

MODEL AS A THINKING TOOL
(AN ARCHITECTURAL COMPLEX IN AN URBAN DISTRICT)

by
WOO-HUN CHUNG

Thesis submitted to the Faculty of
the Virginia Polytechnic Institute and State University
in partial fulfillment of the requirements for the degree of
MASTER IN ARCHITECTURE

APPROVED:

W. Butke, Chairman

J. Holt

W. Brown

November, 1985
Blacksburg, Virginia

MODEL AS A THINKING TOOL
(AN ARCHITECTURAL COMPLEX IN AN URBAN DISTRICT)

by
Woo-Hun Chung

(ABSTRACT)

A model is a communication tool, making contact with the deeper self as well as with others. It is a bridge between conception and perception, or intellect and intuition. It helps us to develop thoughts and evolve ideas.

People are convening in New York City. It is called a melting pot. Everyone mingles there without losing his own

characteristics. It is a big house which contains gardens, paths, rooms and millions of people. On East 14th street, there is an open block which could be a small city containing a park, houses, offices and stores.

This thesis demonstrates the development of a complex, or if you will, a small city, on the block, with the help of models.

ACKNOWLEDGEMENT

I wish to express my gratitude to all those who have encouraged me during this period, the beginning of my life in architecture:

W. Butke for encouragement and direction,
J. Holt for ideas and thoughts,
W. Brown for criticism and suggestions, and
. for encouragement and suggestions.

I also wish to give thanks to all my family and friends:

My mother, sisters and brothers for support and understanding.

All my friends in Korea and America for encouragement.

And thanks to the Lord.

CONTENTS

| | |
|--------------------------|-----|
| TITLE | i |
| ABSTRACT | ii |
| ACKNOWLEDGEMENT | iii |
| CONTENTS | iv |
| INTRODUCTION | 1 |
| THE PLACE | 3 |
| THE PROGRAM | 6 |
| THE CONCEPTS | 8 |
| THE MODELS (THE PROCESS) | 9 |
| THE PROJECT | 16 |
| REFERENCES | 36 |
| VITA | 37 |

INTRODUCTION

This is a proposal for a block on East 14th street, New York City. Until recently, there was a large department store on the block. It lies empty now.

Two interests occur; the what and the how.

What kind of architecture is needed for the place, functionally and conceptually?

How could it be developed?:
How should the development proceed?

Mixed use buildings are popular in revitalizing the downtown of cities. However, many turn out to be failures because of their compactness and isolation. Here a new approach is suggested; design complexity into the place. The streets expand into the building.



In New York City, most blocks are impassable owing to their street walls. The buildings are discouraging people from experiencing them. Even some urban-public spaces are static. People can not flow there.

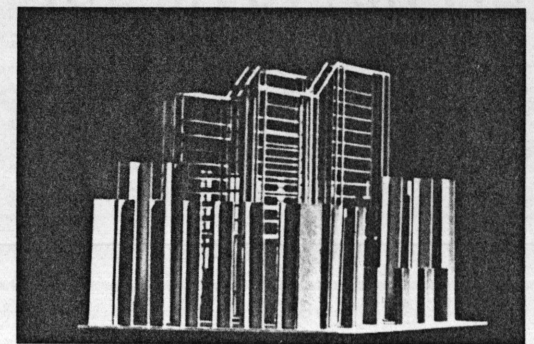
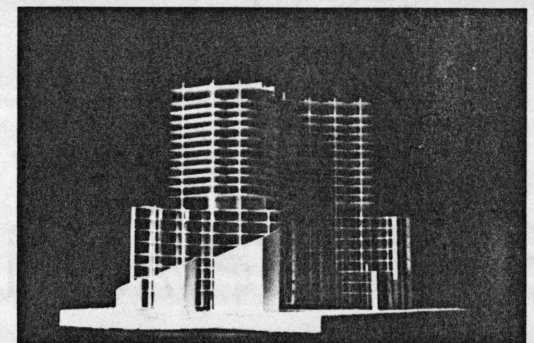
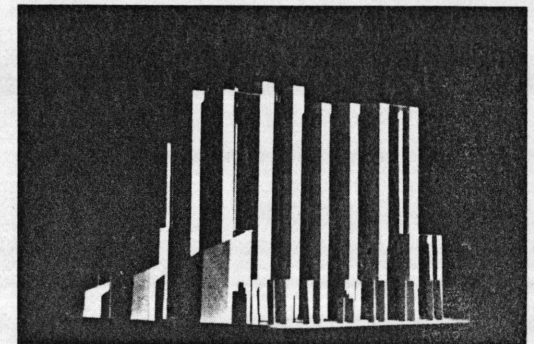
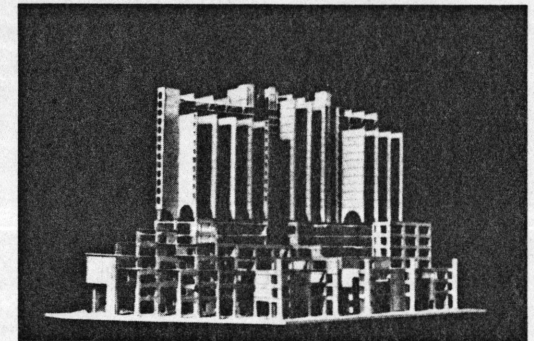
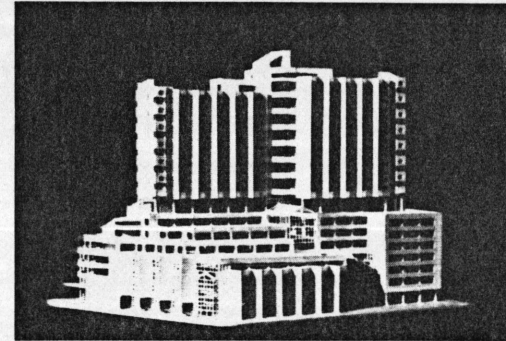
The block of the site becomes a man-made park corresponding to the adjacent Union Square Park. It is a covered street connecting the surrounding streets. Space flows there as people do. At the same time, a structure, continuing the street wall on the block, contains a variety of functions.

Model-making is a means of design. Once a model is made with thoughts and feeling, our senses and intuition give us greater insights.

Five models are developed sequentially. Model One is developed from the original concept. Then, some ideas from it lead to the second one. The feedback from the previous models continue the development of models.

Concepts with the first,
Scale with the second,
Structure with the third,
Functions with
the fourth and the
Final system with
the fifth model
are explored.

The intention of this thesis is to explore an urban space and the process of design by developing thoughts and evolving ideas with models.



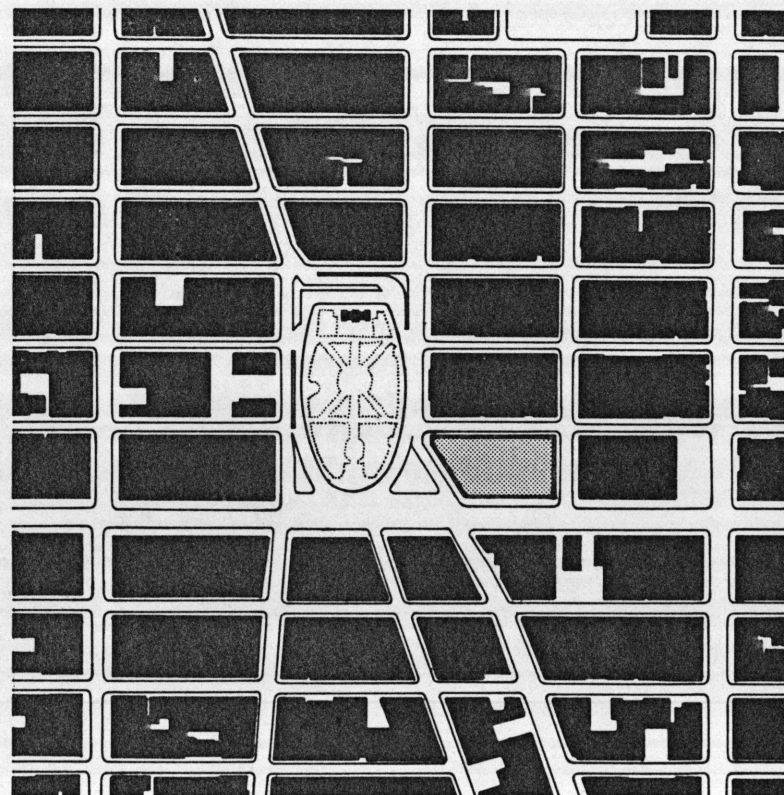
THE PLACE

" A place is a space which has a distinct character. Since ancient times the 'genius loci', or 'spirit of place', has been recognized as the concrete reality man has to face and come to terms with in his daily life. Architecture means to visualize the 'genius loci', and the task of the architect is to create meaningful places, whereby he helps man to dwell"

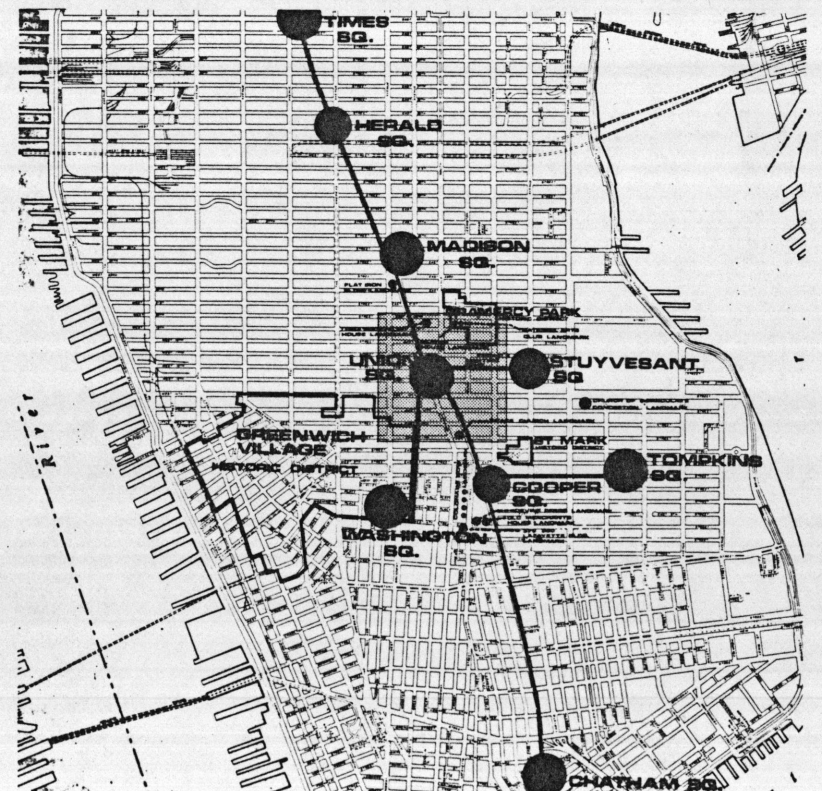
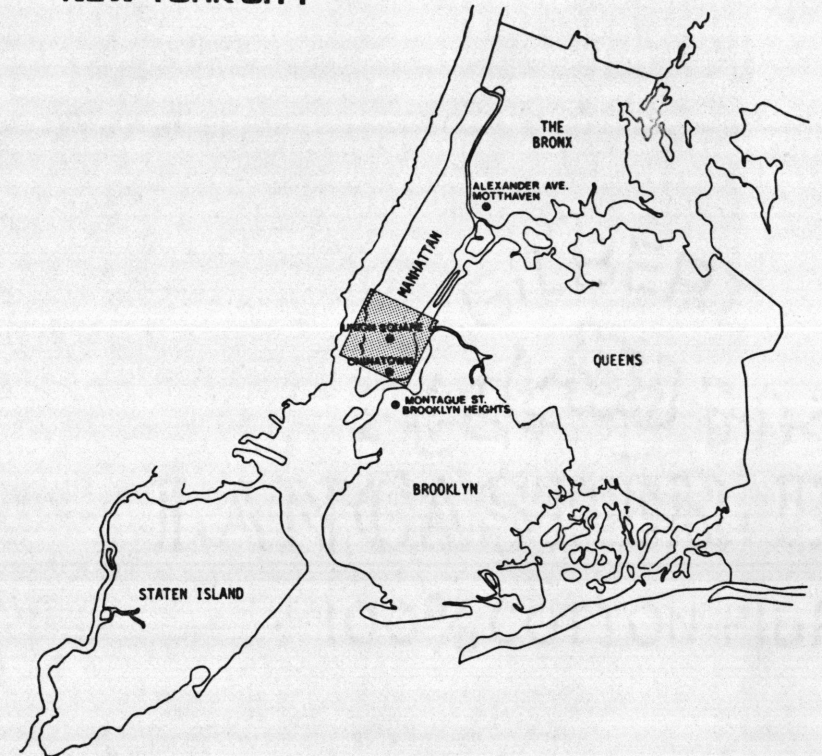
C. Norberg-Schulz

"Disaster, preservation, renewal, growth, revolution - each of these characteristic transformations presents different problems for managing the environment. Common to them all is the perception of change - not only those objective alterations in the state of things but what we understand them to be and how they connect with our hopes and memories and sense of time's flow."

Kevin Lynch



NEW YORK CITY





Union Square East, 1890



Union Square and Surrounding Area in New York City, 1890



Union Square Park prior to renovation in mid-Thirties.

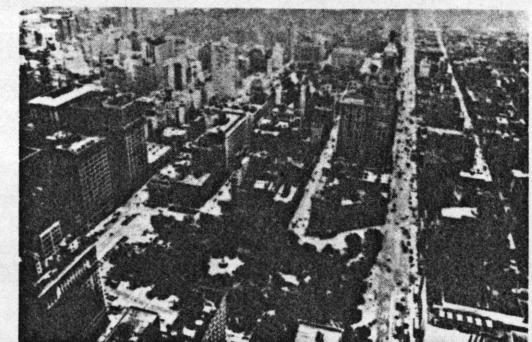
The grid pattern streets of New York City are interrupted by Broadway and parks. This interruption breaks the monotony of the street pattern. The site is located at Union Square; an area where grid streets, a park and diagonal streets meet.



Union Square Park filled with rally participants (after Park Renovation).

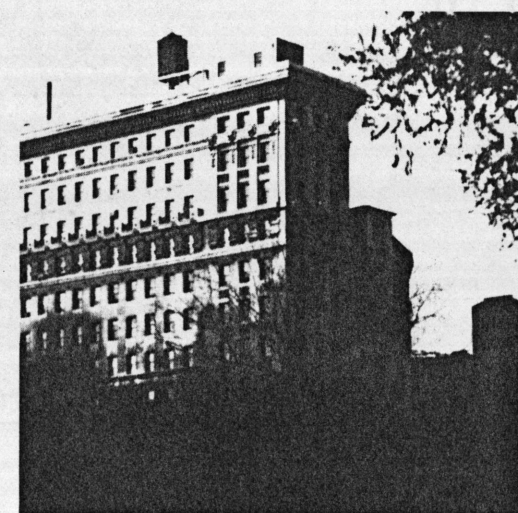


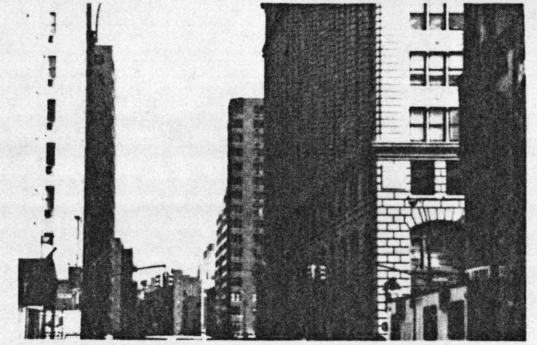
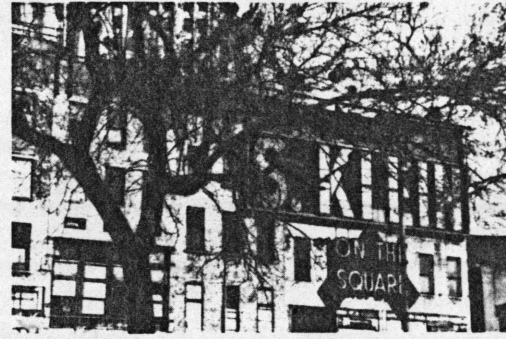
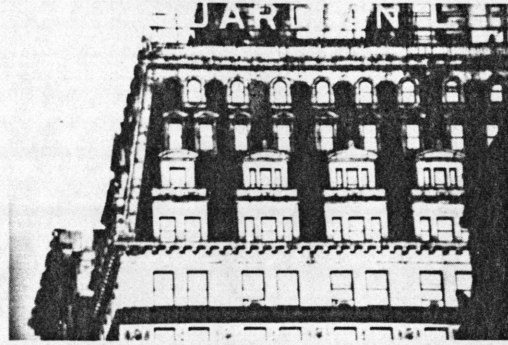
Equestrian statue of George Washington, Union Square East at 14th Street.



Union Square, the center of midtown Manhattan South, has changed character many times since its official dedication in 1839. It began as an elegant residential square poised around a private park in the English style. Before long, retail stores and theaters arrived and made it the city's central business district. In the early 20th century, Union Square gained a reputation for bargains and for free speech rallies.

After the large stores and theaters moved to midtown Manhattan North, a new center of business, the square became the locus of many small shops. Its central location, combined with an abundance of public transportation - three subway and seven bus lines - makes it a prime area for shops, office buildings, institutions and housing.

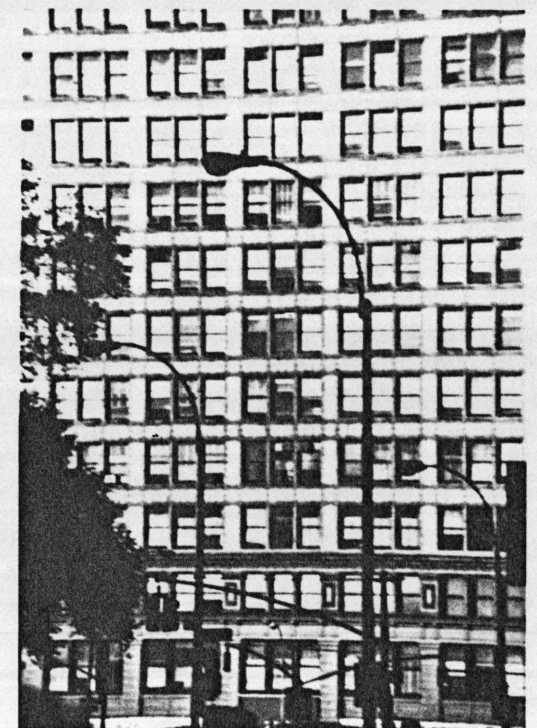




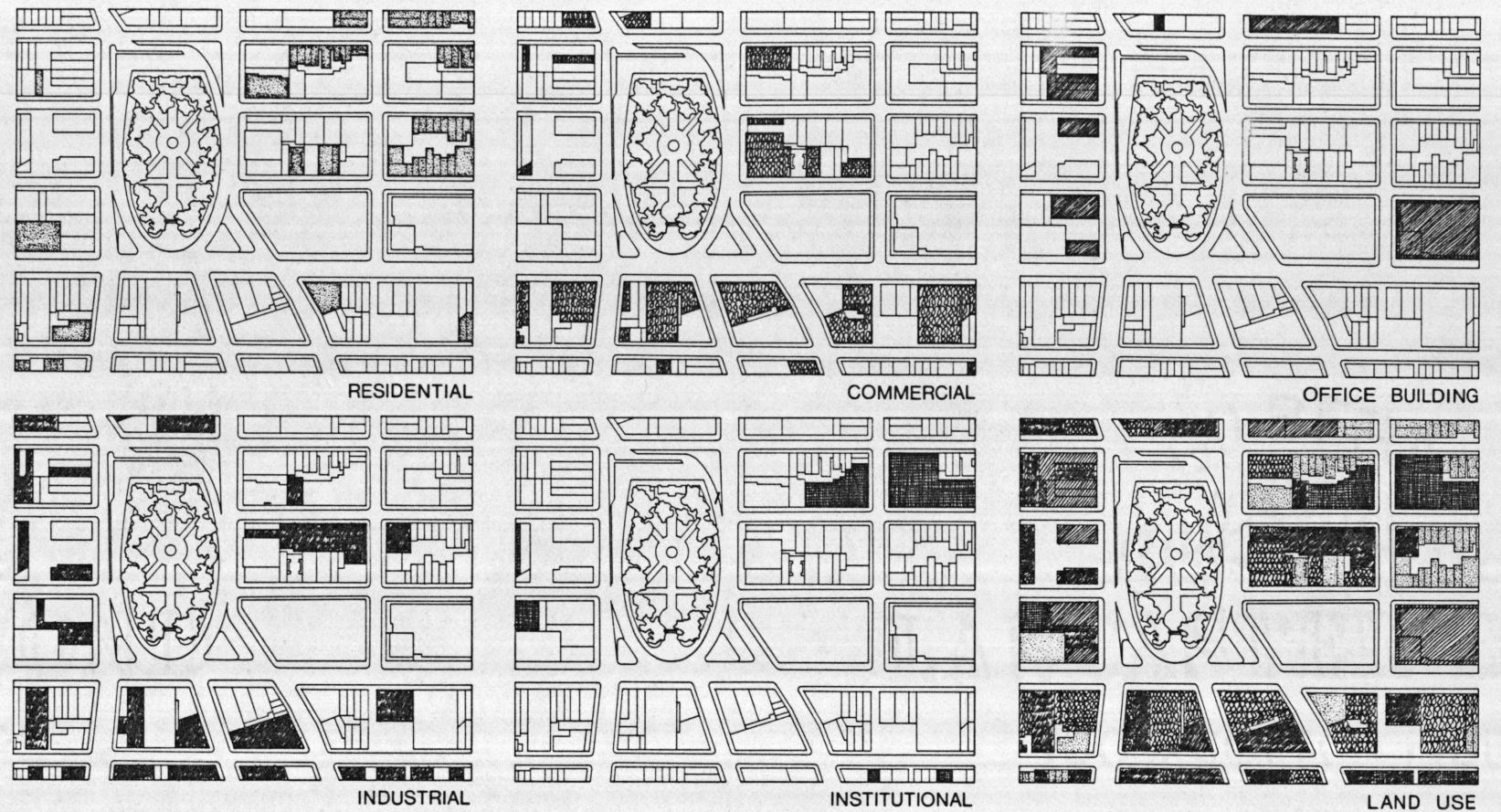
Despite its geographical advantages, a certain greyness has overtaken the streets, Union Square Park and vacant stores at the edges. The traffic conflict between pedestrians and vehicles isolates some of the blocks and the park. The mezzanine and the platforms of the Union Square subway station are dingy and forbidding.

The site is the block adjacent to the park and is bounded by 14th, 15th Street, Union Square East, and Irving Place. Despite the advantages of the locality, S. Klein, a department store which once thrived there, closed in 1975. The building was torn down in 1984.

Union Square has vitality, commercial potential and a future. The development of the site block is the catalyst for the revitalization of Union Square. An inner street provides pedestrians with a space for street activities. The connection to the park and to the subway station relieves the traffic conflict and brings more people to the park and to the streets.



