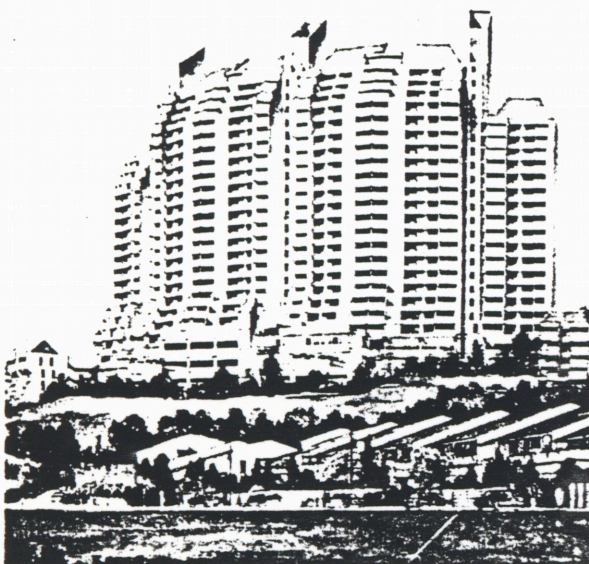
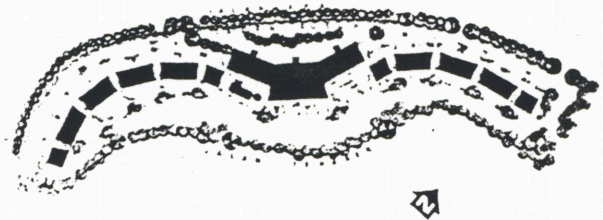
Malaysian people previously lived in shop houses, row houses, urban villas and traditional Malay village houses. There is a need to devise different dwelling types and concepts of housing due to individual economic status and the changing trend of family structure. Here are a few housing types that can be found in Kuala Lumpur today.⁵ The development of these housing types can be found in the suburban townships of Kuala Lumpur.

Condominiums, Kuala Lumpur (1984)

This condominium development on top of a hill overlooks the city skyline and hills beyond. Providing a family living environment, it comprises a central block of two 17-storey and two 21-storey towers, flanked by five-storey walk-up apartment blocks, with recreational facilities such as swimming pool, squash and tennis courts, sauna, skating etc. These are some of the comforts and conveniences that come with condominium living, enhanced by landscaping to create a green belt.

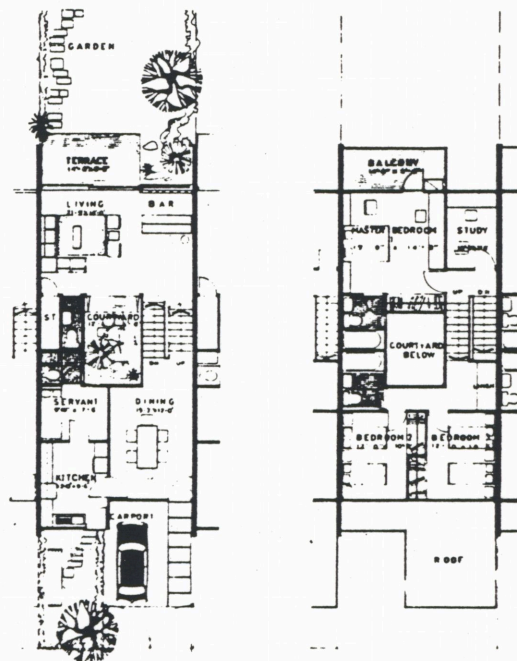
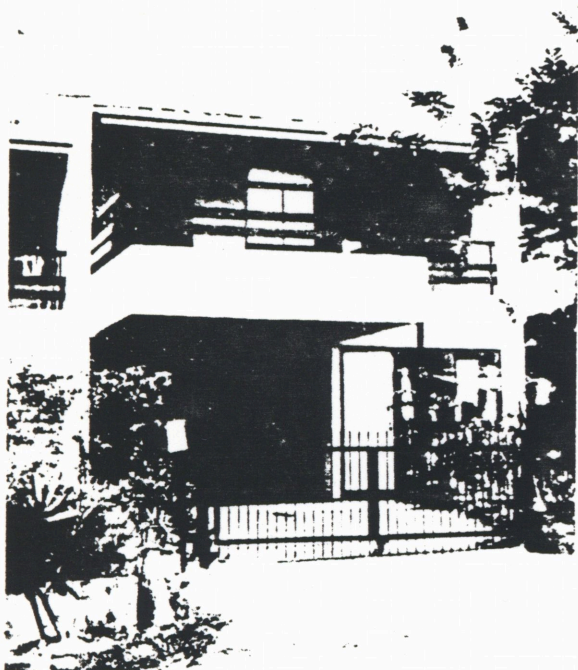


Floor Index Plan
(13th Floor)



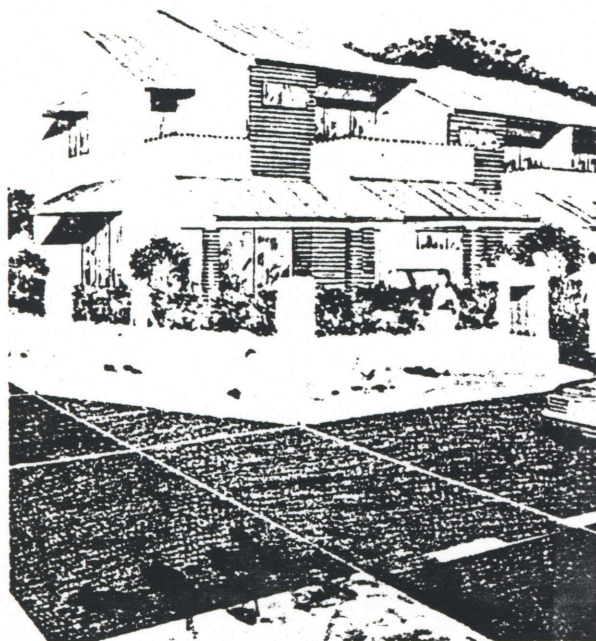
Linkhouses, Kuala Lumpur (1972)

Owing to accelerating land costs, the trend for young couples to set up home independent of parents, and the increasing difficulty in securing domestic help, a demand was created for compact, self-contained units. However, terrace houses came to be regarded in the 60s as lacking in privacy, congested, and poorly ventilated. This led us to design the first 'linkhouses.' The plan is so flexible that front and back can serve as the main entrance. The house revolves around the courtyard and central service core, maximizing cross ventilation for all the rooms.



Townhouses, Kuala Lumpur (1984)

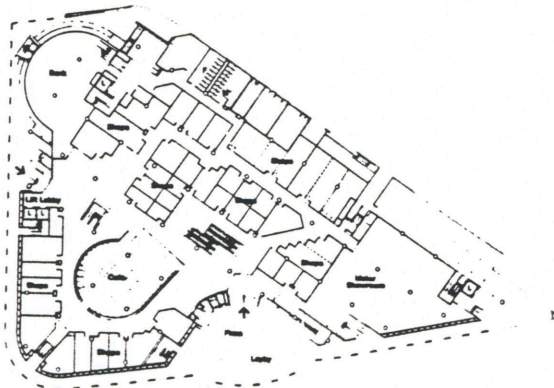
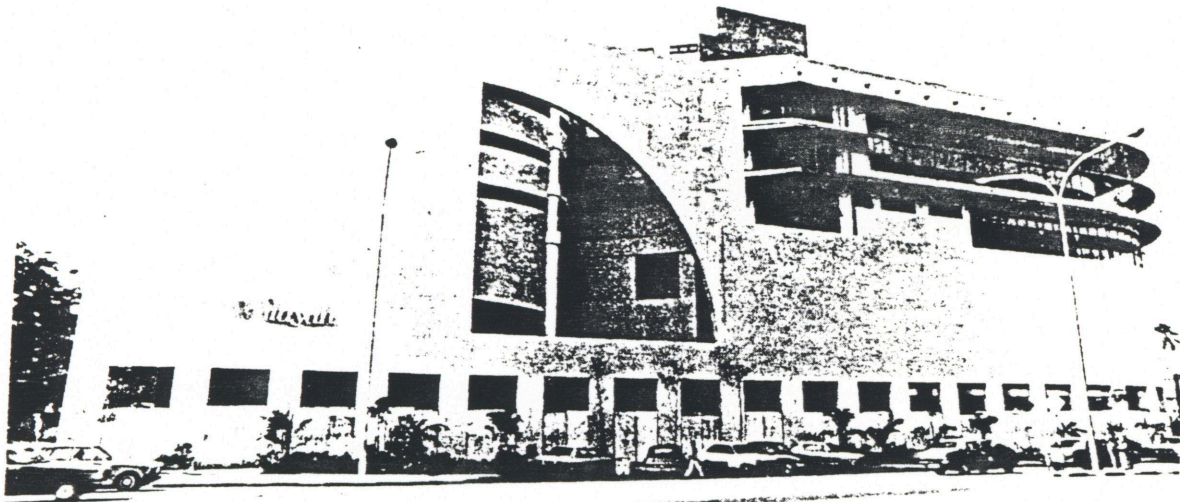
These freehold terrace houses are typical of the speculative suburban development now happening on the outskirts of Kuala Lumpur. This design adapts traditional house layouts to the needs of a single-unit family (rather than the traditional extended family). They are popularly sought after by young middle-class professionals of all ethnic backgrounds. Considerable variety can be achieved with the design, with only a few minor changes to the roof lines.



The Shopping Centers

Many shopping centers and suburban shopping complexes have been developed in Kuala Lumpur recently due to the rapid development, increasing density and the sophisticated expectations of a modern consumer society.

Many of the traditional shop houses in the city center are being supplanted by shopping centers which in certain respects retain the individual ownership of the shops inside. A shopping center is now a favorable place to go shopping compared to the traditional shop houses because it has a comprehensive program of retail business and it has a better thermally controlled environment.



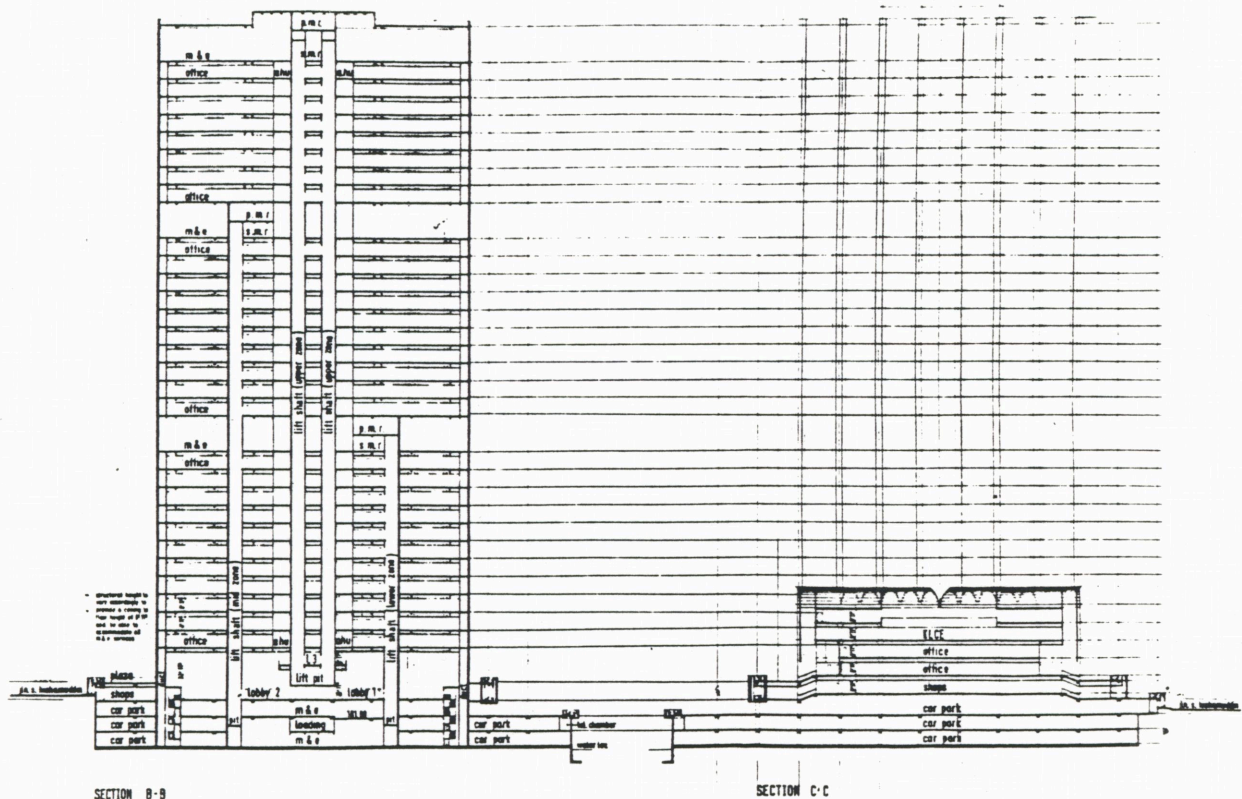
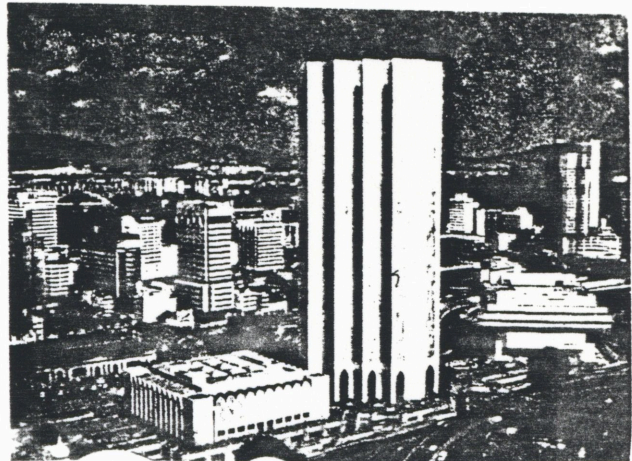
Office Towers

Office towers are the newest building type that can be found in the Central Planning Area (Central Business District) of Kuala Lumpur. The Central Planning Area is now under a rapid transition from two-story, mixed use residential and commercial shop houses into a totally commercial Central Business District. There is no shared notion of what form this city should take, so the new office towers are sometimes conceived as an isolated object without any context, and still going through a process of defining it.

The implementation of office towers in the Central Business District is because they signify status, "though a consensus for expression of that status is still to be developed."⁶

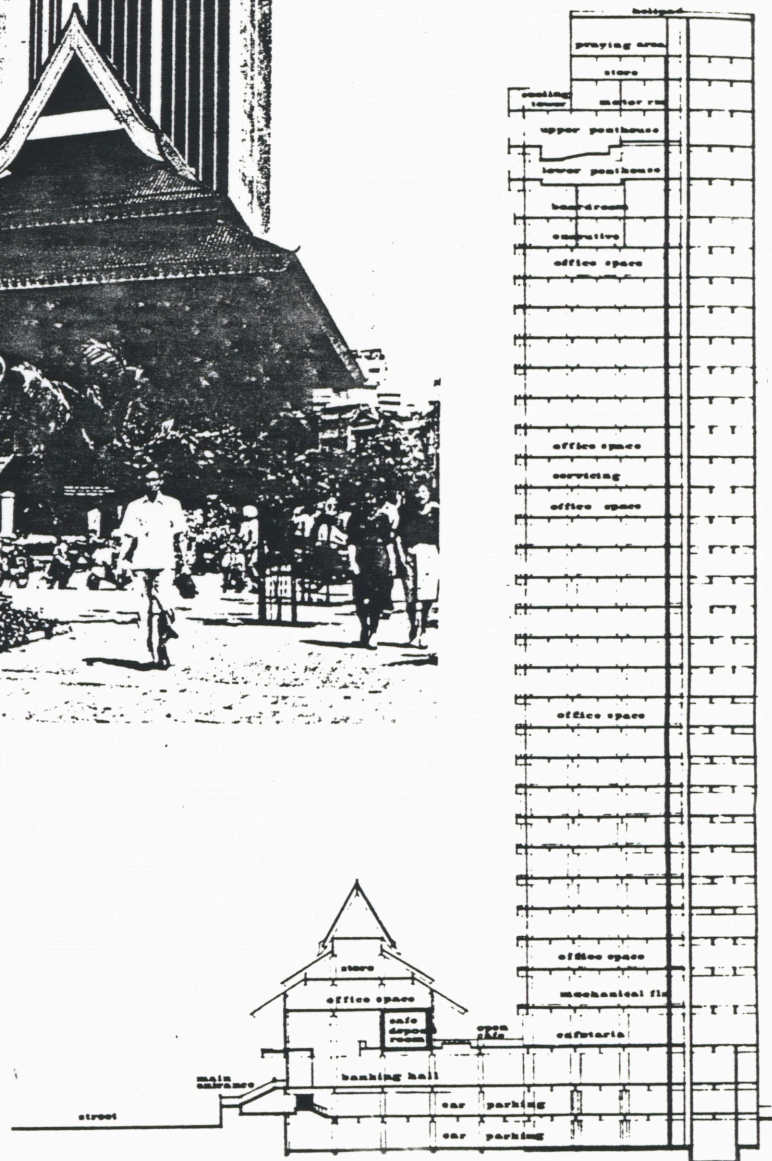
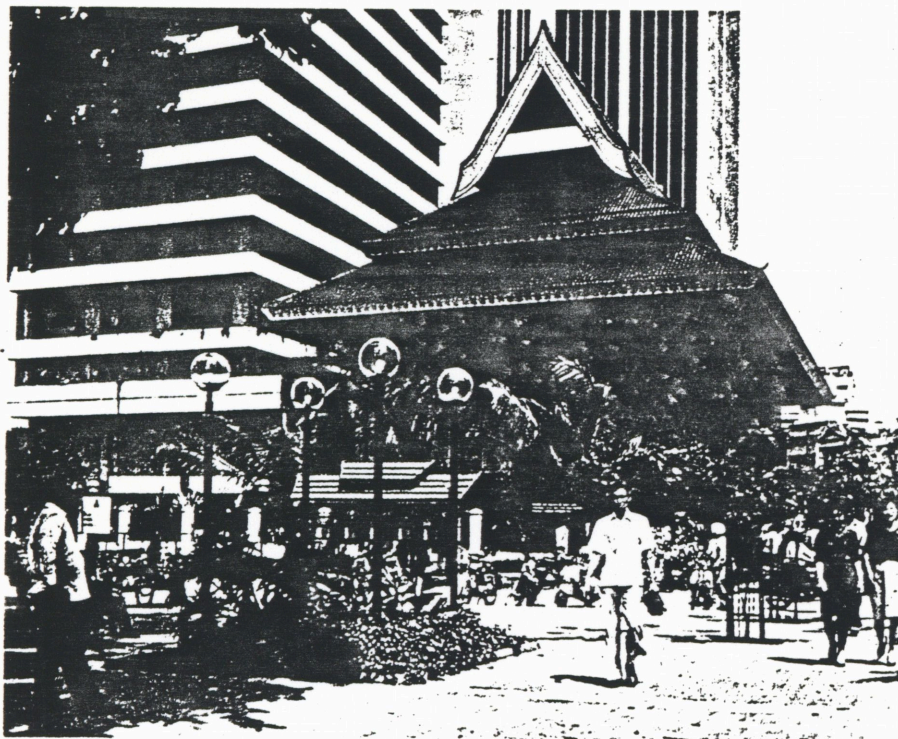
Dayabumi Tower, Kuala Lumpur (1981)

The Dayabumi Tower, as an 'official' building, must reflect 'official' policy and represent national prestige. An identifiable reference is the national religion, Islam. The architects have applied Islamic motifs (geometrically patterned grilles and pointed arches) to a rationally conceived modern tower, in which the reentrant corners pragmatically respond to demand for office space and the grille is a response to the need for sun screen.



