

WHERE LAND MEETS WATER  
THE ALEXANDRIA PERFORMING ARTS CENTER

by  
GEORGINA LIPSEY

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

MASTER OF ARCHITECTURE

APPROVED:

\_\_\_\_\_  
G.K. Hunt, Chairman

\_\_\_\_\_  
J.W. Ritter, AIA

\_\_\_\_\_  
W.W. Brown

\_\_\_\_\_  
J. Holt

JUNE 1985  
ALEXANDRIA, VIRGINIA

## ABSTRACT



The fundamental premise for this project was the desire to explore one of my fascinations with "movement" of space and "movement" of structure. This was somewhat a reaction to "static" boxed structures which have pervaded our eastern cities for the last few decades, and moreover, a want to inspire life into a fixed object.

The work presented was a process of discovery, the most enlightening being that of "contrast". It became the key to achieve meaning.

My original intentions combined with changes experienced over time have resulted in a building, but better, in a transformation and another new place from which to begin.

# ACKNOWLEDGMENTS

Most humble gratitude to

My mother and father; for your dignity, integrity, courage and spirit.

and ; for your eternal care and support.

; for the roads you could only begin to travel.

; for your friendship, generousities and perseverance.

, and ; for your volunteered assistance on this book.

## HISTORY

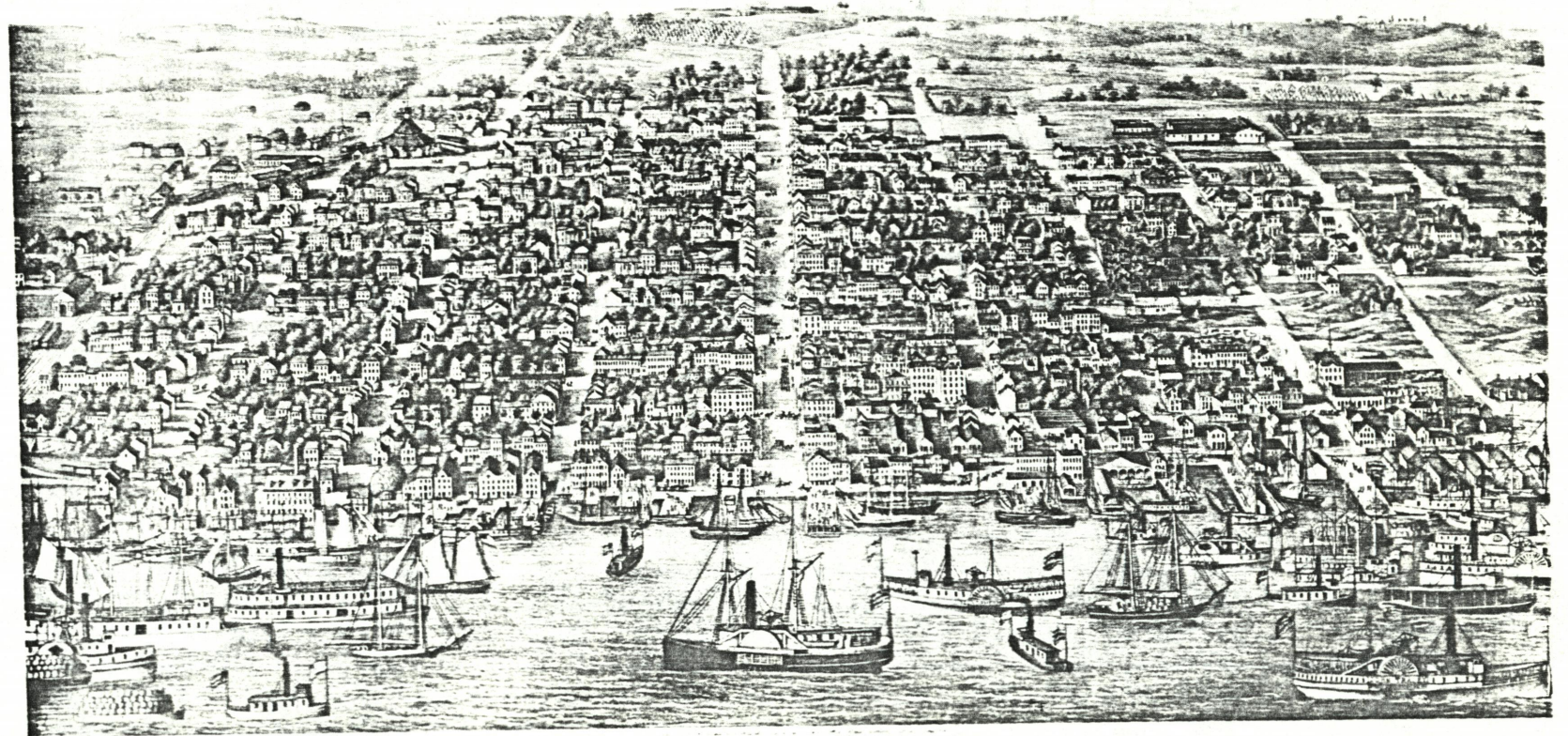
Alexandria was founded in the 17th century from ideas of a few pioneer settlers. They used the land to grow tobacco, built warehouses to store it, and eventually used the Potomac River to transport it to its ultimate destination, England. A town gradually formed and production increased.