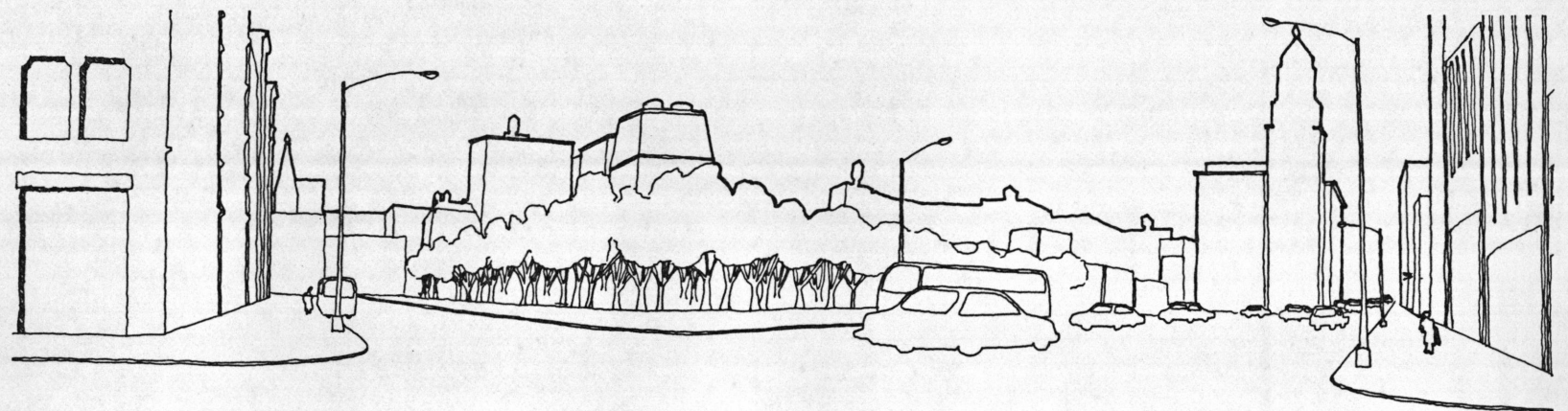
THE PROGRAM



The district is composed of a variety of land uses; shops, office buildings, institutions, light industries and housing. All are mixed together in random patterns.

A mixed-use development integrates various functions within a single project to contribute to a lively and diverse environment, and attracts large numbers of people who add to the vitality of the streets.

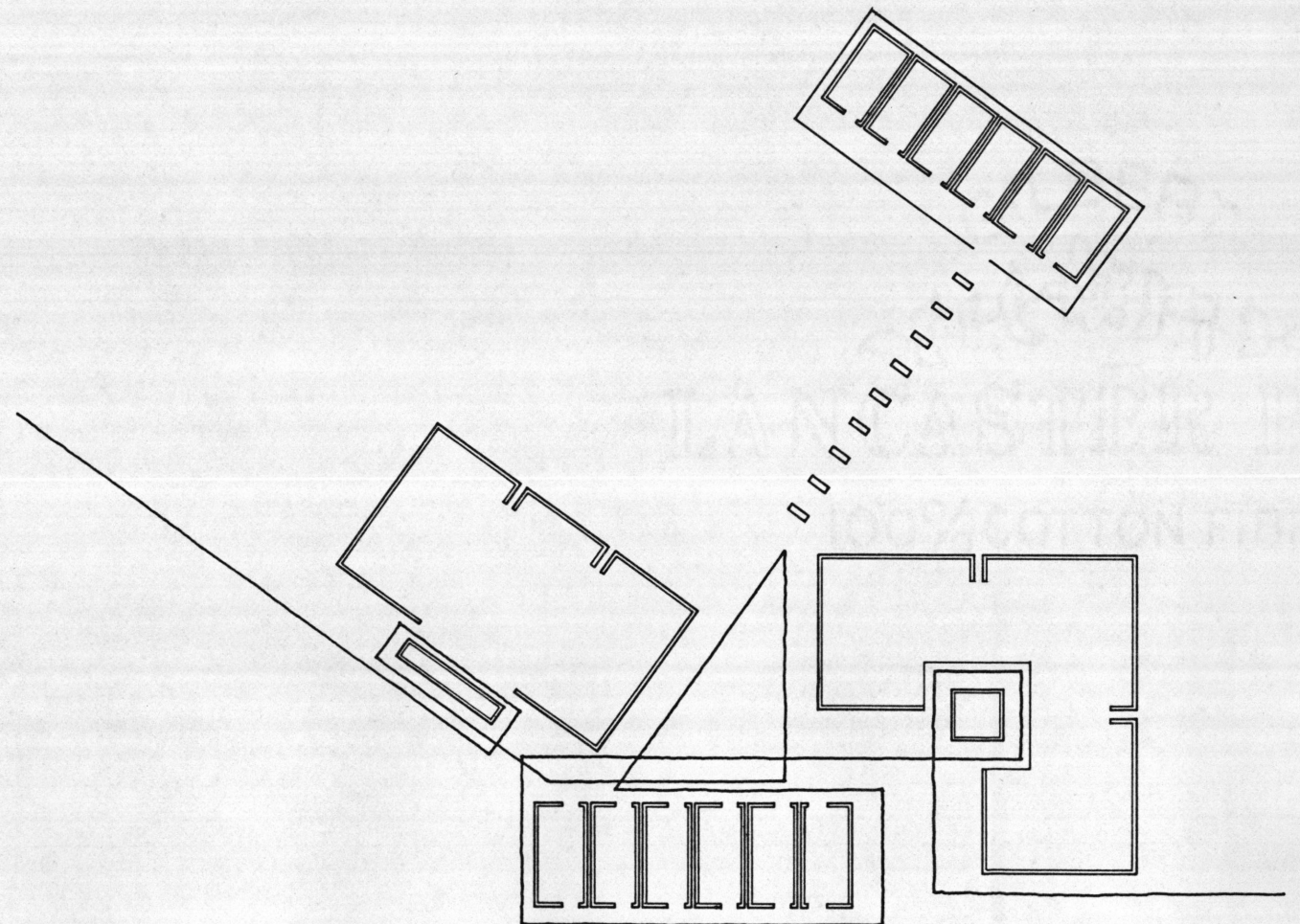
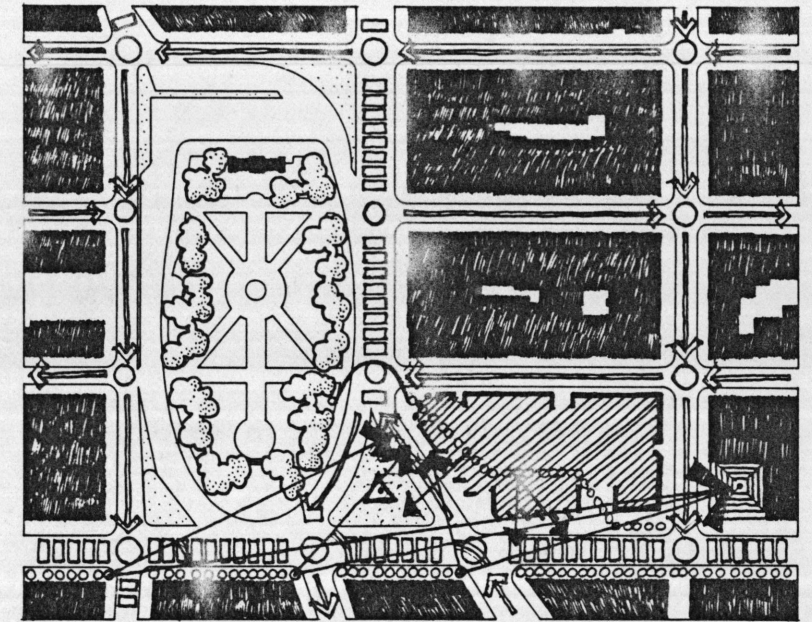
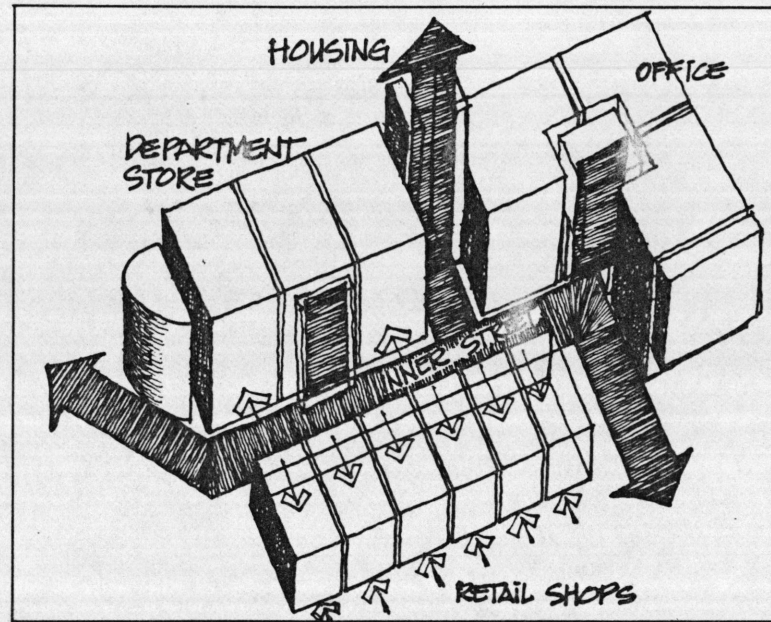
Many mixed-use projects have been developed since the 1950's, but few were able to accomplish their objective. The main reason is that they were designed as self-contained entities intended to create closed environments. By doing so, they ignored the energy and vitality of the real city.



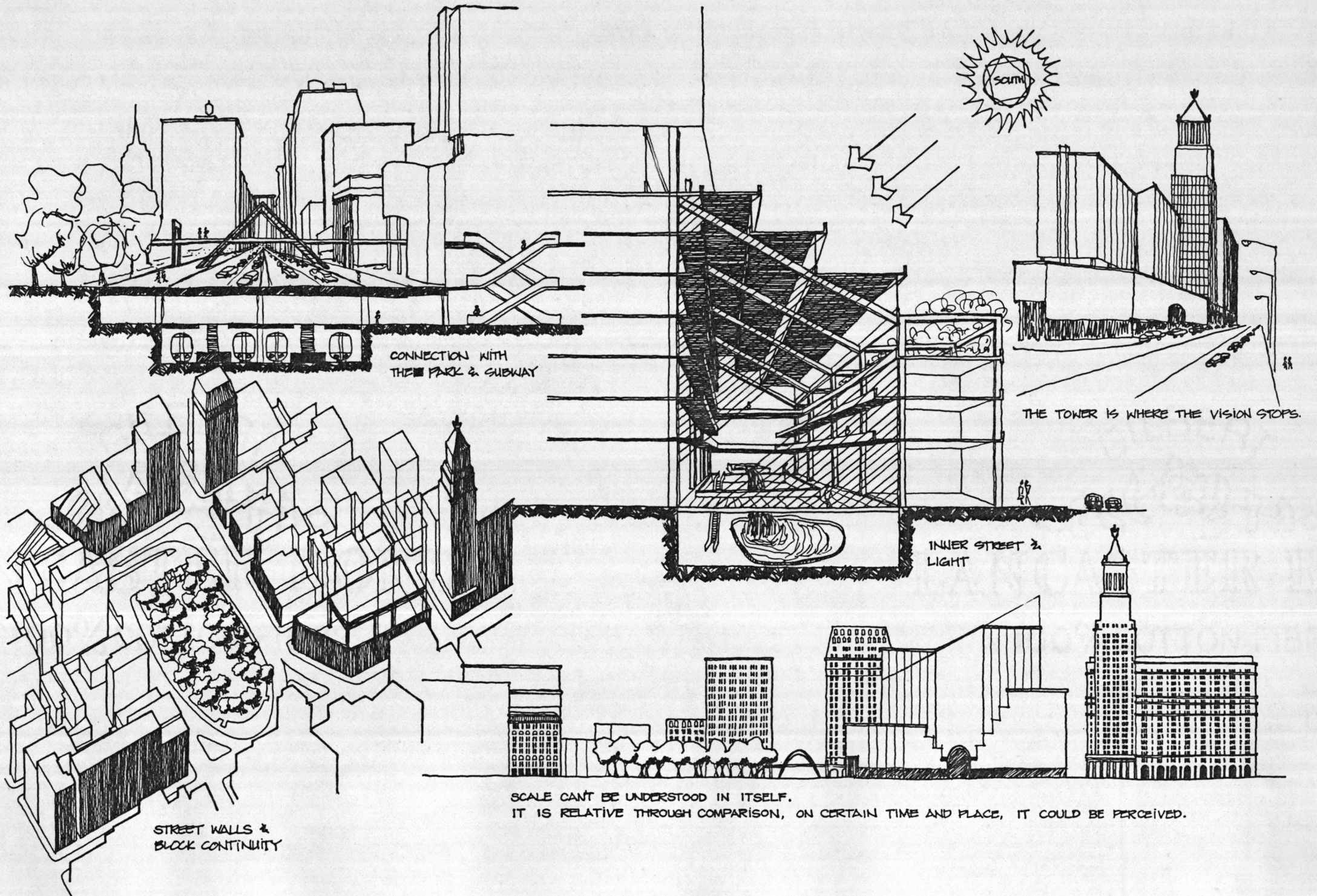
A new approach to mixed use projects is suggested in this thesis; open the building to the public and clearly differentiate the functions.

Free accessibility to the building is necessary. An open place at the ground level, a space for activities such as meeting, talking, eating, watching, thinking, is essential. The ground level, which becomes an extension of the street, provides free access to the building, and allows the street activity which gives the city its life; The street is expanded to the building and an inner street is developed to provide a place for people to pause. This inner street is the connection between the building and the streets.

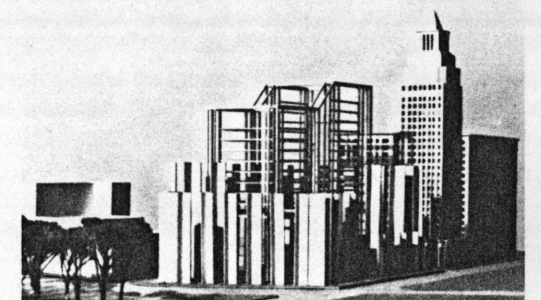
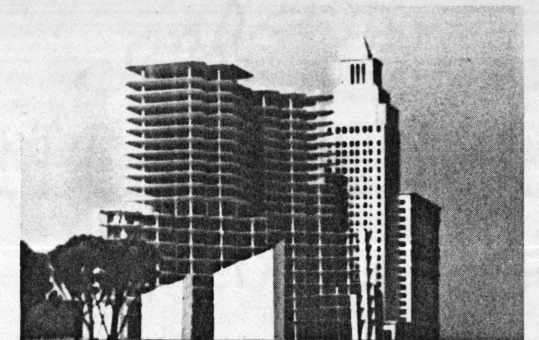
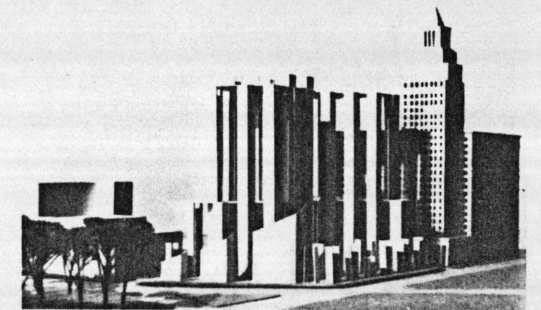
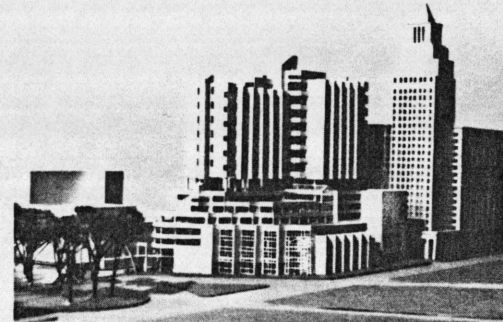
The high-rise block above the inner street contains four functions; offices, housing, a department store and retail shops. These four functions represent the character of the area and combine harmoniously the mixed use program according to its appropriate level of privacy and its use overtime. The functions are united as they are in a house. The inner street, as a open space, connects and buffers the four functional components. It acts as a service space for the four profitable spaces. As a void space, it divides the building producing the four masses. Here all the people, pedestrians as well as the tenants of the block, mingle with each other 24 hours a day.



THE CONCEPTS



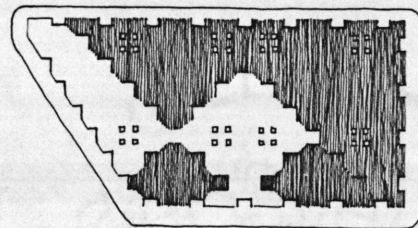
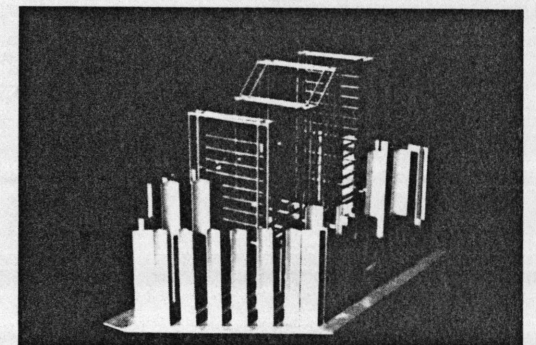
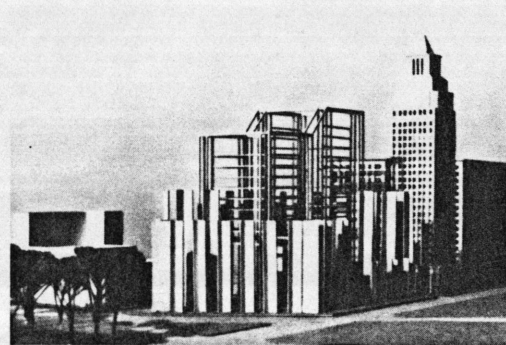
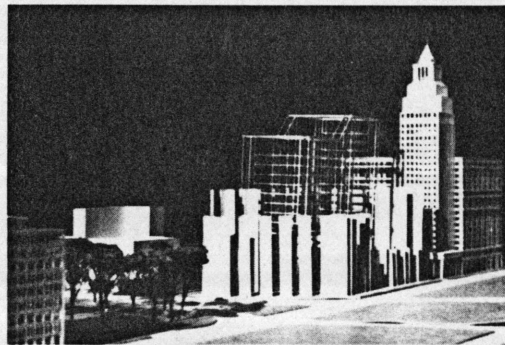
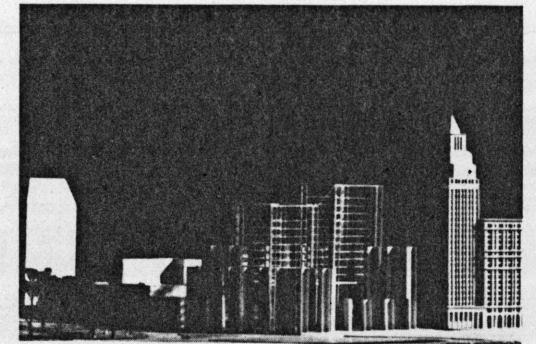
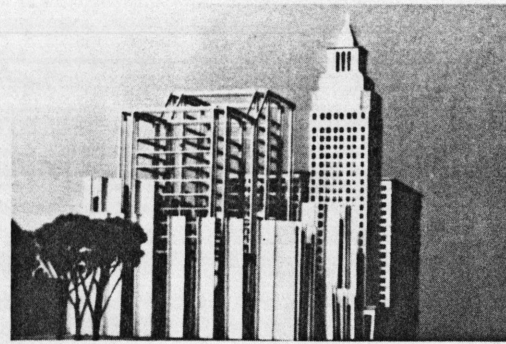
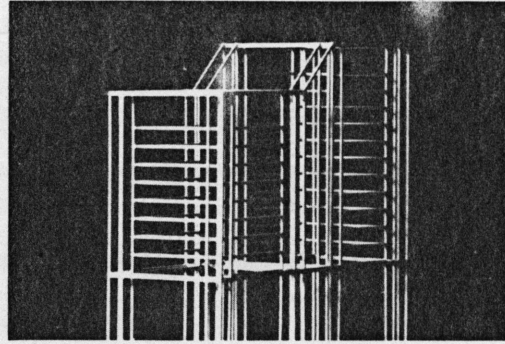
THE MODELS (THE PROCESS)



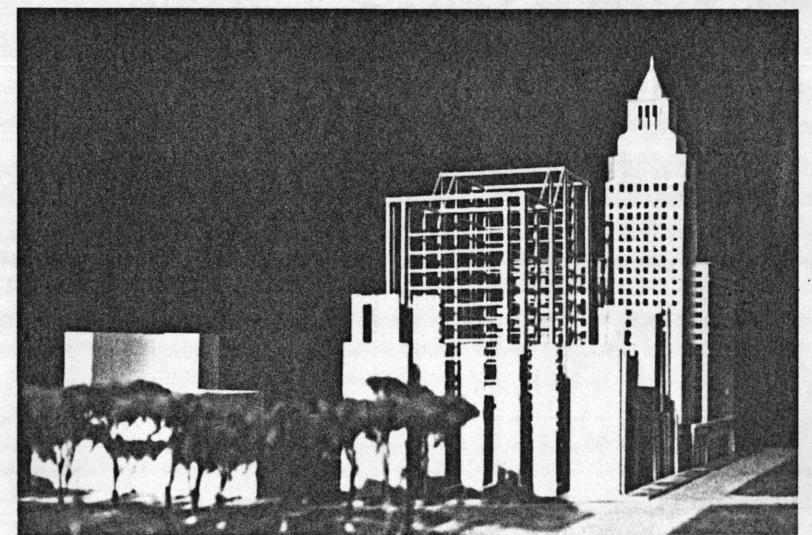
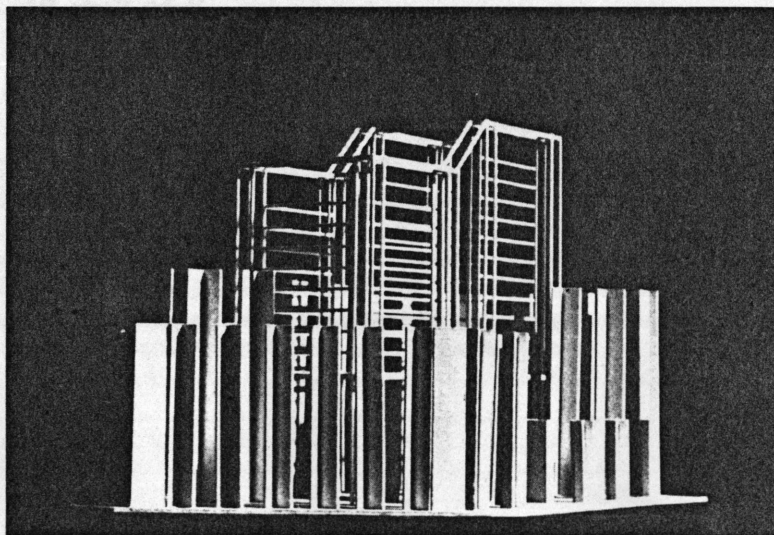
"Once we have modeled or represented an idea, that representation, the object made, begins to have a life of its own, somewhat separate from or beyond our original conception. The new life of the physical object then conditions further ideas and thoughts in a process of development."