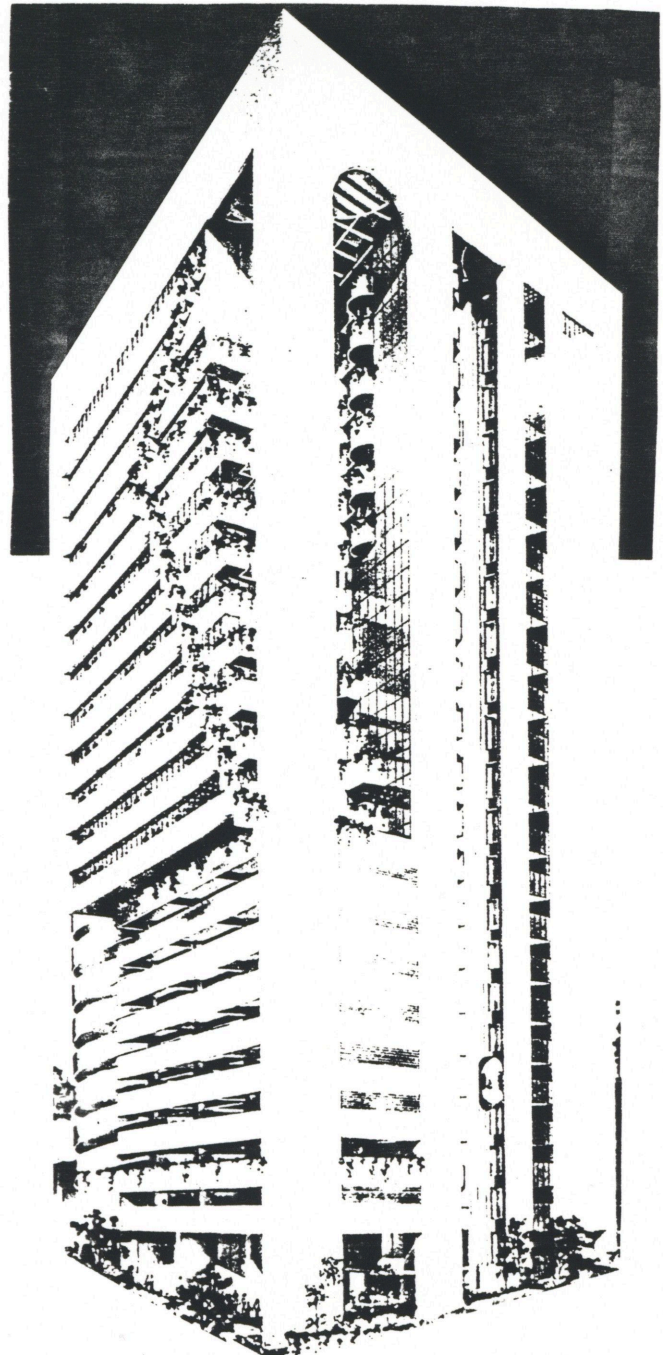
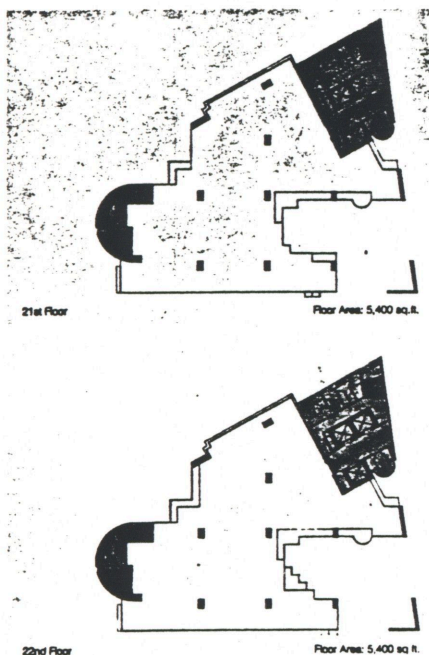
Bumiputra Bank, Kuala Lumpur (1972)

The meaning of Bumiputra is 'son of soil' or the indigenous people of Malaysia (the Malays). This bank is a major official building, and the architects have isolated its symbolic role -- in the past niche Malay building where the public goes to bank -- from functional office programme in the conventional tower behind. This building has become a model for expressing a national identity for Malaysian architecture.



Plaza Atrium, Kuala Lumpur (1983)

The architect of this tower attempted a regionalized reading of modernism based on climatic concerns. This solution is very appropriate in the local environment and also in terms of the client's desire for a striking building. The design of this building is based upon the valve design analogy for tropical buildings, where the external climate is allowed to flow into the building past adjustable filters and baffles instead of using air conditioning as the total environmental control of the building.



The LRT System

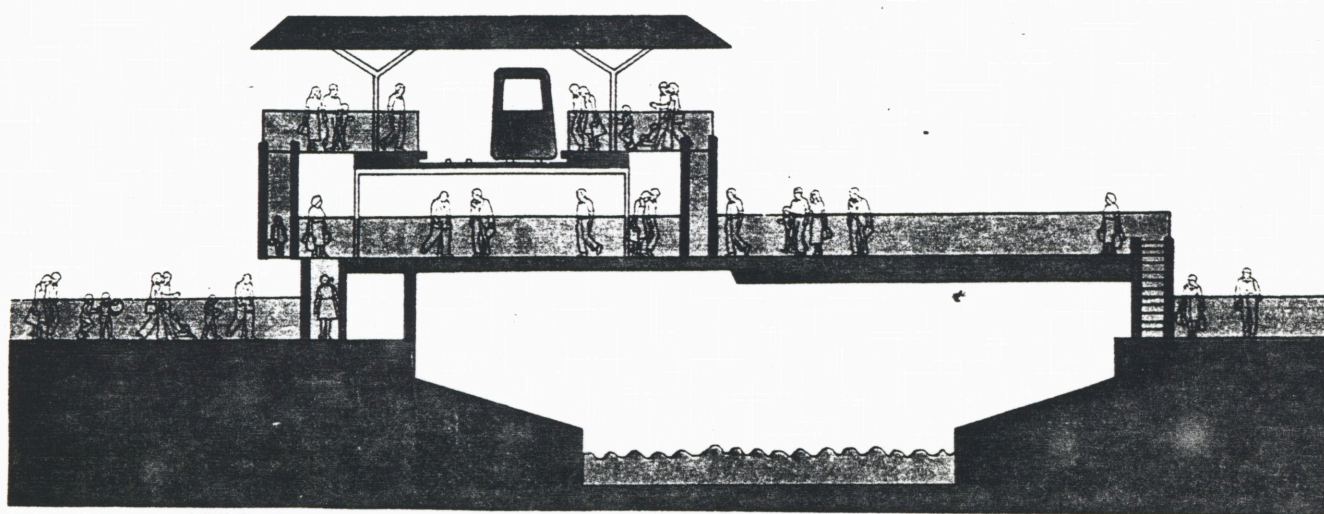
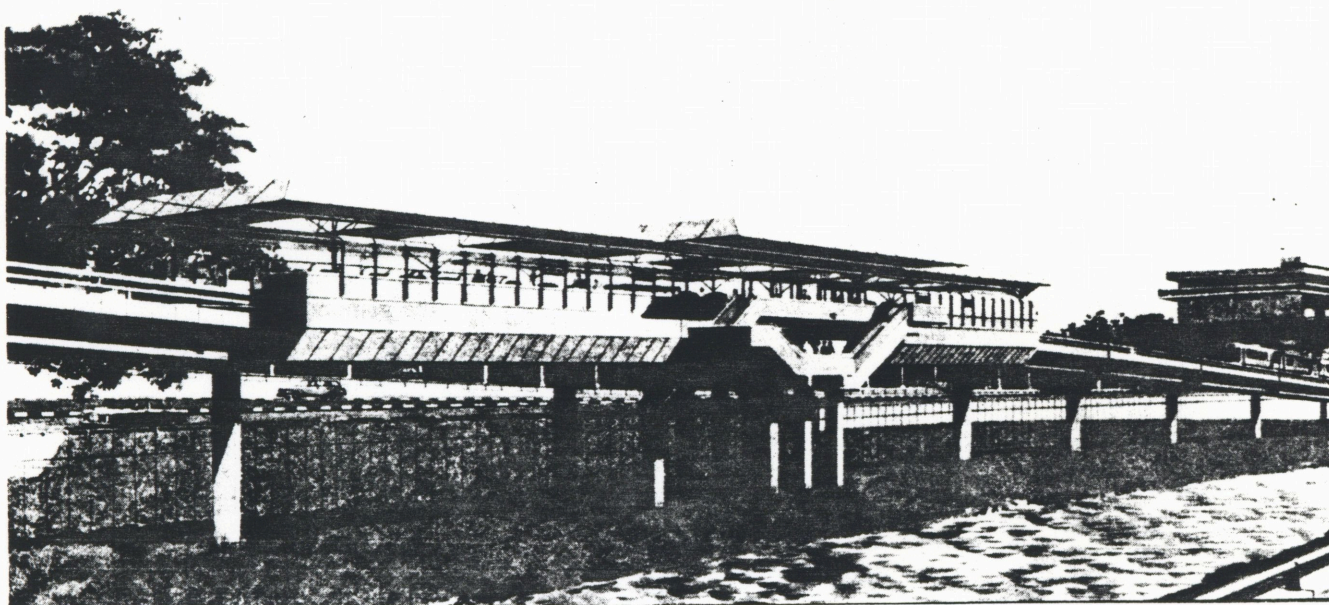
According to the Kuala Lumpur Structure Plan 1984, by year 2000 the population in Kuala Lumpur will increase to 3.05 million and car ownership is expected to increase from 125,000 cars in 1980 to 578,000 in year 2000. This would mean increasing difficulty in finding locations for new roads or increasing the capacity of existing roads, particularly in and around the city center.

It is evident that in order to reduce the rate of increase in motor vehicles on the roads, particularly private cars, it would be necessary to provide an attractive means of transportation in the form of a much improved public transport system.

A study done by a local engineering consultant, who was appointed by the government and the City Hall, confirmed that there is a need for a public transportation system based on buses plus a light rail transit system.

It is anticipated that the first passenger run of Kuala Lumpur's LRT system will be sometime in the beginning of 1989.

The LRT



Cross section of a LRT Station

LINE 1

LIST OF STATIONS

- 1 Sentul Pasar
- 2 Sentul
- 3 Pekeliling
- 4 Tioh Nam
- 5 Sulaiman Court
- 6 Dayabumi
- 7 Sultan Mohamed
- 8 Brickfields
- 9 Kampung Haji
Abdullah Hukum
- 10 Pantai Baharu
- 11 Kampung Kerinci
- 12 Jalan Gasing
- 13 Taman Jaya
- 14 Asia Jaya
- 15 Section 14
- 16 S E A Park
- 17 University Garden
- 18 Taman Megah



THE SITE

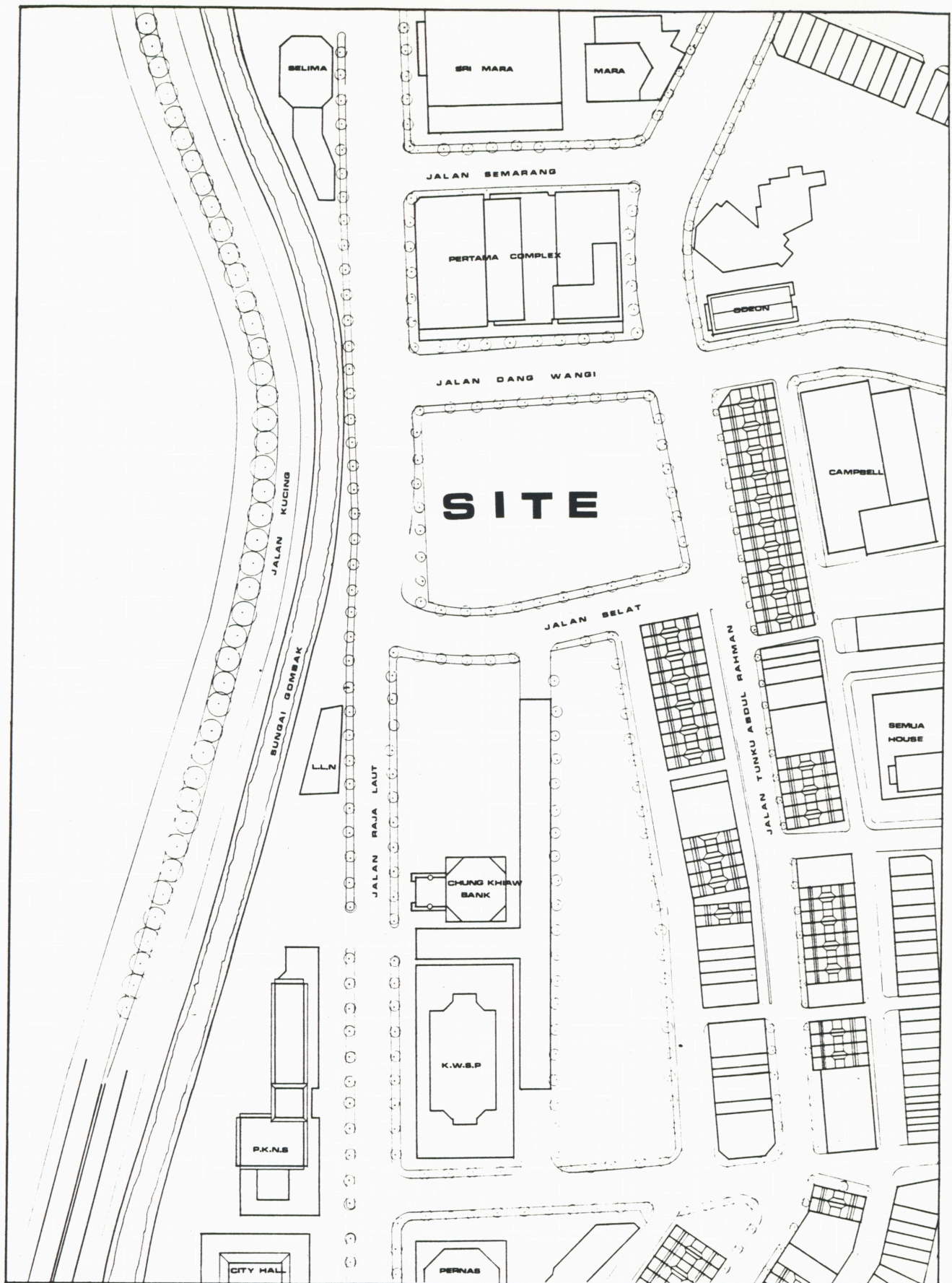
The site lies in the city center of Kuala Lumpur, measures about 380 feet and 330 feet in the east-west and north-south directions respectively and has an area approximately 126,500 sq. ft., which is about 2.89 acres.

The site is bounded by *Jalan Tunku Abdul Rahman on its west side and *Jalan Raja Laut on its east side. These avenues are two of Kuala Lumpur's important arteries. Most of the government offices are located to the south of the site along *Jalan Raja Laut, and there are a lot of shopping centers and shops along *Jalan Tunku Abdul Rahman. A proposed LRT system station will be located to the west of the site across *Sungai Gombak and will be linked to the site with a sky bridge.

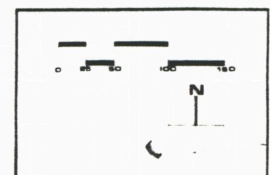
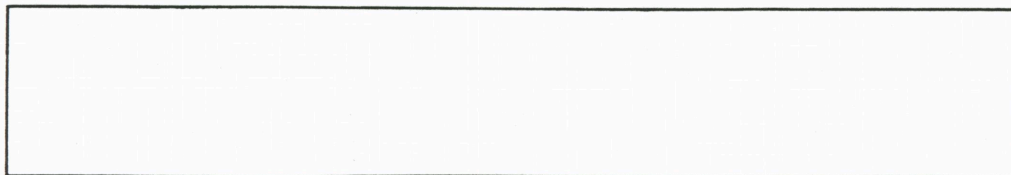
With various urban transport systems concentrated on the west side of the site and a number of shopping centers and shops surrounding it, this site occupies a strategic location; its development will have a vital effect on the existing commercial facilities.

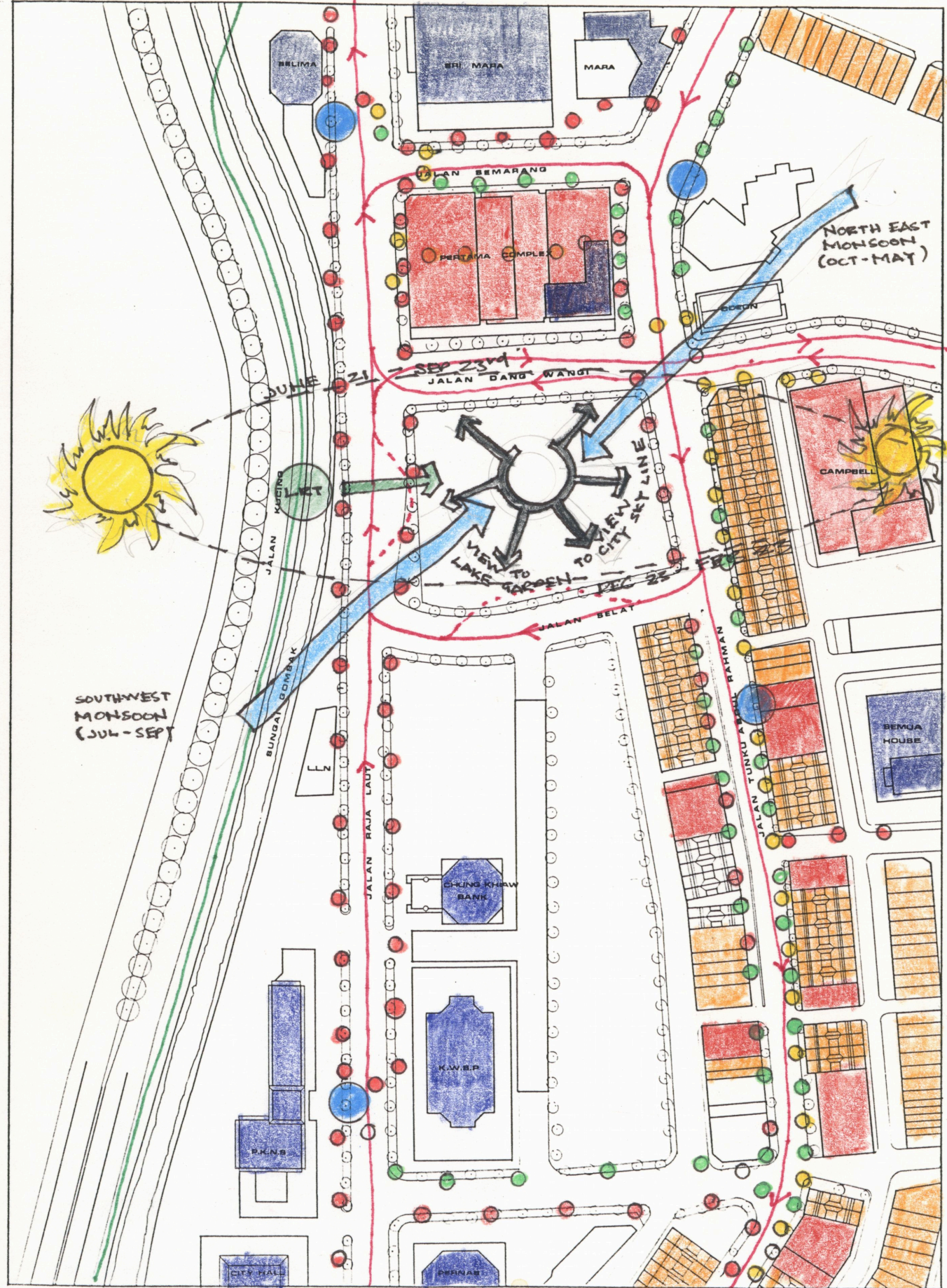
* Jalan: Street

Sungai: River



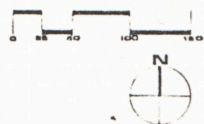
SULAIMAN COURT CENTER • KUALA LUMPUR • MALAYSIA





SULAIMAN COURT CENTER • KUALA LUMPUR • MALAYSIA

SITE ANALYSIS



LEGEND

-  SHOP HOUSES
-  SHOPPING CENTER
-  OFFICE TOWER
-  VERHICULAR MOVEMENT
-  PADESTRIAN MOVEMENT
-  SHOPPERS
-  WORKERS
-  RESIDENTS

From the analysis that I've done, the site is appropriate to be developed as a mixed use complex, which is going to consist of a shopping center, offices and residential units.