Substantial economic growth was experienced from the mid 1700's to 1800. Alexandria soon became the seventh largest export post in the nation for a variety of goods. During that time, a grid plan was developed for the town. The waterfront was lined with storage warehouses, behind which were scattered homes and more warehouses. A note from William Smith's journal of 1790 describes the town:

"Alexandria...is now thriving rapidly...the situation of the town will soon make it a very important post...there are about 3,200 inhabitants; the houses are principally of brick; the streets are not paved and being of clay, after rain they are so slippery it is almost impossible to walk in them." From the top of "Col. Howe's house" he saw "the Town laid out at right angles, the harbour, river to a great distance, with its windings, creeks and island, the extensive plain contiguous to the city, all formed a fine scene."<sup>1</sup>

Captain Henry Massie's journal offers yet another description in 1808:

<sup>1</sup>Smith, William Loughton, Journal of William Loughton Smith, 1790-1791, The University Press, Cambridge, 1917



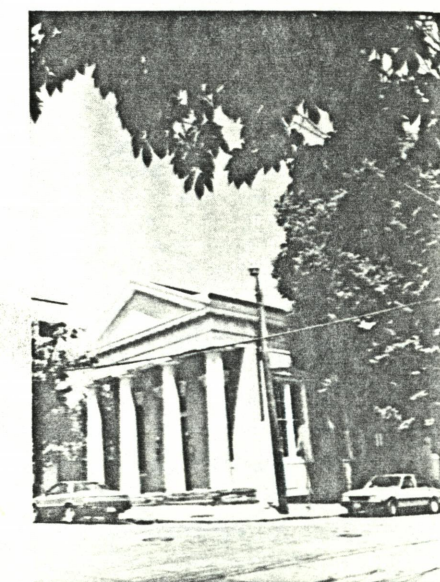
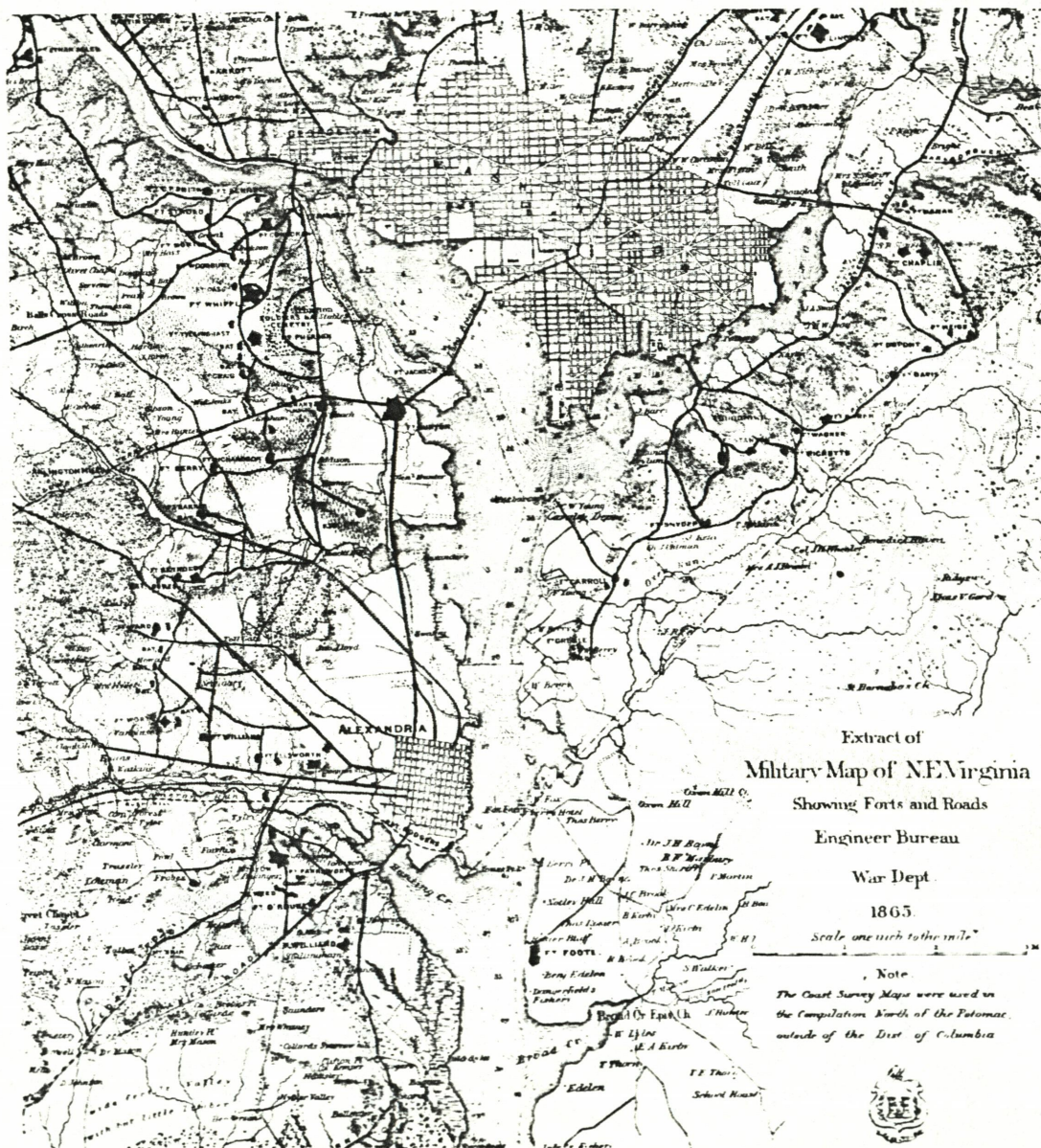
BIRD'S EYE VIEW OF ALEXANDRIA, VA

"Alexandria is a very handsome town, prettily situated on the banks of the Potomac, which is there one mile and a quarter wide. The commerce of the place is diffused in many parts of the globe, but more particularly to the West Indies and the northern seaport towns of America. Flour seems to be the principal article of exportation, in return they receive groceries of various kinds, such as sugar, salt, rum, brandy, etc. The streets of Alexandria intersect each other at right angles, they are well paved, of an extensive width, and kept perfectly clean. The wharves are crowded with vessels of different sizes, many of which are heavily laden for an immediate departure when circumstances will permit."<sup>2</sup>

Growth slowed down at the beginning of the 19th century. Railroads took over as principle movers of trade, and as the Baltimore and Ohio railroad was built, Alexandria's rival port, Baltimore, took the upper hand of the trading business. In the mid 1800's Alexandria finally built railroads for its own use, but the town slowly became a military supply and transportation center for the Civil War. This caused considerable damage to the civil trade. Fires along King and Royal Streets destroyed many buildings during this period.