Michael Graves

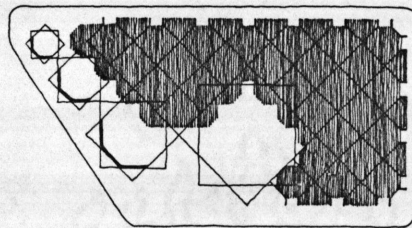
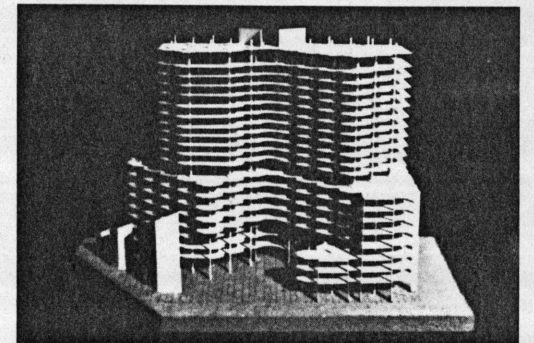
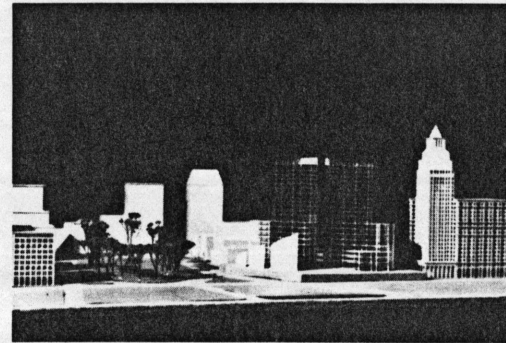
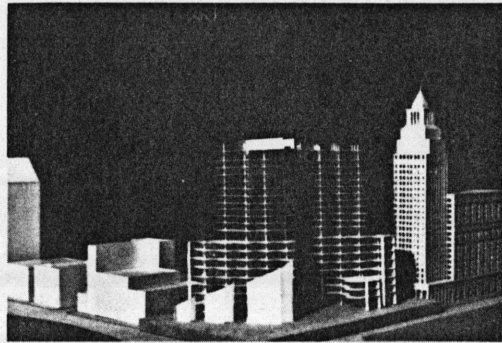
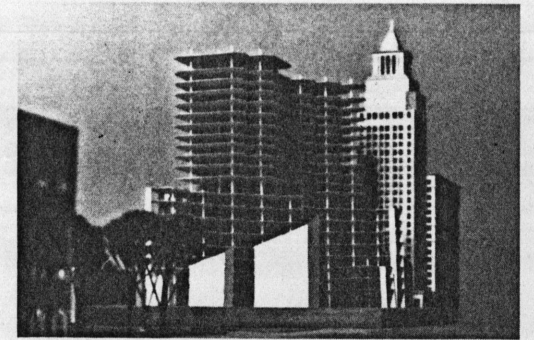
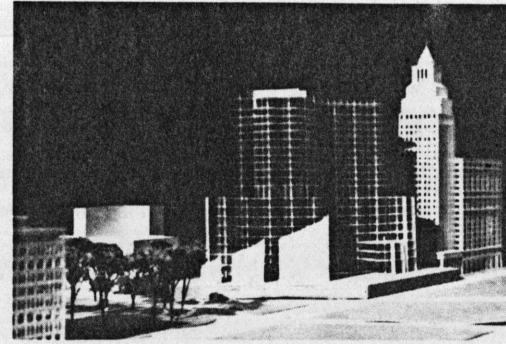
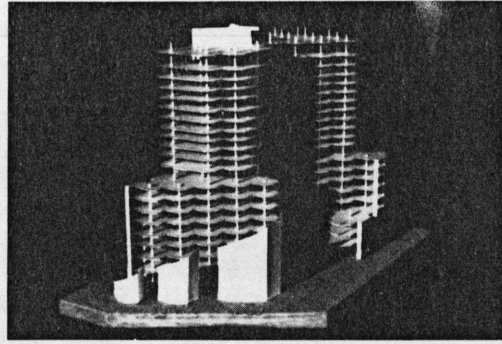
Model One



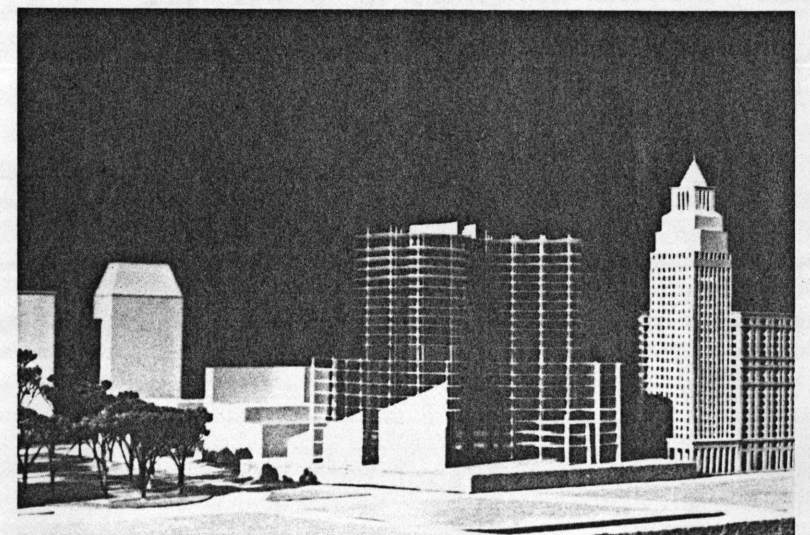
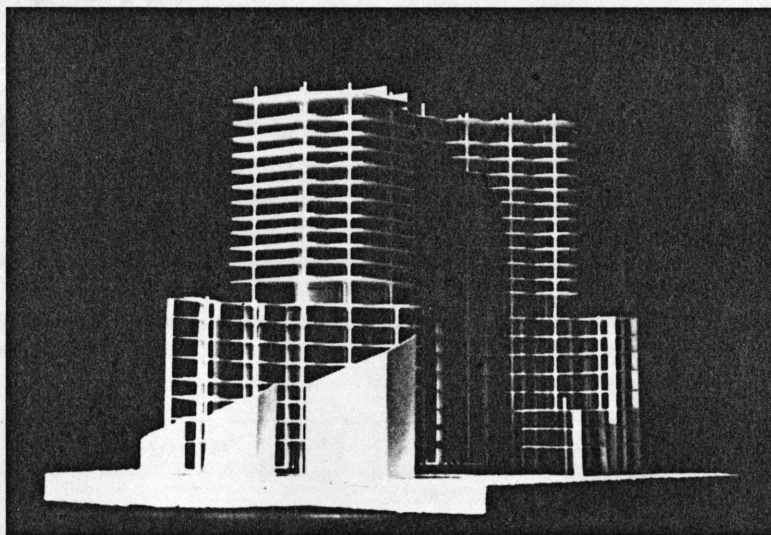
The most important development represented in Model One, the concept model, is the block continuity with its boundary structure. Every block in New York City expands its walls to its boundary. The boundary walls form the block continuity which is one of the main characters of the city. The open space at the center of the structure implies free access to the inside despite the boundary walls.



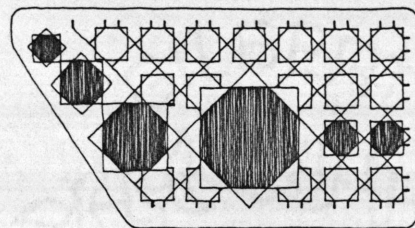
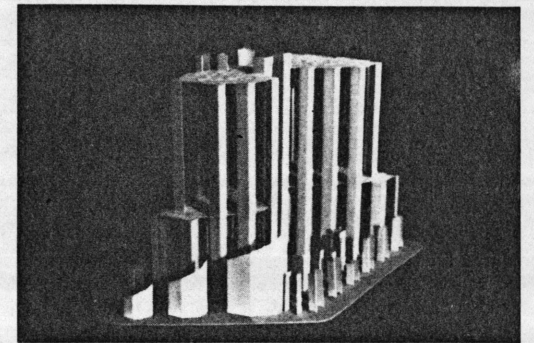
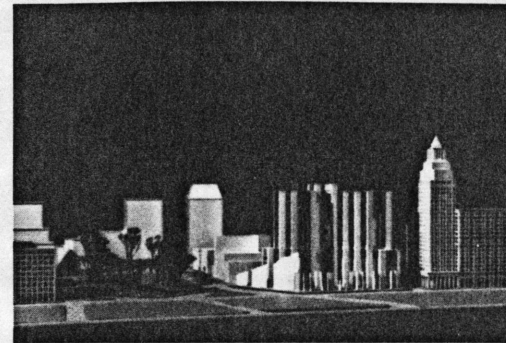
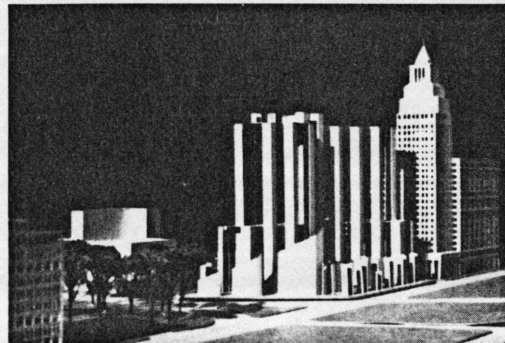
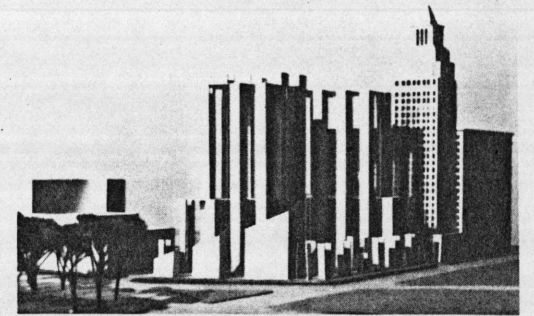
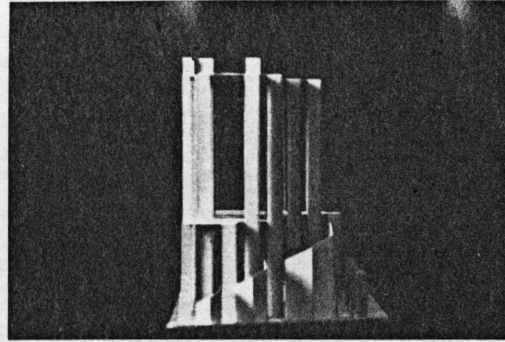
Model Two



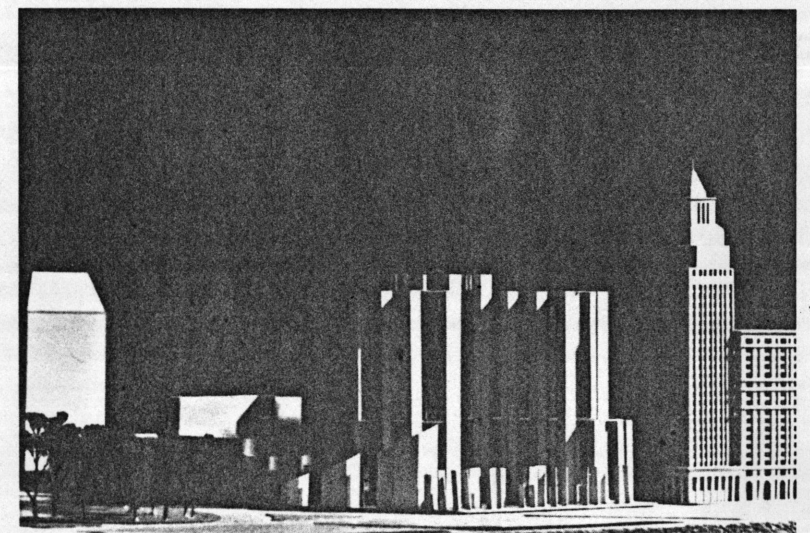
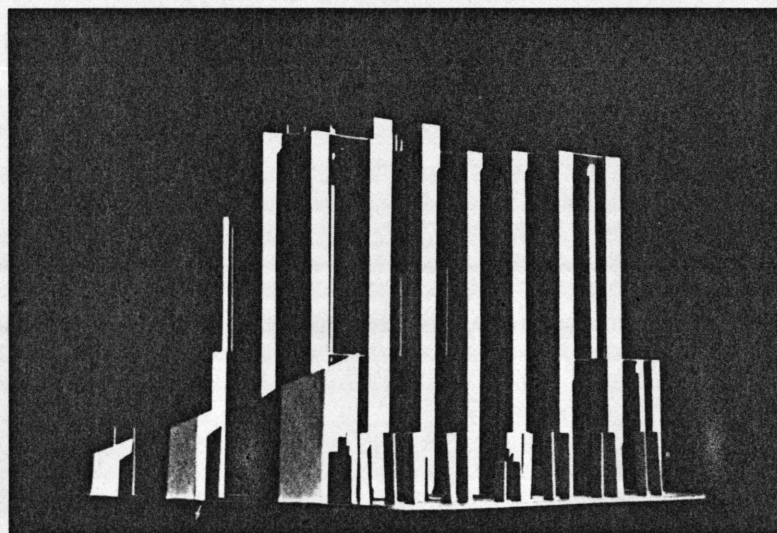
The implication of Model Two, called a model of volume, is scale; from the urban scale of comparison of volume with its surroundings, to the human scale of the building itself. It also implies functional division and its interrelationships. The central open space buffers any conflict between different functions, and attracts people into the place. The open space on the west side induces the negative power of the park into the mass. Another functional indication in this model is the vertical buffer floor between commercial and residential area.



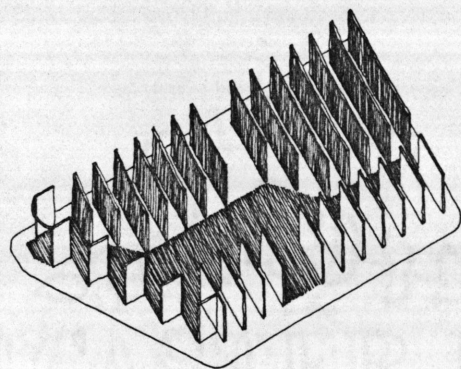
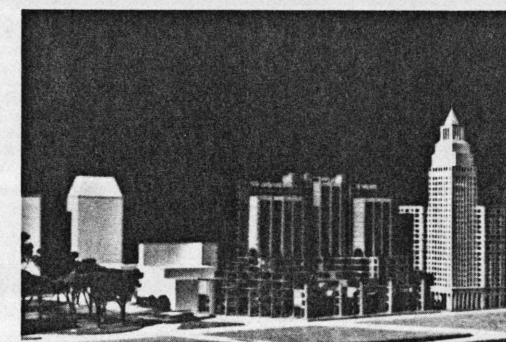
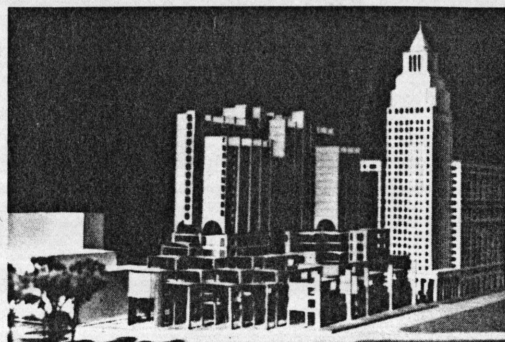
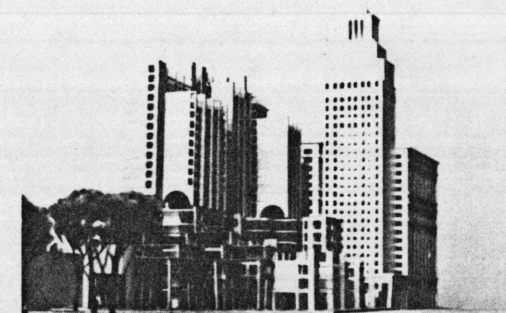
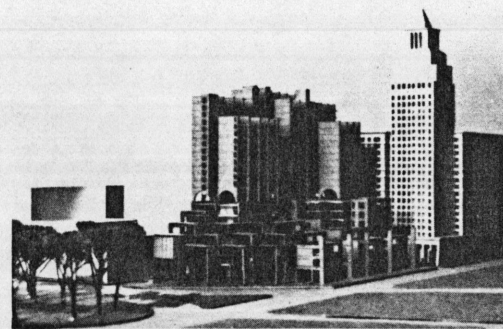
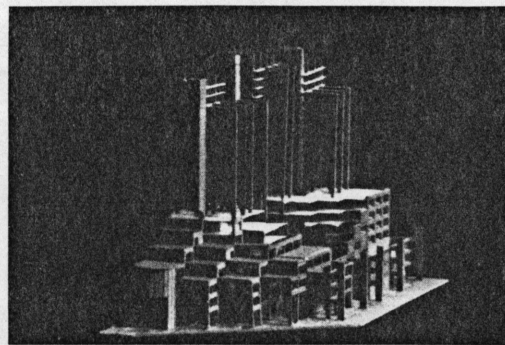
Model Three



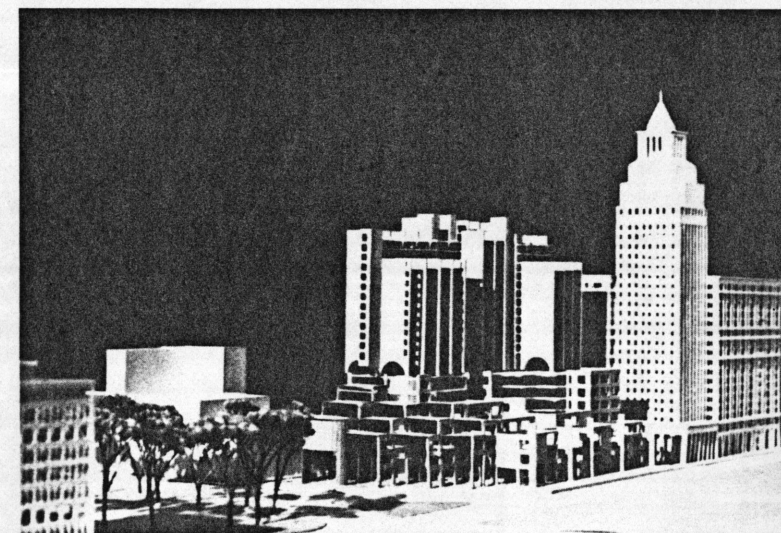
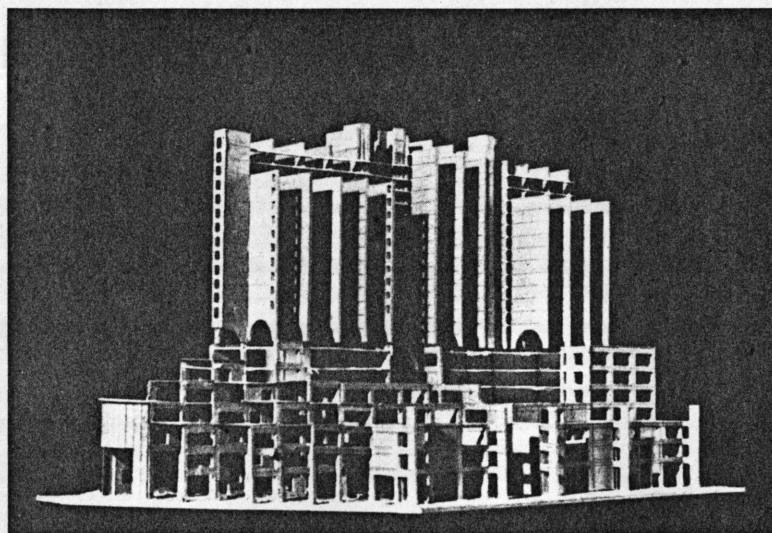
Model Three involves the investigation of a structural idea. The boundary structure in the first model has been expressed in a different way. The structural system developed here combines the boundary walls and inside columns. The issue raised here is the unity of the block despite its variety of functions.



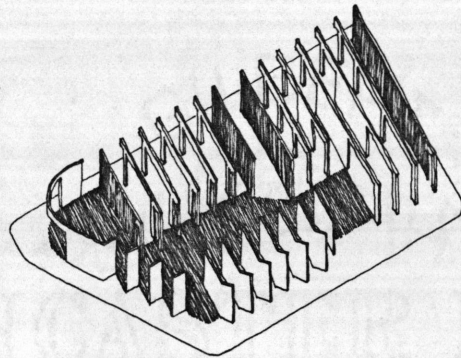
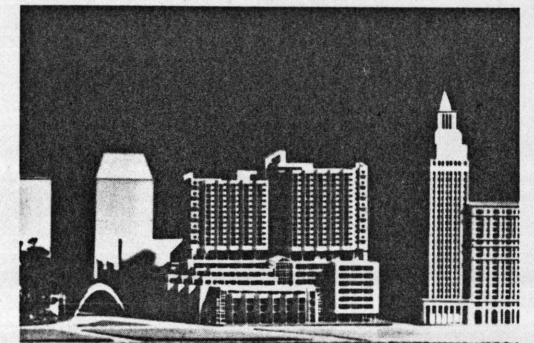
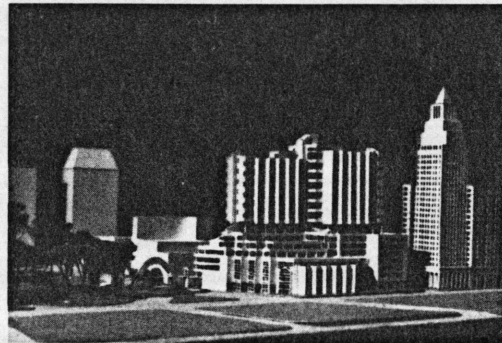
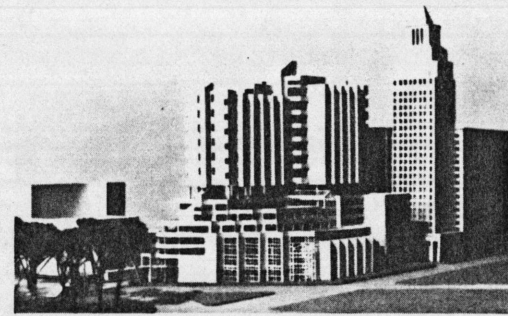
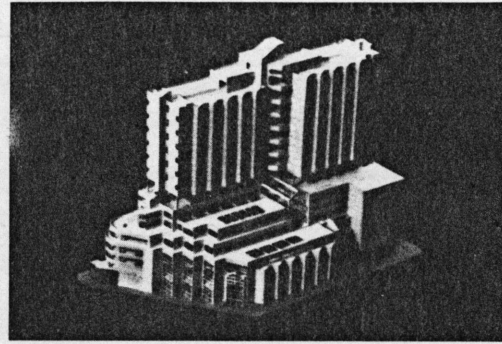
Model Four



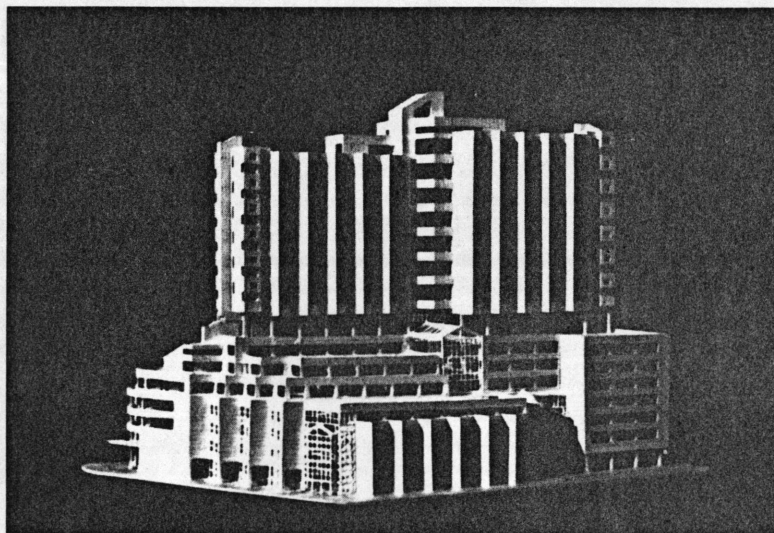
Model Four is a comprehensive model combining all the ideas of the previous models. The planes make it clear that the site is divided into its functional zones without losing its unity. The inner open space remains protected by the armor of the outer walls. On the other hand, it invites pedestrians with its visual openness of the ground level. The structural system becomes a core system which solves the mechanical problems of housing units.