According to the Kuala Lumpur Structure Plan, "Even though the strategy of the authority is to regulate the growth of commercial premises in the City Center, permission will be given for the development of mixed commercial and residential units on land which had previously been zoned for commercial."⁷ In order to develop an appropriate program for this project, five similar precedents were surveyed. The results are as follows.

SULAIMAN COURT CENTER • KUALA LUMPUR • MALAYSIA

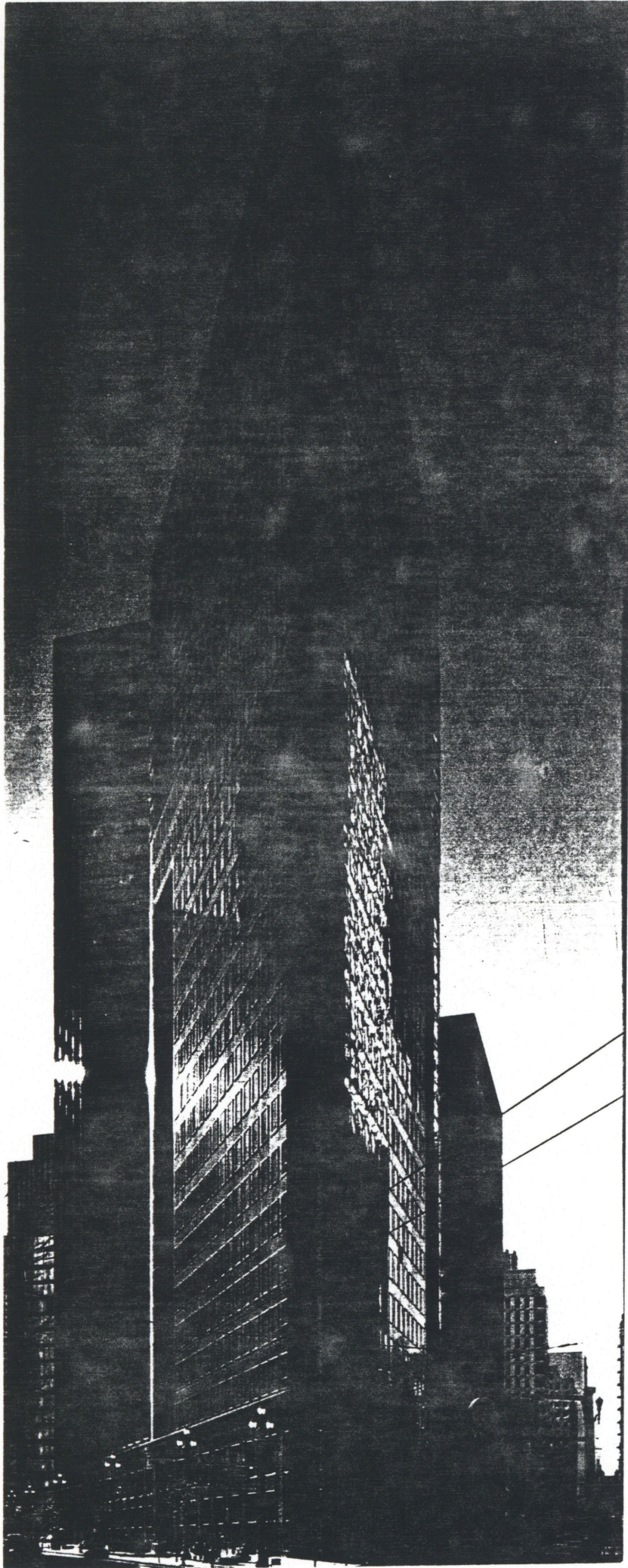
PRECEDENTS

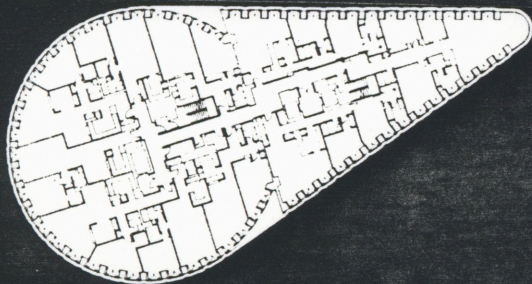
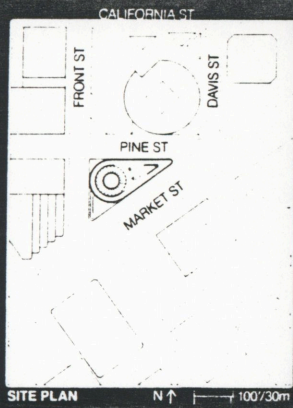
The Project: 388 Market Street, San Francisco, California

The Site: 18,356 sq. ft.

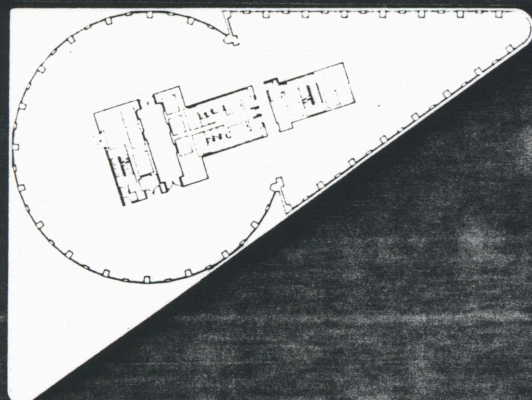
The Program:	1) Commercial, office	224,481 sq. ft.
	2) Commercial, retail	9,778 sq. ft.
	3) Residential	91,552 sq. ft.
	4) Parking @ 120 cars	47,319 sq. ft.
	5) Total	373,130 sq. ft.

Floor Area Ratio 20:1

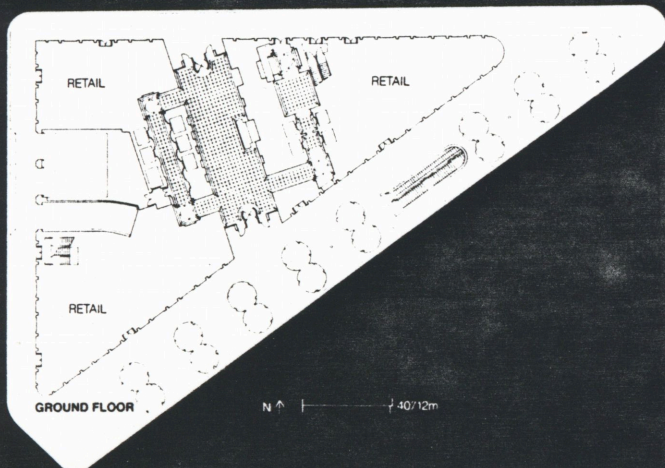
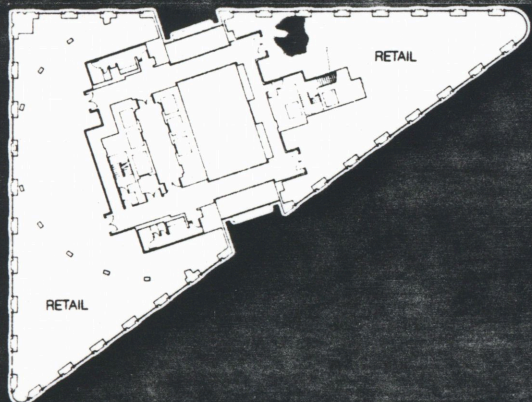




TYPICAL RESIDENTIAL FLOOR PLAN



TYPICAL OFFICE FLOOR PLAN

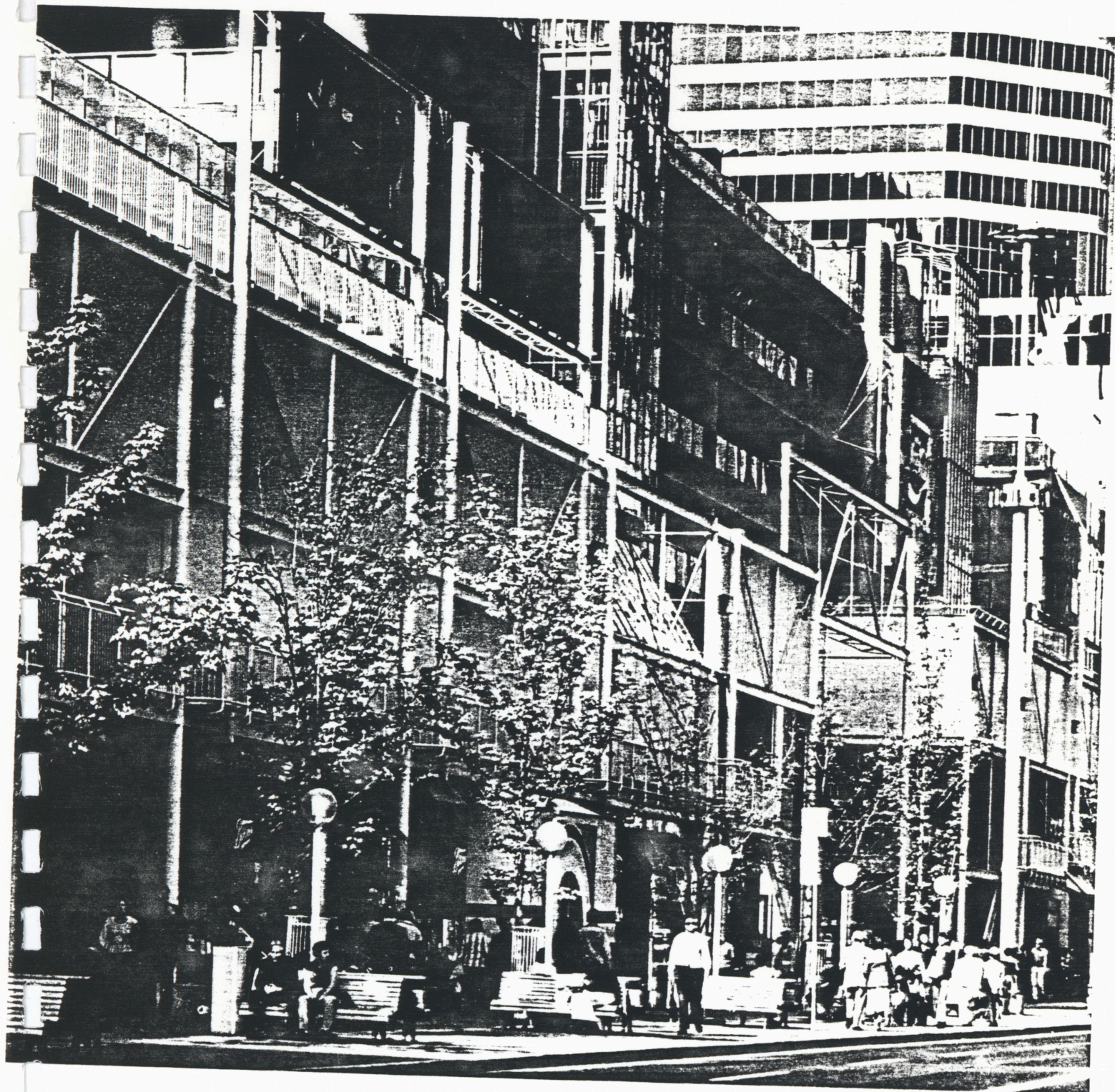


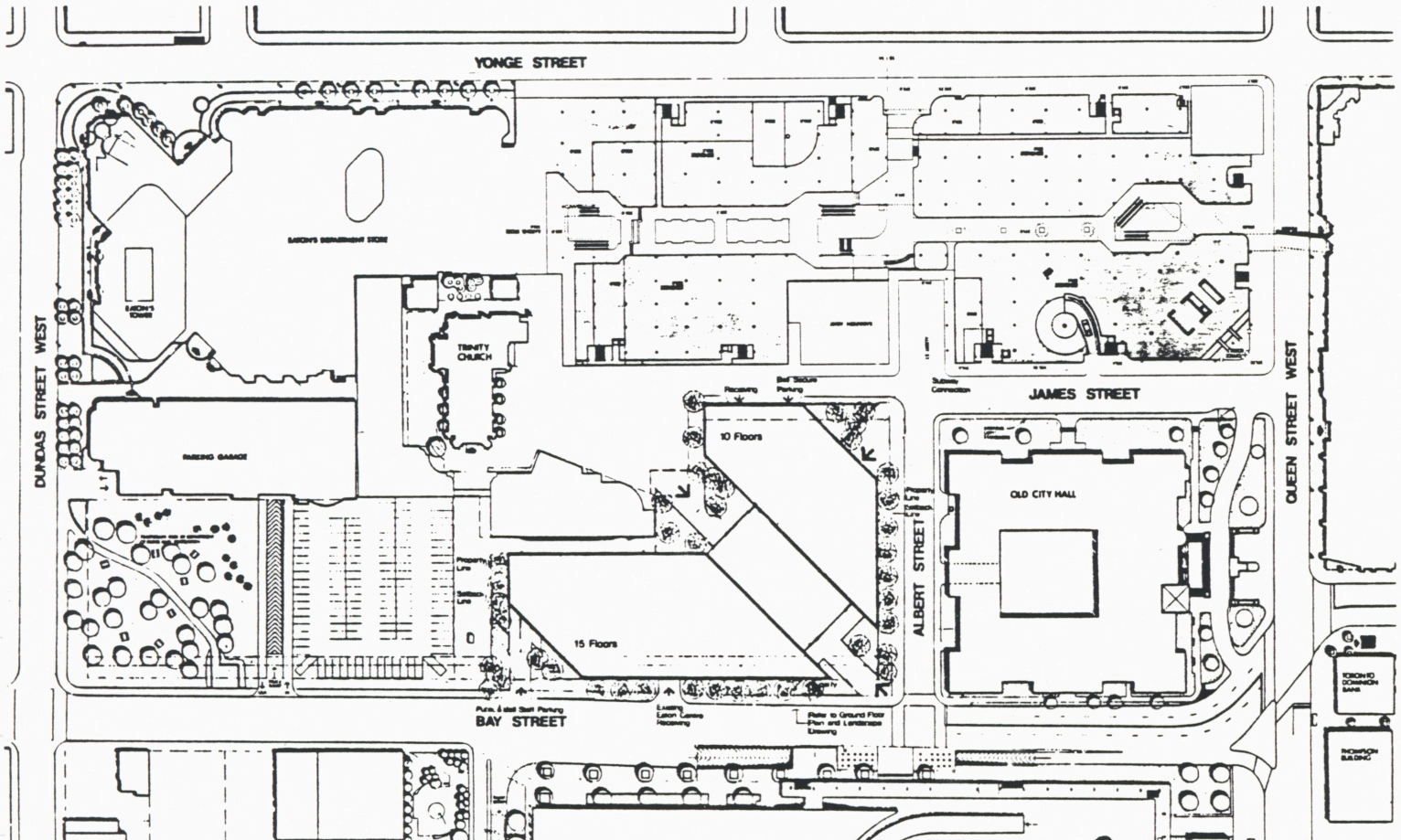
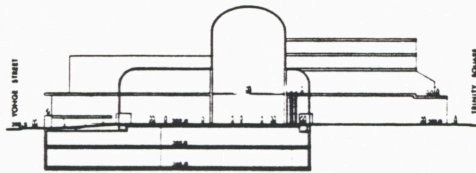
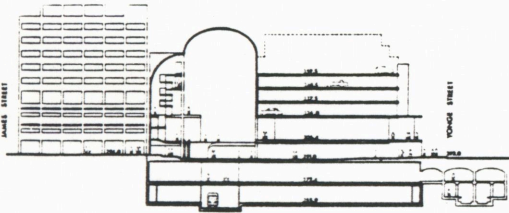
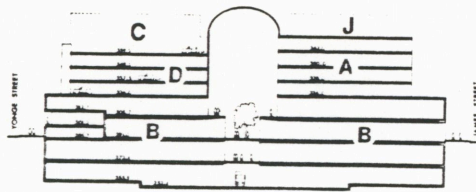
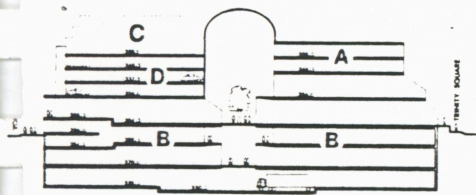
The Project: Toronto Eaton Center, Toronto, Canada

The Site: 630,761 sq. ft.

The Program:	1) Commercial, office	1,486,343 sq. ft.
	2) Commercial, retail	582,692 sq. ft.
	3) Residential/hotel	93,893 sq. ft.
	4) Parking @ 1,490 cars	587,547 sq. ft.
	5) Total	2,750,475 sq. ft.

Floor Area Ratio: 4.4:1



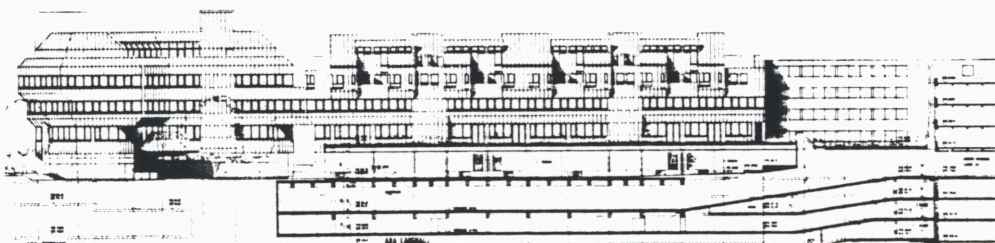


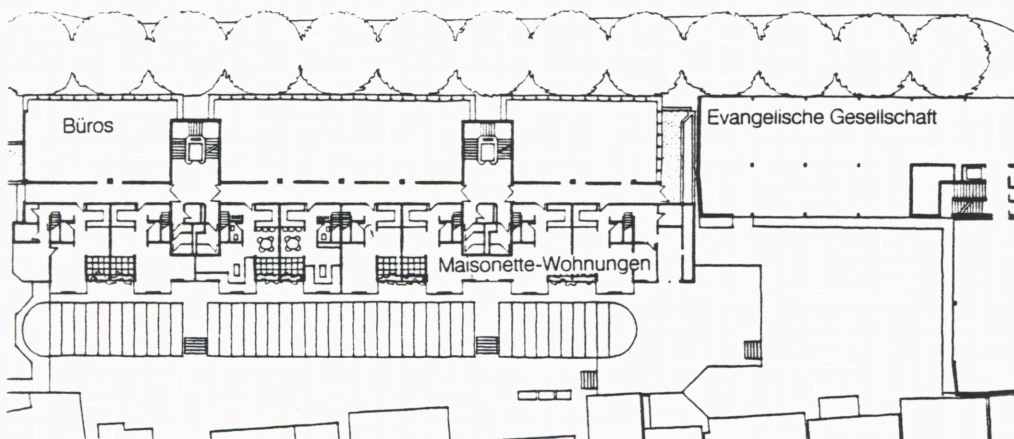
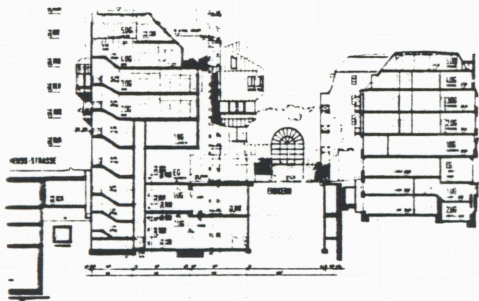
The Project: Calwer Strabe, Stuttgart, Denmark

The Site: 45,445 sq. ft.