Alexandria grew very slowly after the war. By 1900, important industries such as brick making, breweries, chemicals, fertilizers, fisheries, railroads and tanneries helped renew the town's economy. Shipbuilding also became a major industry, and during WW I, the U.S. Naval Torpedo Station was located at the corner of King and Union Streets.

<sup>2</sup>Tyler's Quarterly Historical and Genealogical Magazine, Volume IV, Richmond Press, Richmond, 1923

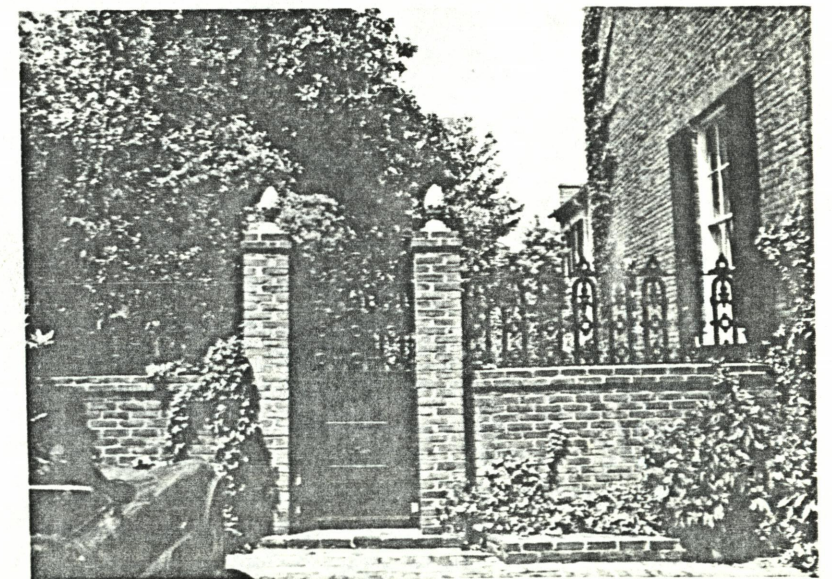
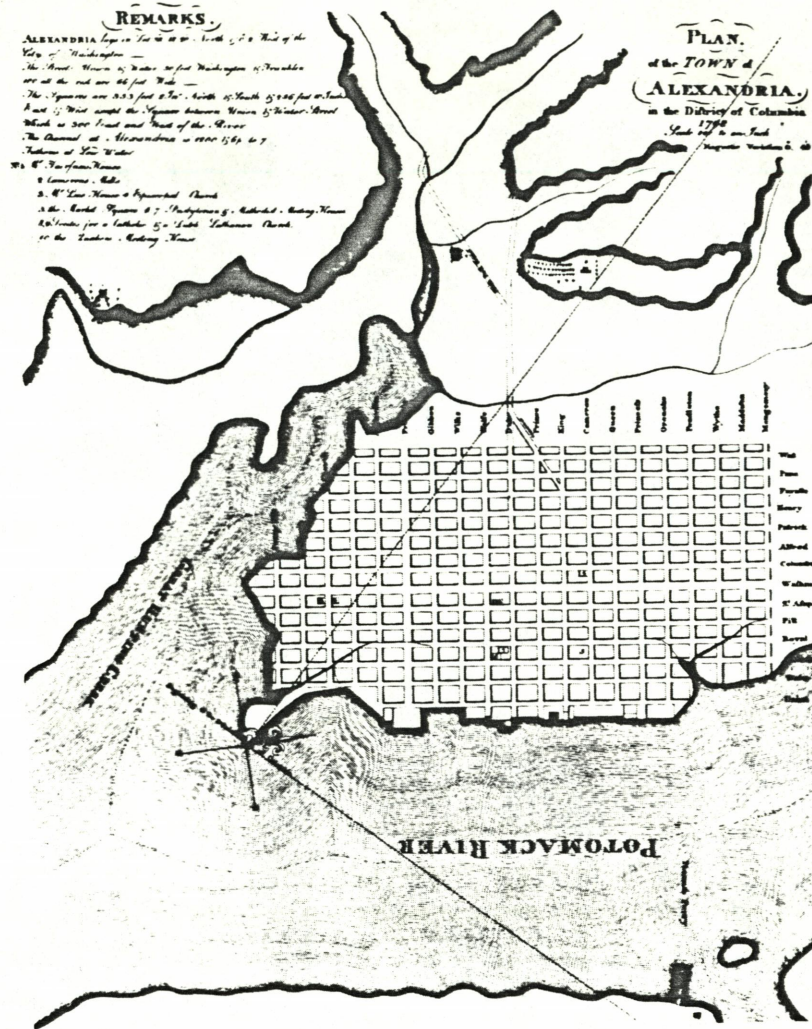


Alexandria's proximity to Washington, the Federal Capitol (which saw substantial growth between WW I and WW II), became a perfect habitat for the enormous influx of new employees. The post war baby boom in the 1950's more that doubled the population.

As with many cities, the industrial use on the waterfront slowly became extinct. New proposals for the revitalization of the waterfront were made in the 1960's and 1970's. It has now become a center for recreational activity.

"Old Town" acquired its name from the history it collected over the number of years. Most of the original buildings still stand, but with new use. The town remains at a small scale with several building restrictions enforced to preserve its unique style.

To date, it is primarily a residential city with small commercial establishments such as restaurants, shops and professional offices. Its major physical appeal and economic resource is its historic character and waterfront access. It is a delightful place, both by day and by night, not only for its residents, but for numerous tourists, both young and old. It is a place that is well remembered.