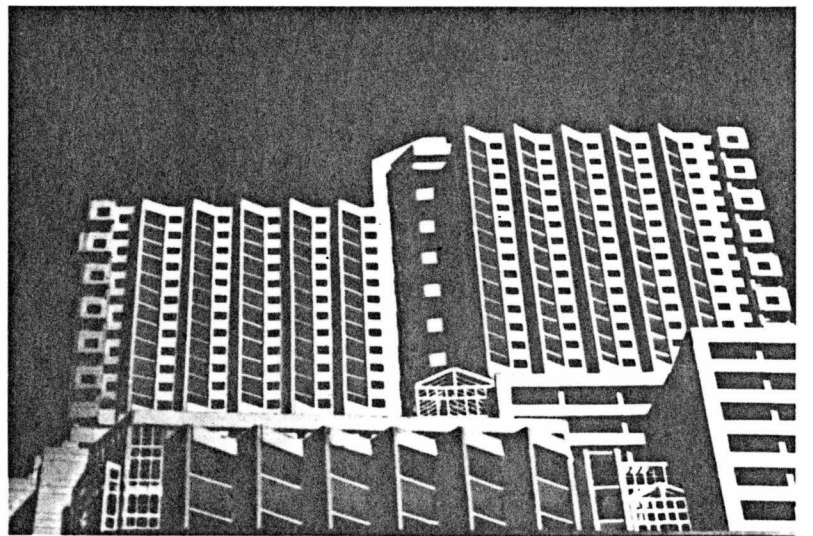
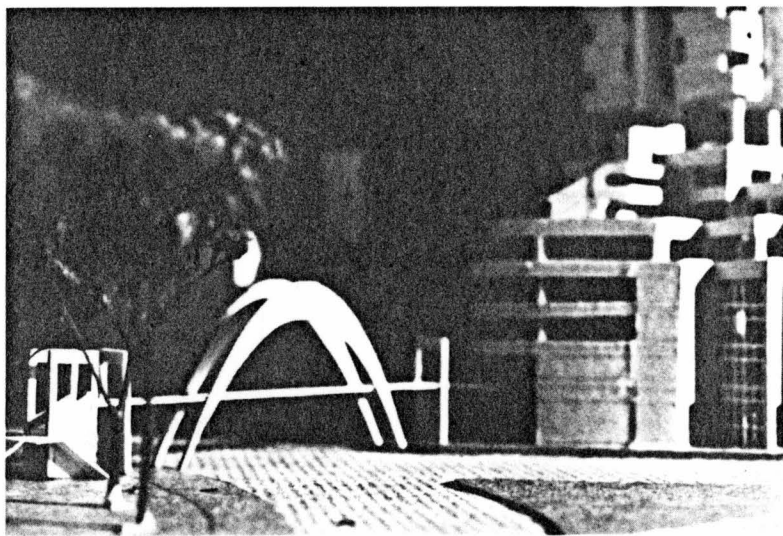
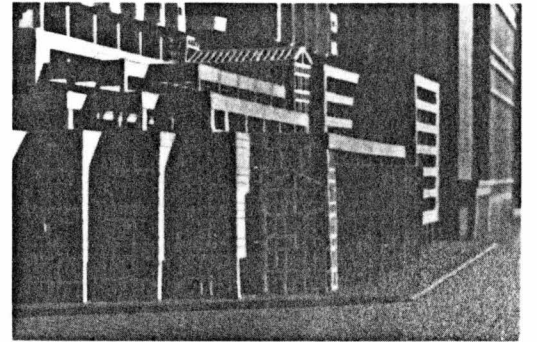
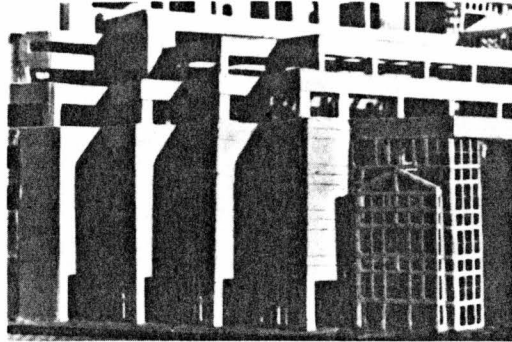
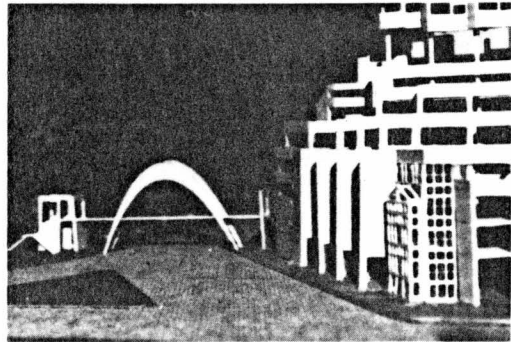
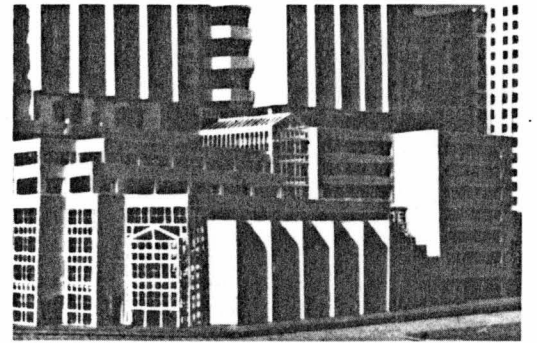
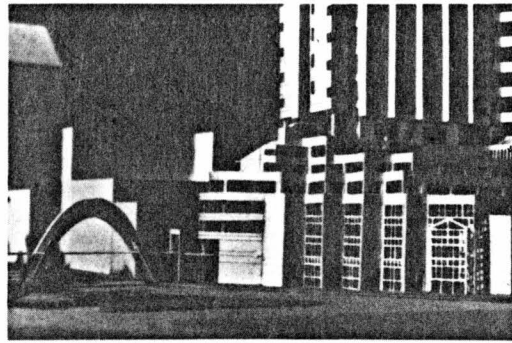
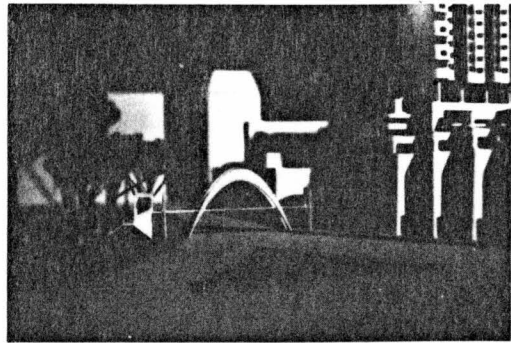


Model Five



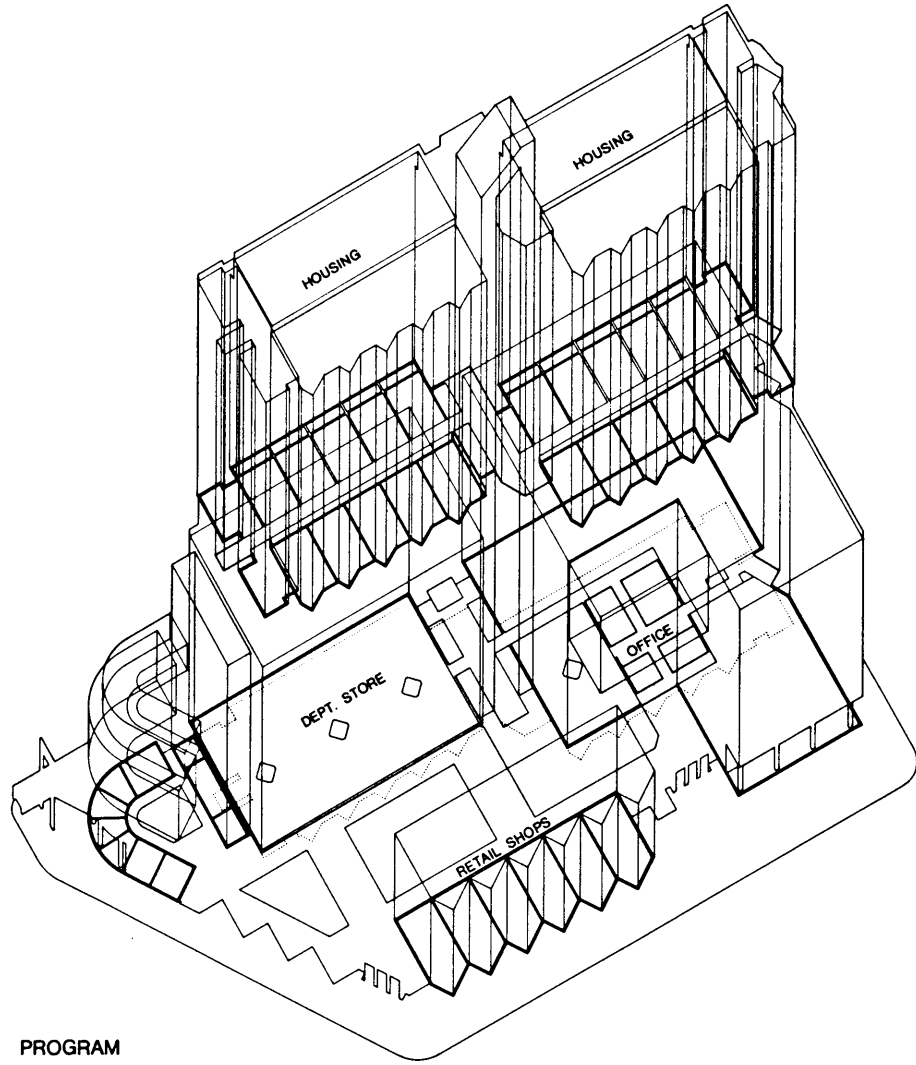
Model Five is the final model. The main change here is the structural system. The bearing-wall system changes to skeleton system to achieve openness of space and the freedom of the walls. The shading walls are also added to protect against excessive sunlight.



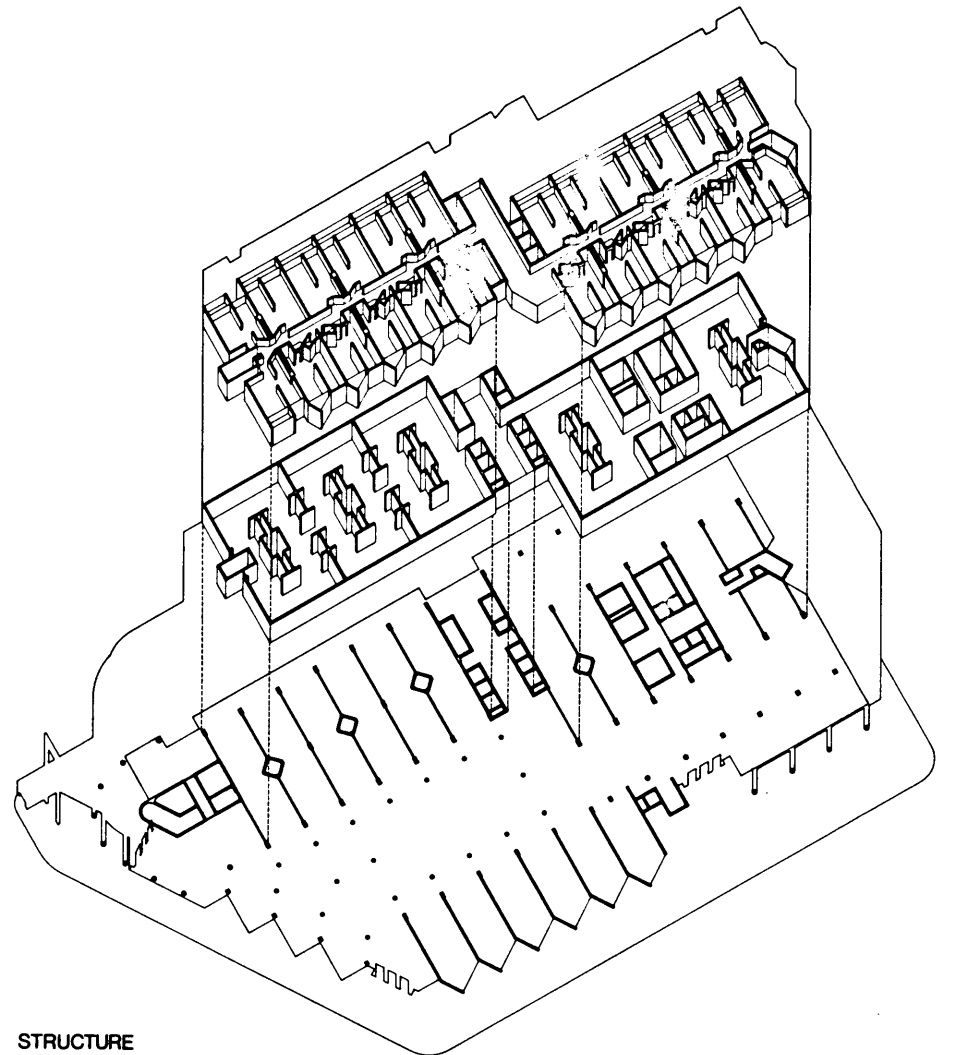


THE PROJECT

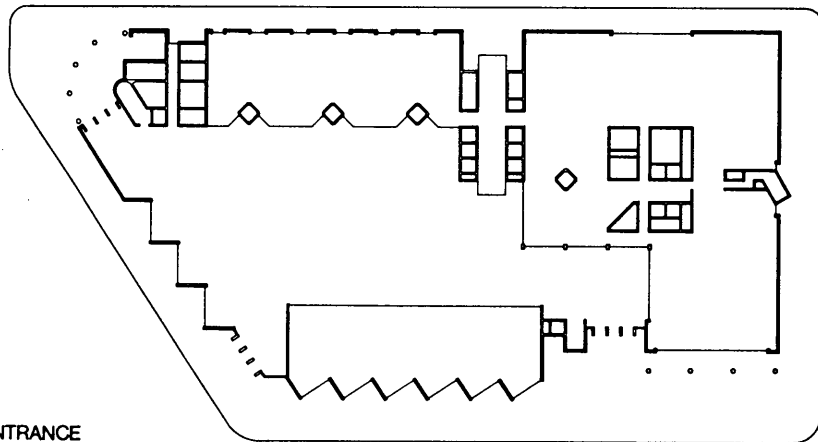




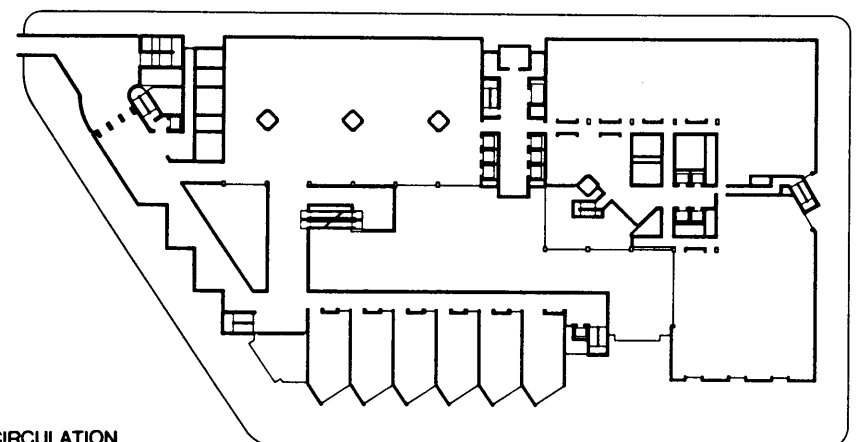
PROGRAM



STRUCTURE

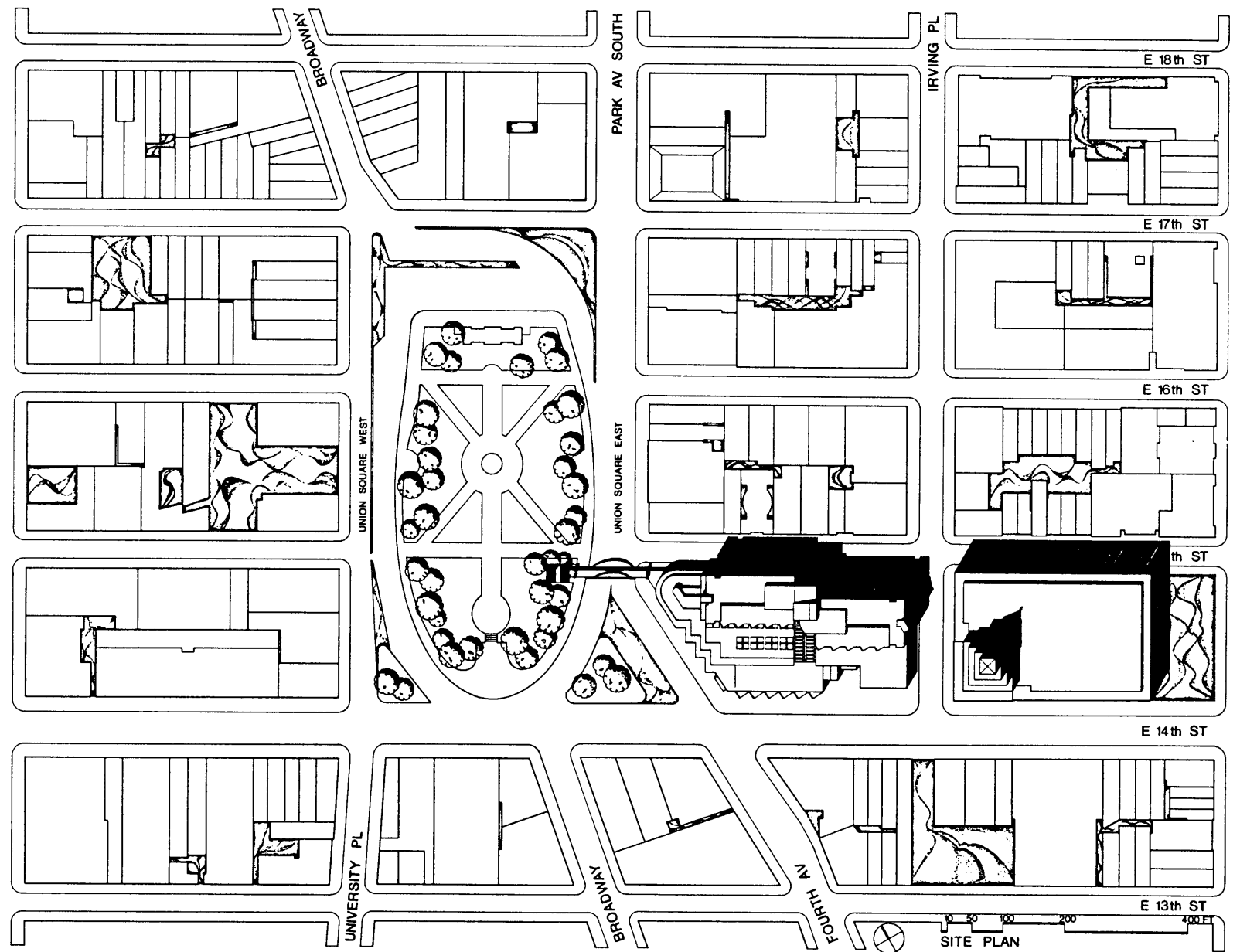


ENTRANCE

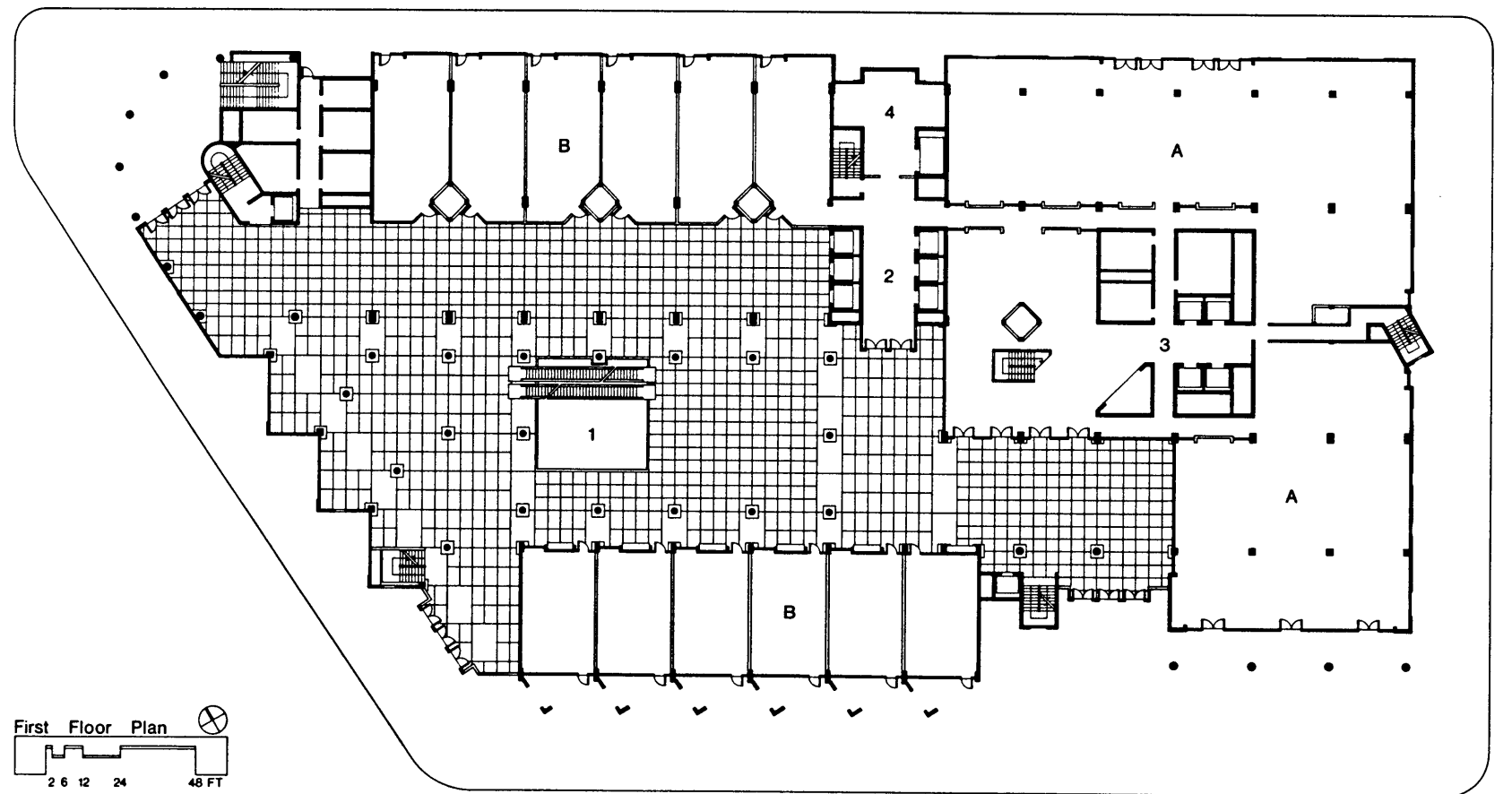
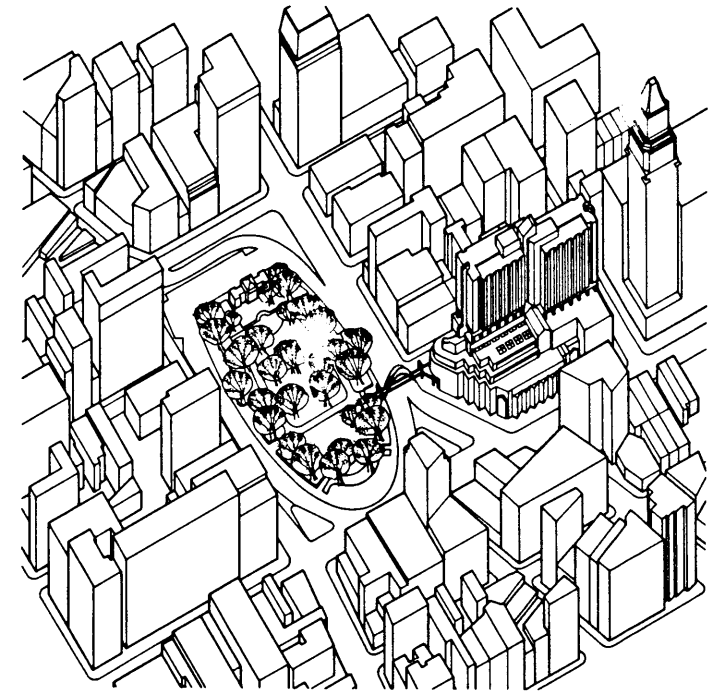