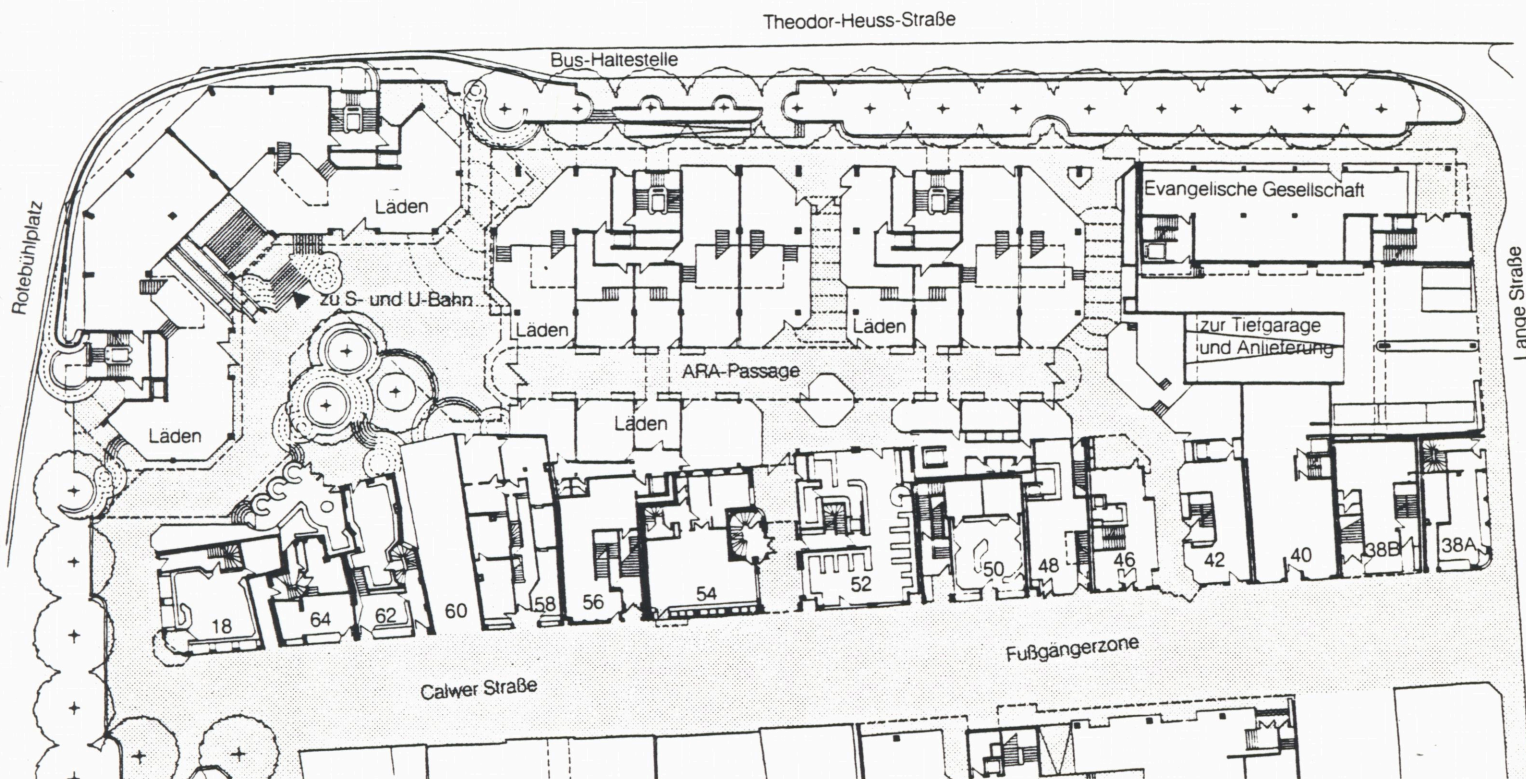
The Program:	1) Commercial, office	45,208 sq. ft.
	2) Commercial, retail	58,126 sq. ft.
	3) Residential @ 36 units	23,142 sq. ft.
	4) Parking @ 108 cars	41,979 sq. ft.
	5) Other	25,834 sq. ft.
	6) Total	194,289 sq. ft.

Floor Area Ratio 4.3:1





8

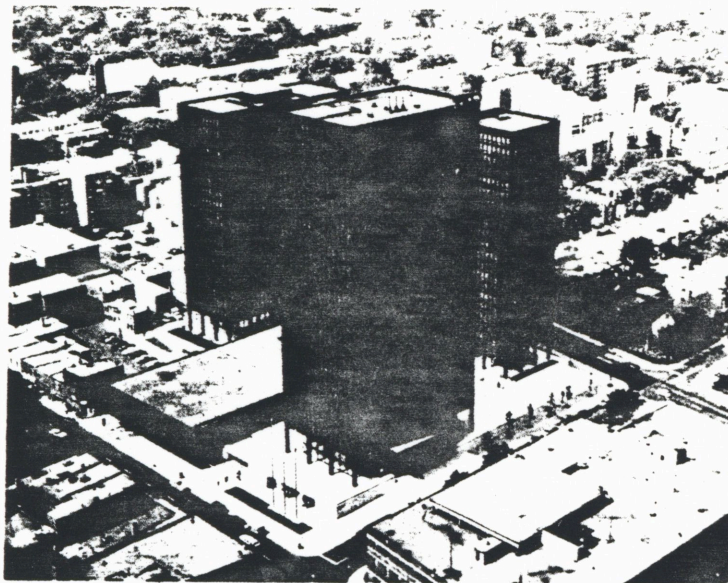


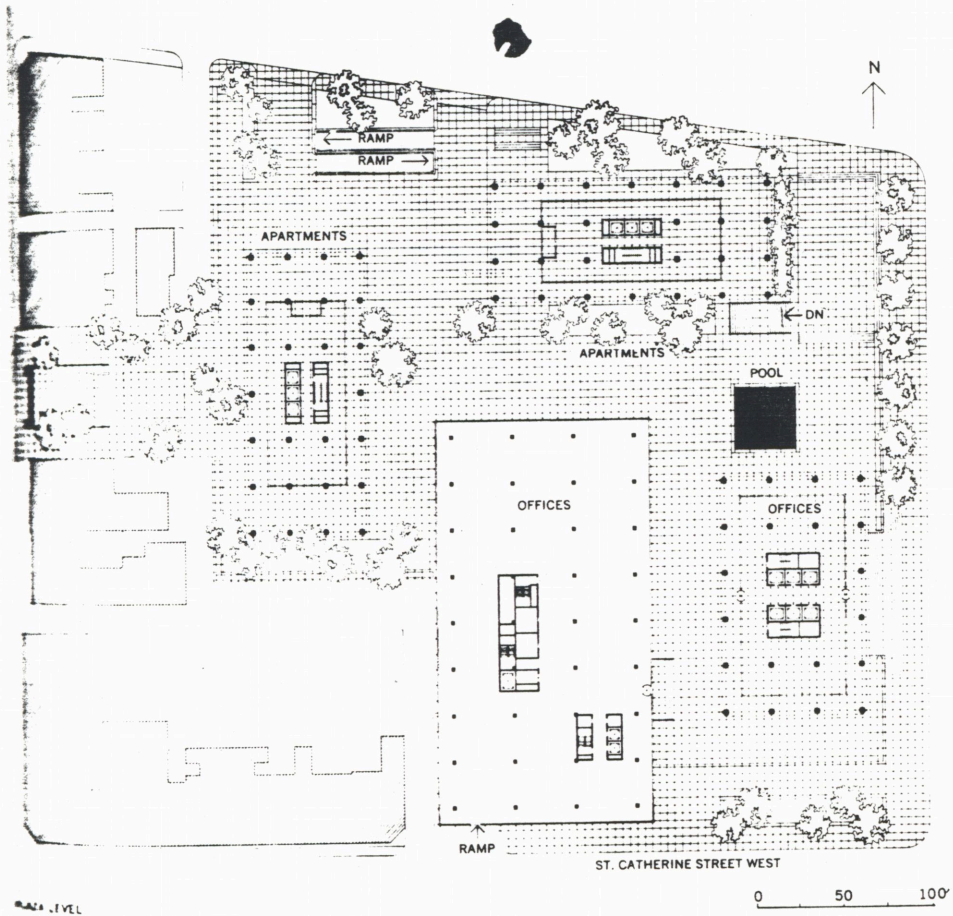
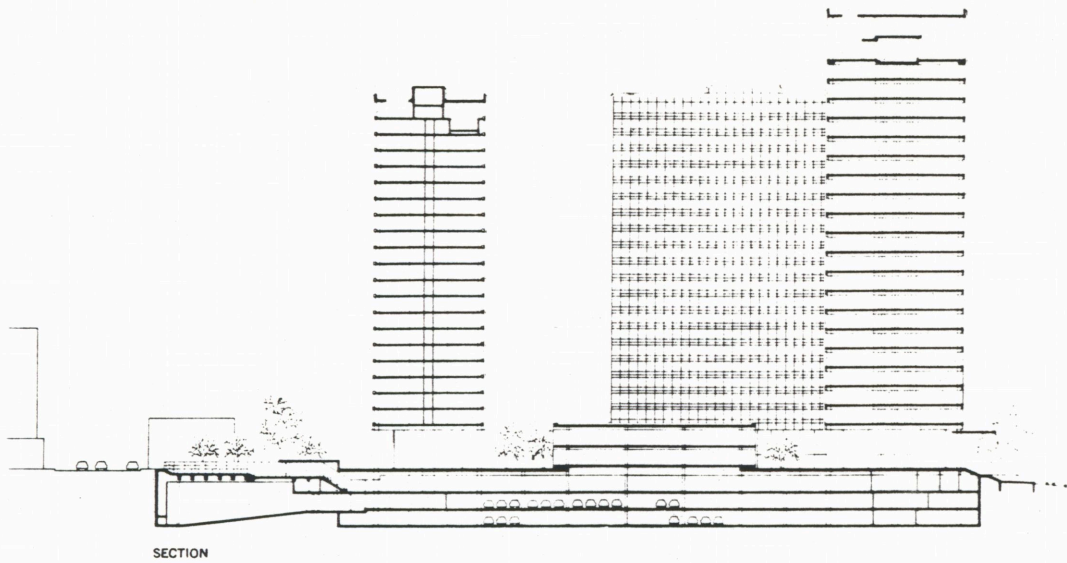
The Project: West Mount Square, West Mount, Ontario, Canada

The Site: 157,639 sq. ft.

The Program:	1) Commercial, office	295,870 sq. ft.
	2) Commercial, retail	125,830 sq. ft.
	3) Residential	444,650 sq. ft.
	4) Parking	211,897 sq. ft.
	5) Total	1,078,247 sq. ft.

Floor Area Ratio 7:1



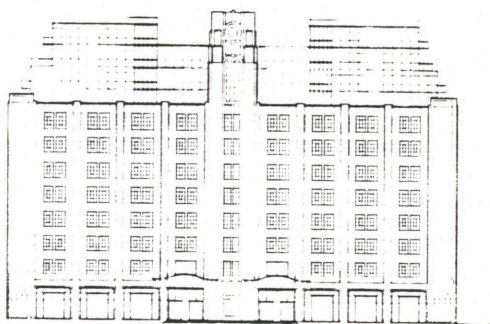
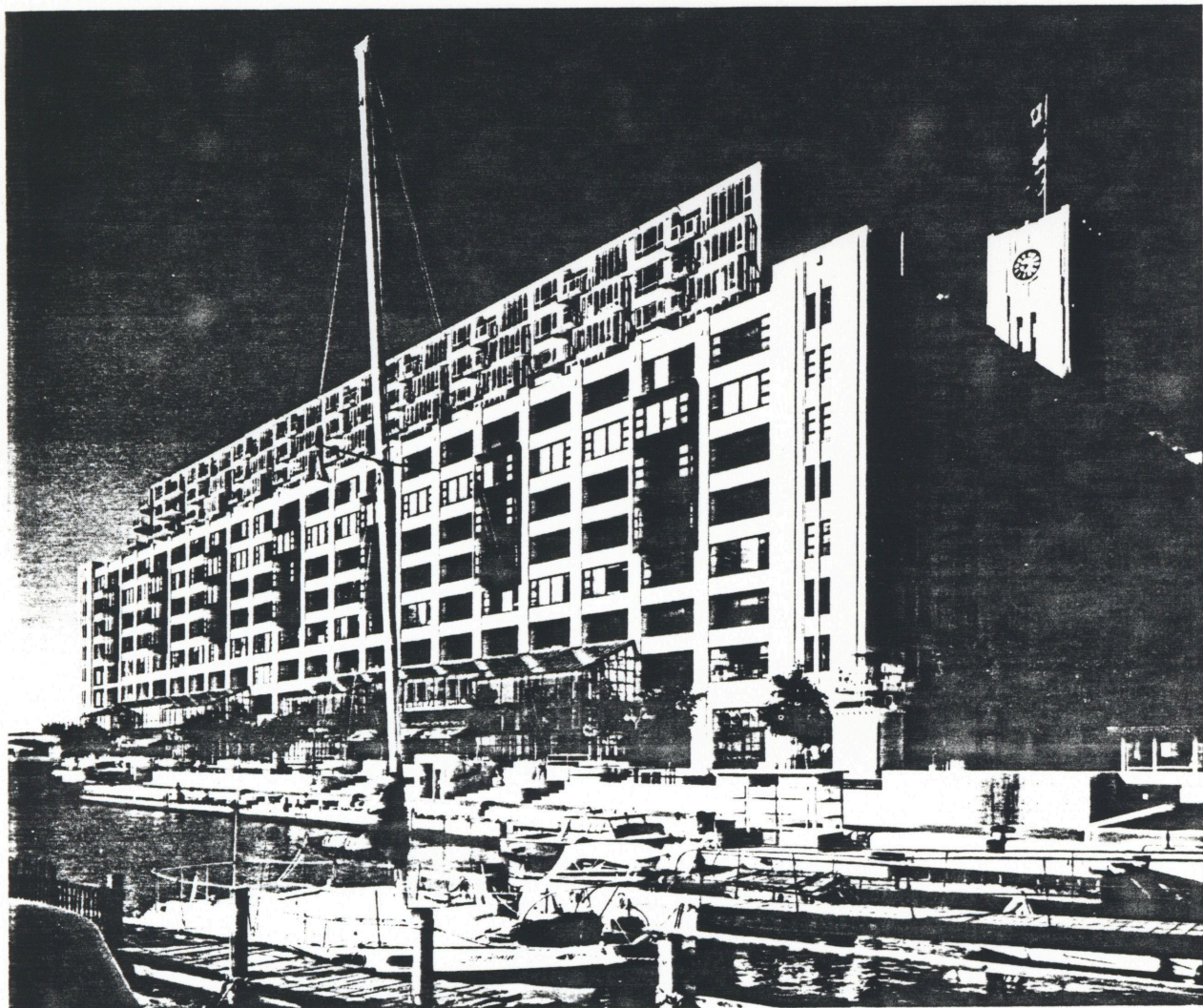


The Project: Queen's Quay Terminal, Toronto, Canada

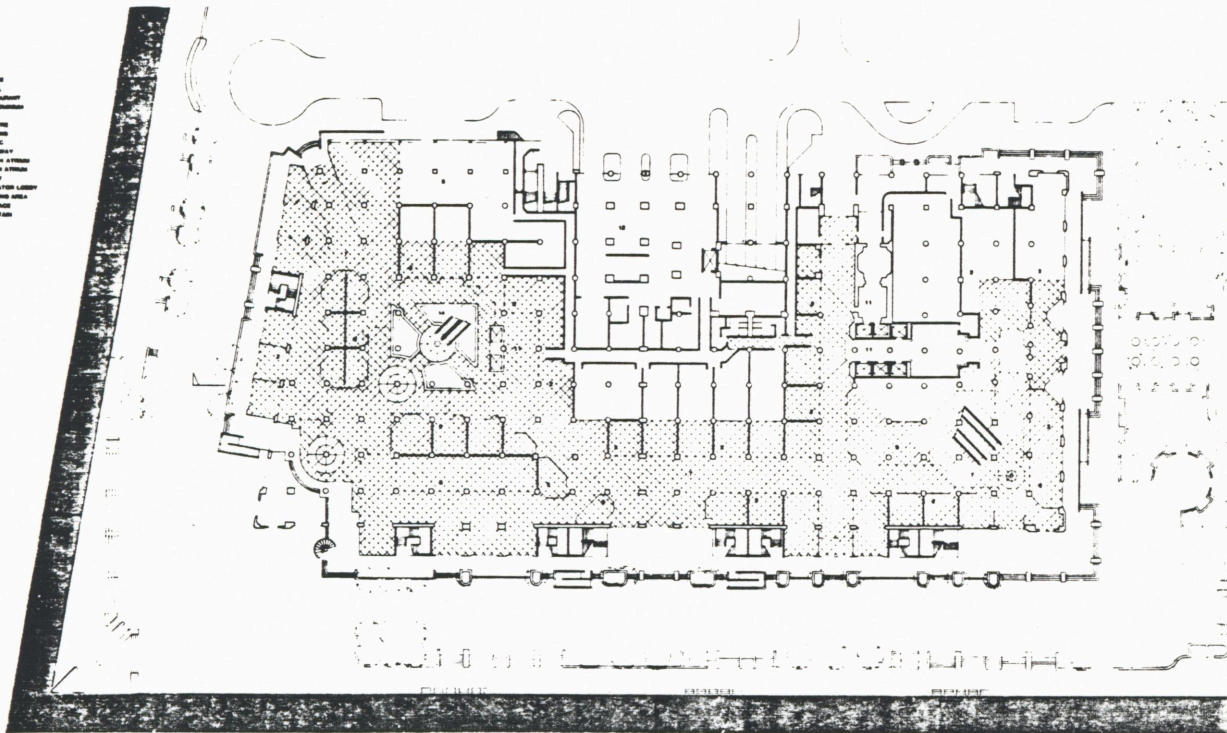
The Site: 188,179 sq. ft.

The Program:	1) Commercial, office	368,986 sq. ft.
	2) Commercial, retail	195,870 sq. ft.
	3) Residential @ 75 units	147,992 sq. ft.
	4) Parking @ 85 cars	58,189 sq. ft.
	5) Total	771,037 sq. ft.

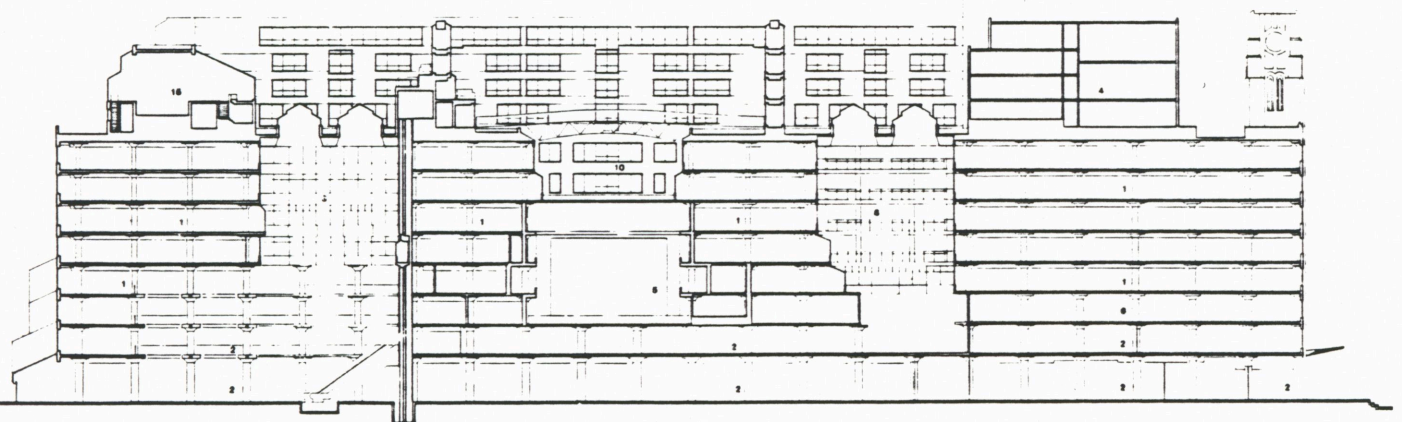
Floor Area Ratio 4.1:1



- LEGEND
- 1. OFFICE
 - 2. RETAIL
 - 3. RESTAURANT
 - 4. GYMNASIUM
 - 5. GYM
 - 6. SWIMMING
 - 7. PARKING
 - 8. PUBLIC
 - 9. WALKWAY
 - 10. SOUTH WALKWAY
 - 11. SOUTH WALKWAY
 - 12. SOUTH WALKWAY
 - 13. ELEVATOR LIFT
 - 14. LOADING AREA
 - 15. WALKWAY
 - 16. PARKING
 - 17. WALKWAY



LEVEL 1 FLOOR PLAN



SECTION THROUGH QUEEN'S QUAY TERMINAL

Programs (Sq. Ft.)