# PROJECT

## Where Land Meets Water: The Alexandria Performing Arts Center

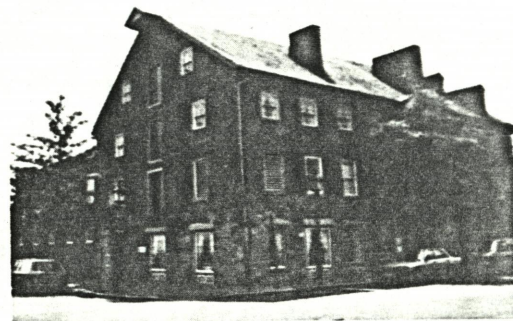
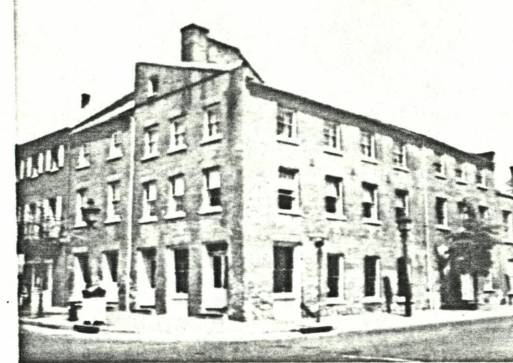
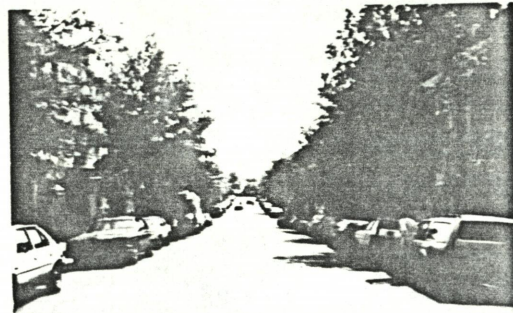
The site for this project was chosen due to its rich source of natural amenities, specifically a point where land meets water. It gave me the opportunity to utilize the given elements and investigate an aforementioned idea of "movement".

The east side of the site banks the Potomac River, while the remaining three sides are surrounded by historic Old Town. Adjacent to the site on the north, across King Street, is the large, newly renovated Torpedo Factory that houses a well known arts and crafts center. On the west side, across Union Street, are antique warehouses and townhouses now used for small restaurants, souvenir and other miscellaneous shops. On the south side, across Prince Street, is a small gem shop, offices, and a boat dock which serves a floating restaurant on the river.

Part of the building site is presently a parking lot, while on another part lies a park; an often used retreat for both solitude and activity, by day and by night.

The heart of the town abounds in historic sites and is an extremely rich source of colonial brick architecture. Small commercial activity flourishes constantly. Festivals and historic celebrations often close down the streets to vehicular traffic and give added color to the city's heartbeat.

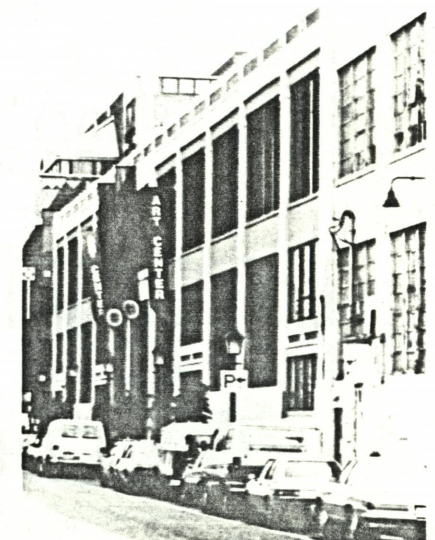
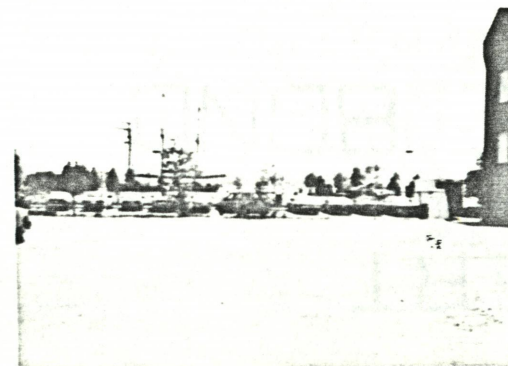
In spite of all of Alexandria's "little wonders", it lacks a place that offers consistent and developed entertainment in music and theatre; for this reason, I have chosen to design the Alexandria Performing Arts Center.



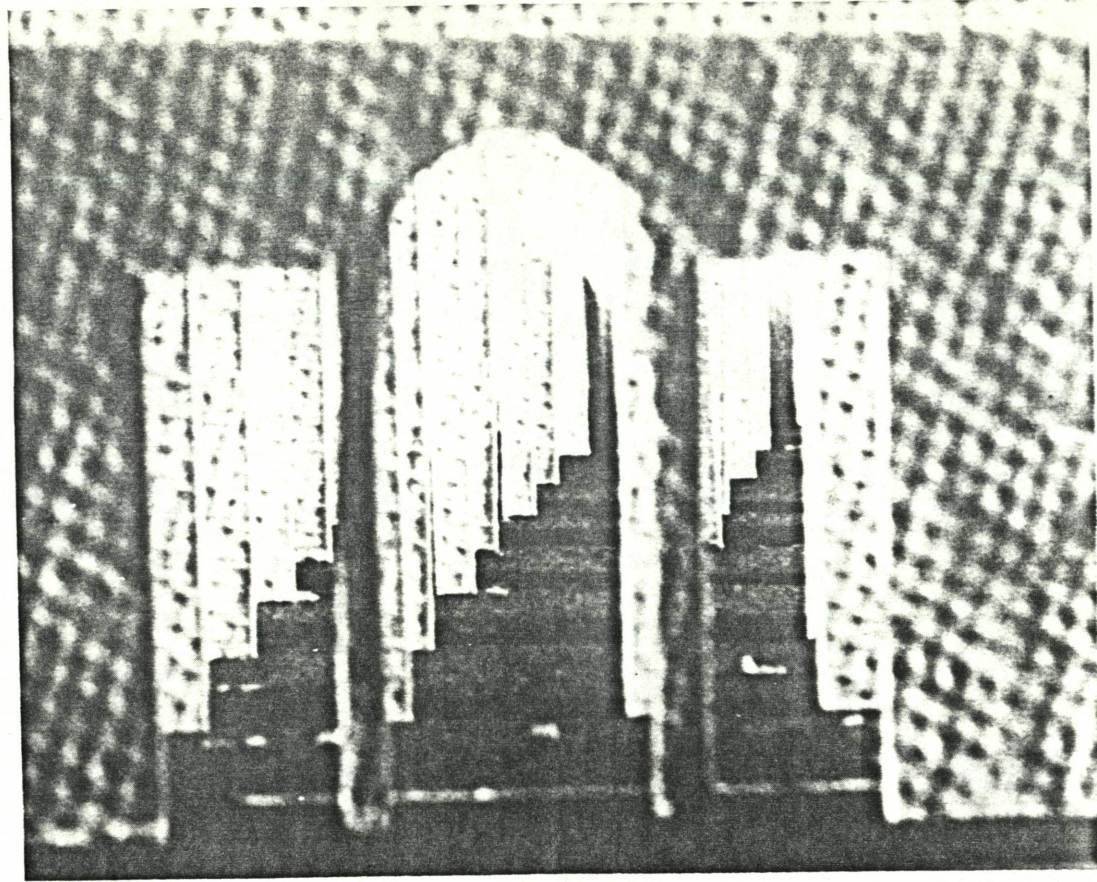
- View east on King Street
- NW corner of King & Union Streets
- SW corner of King & Union Streets