CIRCULATION

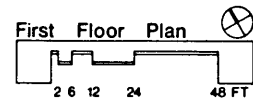
The Site

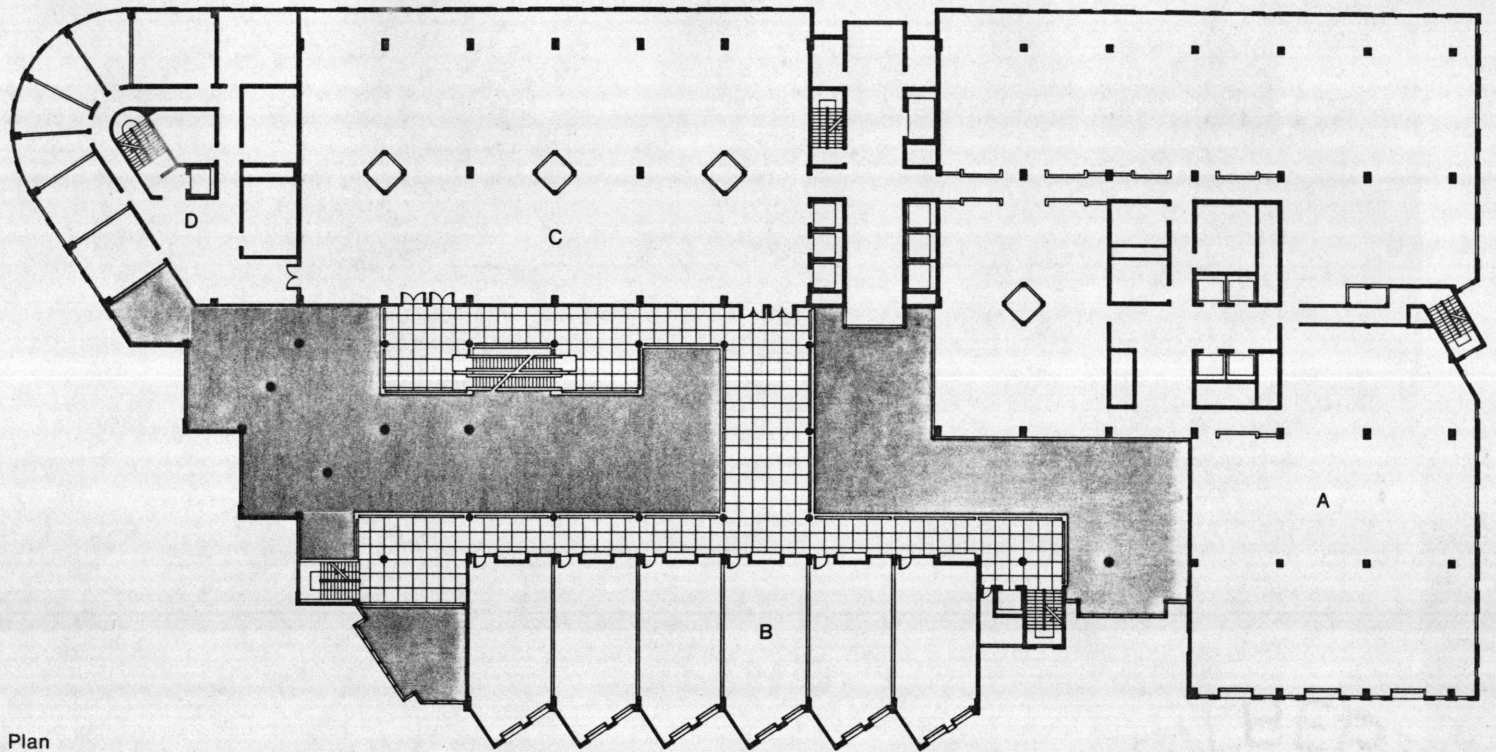


The Plans

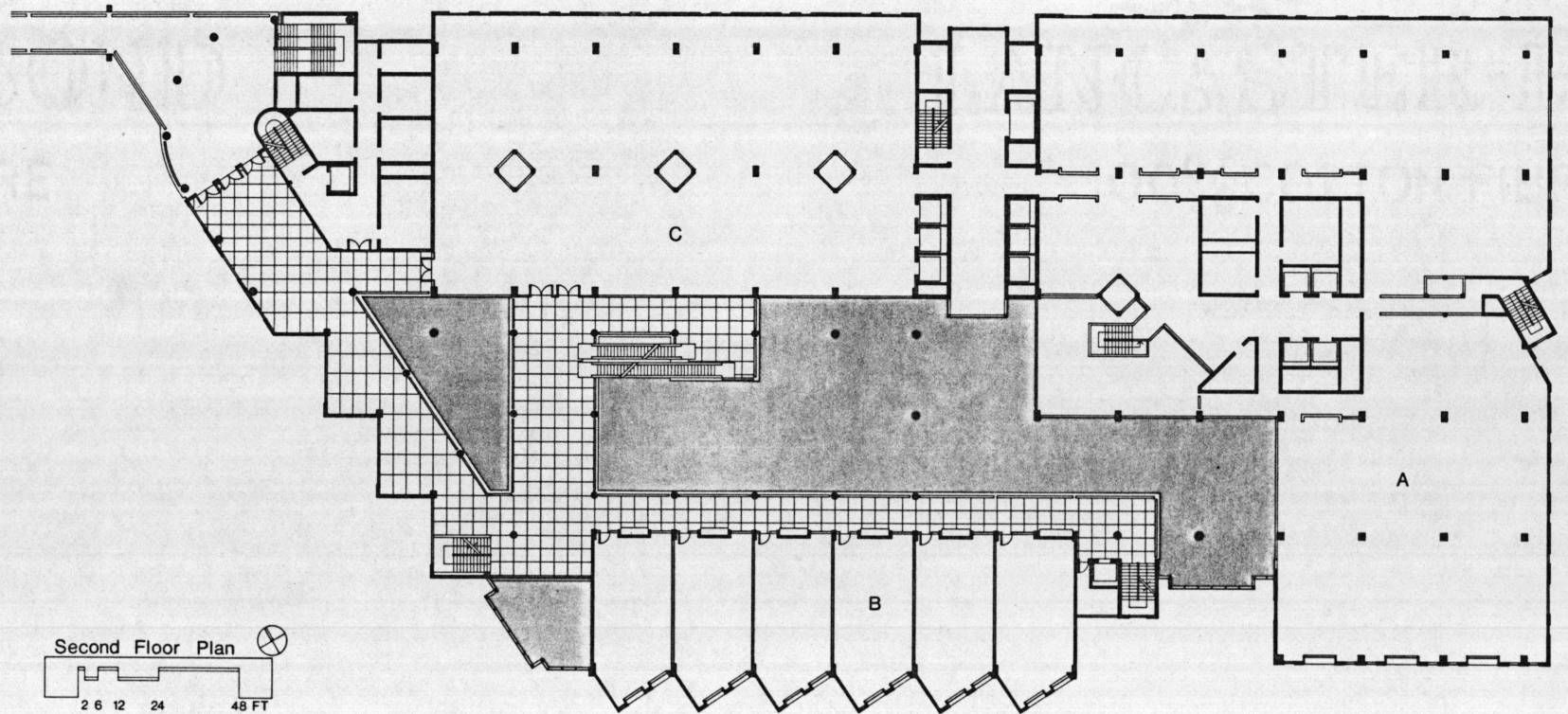


- A. Office
 - B. Retail Shop
 - C. Department Store
 - D. Dept. Store Office
 - E. Day-care Center
 - F. Restaurant
-
- 1. Street Court
 - 2. Residential Lobby
 - 3. Office Lobby
 - 4. Freight Service
 - 5. Roof Court