The Project	Offices	Retail	Residential	Parking	Total
Queen's Quay Terminal	368,986 47%	195,870 25%	147,992 19%	58,189 9%	771,037
Eaton Center	1,486,343 59%	582,692 21%	93,893 3.5%	587,547 21.5%	2,750,475
Calwer Strabe	45,208 23%	58,126 30%	23,142 12%	41,979 21%	168,455
West Mount Square	269,370 26%	125,830 11%	444,650 44%	211,897 19%	1,051,747
388 Market Street	224,481 65%	9,778 2%	91,552 26%	47,319 7%	373,130
Total	2,394,388	972,296	801,229	946,931	5,114,844
Average %	47%	20%	15%	18%	100%

BUILDING SYSTEMS AND TECHNOLOGY

Soil

Soil weight-bearing capacity is one of the major considerations when planning a structure because it will determine the type of foundation system that will be required, and it also sometimes determines the type of materials for the structure.

Temperature

The property of materials changes with temperature. Expansion joints are accommodated in a building joints to deal with the contraction and expansion movement of materials horizontally. Air conditioning will cause the exterior columns to be longer than the interior columns because they are exposed to heat which will make the columns expand. Due to this difference, it will cause cracks in walls, stuck or broken doors and windows and sloping floors.

Wind

Wind is a critical issue of high rise structure design. Wind exerts greater force on the vertical surface of a building, especially on the upper floors, because the wind speed increases with its height. Buildings should be designed to resist the pressures that are exerted by the wind.

Structural Building Components

Building core, column and wall are the major structural components of a high rise building. It is these major structural components that are attached to each other in a certain way that make it function as a whole against the forces that act upon it. Such forces are the live load, the dead load, the wind load, etc.

The building core can be placed anywhere within a building plan and its final placement will give a great visual impact to the total design of the building.

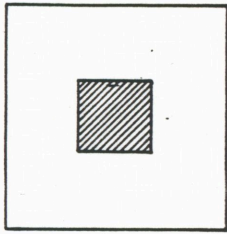
The amount of load carried by each individual column varies even though the columns are placed on a regimented grid throughout a building. An interior column has to carry twice the contributing amount of floor area that a facade column does and four times the area that a corner column can. The building facade can turn a corner in many different ways and it depends on how the architect wants to express it.

Schematic Core Diagram

Here are a few schematic diagrams that illustrate a variety of locations of the core within a building plan.⁸

Location of Mechanical Equipment

The mechanical system provides comfort control in a building. The bigger the building, the greater the space needed to accommodate it. The mechanical system can either be expressed, suppressed, or disguised; it is a choice of a visual statement which also can become an

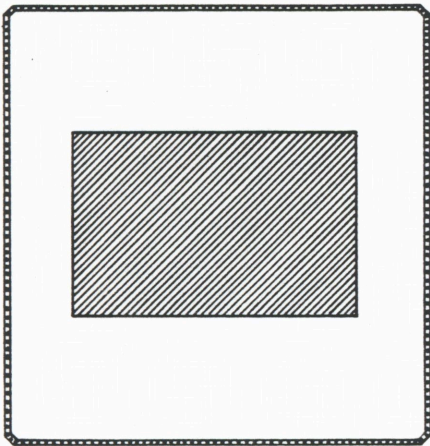


WEST COAST TRANSMISSION

WEST COAST TRANSMISSION

Square Central Core

acts as a wind bracing inner tube.

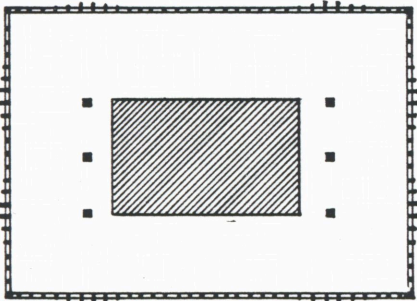


WORLD TRADE CENTER

WORLD TRADE CENTER

Central Steel Core

contributes to wind bracing. The major wind bracing is provided by closely-spaced (3'-4") columns which act together to form an exterior rigid bracing tube.

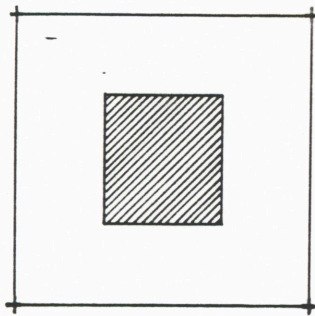


ONE SHELL PLAZA

ONE SHELL PLAZA

Central Concrete Core

Walls act as inner tube; closely-spaced columns act as outer tube. Resulting effect is tube-within-a-tube wind bracing solution.

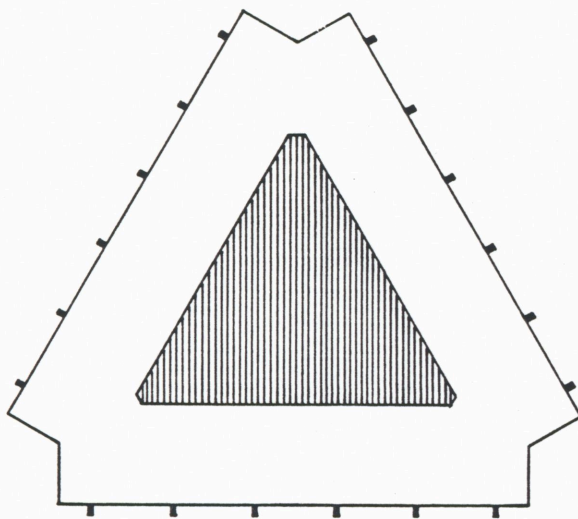


BOSTON COMPANY

BOSTON COMPANY

Square Central Core

contains some wind bracing.
Exterior walls express
diagonal steel bracing.

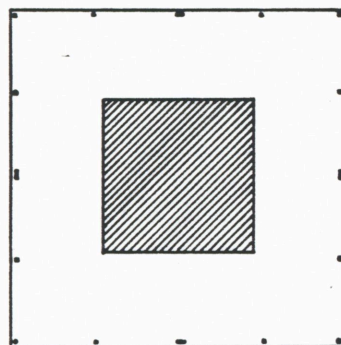


U.S. STEEL

U.S. STEEL HEADQUARTERS

Triangular Central Core

Wind bracing is provided
by a combination of core
wall bracing, hinged joints
between secondary floors
and columns, and a cap truss
at the top.

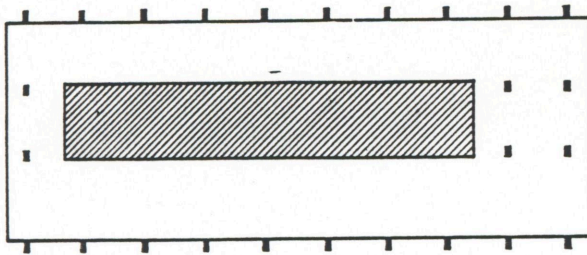


CITICORP

CITICORP TOWER

Central Core

Diagonal bracing in the
core is supplemented by
diagonal chevrons on the
exterior walls and a
400-ton concrete weight
(tuned mass damper) at
the top which slides
horizontally in opposition
to wind-caused sway.



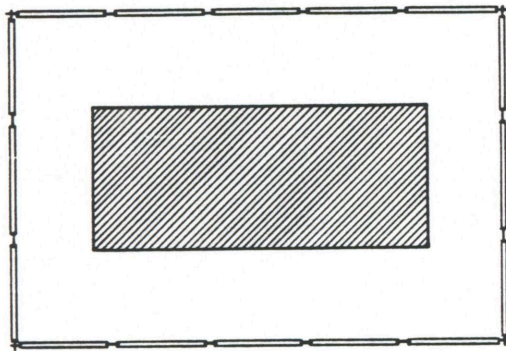
CHASE MANHATTAN

CHASE MANHATTAN BANK

Rectangular Core

is offset to provide two different office space depths.

One-story K-bracing in core walls is supplemented with 3'-0" deep wind girders.



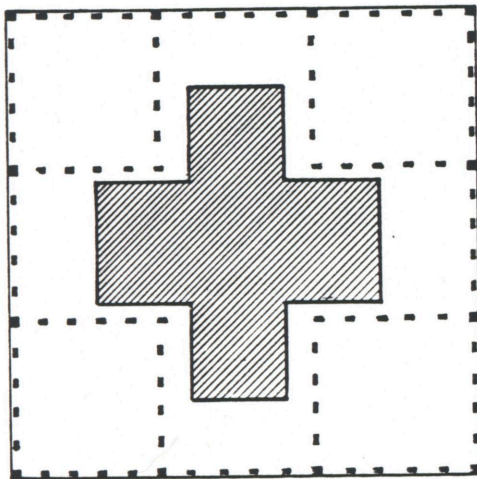
ONE LIBERTY PLAZA

ONE LIBERTY PLAZA

Rectangular Core

provides a central corridor.

Two-story K-bracing in core wall is more efficient than the more common one-story K-brace. The extra-wide core makes this arrangement feasible.



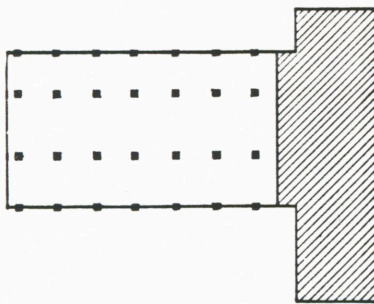
SEARS

SEARS TOWER

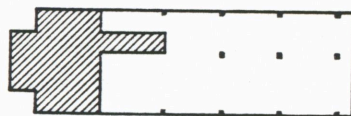
Five-part Multi-Core

Building is divided into nine square structural tubes which terminate at different heights.

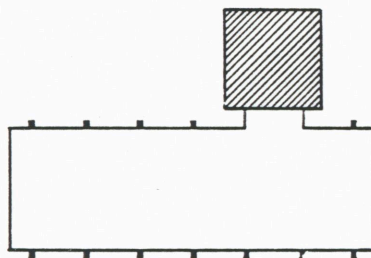
Wind bracing uses a combination of all individual tubes, resulting in a bundle-tube system.



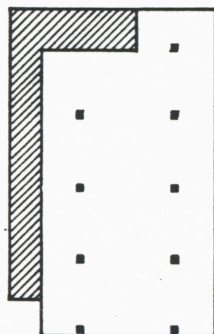
PHILADELPHIA SAVINGS FUND (PSFS)



LEVER HOUSE



INLAND STEEL



PEPSI

PHILADELPHIA SAVINGS FUND SOCIETY

End Core

Poor exiting pattern because of common path to stairs.

Wind bracing provided by knee braces at beam-to-column connections. Modest height and heavy dead loads minimize wind problem.

LEVER HOUSE

End Core

with questionable exiting pattern.

Wind bracing in core walls with additional transverse rigid frames in column bays past core area.

INLAND STEEL HEADQUARTERS

Offset Core

presents a concentration of exit locations.

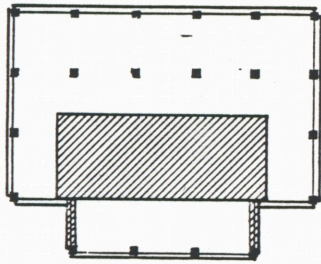
Wind bracing is provided by rigid steel wind girders which span entire width.

PEPSI HEADQUARTERS

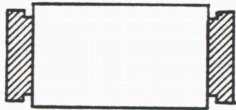
Angle Core

provides remote stair location and frees open space for maximum use.

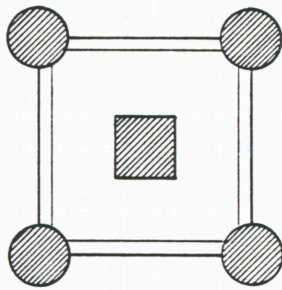
Wind bracing requirements are modest (11 floors) and are provided by rigid beam-to-column connections and core wall bracing.



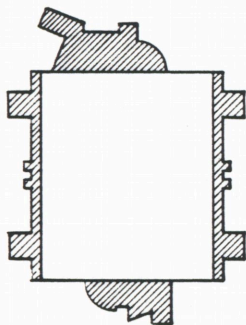
SEAGRAM



M.I.T. EARTH SCIENCE



KNIGHTS OF COLUMBUS



CORNELL AGRONOMY

SEAGRAM BUILDING

Eccentric Core

permits adequate depth for office space.

Shear walls in the core extend beyond the core into the exterior walls.

M.I.T. EARTH SCIENCE LAB

End Cores

provides excellent exiting paths from all areas as it eliminates dead ends.

Concrete cores are connected longitudinally at both top and bottom to provide needed wind bracing.

KNIGHTS OF COLUMBUS

Corner Cores

have similar exiting advantages as end cores.

The five monolithic cores each act as a separate wind bracing tube.

CORNELL AGRONOMY LAB

Perimeter Core System

provides mechanical spaces on east and west sides while north and south ends house stairs.

Perimeter shear walls stiffen concrete frame skeleton.

element of building design. The mechanical equipment can either be placed on the rooftop or in the basement of a tall building. Large buildings usually have two main horizontal areas for environmental control, the exterior zone and the interior zone. The exterior zone can gain and lose heat easily because it is close to the exterior wall which is always exposed to the year round temperature changes. The interior zone of a building usually has heat build-up from people and mechanical equipment. A large building typically has a separate system of ducts for the interior and exterior zone.

Building Codes and Zoning Ordinance

Building codes are concerned with innumerable items that influence the design considerations of a building. Such influences determine a building's structural materials, the size and shape of a building, life and safety requirements, exit requirements, etc.

Due to increasing awareness of the necessity to protect life and property, the availability of new materials, and the improved technology for combating smoke and fire problems, life and safety requirements have become an important element in building design considerations.

The number and locations of exits is a very important factor in the life and safety requirements of a building. Although building codes go into minute detail dealing with exit requirements and the way in which exiting enclosures must be constructed, the five points that follow have a major impact on overall building design:⁹

- 1) Use of the building, for example, as an office, store or school.

- 2) Total number of people in the building as a determinant of the required number of separate exits.
- 3) Limitation on the maximum travel distance permitted to reach exit enclosure.
- 4) Provision for a choice of path to an exit in case one exit is blocked.
- 5) Provision that exit must lead the occupants to a safe area.

Zoning ordinances determine the location where a structure can be built, what type of a building can be build in a certain area, how much space it can occupy and how large the building can be. Here are the major items that are covered by zoning ordinances.¹⁰

- 1) Building use permitted in each area of the community
- 2) Lot area regulation
- 3) Yard size regulation
- 4) Building height and setback requirements
- 5) Distance between buildings
- 6) Parking and truck dock requirements
- 7) Ratio of floor area to the total building size
- 8) Ratio of open space on the ground to the maximum height of the structure

BUILDING CODES FOR BUILDING
(FEDERAL TERRITORY OF KUALA LUMPUR)
BY-LAW 1988

Calculation of Occupant Load and Capacity of Exits						
Occupancy Group/ Purpose of Group	m ² / Occupants	Capacity Exits				
		No. of Persons Per Unit - Exit Width				
		Doors Outside	Horizontal Exit	Escalator	Stairs	
III Residential Flats	20 gross	100	60	45	45	
IV Office	10 gross	100	100	60	60	
V Shop						
- Street floor and sale basement	3 gross	100	100	60	60	
- Other floors	6 gross	100	100	60	60	

MAXIMUM TRAVEL DISTANCE

Occupancy Types/ Purpose of Group		Limit When Alternative Exits Are Available (M)		
		Dead-End Limit	Unsprinkled	Sprinkled
III	Other Residential Flats	10	30	45
IV	Office	15	45	60
V	Shops	15	30	45
VIII	Storage and General Parking Garages	15	30	45*

* Limits distance of travel on floors below in the street in sprinkled garage to 30 meters.

SULAIMAN COURT CENTER • KUALA LUMPUR • MALAYSIA

THE PROGRAM

THE PROGRAM

With the maximum plot ratio of 1:5, the program of the project is as follows.

PROGRAM SUMMARY

	Gross Square Footage
(a) Retail	
Shops and Street Market	120,000
(b) Offices	320,000
(c) Residential	100,000
@ 50% 1 bedroom units	
50% 2 bedroom units	
(d) Parking	100,000
A parking space will be provided for every 1000 sq. ft. of retail and offices	
A parking space will be provided for every residential unit	
Total	640,000

Retail/Shops

Total Area - 120,000 sq. ft.

The retail store is programmed to provide a wide variety of stores. There are three types.

a) Specialty store.

A specialty store sells only a limited range of a related merchandise such as women's apparel or men's wear, or a single type of merchandise.

b) Variety stores

A variety store has a wide range of related merchandise under the same roof, such as:

- Grocery
- Drug
- Sporting goods
- Camera shop
- Hardware/appliances

c) Department stores

A department store is a comprehensive program of a retail business.

d) Street markets

Street markets are considered as a part of the retail program. They are divided into two groups.

- Food stalls. A food stall requires a space for cooking, set-up, places for people to eat, and storage compartments.
- Hawkers. A hawker requires a space to display merchandise and storage compartments.

Due to the size and scope of the project, which is very big and very broad, the focus of this project will be as follows.

- (a) The flow of people, which will impact the location of important space or vice versa.
- (b) The image of the project and how it relates to the surrounding architectural context, especially at the street-scape.
- (c) Climate, as a factor influencing my design concept.

Offices

Total Area - 320,000 sq. ft.

To ensure maximum rentability, the offices should be able to accommodate a wide variety of uses and space requirements. There are three different type offices. In general, they are:

a) Professional offices for:

- Lawyer
- Insurance agent
- Accountant
- Real estate agent
- Doctor

This kind of office usually belongs to one or two partners; 200 to 500 sq. ft.

b) Large professional offices for:

- Architect
- Advertising agency
- Interior designer
- Artist

These offices require a large area per person. It depends on the number of employees.

c) Corporate sized office

These are for head and branch offices for large firms such as oil companies, tin companies, law firms, accounting firms, architectural firms. They usually require an open plan office, conference room and administrative area.

Residential

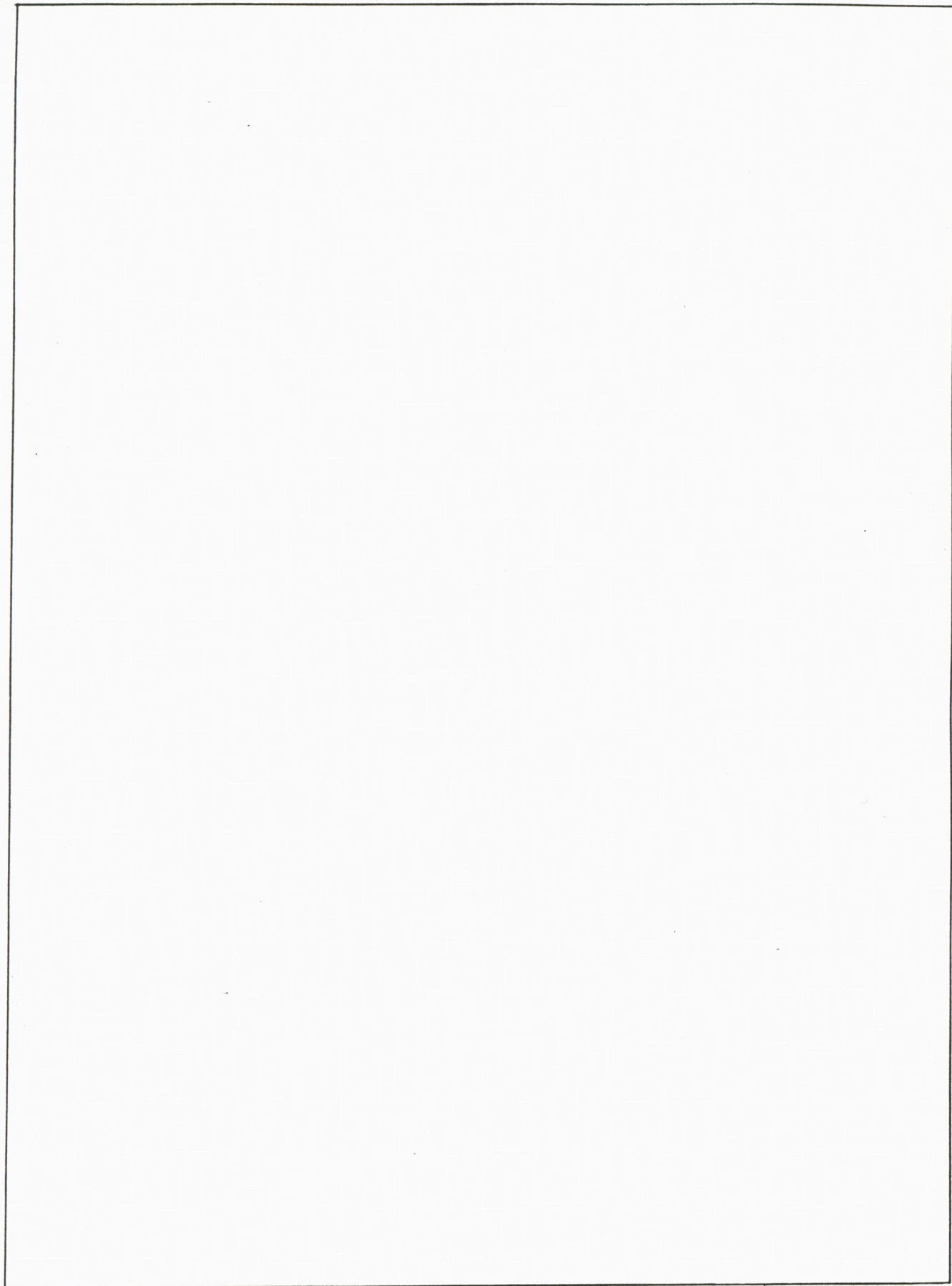
Total Area - 100,000 sq. ft.