- Restaurant adjacent to site
- View north on Union Street
- View east on Prince Street

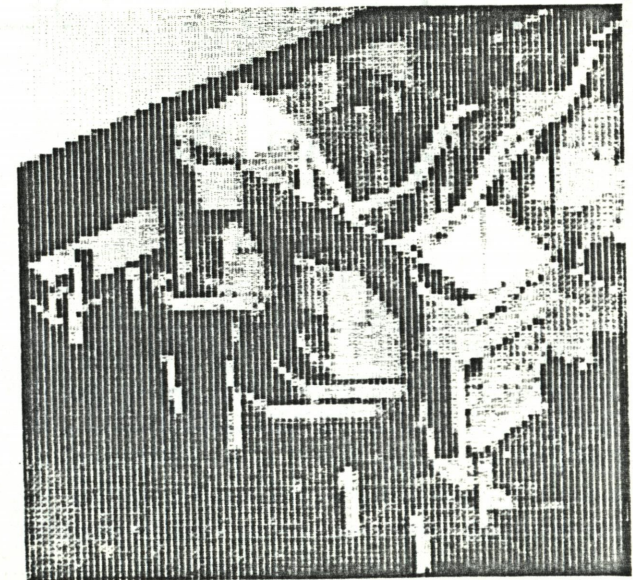
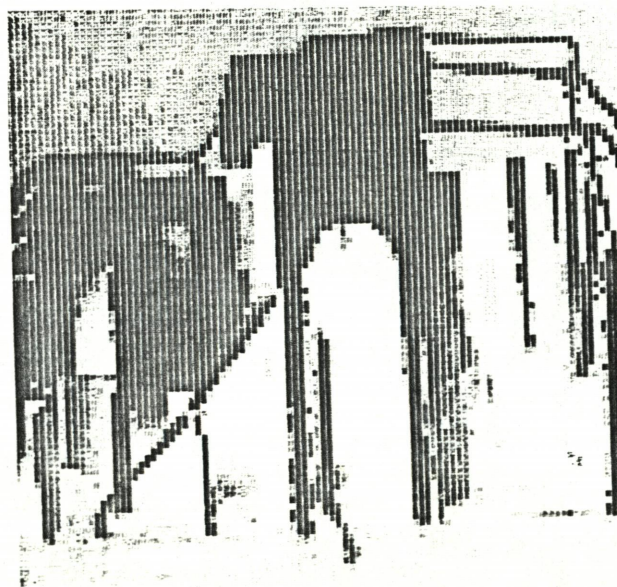
- Parking lot
- Torpedo Factory



## CONCEPT

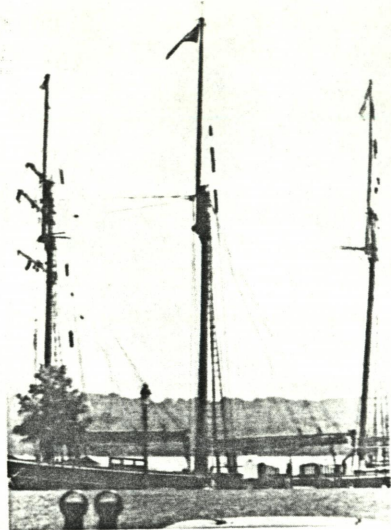


The concept is based upon interaction of the building with water. In order to utilize the site's intrinsic advantages, and to soften the edge where building meets land, a continual visual engagement is maintained, both from inside and outside. The "movement" of the form of the building is generated by the flow of water outside, while integrating with the flow of music inside. A crystal-like glass hall between the theatre and the water allows the sound of music to penetrate the senses while perceiving the water. There is a balance of public spaces for events and private spaces for contemplation.





## PROGRAM



- A 1300 seat performing arts auditorium includes events such as concerts, plays, dance and film.

- A changing exhibit of art et al. can be viewed from inside or outside of the building to inform passers by of on-site activities. It is also a place for local artists to display their works.

- A bookstore is for sales relating to the performing arts only.