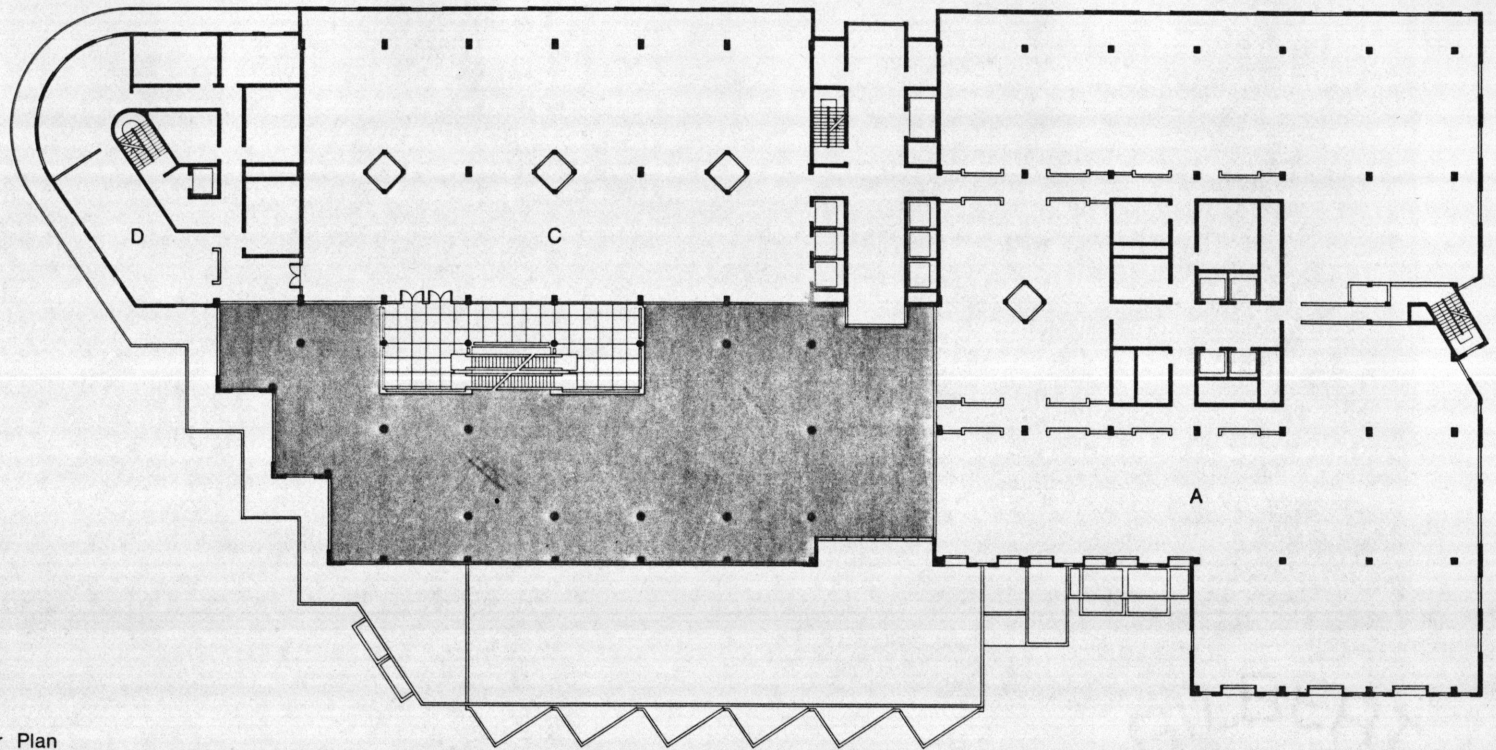


Third Floor Plan

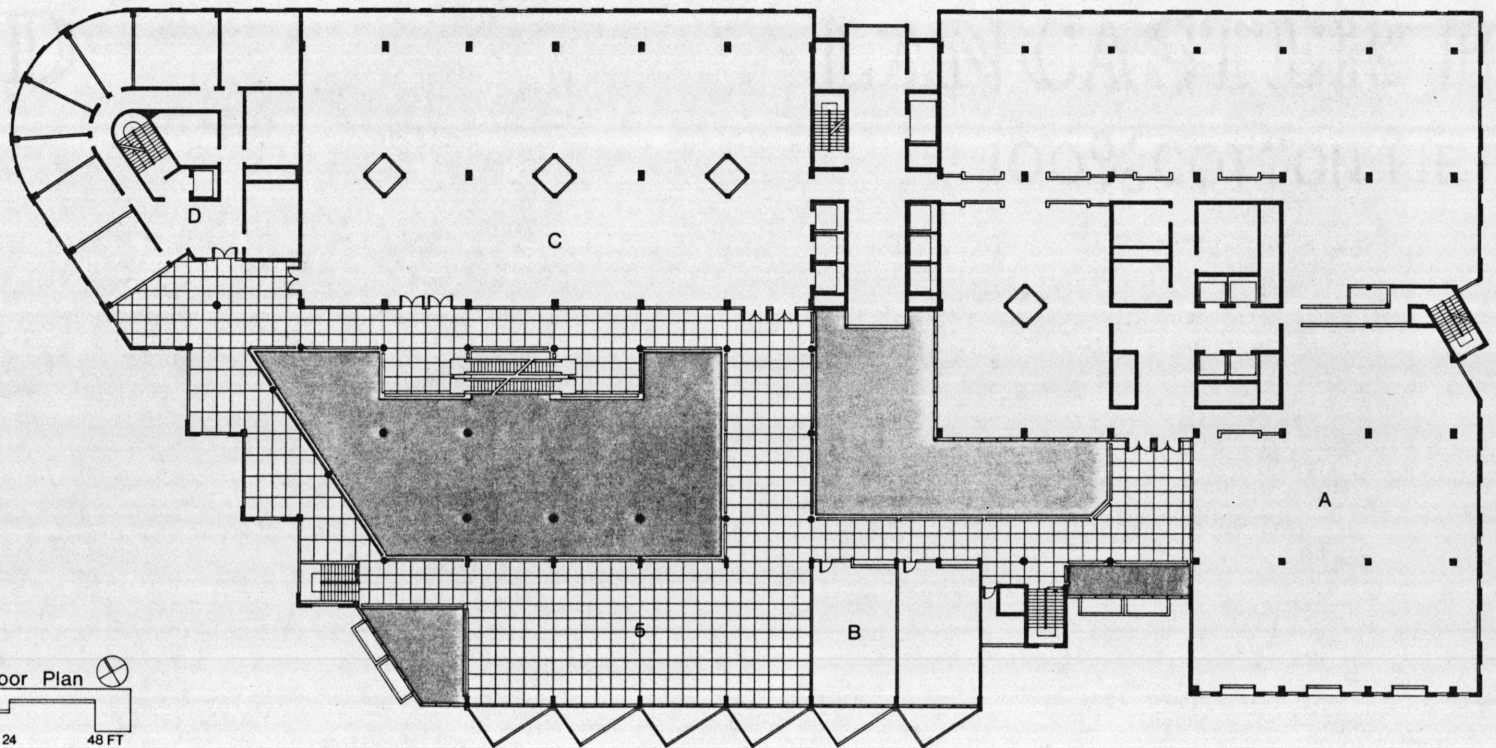


Second Floor Plan

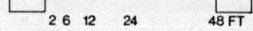
2 6 12 24 48 FT

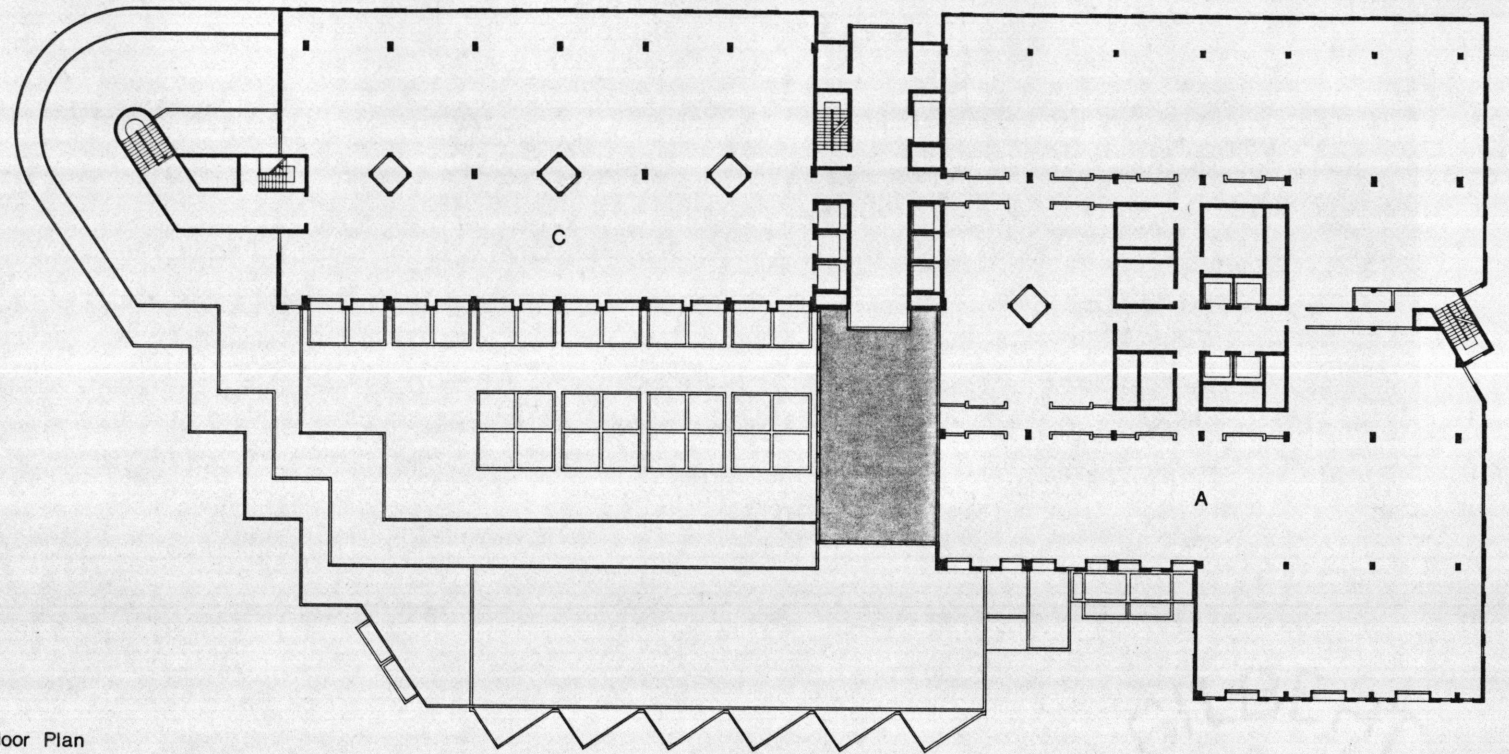


Fifth Floor Plan

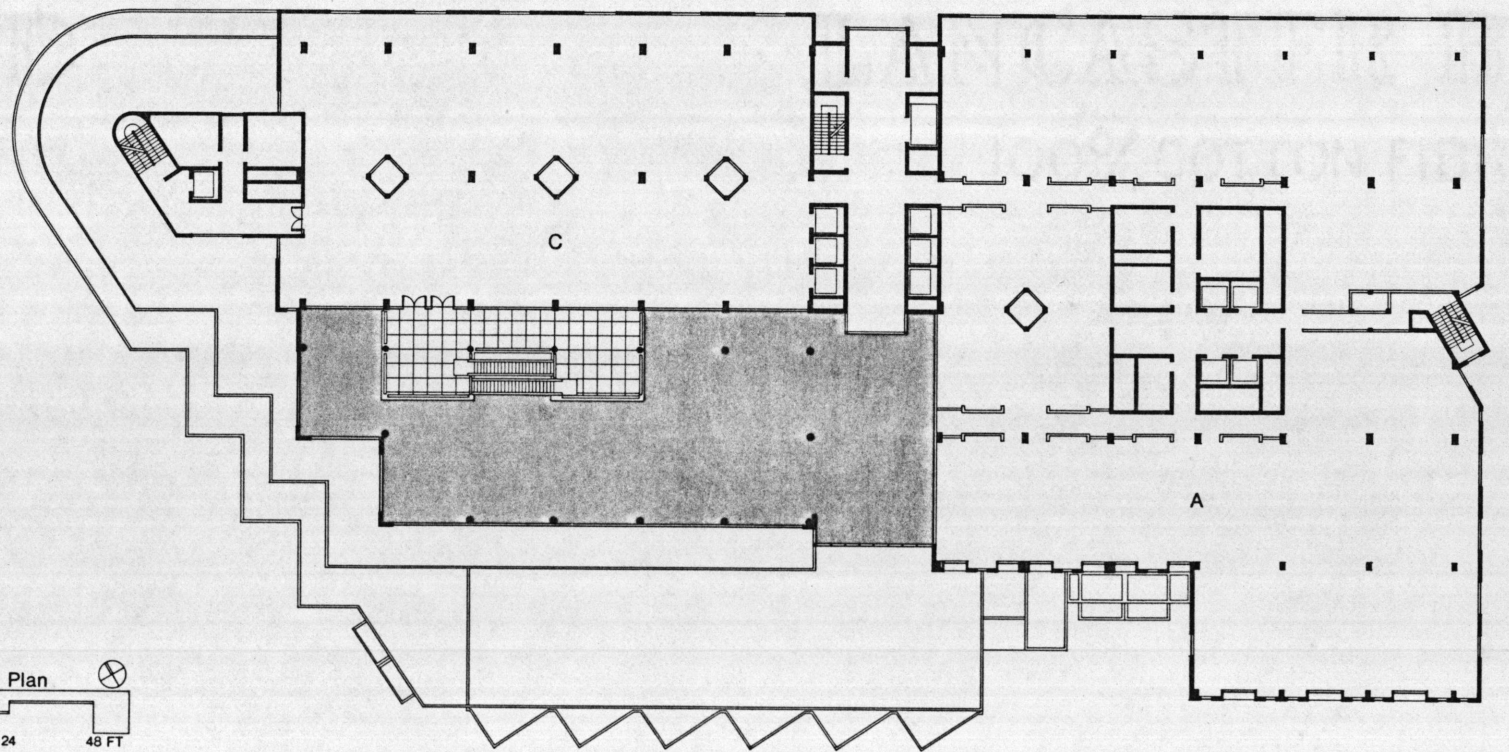


Fourth Floor Plan



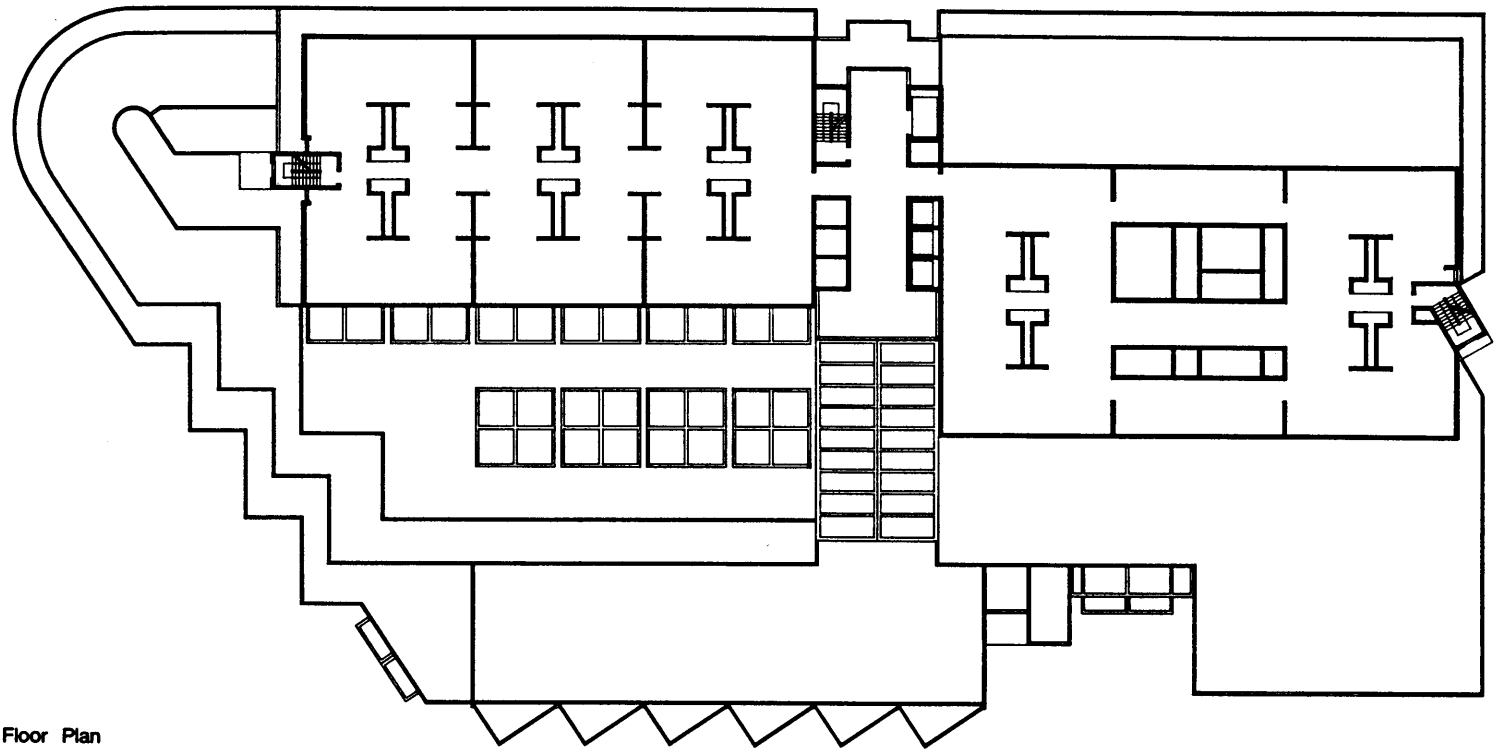


Seventh Floor Plan

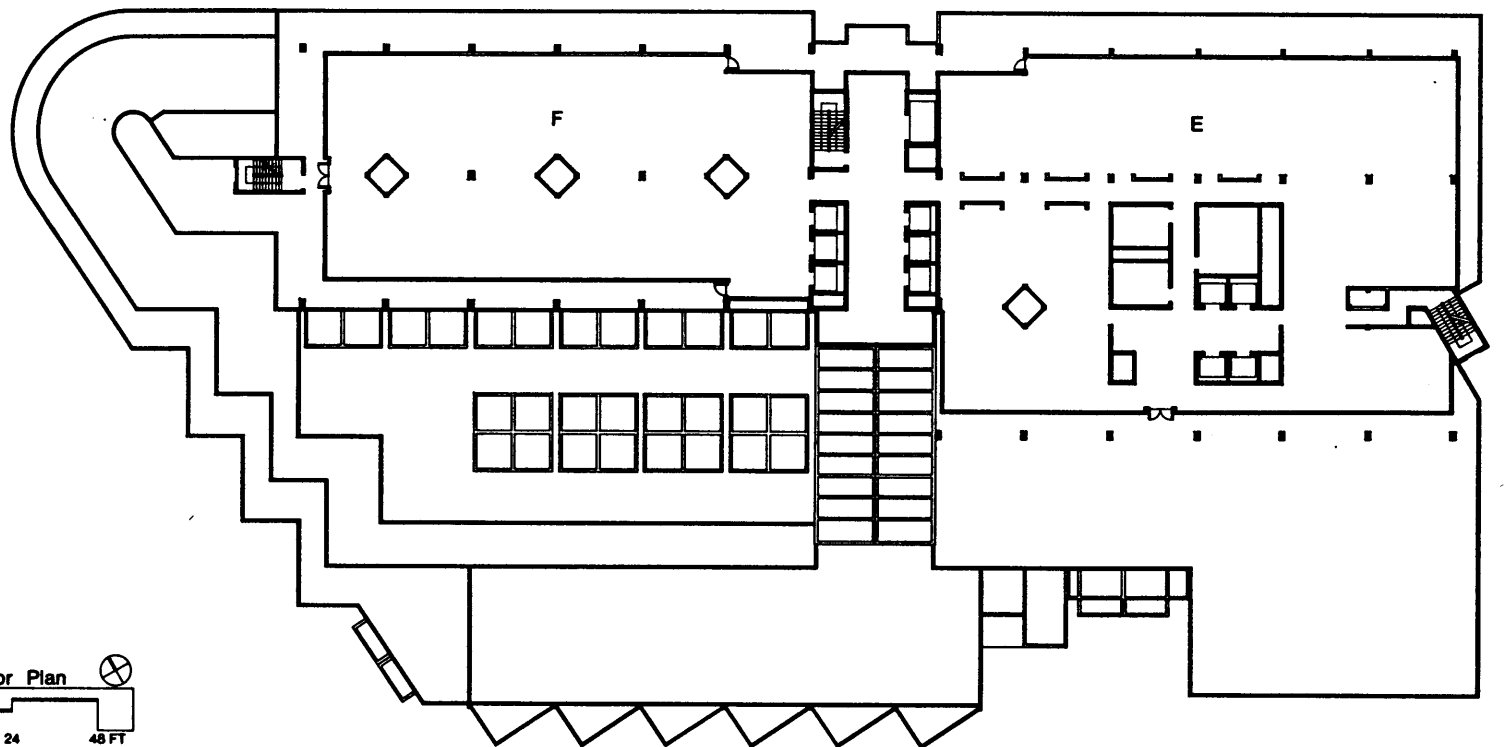


Sixth Floor Plan

2 6 12 24 48 FT



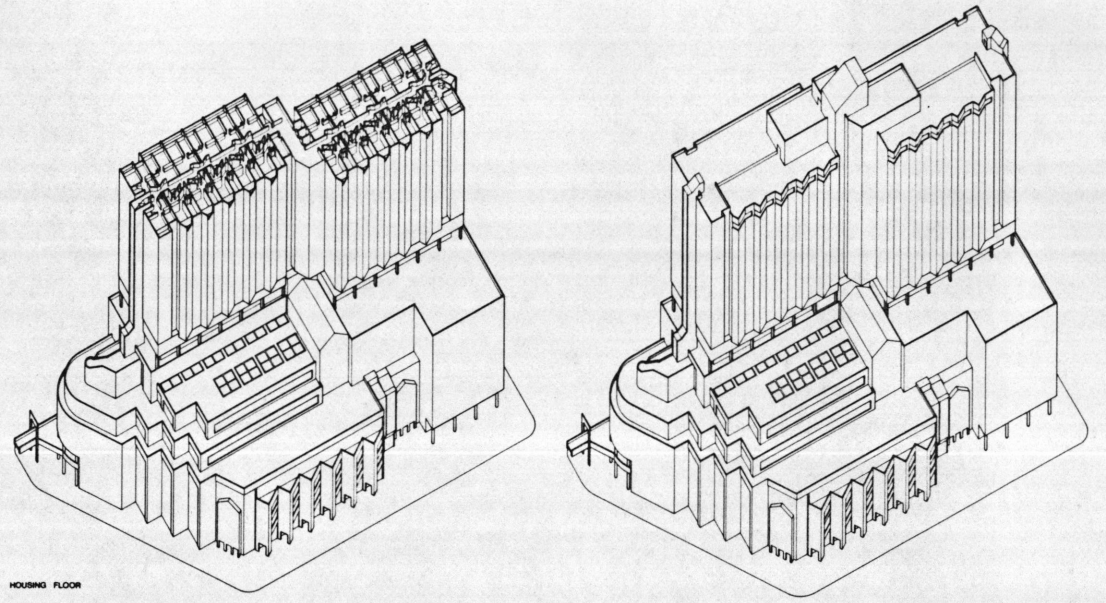
Mechanical Floor Plan



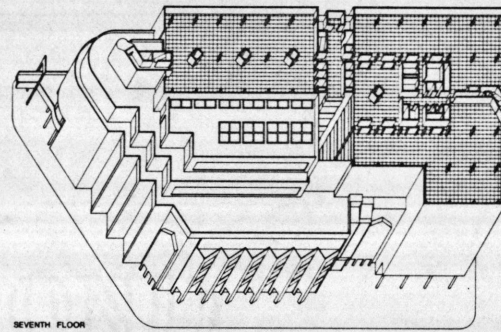
Eighth Floor Plan

2 6 12 24 48 FT

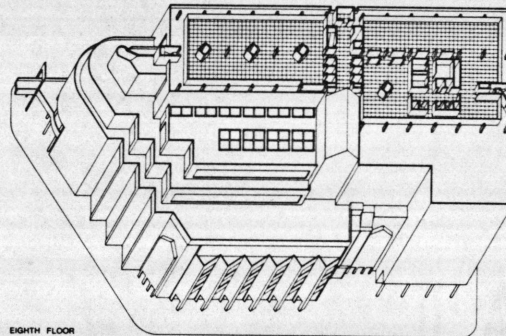
The Axonometrics



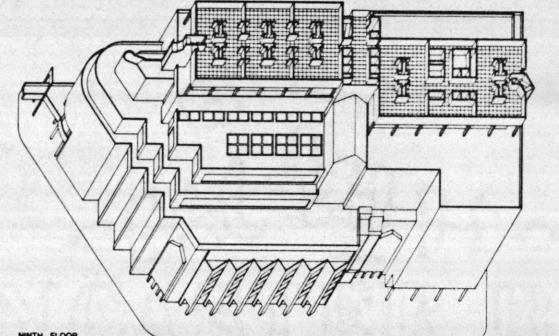
HOUSING FLOOR



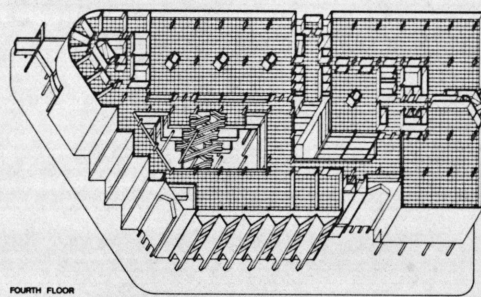
SEVENTH FLOOR



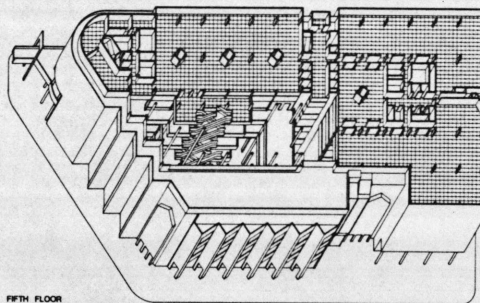
EIGHTH FLOOR



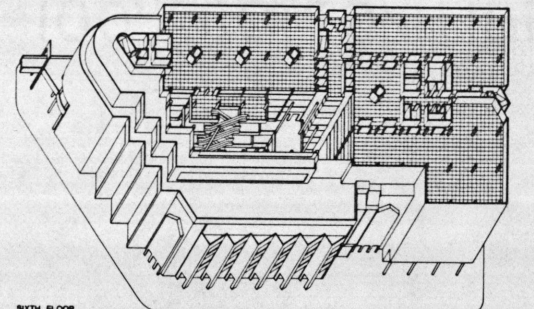