Due to the urban location of the project, the residential units should be programmed for singles and young married couples, who are the group of people that enjoy the city life and are more sociable.

These residential units will be divided into two different types.

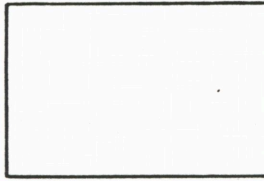
- a) One bedroom units - @ 650 sq. ft.
- b) Two bedroom units - @ 1,000 sq. ft.

To promote social interaction between the multiracial tenants, a community center is provided for the residential units.



SULAIMAN COURT CENTER • KUALA LUMPUR • MALAYSIA

THE CONCEPT



THE CONCEPT

Residential Units

The decreasing number of traditional shop houses along Jalan Tunku Abdul Rahman due to increasing commercial development will lead to decreased population in the City Center. According to the Kuala Lumpur Structure Plan, the population growth of the City Center has been slow. It is important to increase the population in the city to ensure maximum utilization of the city facilities, to add diversity to the city, and to revitalize the City Center after office hours so as not to have a 9:00-5:00 institutionalized environment. The compact residential units will also help to support the increasing population density.

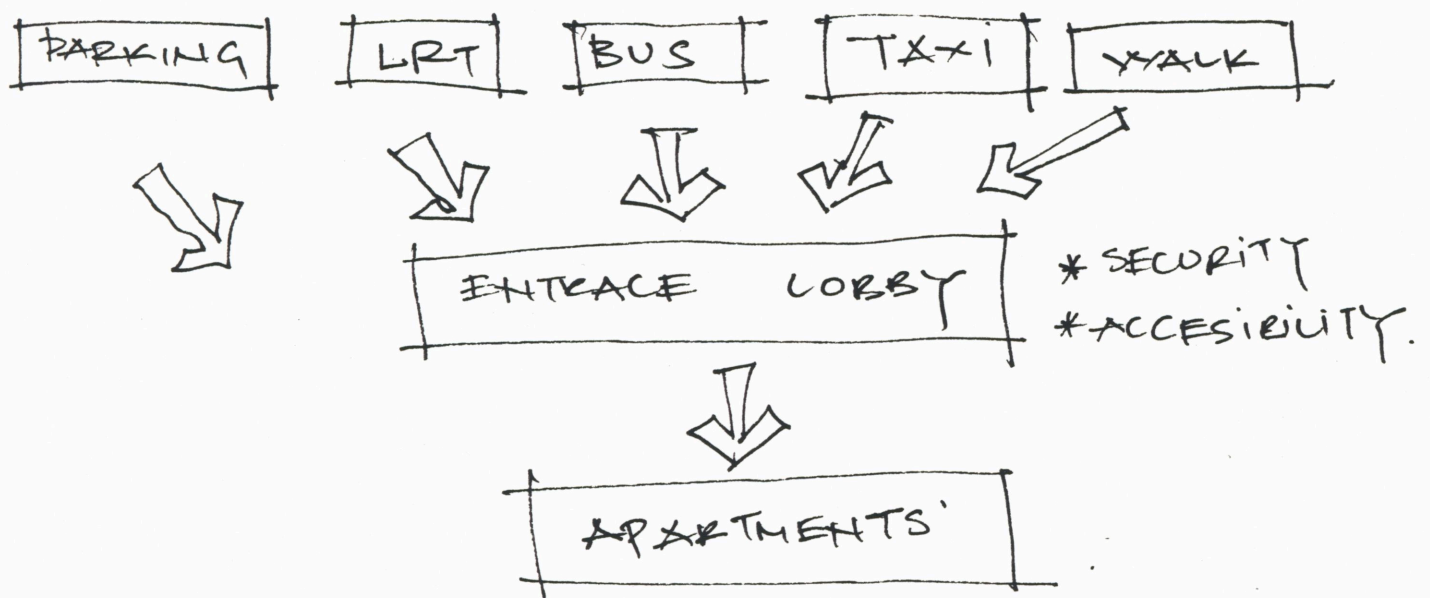
RESIDENTIAL UNIT

1) ISSUES TO BE CONSIDERED

- ORIENTATION IN RELATION TO

- a) SUN
- b) VIEW
- c) WIND
- iv) PRIVACY / NOISE.

- SOCIAL INTERACTION



Shopping Center

The increasing urban density, the sophisticated expectation of modern consumer society, and the location of the site along the east side of a retail street will make implementation of a shopping center as a part of the project appropriate. Furthermore, the location of the proposed LRT station, on the west side of the site, will enhance the retail activities of the shopping center because of the location of the site, which will act as a transition point from one transportation mode to another.

The goal for this shopping center is to conserve the streetscape activities while providing modern shopping facilities. Most of the new shopping centers have turned their backs to the street because most of the shopping activities occur inside the building, and this has affected the traditional streetscape activities. Street markets play an important role in the traditional streetscape scene of Kuala Lumpur. Instead of paradoxically reaccommodating them away from their prime location, a proper relocation among the modern retailers will help to recapture the dying streetscape activities of Kuala Lumpur.

THE RETAIL

1) ISSUES TO BE CONSIDERED.

a) HOW TO CONSERVE THE TRADITIONAL STREETScape

b) PADESTRIAN CIRCULATION ON THE STREET LEVEL.

c) IMAGE / HOW IT RELATE TO THE SARROUNDING SHOP HOUSES.



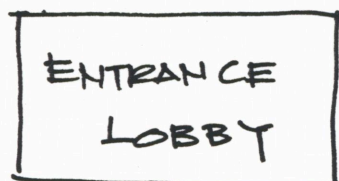
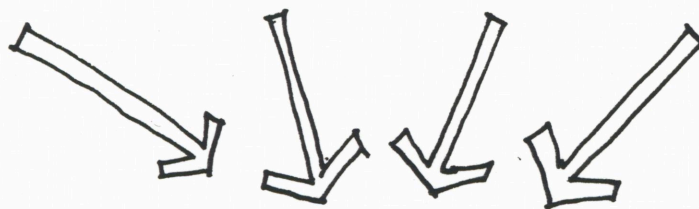
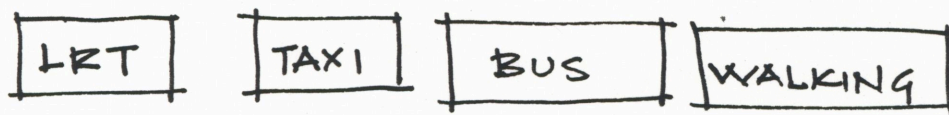
The Offices

An office tower will be located on the west side of the site to conform with the alignment of the rest of the office tower along Raja Laut Road and also because of the civic prestige of the road. Even though a tower is conceived as an isolated object without any context, I think they are appropriate because of the land pressure and the increasing density of the city population.

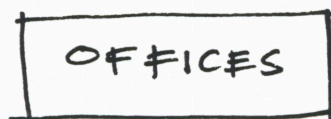
OFFICE TOWER

ISSUE TO BE CONSIDERED

- A) CORE - SERVICE ELEVATORS
 - WORKERS ELEVATORS
 - HVAC CORE
 - MECHANICAL CORE
 - STAIRS
 - BATHROOM
- B) STRUCTURAL GRID - CONCRETE / CAST ON SITE FLAT SLAB CONSTRUCTION
 - AVAILABILITY OF ~~OF~~ LOCAL MATERIALS & TECHNOLOGY
- C) SKIN - IMAGE OF THE TOWER
 - HOW TO REDUCE MAX USE OF AIR CONDITIONING?
 - a) MINIMIZE THE SURFACE FACING THE SUN
 - b) INCORPORATE WITH WIND DIRECTION TO CREATE AIR MOVEMENT AROUND THE SURFACE & INSIDE THE TOWER.
 - c) HEAT GAIN FROM INSIDE THE TOWER, ~~PEOPLE~~ SUCH AS PEOPLE, LIGHTS, COMPUTER & OTHER OFFICE MACHINES.



- * SECURITY
- * INFORMATION @ DIRECTORY



- * AIR CONDITIONING TO PROVIDE COMFORT. BUT SHOULD BE REDUCE MAXIMUM POWER USE.
- * VIEWS

FOOTNOTES

¹David Dunster, "Vernacular, Pastiche, Modernism? The Search for a Malaysian Architecture," International Architect Magazine, (Issue 6, 1984): p. 12.

²Ibid., p. 24.

³Ibid.

⁴Ibid., p. 40.

⁵Ibid., p. 26.

⁶Ibid.

⁷City Hall of Kuala Lumpur, Kuala Lumpur Structure Plan, August, 1984, p. 182.

⁸David Guise, Design and Technology in Architecture (New York: John Wiley and Sons, Inc., 1985), pp. 59-65.

⁹Ibid., p. 82.

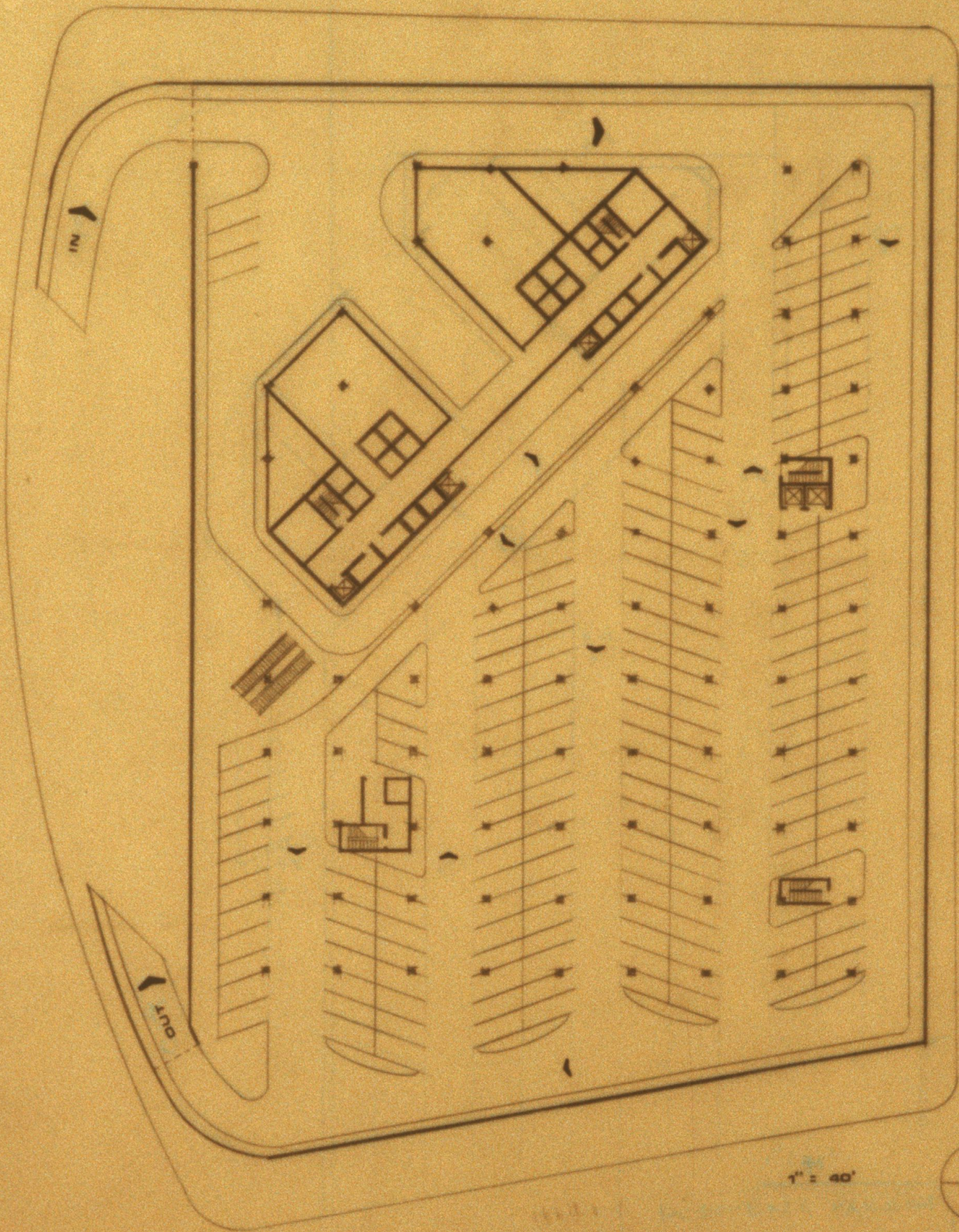
¹⁰Ibid., p. 83.

BIBLIOGRAPHY

- City Hall of Kuala Lumpur. Kuala Lumpur Structure Plan. August, 1984, p. 182.
- Dunster, David. "Vernacular, Pastiche, Modernism? The Search for a Malaysian Architecture." International Architect Magazine, (Issue 6, 1984): p. 12.
- Encyclopedia Britannica. 1982, 15th ed., 11th vol. "Malaysia."
- Guise, David. Design and Technology in Architecture. New York: John Wiley and Sons, Inc., 1985.
- Gurstein, Penny. "Traditional Chinese Shophouses of Peninsular Malaysia." International Architect Magazine, (Issue 6, 1984): pp. 34-35.
- Gvuen, Victor. Centers For the Urban Environment. New York: Van Nostrand Reinhold Company, 1973.
- Khiang, Lim Yuen. "Inner-City Housing, Kuala Lumpur (1982-83)." International Architect Magazine, (Issue 6, 1984): pp. 24-25.
- Lim, Jee Yuan. "Relief of Climatic Stress in Housing in Malaysia." Majallah Architect, (April 1979): pp. 2-4, 36-42.
- Nasir, Abdul. Rumah Tradisional Melayu Semenanjung Malaysia, Kuala Lumpur: Loyal Press Sdn., 1985.
- Sudin, Parid Wardi. "Traditional Malay Houses of Peninsular Malaysia." International Architect Magazine, (Issue 6, 1984): pp. 22-23.
- Yeang, Ken. "A Chat on Design Trends in Malaysia." Majallah Architect, (April 1981): pp. 18-29.
- Ziedler, H. Eberhard. Use of Architecture in the Urban Context, Stuttgart: Karl Kramer Verlag, 1983.

BIBLIOGRAPHY

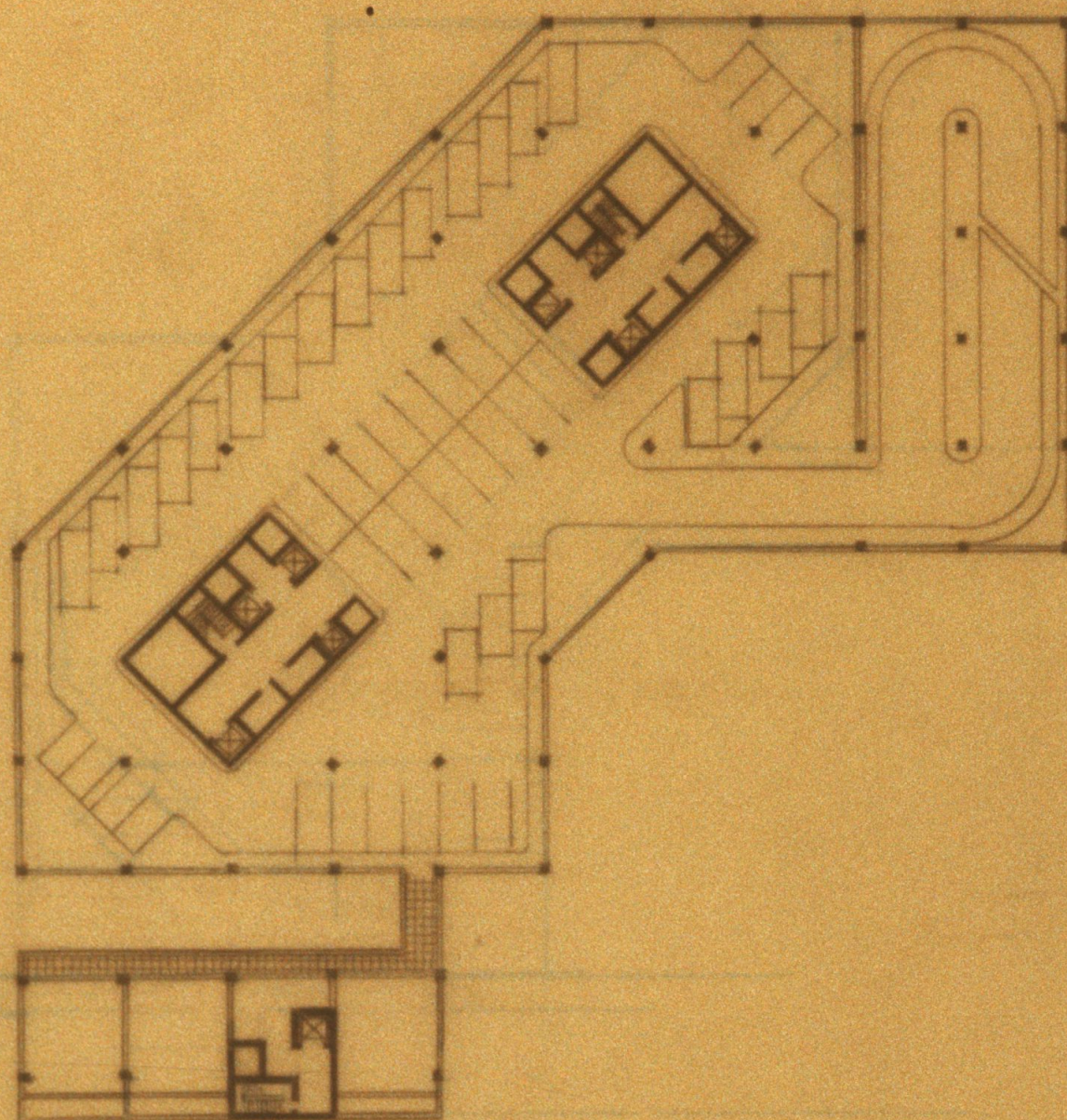
- City Hall of Kuala Lumpur. Kuala Lumpur Structure Plan. August, 1984, p. 182.
- Dunster, David. "Vernacular, Pastiche, Modernism? The Search for a Malaysian Architecture." International Architect Magazine, (Issue 6, 1984): p. 12.
- Encyclopedia Britannica. 1982, 15th ed., 11th vol. "Malaysia."
- Guise, David. Design and Technology in Architecture. New York: John Wiley and Sons, Inc., 1985.
- Gurstein, Penny. "Traditional Chinese Shophouses of Peninsular Malaysia." International Architect Magazine, (Issue 6, 1984): pp. 34-35.
- Gvuen, Victor. Centers For the Urban Environment. New York: Van Nostrand Reinhold Company, 1973.
- Khiang, Lim Yuen. "Inner-City Housing, Kuala Lumpur (1982-83)." International Architect Magazine, (Issue 6, 1984): pp. 24-25.
- Lim, Jee Yuan. "Relief of Climatic Stress in Housing in Malaysia." Majallah Architect, (April 1979): pp. 2-4, 36-42.
- Nasir, Abdul. Rumah Tradisional Melayu Semenanjung Malaysia, Kuala Lumpur: Loyal Press Sdn., 1985.
- Sudin, Parid Wardi. "Traditional Malay Houses of Peninsular Malaysia." International Architect Magazine, (Issue 6, 1984): pp. 22-23.
- Yeang, Ken. "A Chat on Design Trends in Malaysia." Majallah Architect, (April 1981): pp. 18-29.
- Ziedler, H. Eberhard. Use of Architecture in the Urban Context, Stuttgart: Karl Kramer Verlag, 1983.