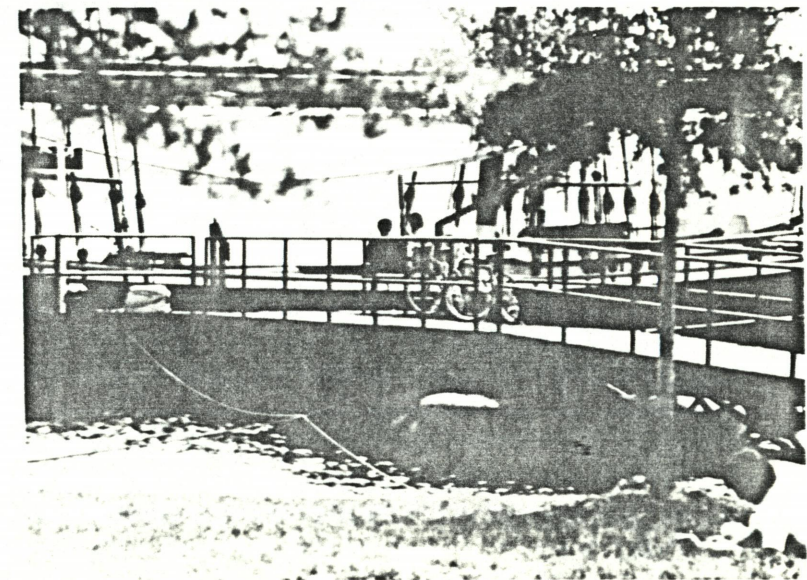
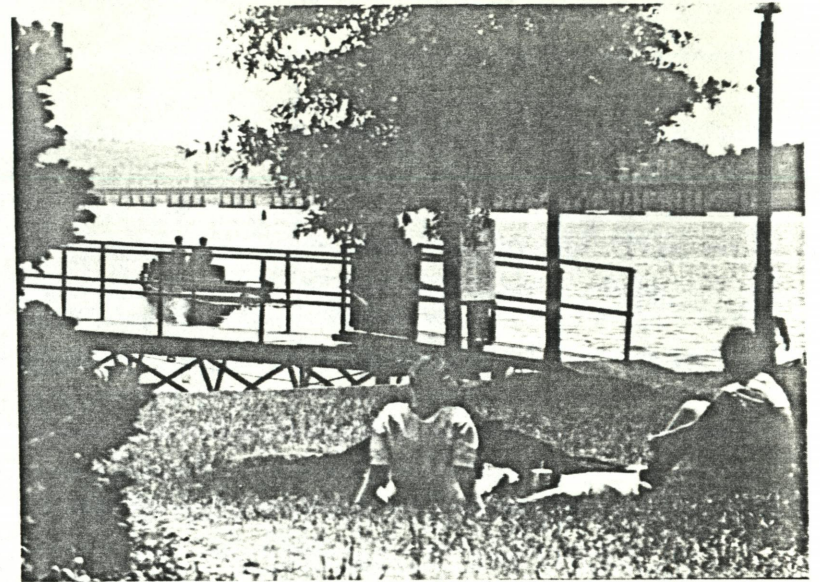
- Facing the river on the first floor, is a cafe by day and dance lounge by night (this is open to the public sidewalk).

- A restaurant on the second floor is for theatre goers exclusively by night. During the day it is open to the general public.

- The park is a place for activity and recreation, solitude and contemplation.

- The water brought into the site is for public ice skating in the winter, and is a fountain pool in the summer.

- The trellis area is landscaped architecture...the transition where land meets building, where indoor space meets outdoor space.



# OBJECTIVES

- To establish a physical order and to develop an architectural language by creating rules and breaking them.

- To create a subtle perception of motion of space by coordinated modification of physical elements, both horizontal and vertical.

- To utilize the site and its historical fabric by studying contextual proportions, materials and details.

- To subdivide a large scale program into smaller components within the confines of a pre-determined framework (Old Town's smaller scale). The existing framework will not accommodate free form structures.

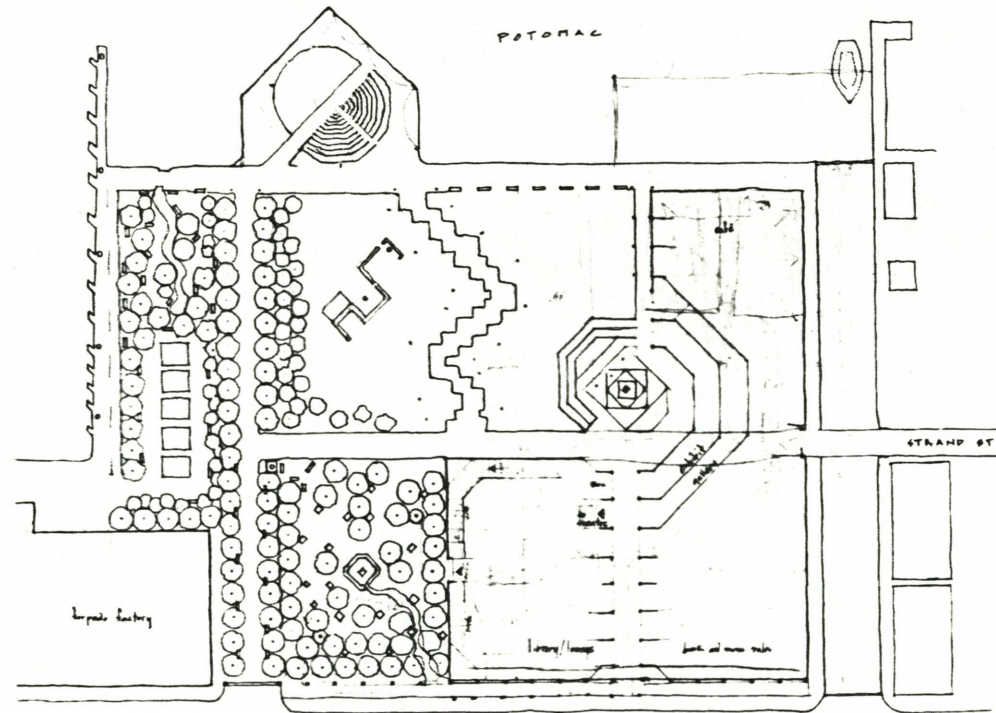
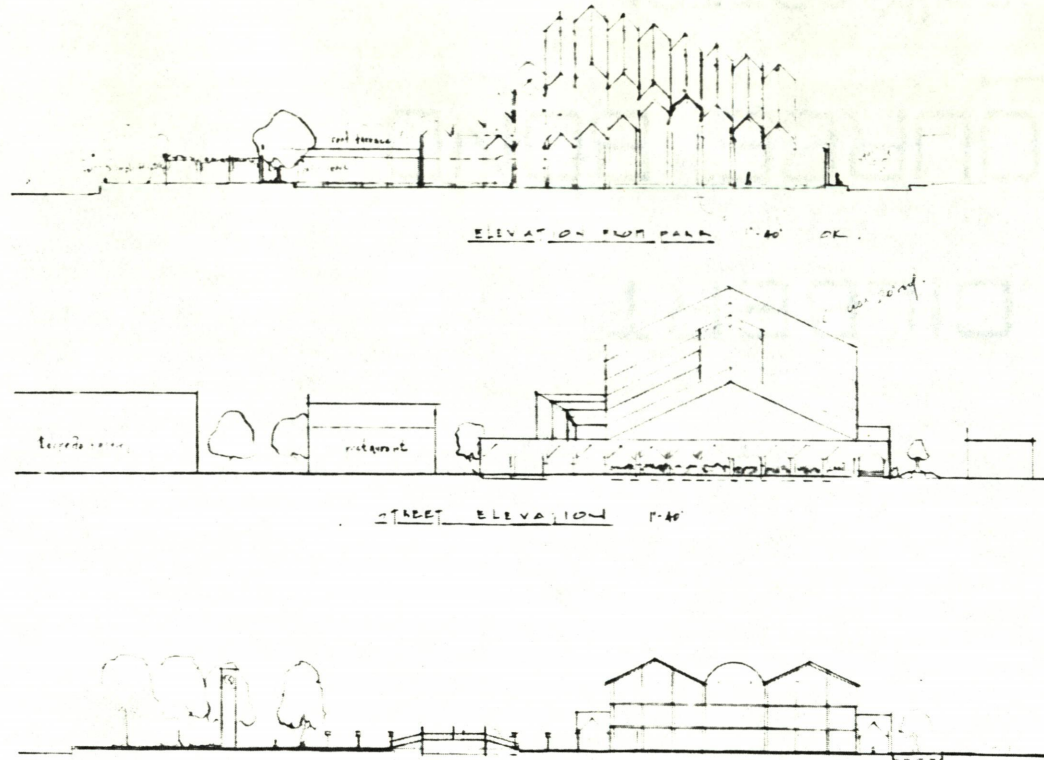
- To bring water into the site to integrate with and enhance the forming of the building.