NINTH FLOOR



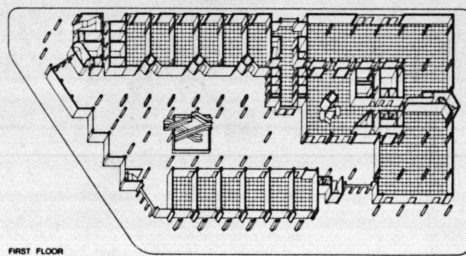
FOURTH FLOOR



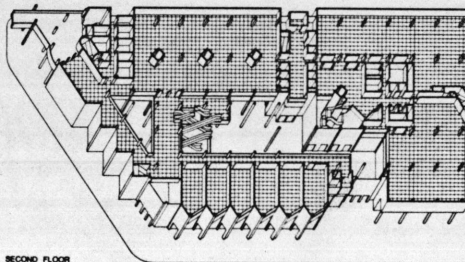
FIFTH FLOOR



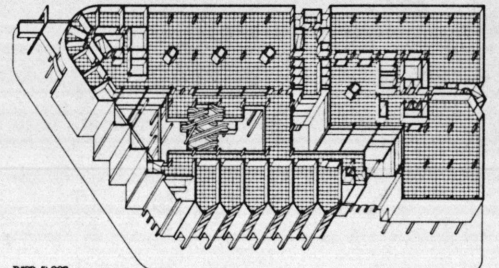
SIXTH FLOOR



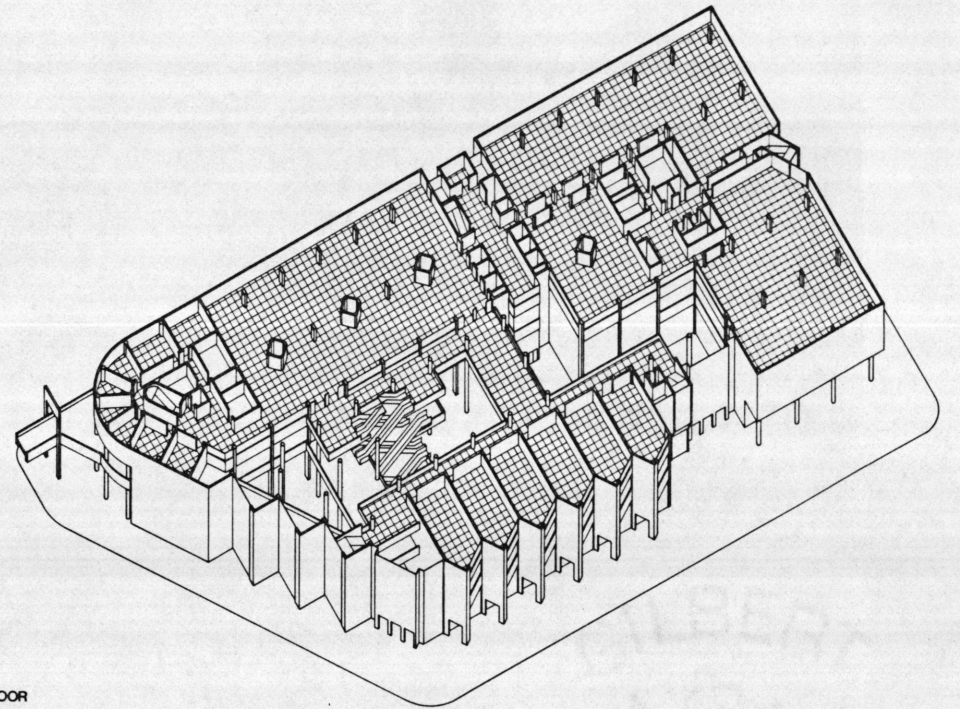
FIRST FLOOR



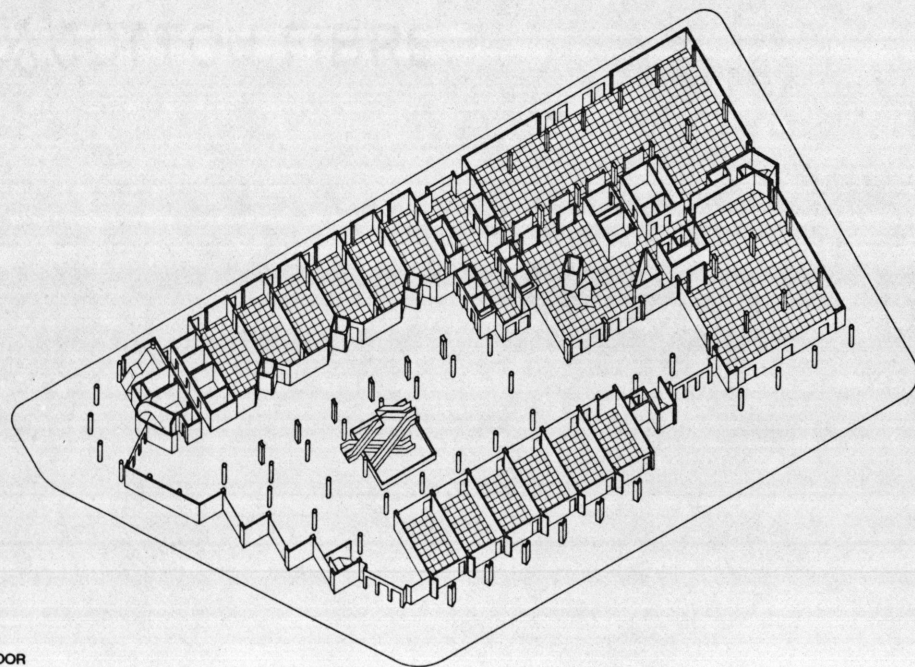
SECOND FLOOR



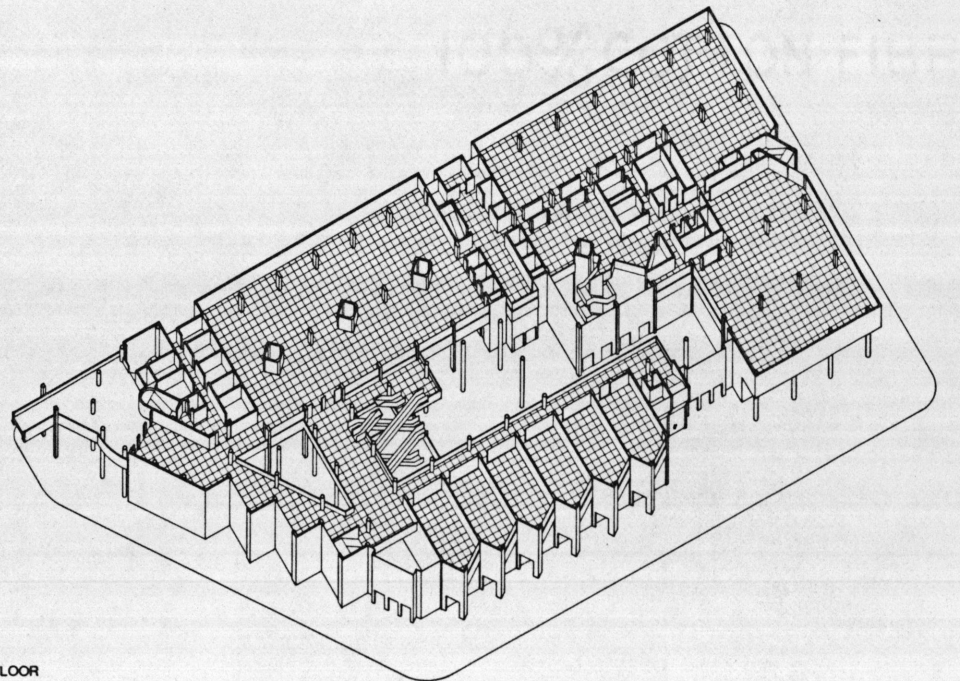
THIRD FLOOR



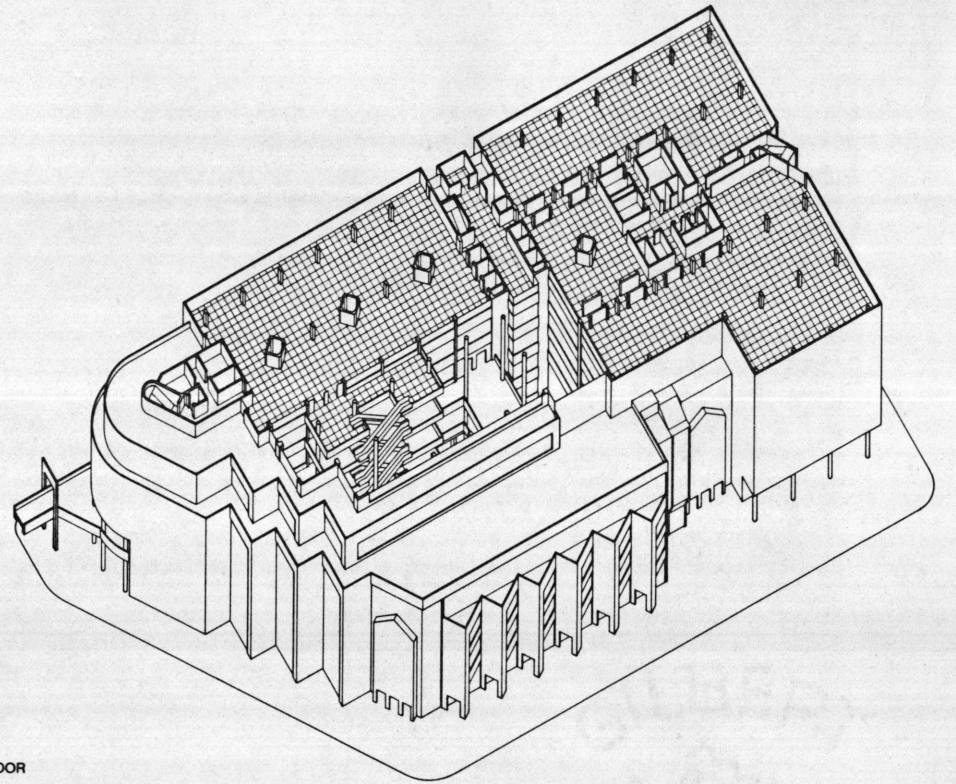
THIRD FLOOR



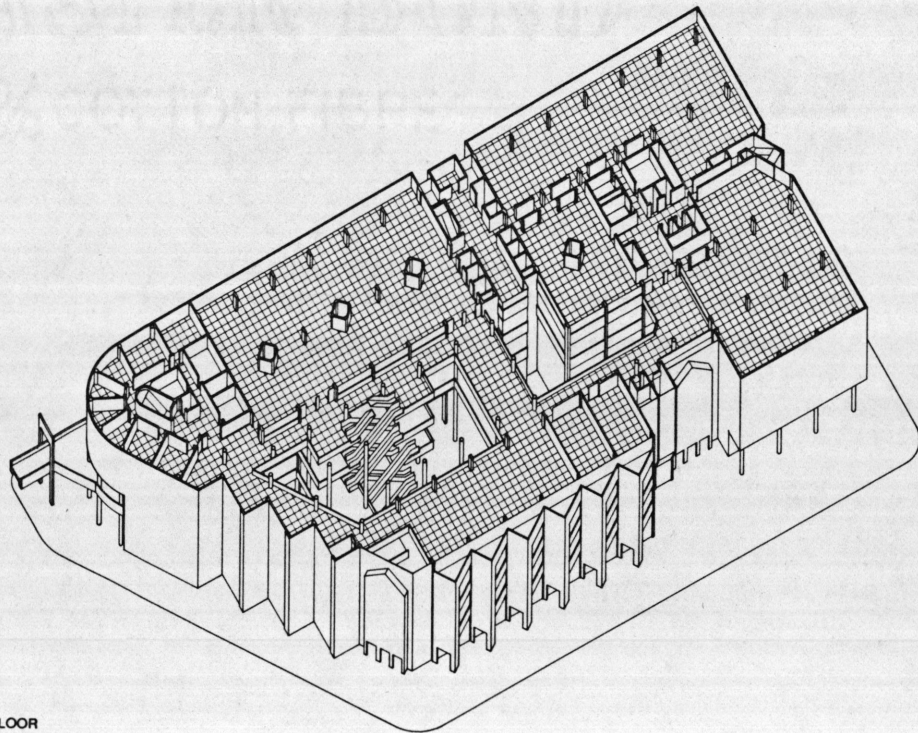
FIRST FLOOR



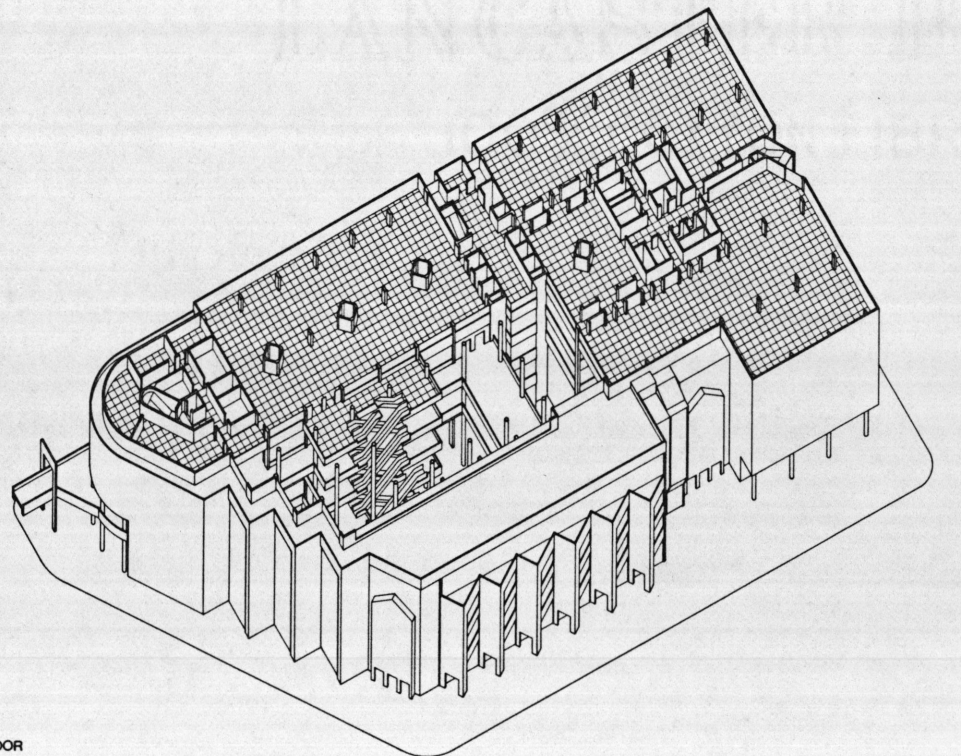
SECOND FLOOR



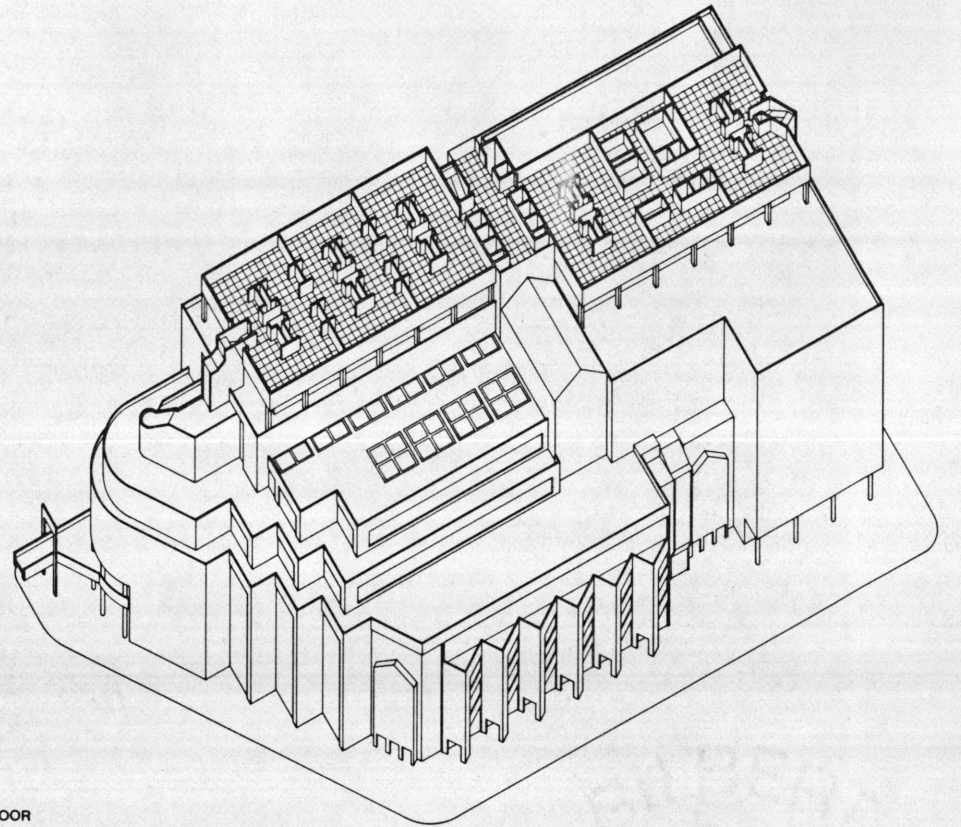
SIXTH FLOOR



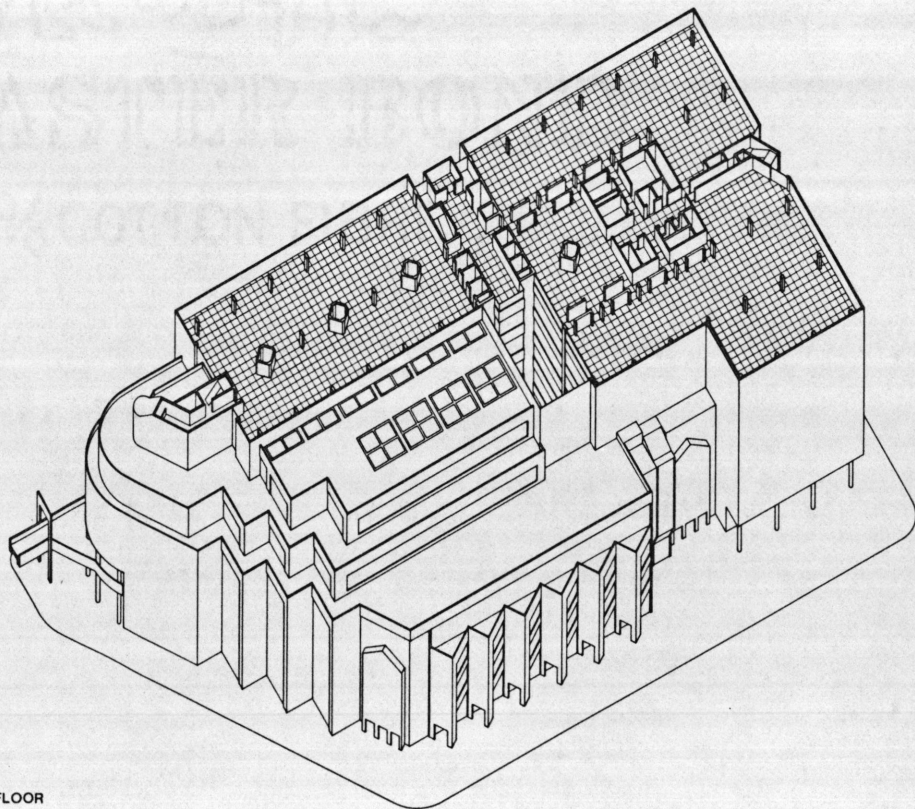
FOURTH FLOOR



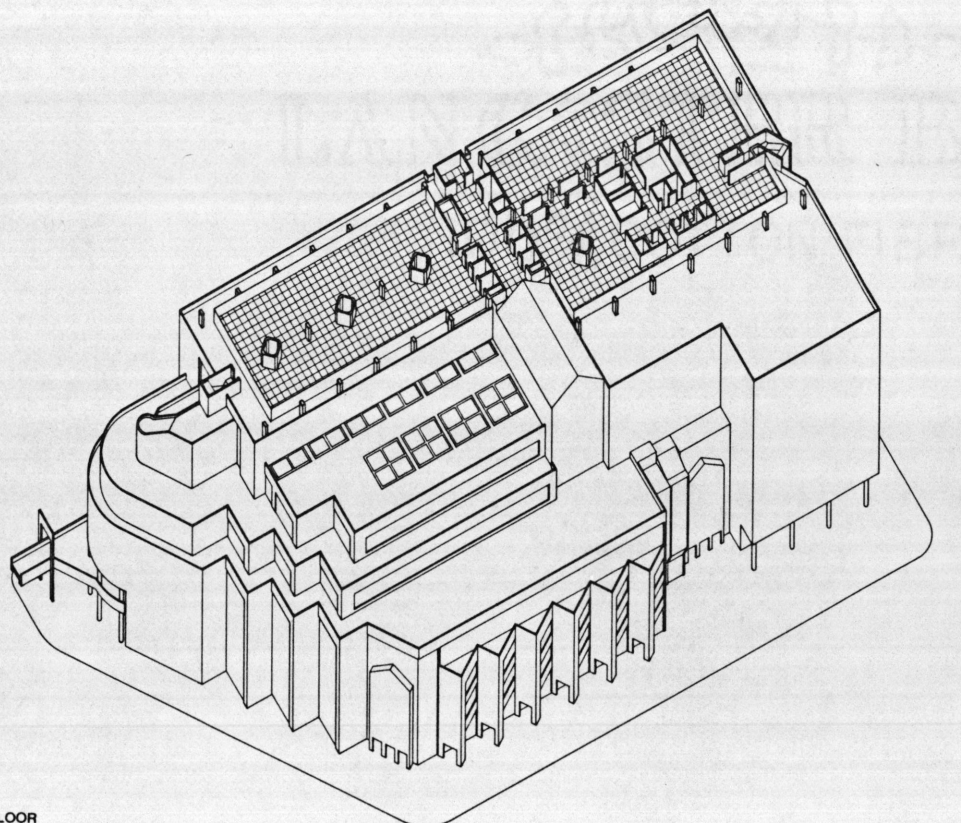
FIFTH FLOOR



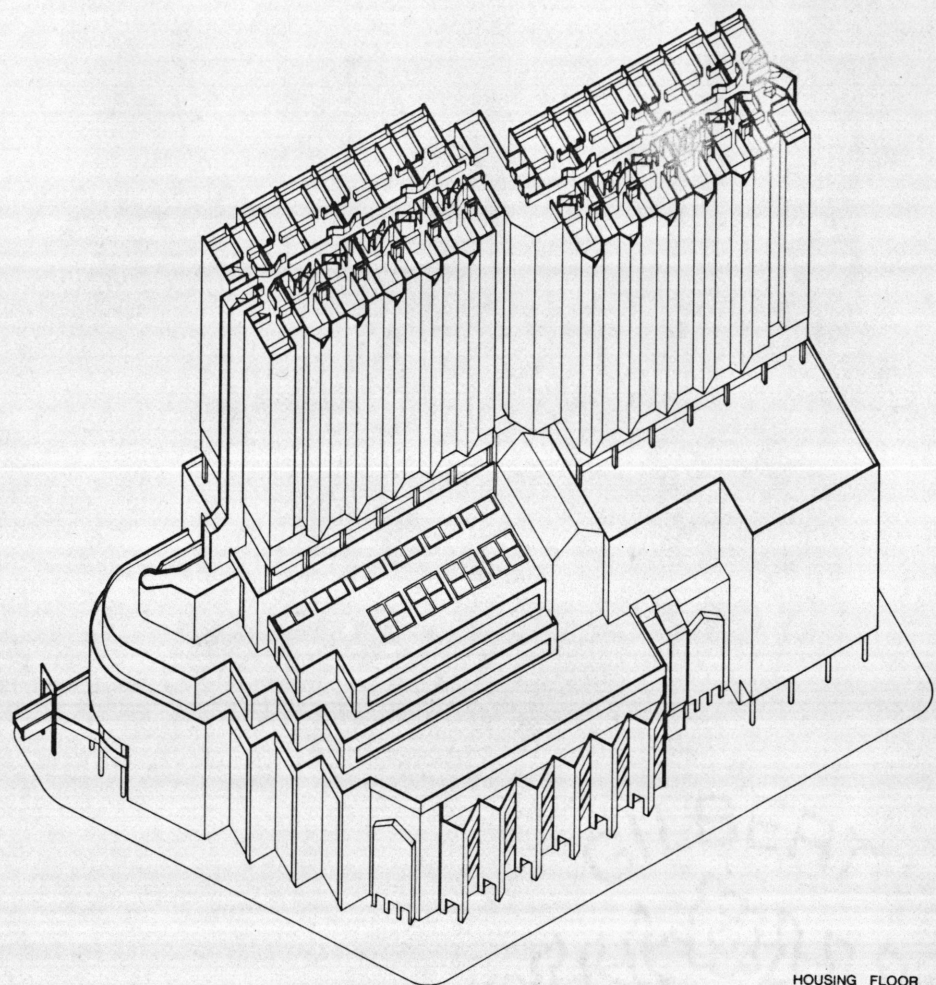
NINTH FLOOR



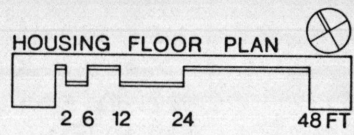
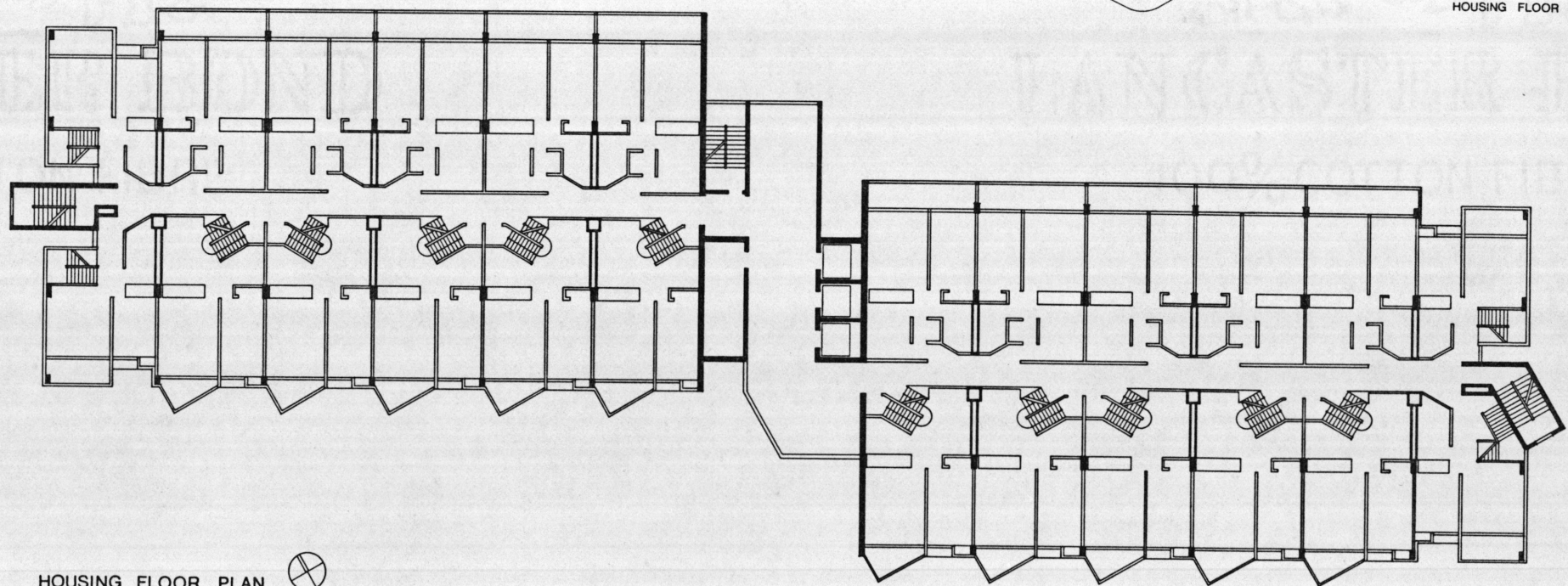
SEVENTH FLOOR