1" = 40'



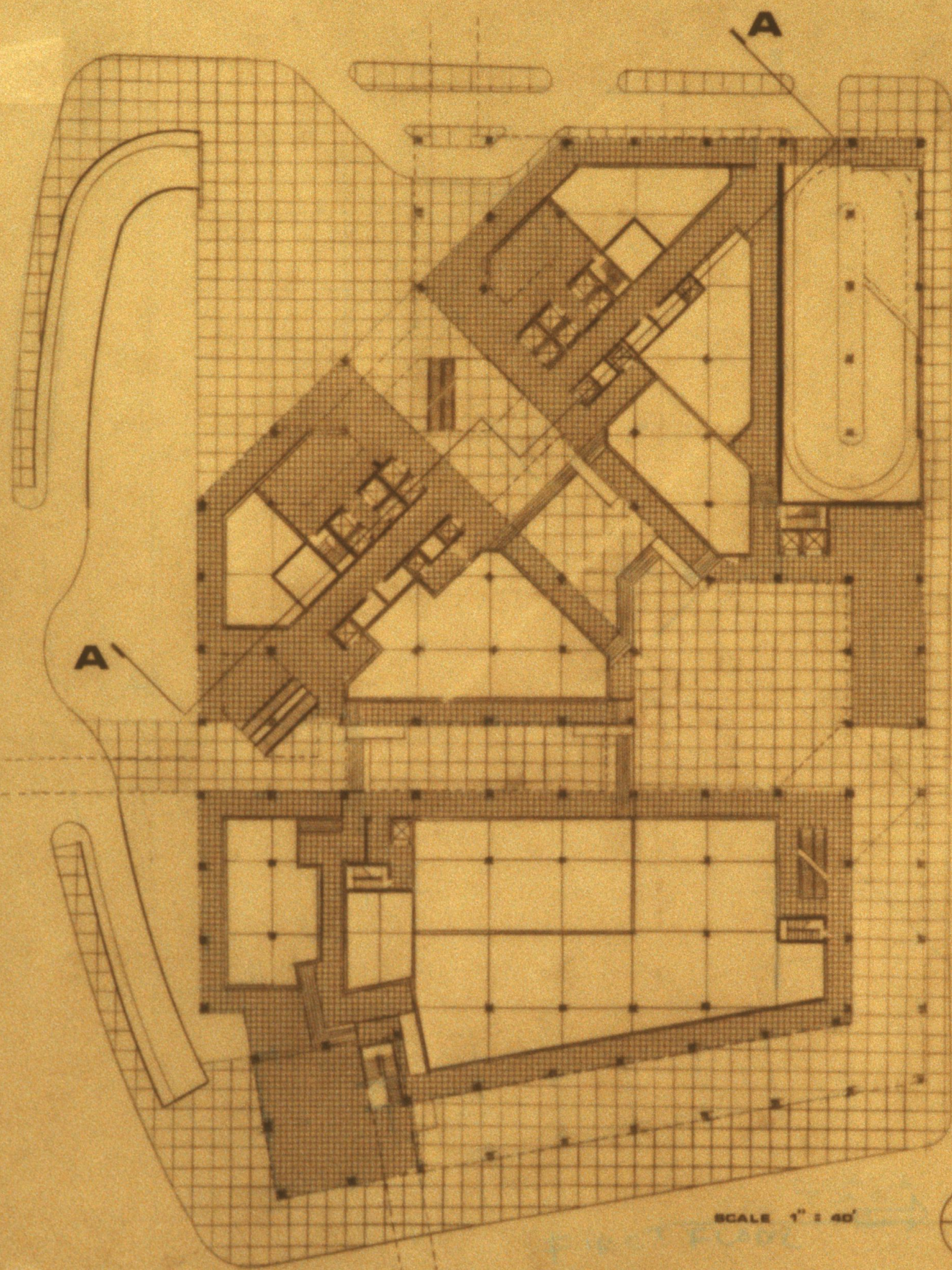
BASEMENT PARKING



SCALE 1" = 40'



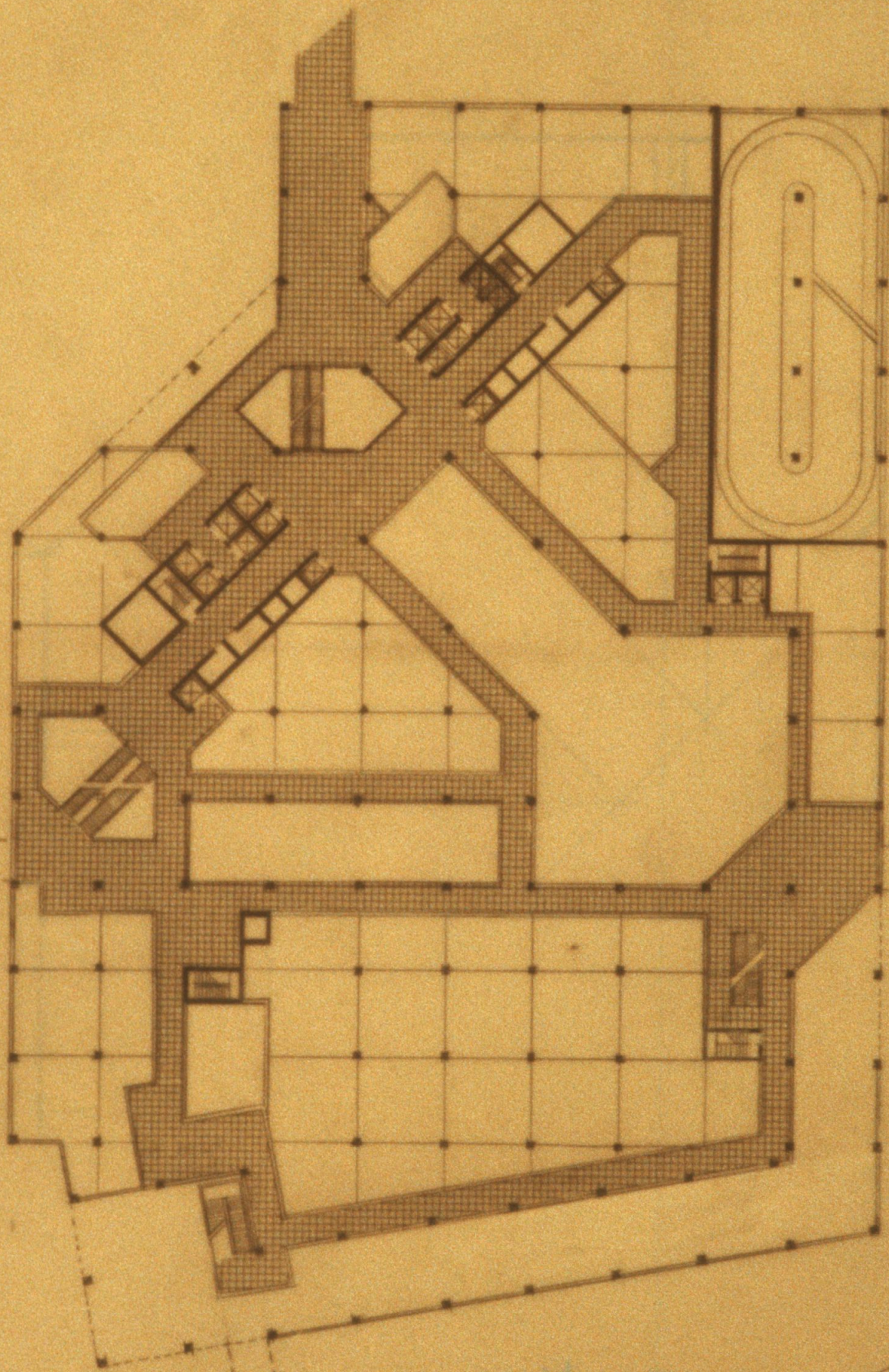
ABOVE GRADE PARKING GARAGE



SCALE 1" = 40'



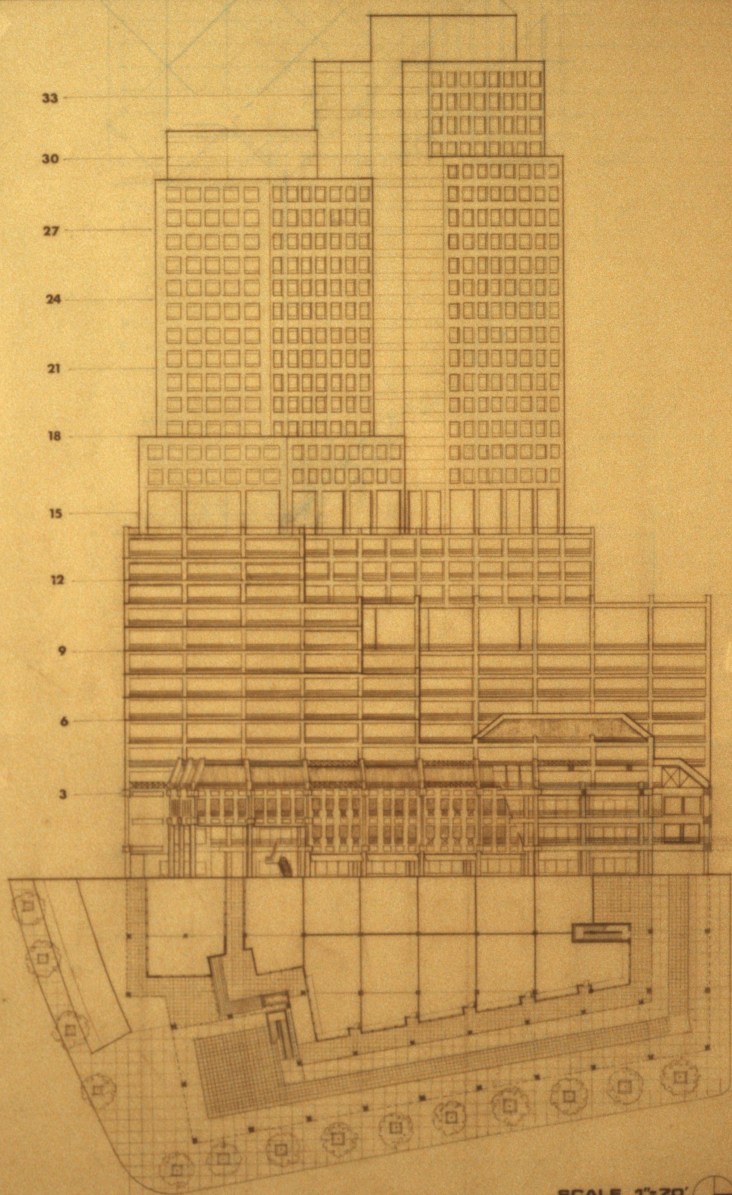
FIRST FLOOR



SCALE 1" = 40'

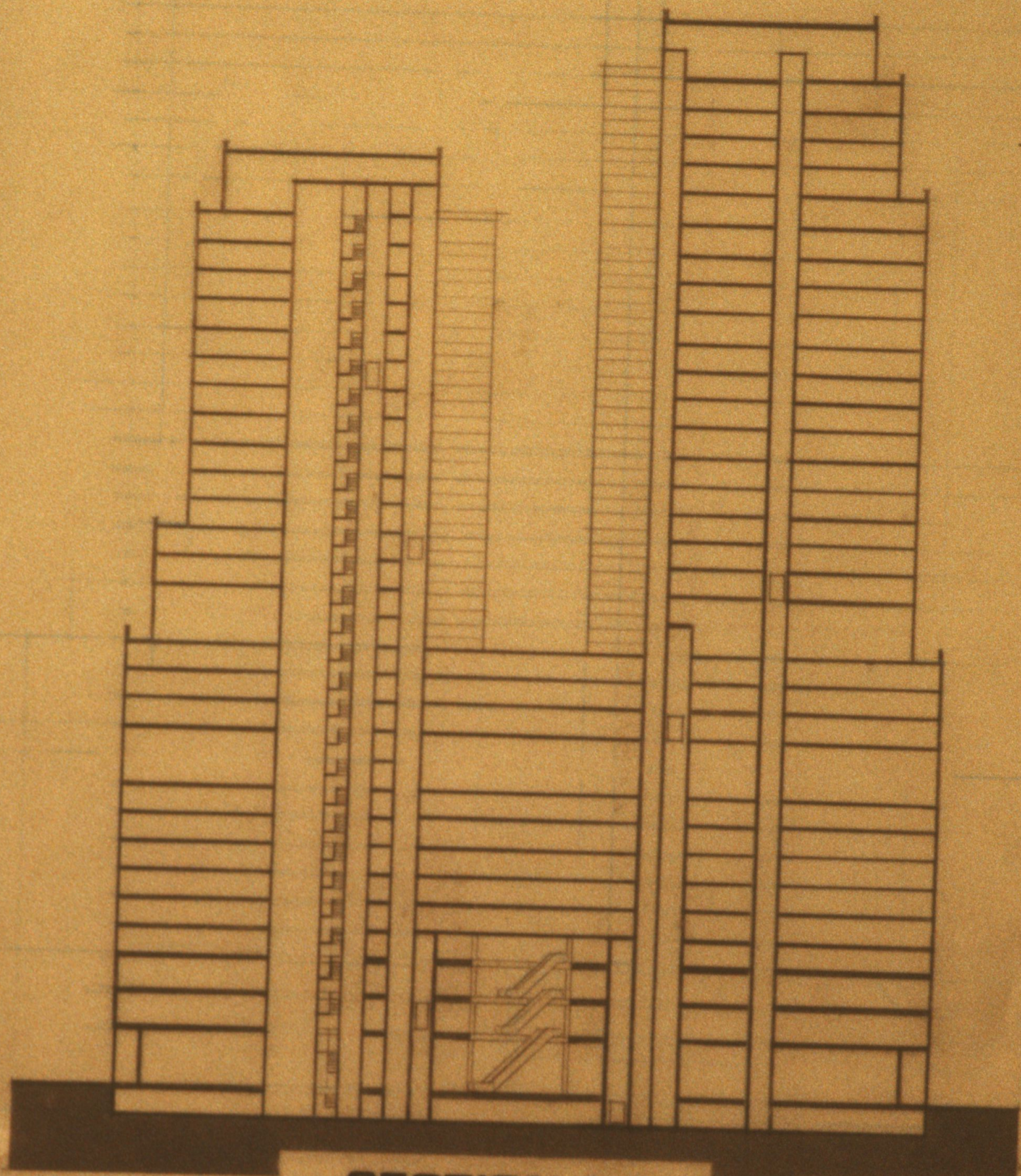


SECOND FLOOR



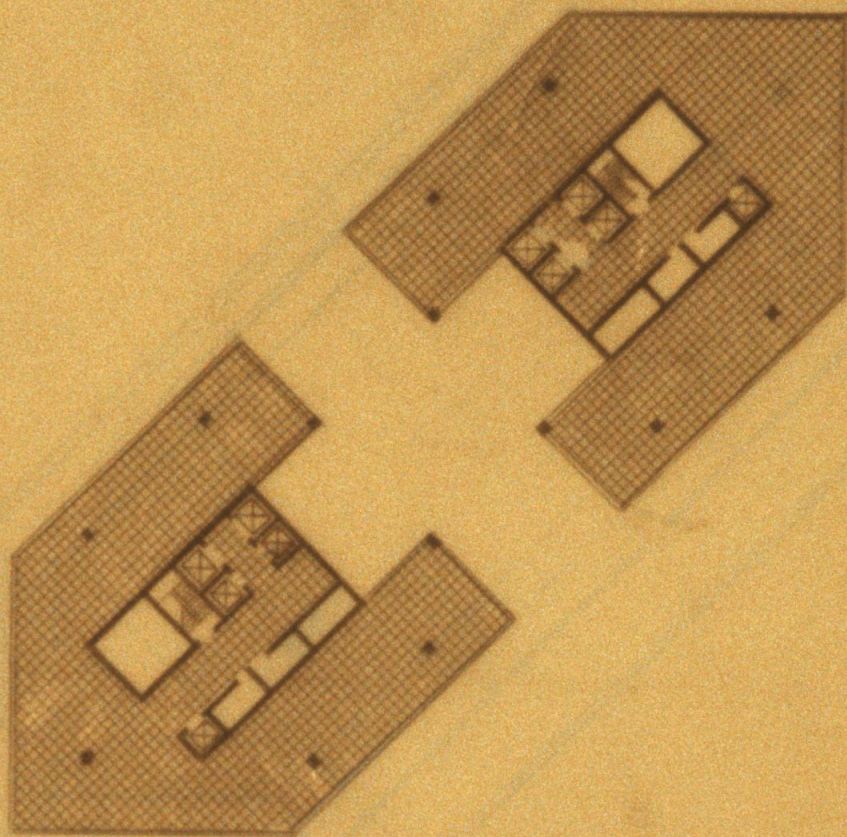
SCALE 1"=20'  N

EAST ELEVATION



SECTION A-A

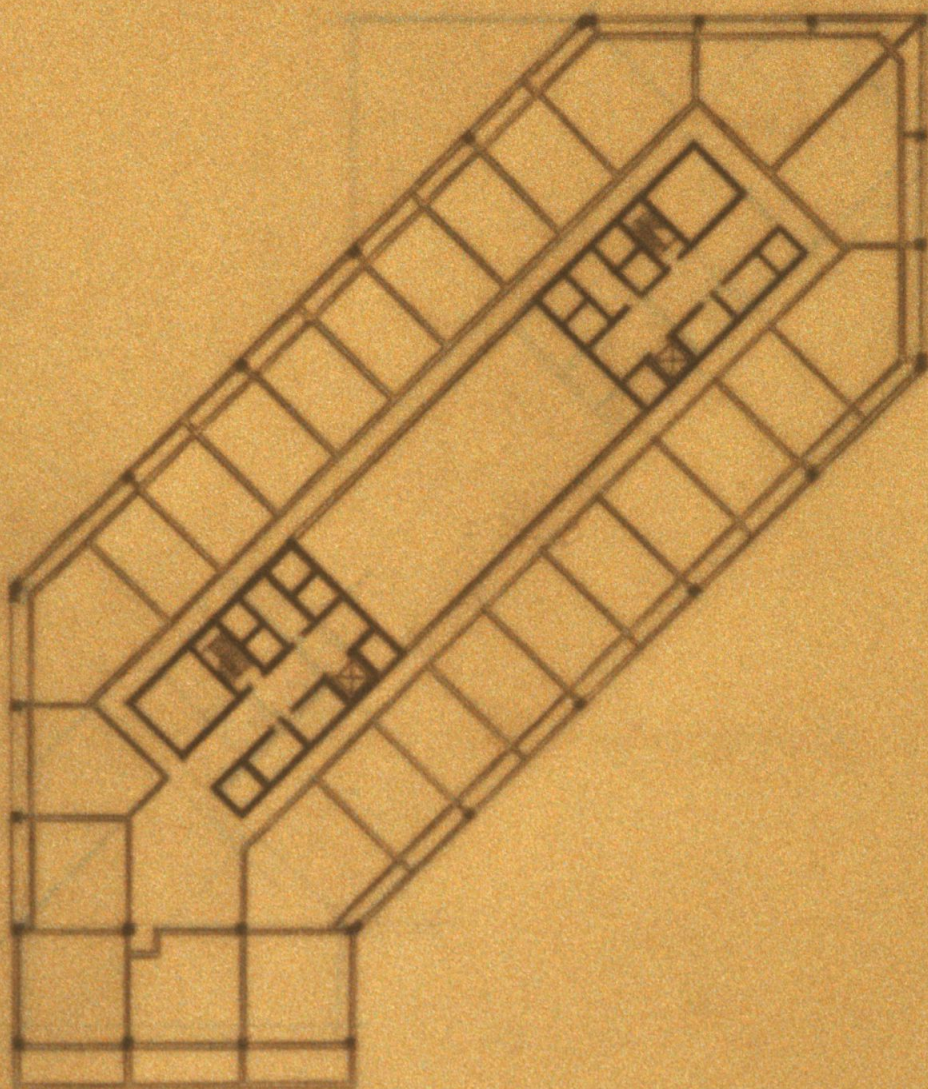
SCALE 1" = 40'



SCALE 1" = 40'



TYPICAL OFFICE FLOOR PLAN

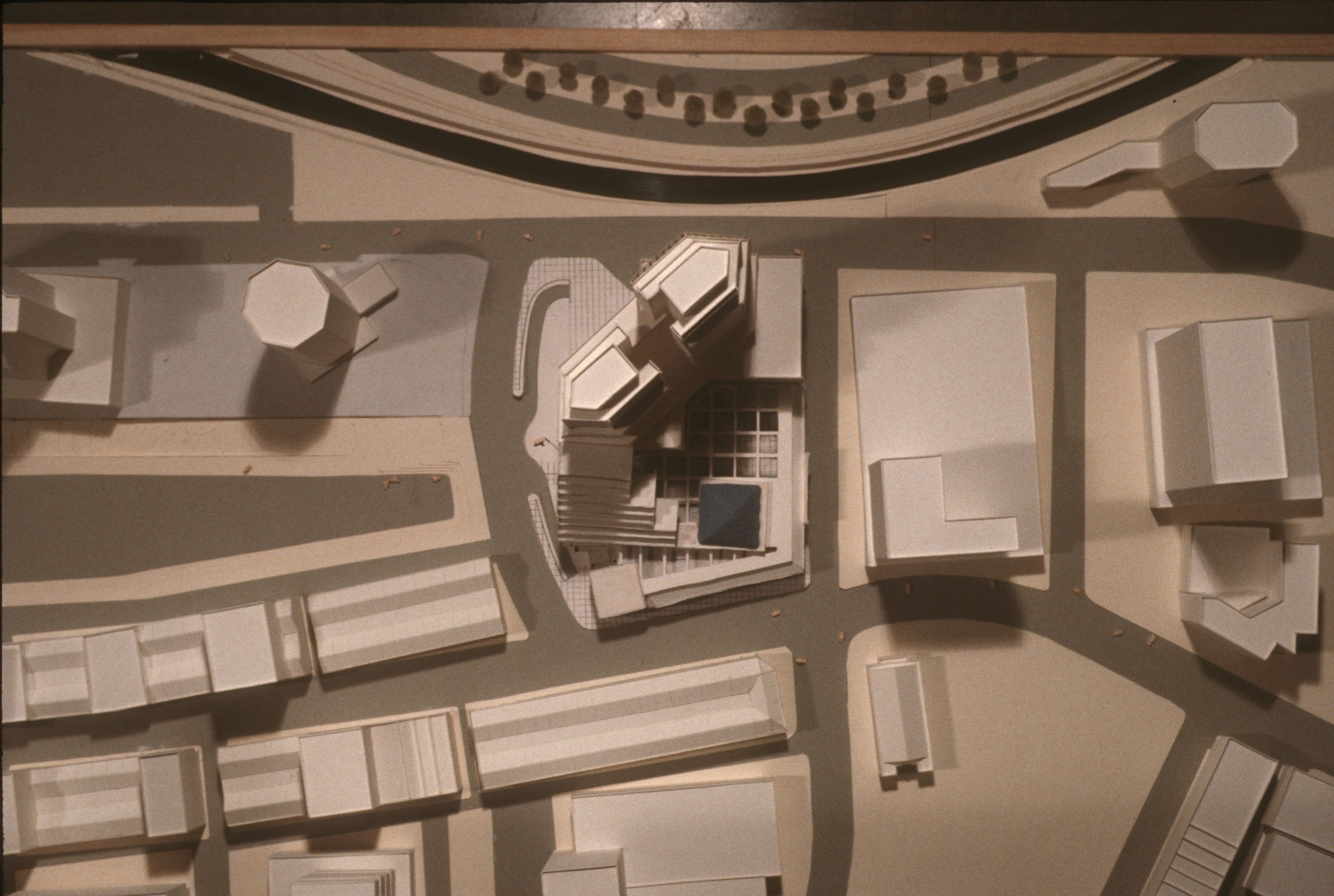


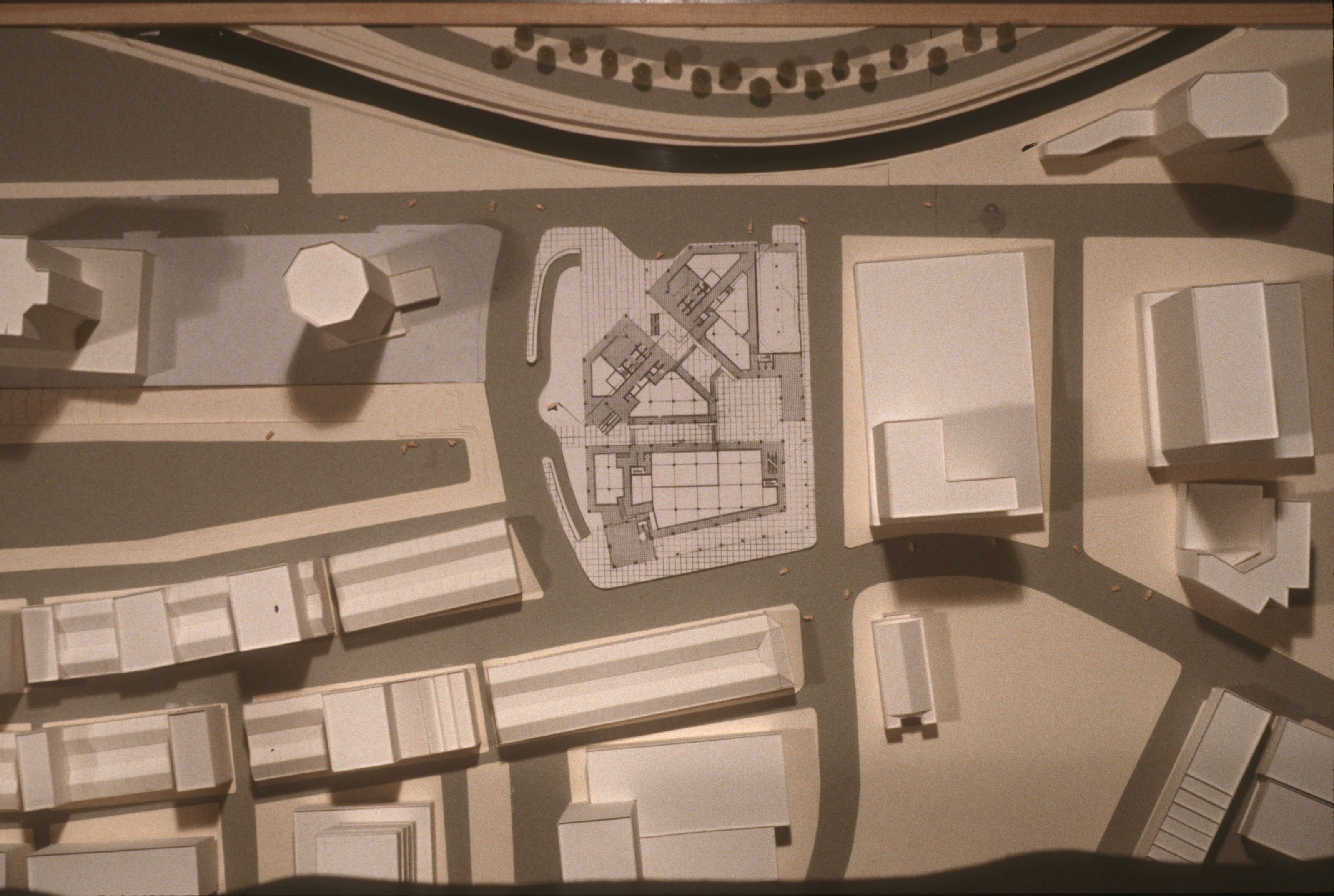
SCALE 1" = 40'



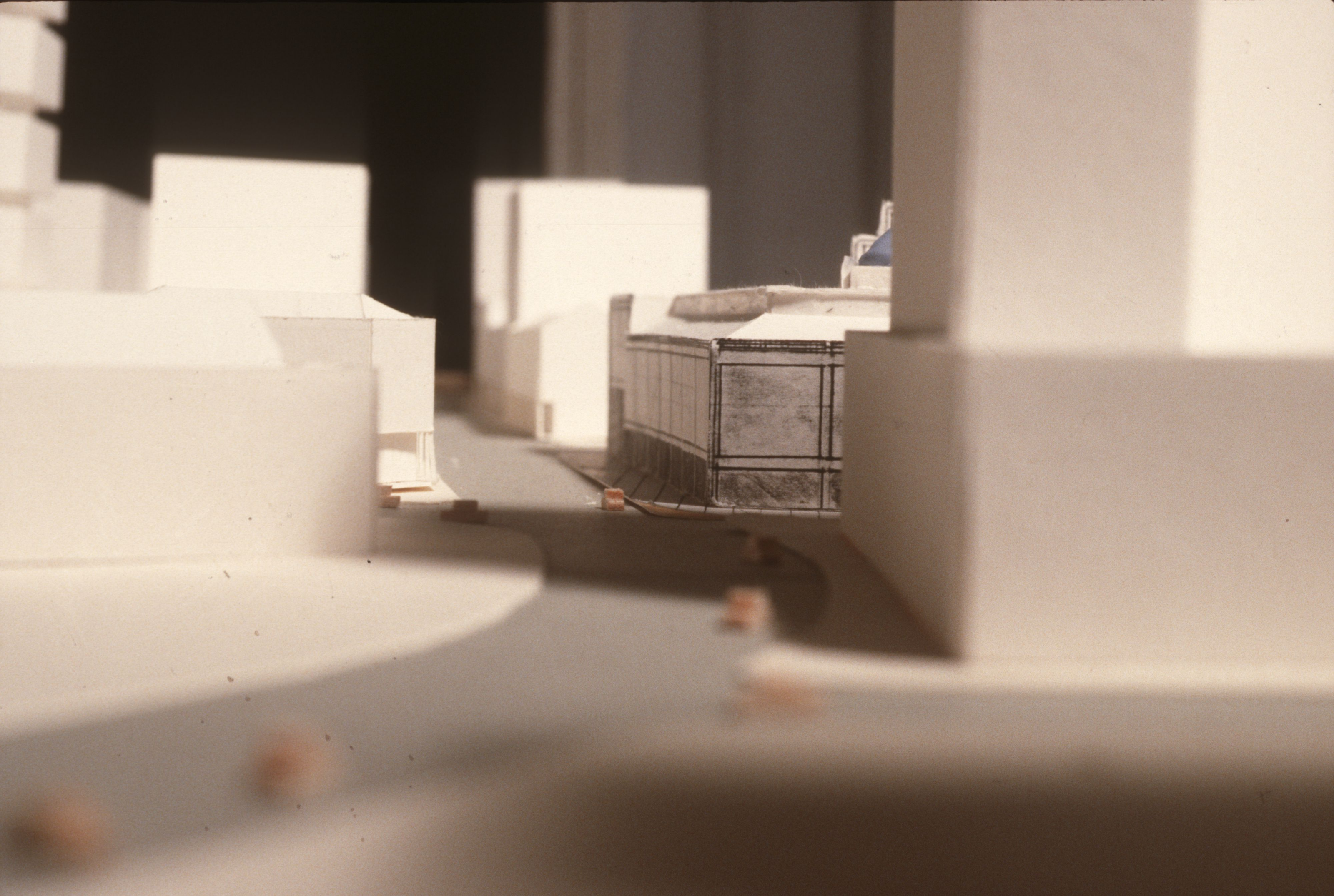
RESIDENTIAL UNITS

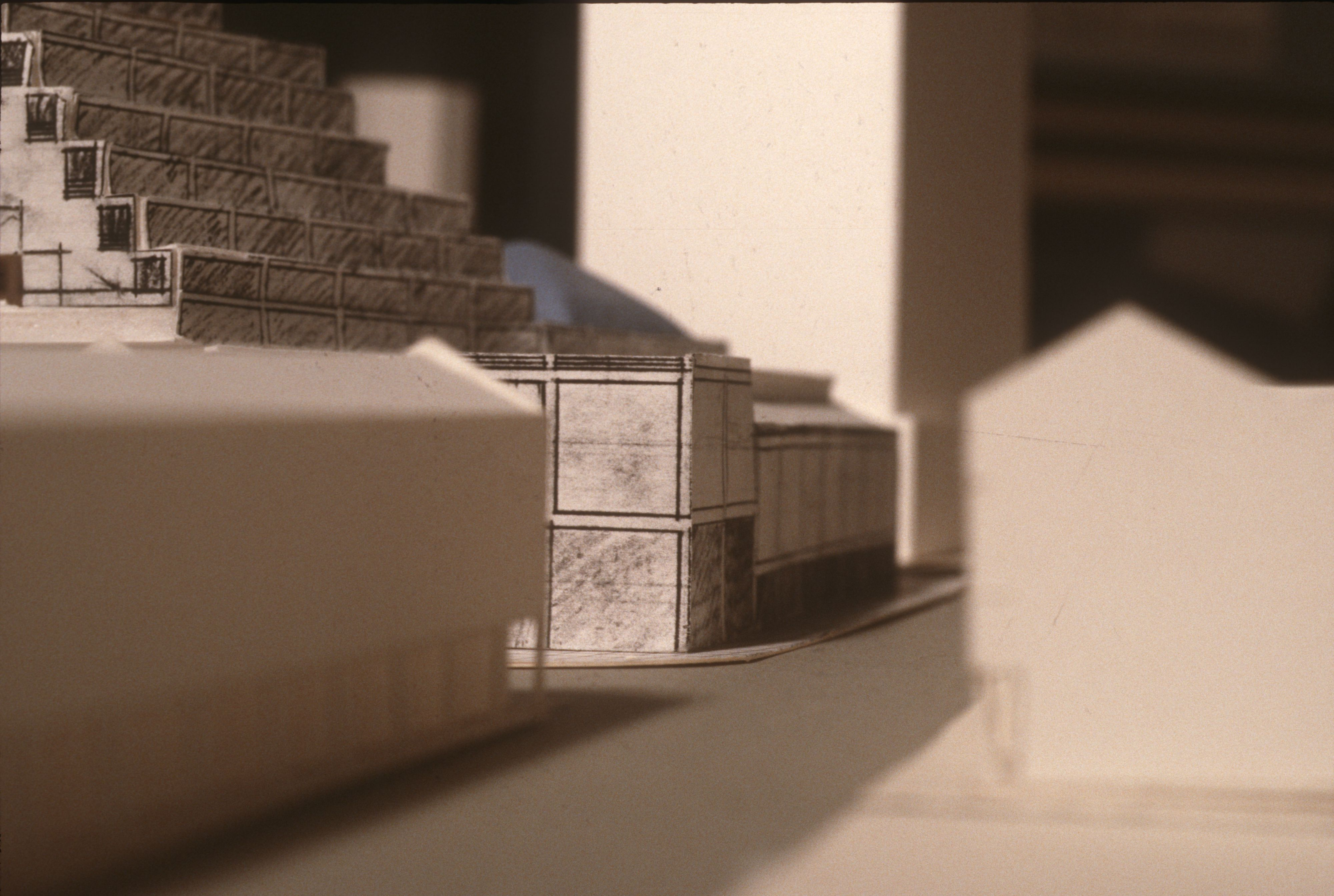


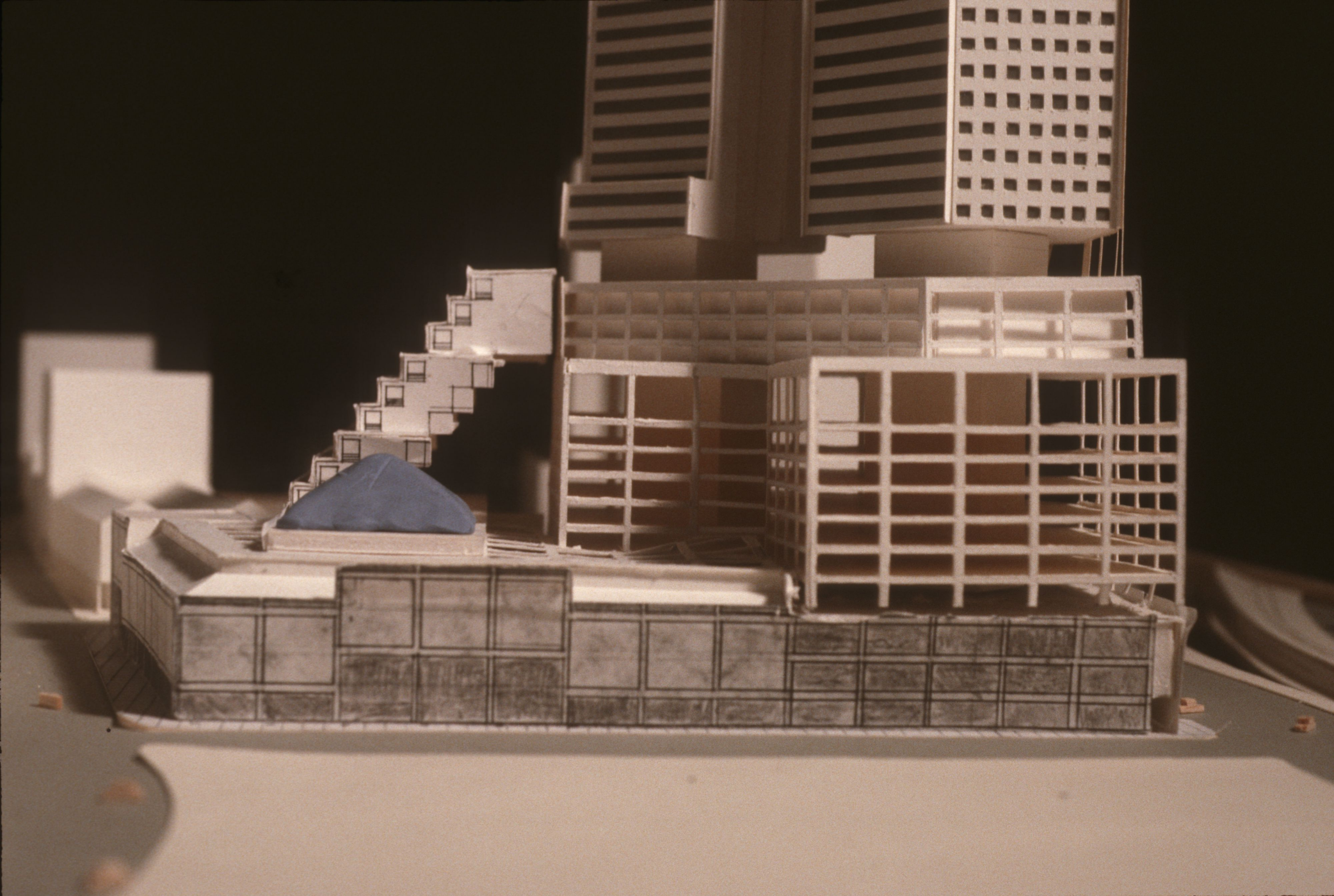














MONTANA STATE UNIVERSITY LIBRARIES



3 1762 10080976 1