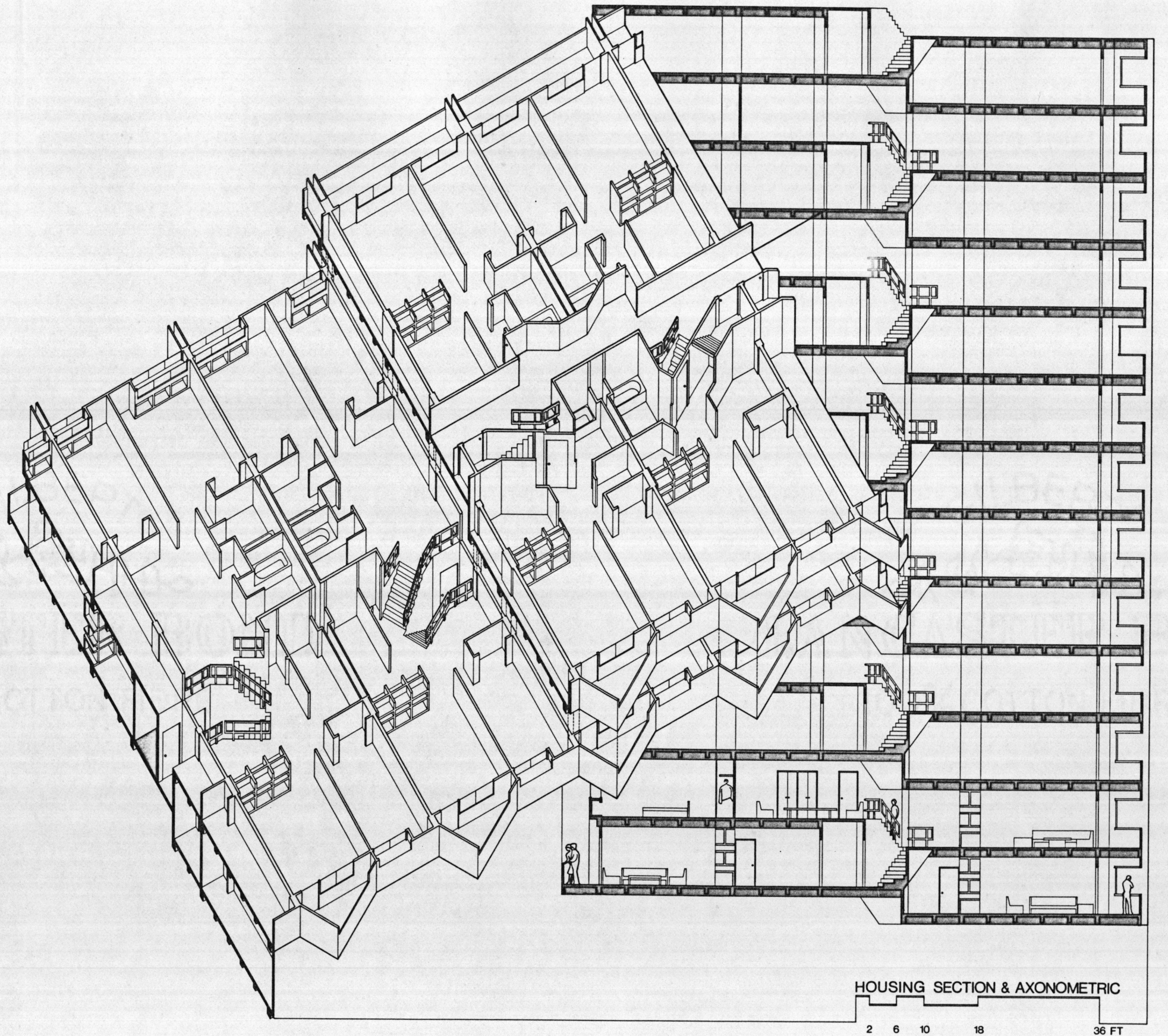


EIGHTH FLOOR



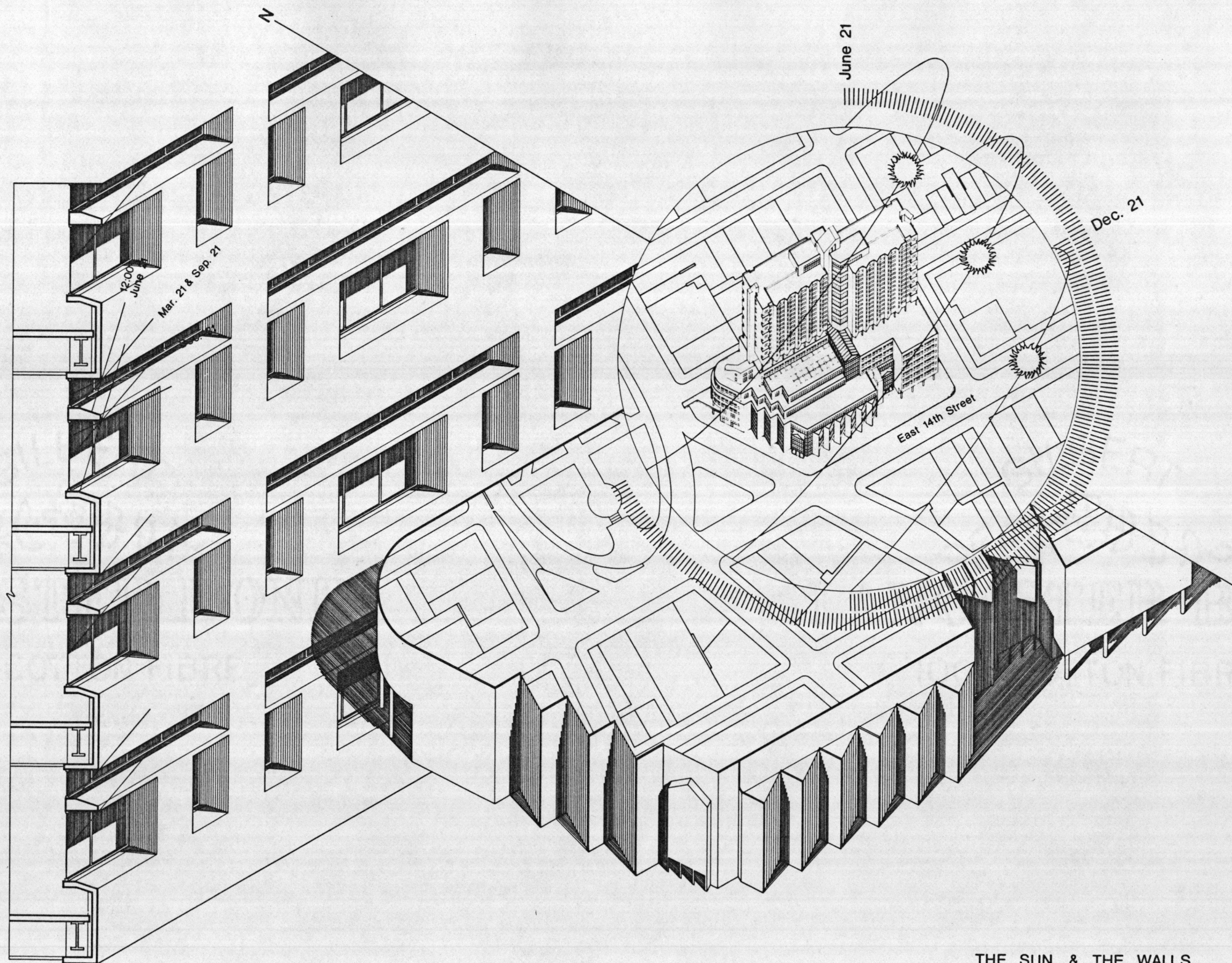
HOUSING FLOOR



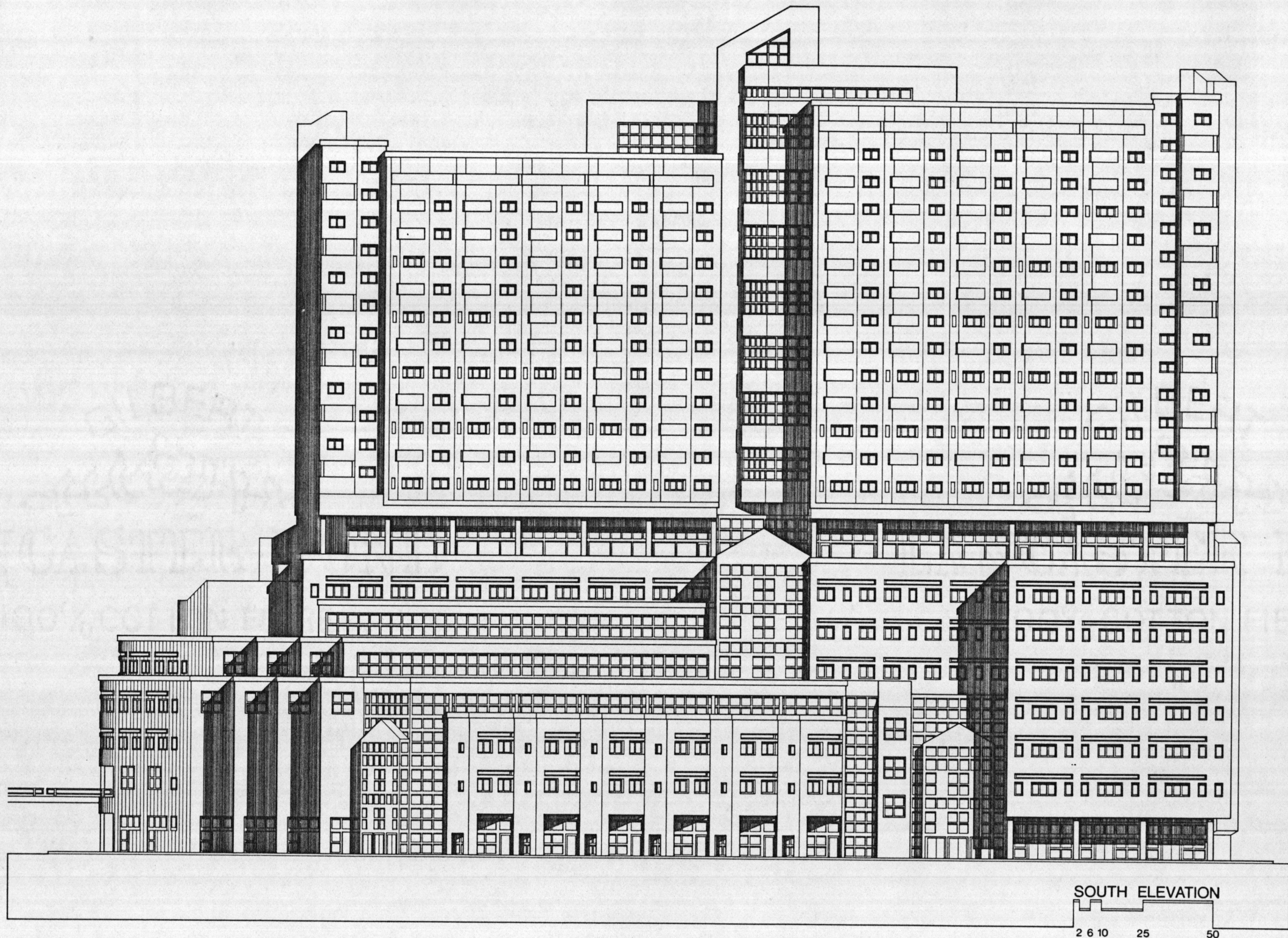


HOUSING SECTION & AXONOMETRIC

2 6 10 18 36 FT

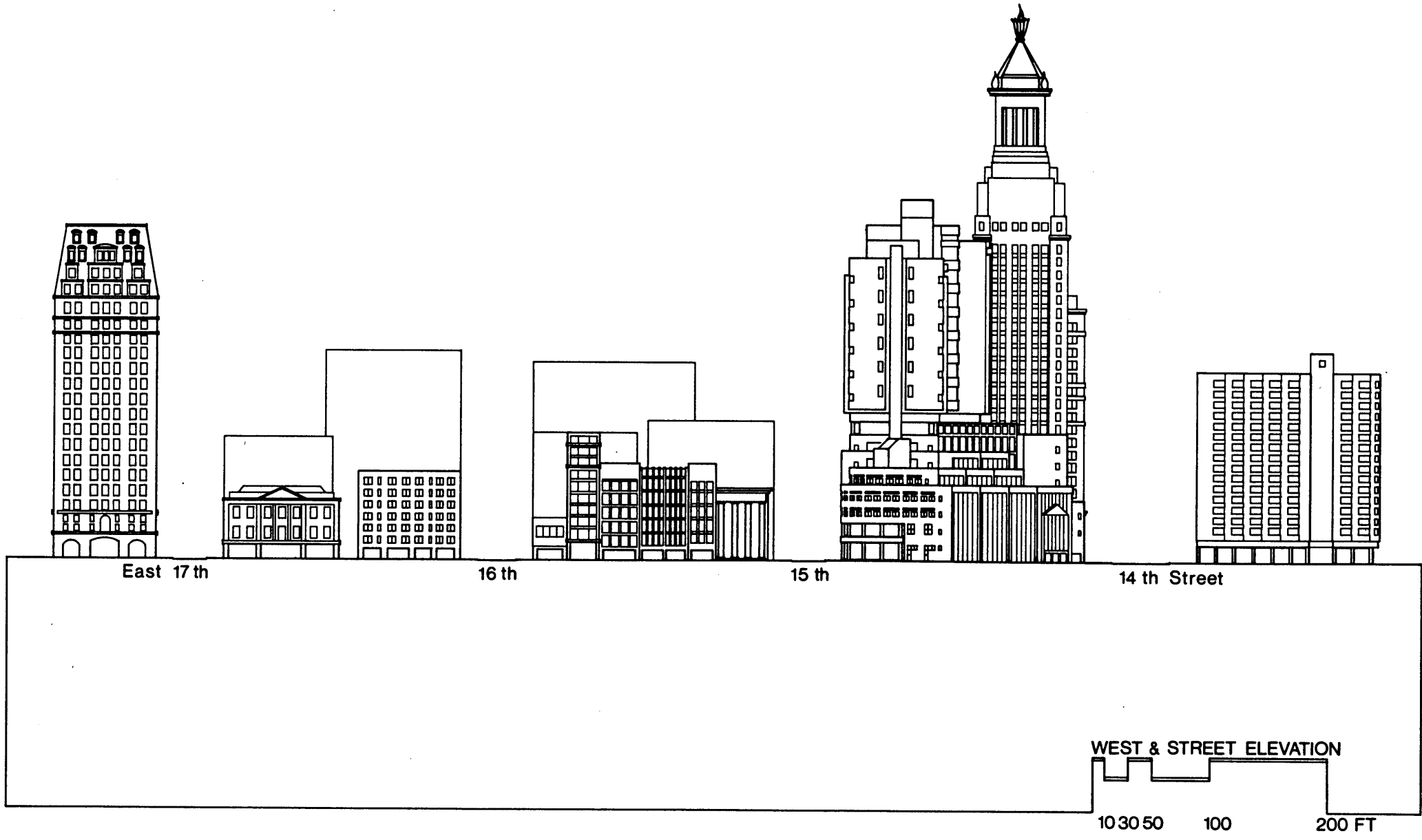


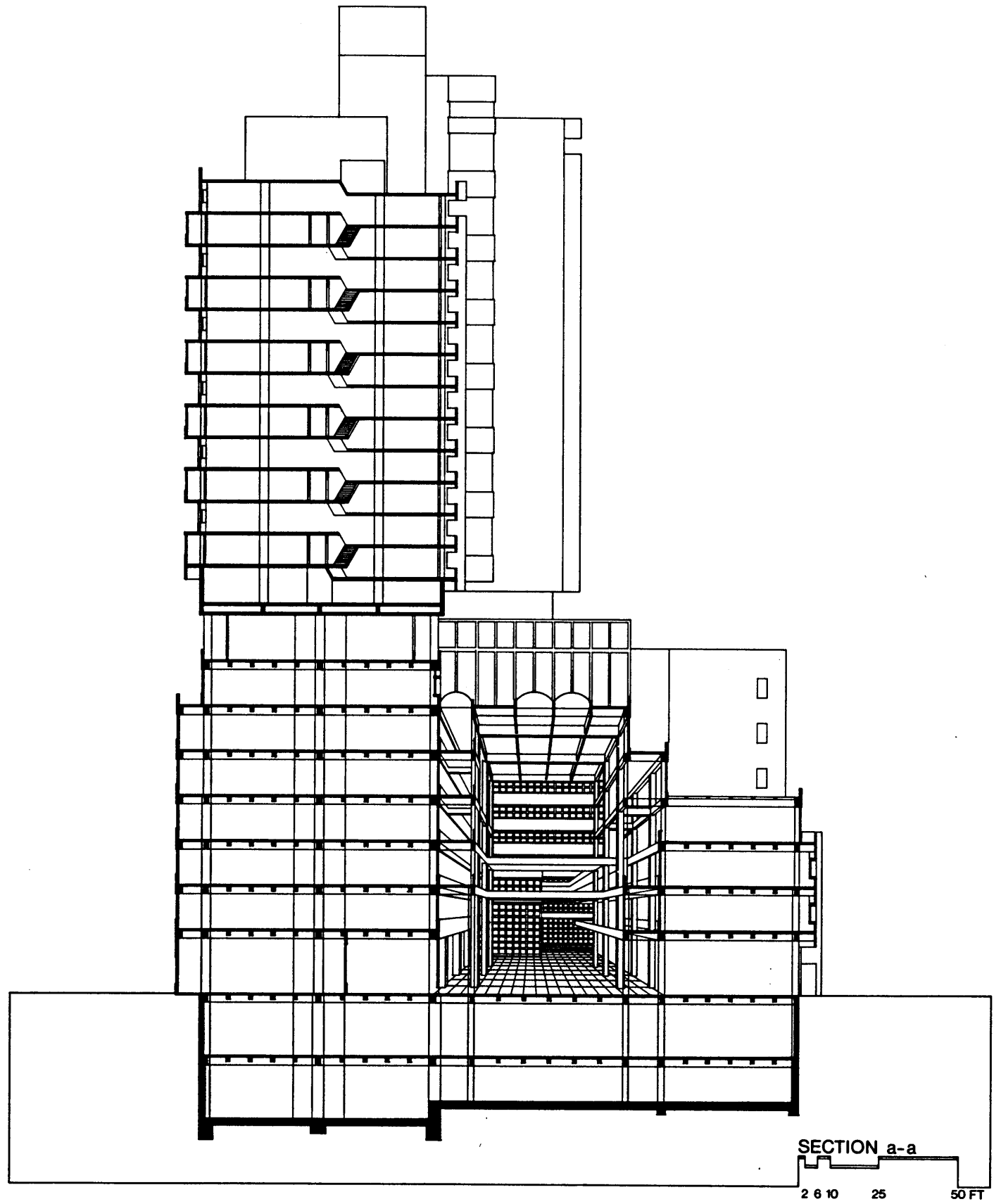
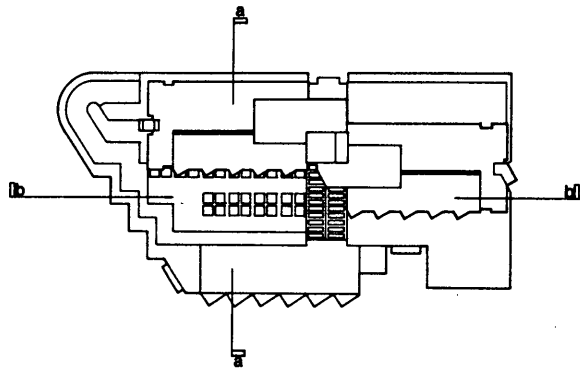
THE SUN & THE WALLS

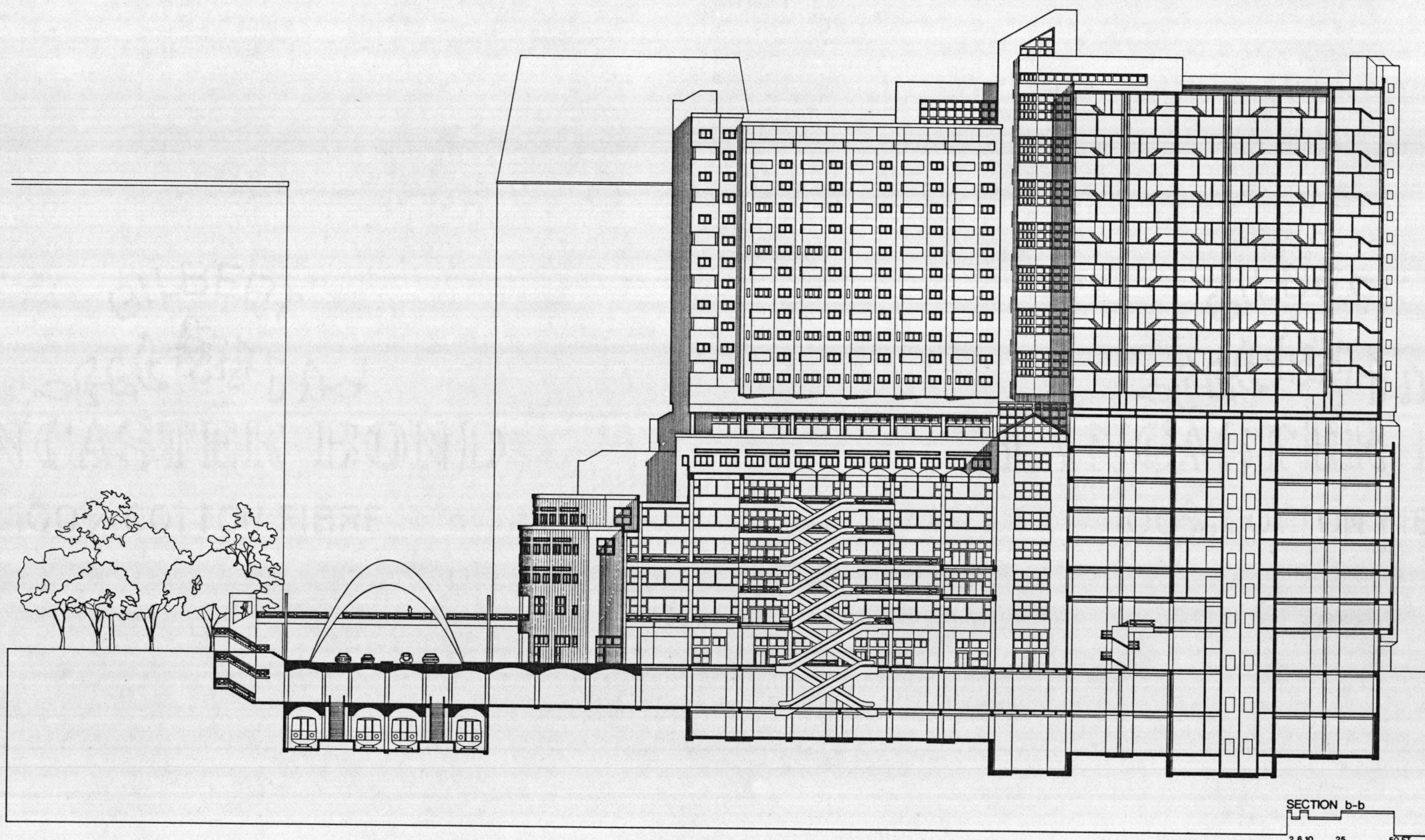


SOUTH ELEVATION

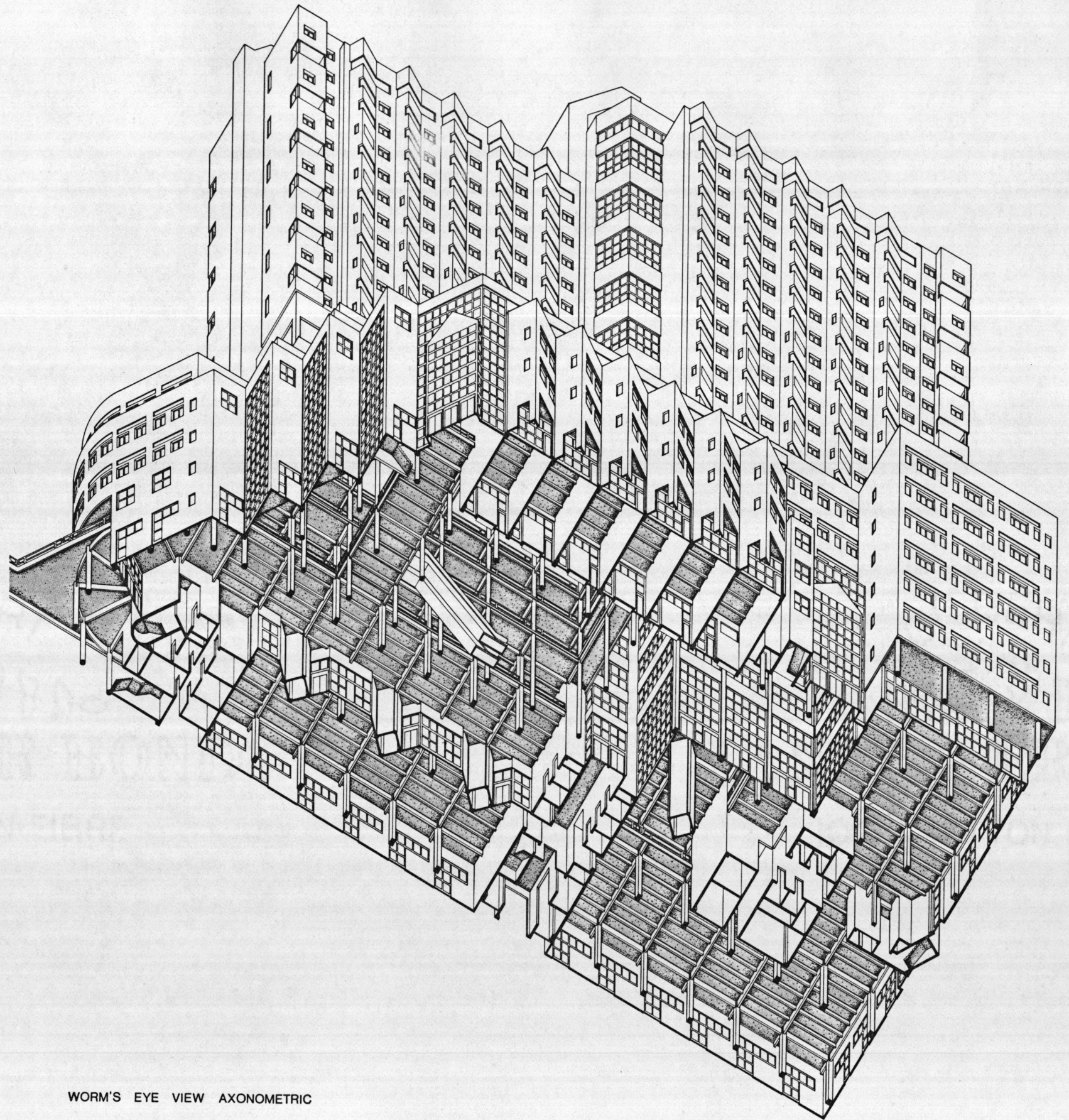
2 6 10 25 50







SECTION b-b
2 6 10 25 50 FT



WORM'S EYE VIEW AXONOMETRIC

REFERENCES

Kepes, Gyorgy. *Language of Vision*. Chicago: P. Theobald, 1969.

Ghyka, Matila. *The Geometry of Art and Life*. New York: Sheed and Ward, 1946.

Chang, Amos. *The Tao of Architecture*. Princeton, NJ: Princeton University Press, 1981.

Norberg-Schulz. *Genius Loci: Towards a Phenomenology of Architecture*. New York: Rizzoli, 1980.

Lobell, Joan. *Between Silence and Light: Spirit in the Architecture of Louis I. Kahn*. Boulder: Shambhala, 1979.

Hitchcock, Henry Russell. *In the Nature of Materials; 1887-1941; The Buildings of Frank Lloyd Wright*. New York: Duell, Sloan and Pearce, 1942.

Breuer, Marcel. *Sun and Shadow: The Philosophy of an Architect*. New York: Longmans and Green Co., 1956.

Frampton, Kenneth [ed.]. *Idea as Model*. New York: Rizzoli Pub., 1981.

Janke, Rolf. *Architectural Models*. New York: Architectural Book Pub Co., 1978.

Bourscheidt, Randy [ed.]. *Union Square/ Street Revitalization*. New York: City of New York, 1976.

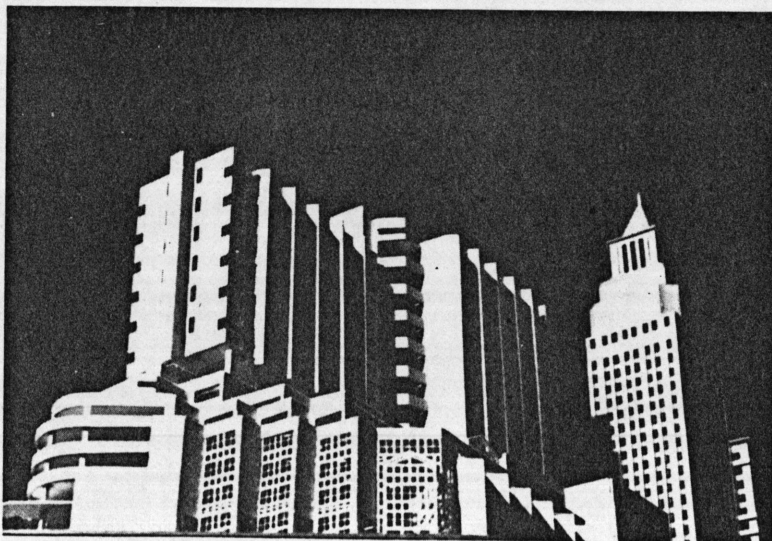
Witherspoon, Robert. *Mixed-Use Developments*. Washington: Urban Land Institute, 1976.

Blatman, Ronald. "The Misuse of Mixed-Use Centers", *Real Estate Review*. Fall, 1983.

Specter, David. *Urban Spaces*. Greenwich, Conn.: New York Graphic Society, 1974.

Rudolphsky, Bernard. *Streets for People*. New York: Van Nostrand Reinhold Co., 1982.

Ramati, Raqual. "The Plaza as an Amenity", *Urban Land*. Feb., 1979.



**The vita has been removed from
the scanned document**