- To give the building a soft edge in order to join the man-made with the natural environment.

The sketches are organized into a grid with the following labels and descriptions:

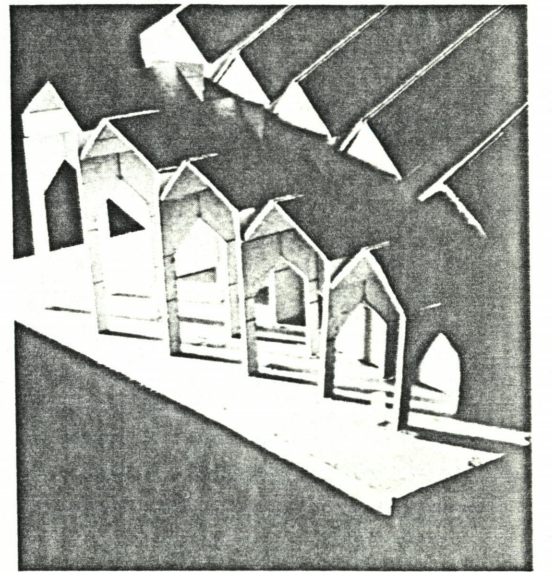
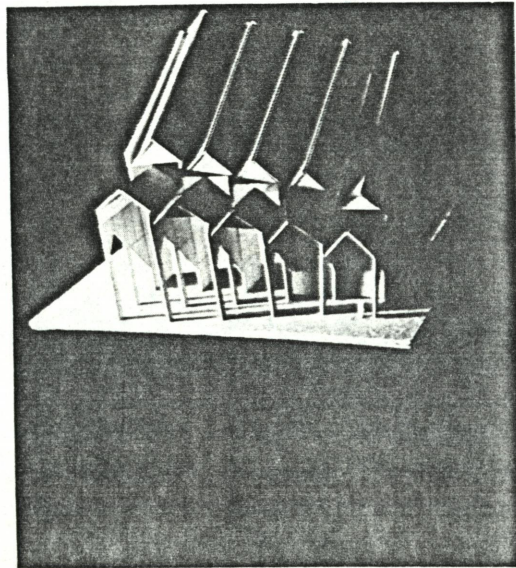
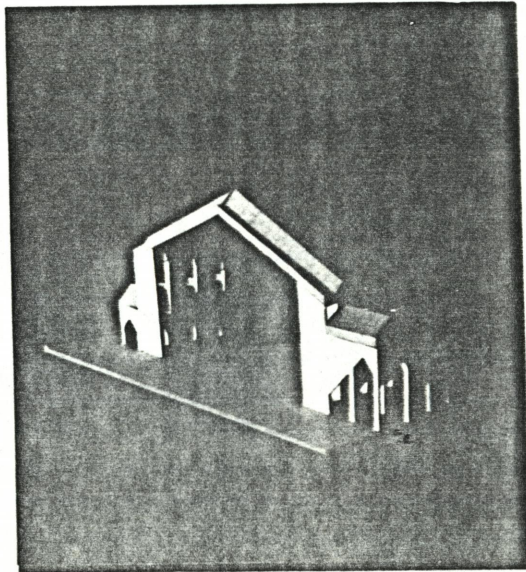
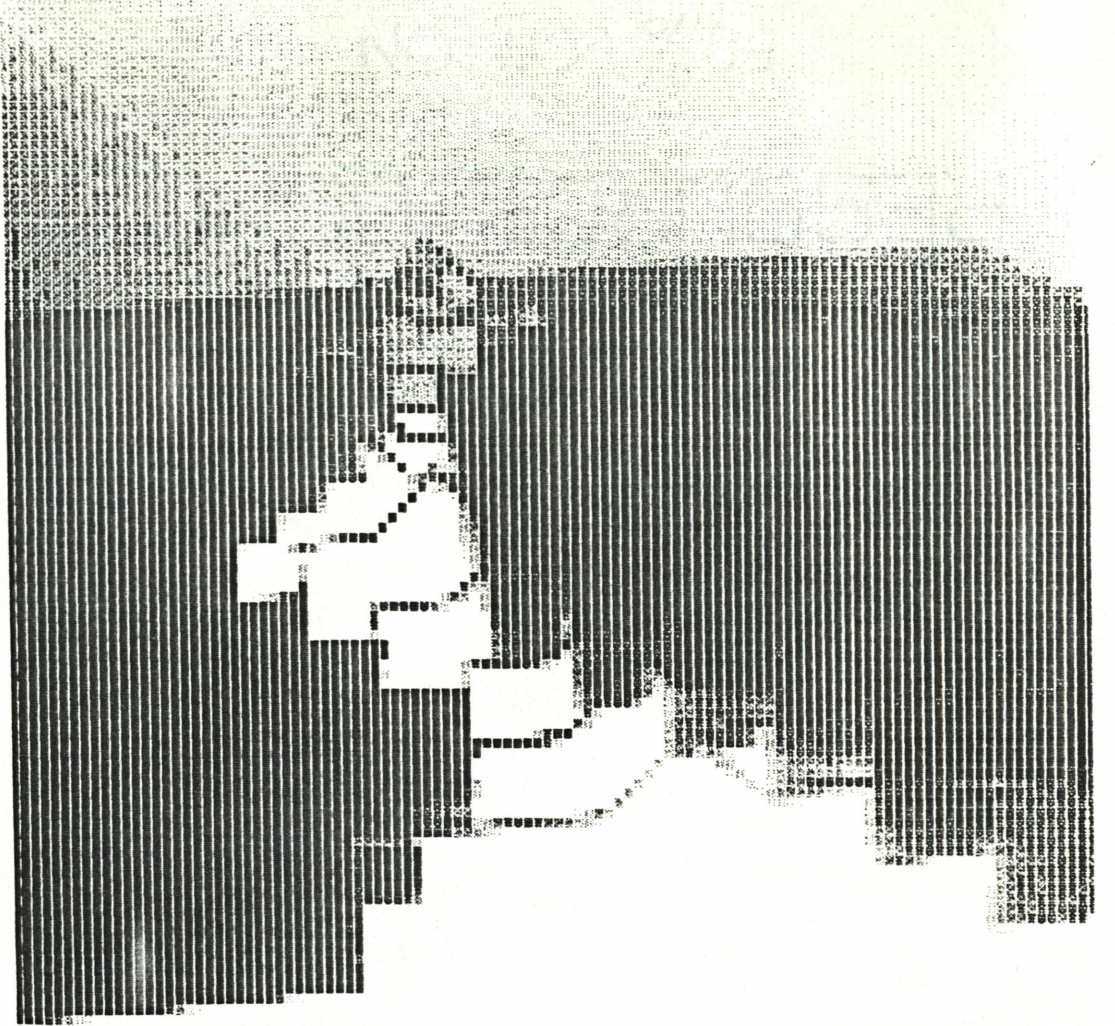
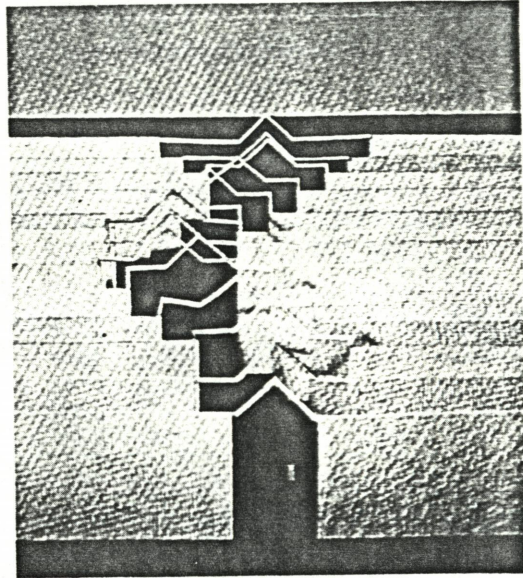
- Top Row (Sketches):**
  - Sketch 1: "enter - frame a picture"
  - Sketch 2: "landscape from king of node"
  - Sketch 3: "park water visually partly penetrable"
  - Sketch 4: "inside park"
  - Sketch 5: "enclosure"
  - Sketch 6: "local through"
  - Sketch 7: "enter up - pump water up - channel through bldg"
  - Sketch 8: "float bldg?"
  - Sketch 9: "parallel way track"
- Second Row (Sketches):**
  - Sketch 1: "entry hall"
  - Sketch 2: "lounge at theatre"
  - Sketch 3: "exhibit"
  - Sketch 4: "outdoor/indoor stage"
- Third Row (Sketches):**
  - Sketch 1: "café"
  - Sketch 2: "music lounge drama"
  - Sketch 3: "union street?"
  - Sketch 4: "provision of ramps"
- Bottom Row (Text Boxes):**
  - Spatial systems & program of elements:**
    - music lounge drama theatre
    - library
    - book and music store
    - exhibit/gallery
    - restaurant/café
    - .
    - .
    - .
  - Enclosure systems:**
    - planes of brick glass water green
    - walls...
  - Circulation systems:**
    - passages of water/people/park/light/sound?
  - Structural systems:**
    - post beam slab
  - Context:**
    - Old Town
    - materials
    - details
    - penetration types
    - Water - bring closer to town
    - Park - bring closer to town
    - Turpin factory
    - Beach

# EXPLORATION



- Elevation sketches
- Sketch of site

# EXPLORATION

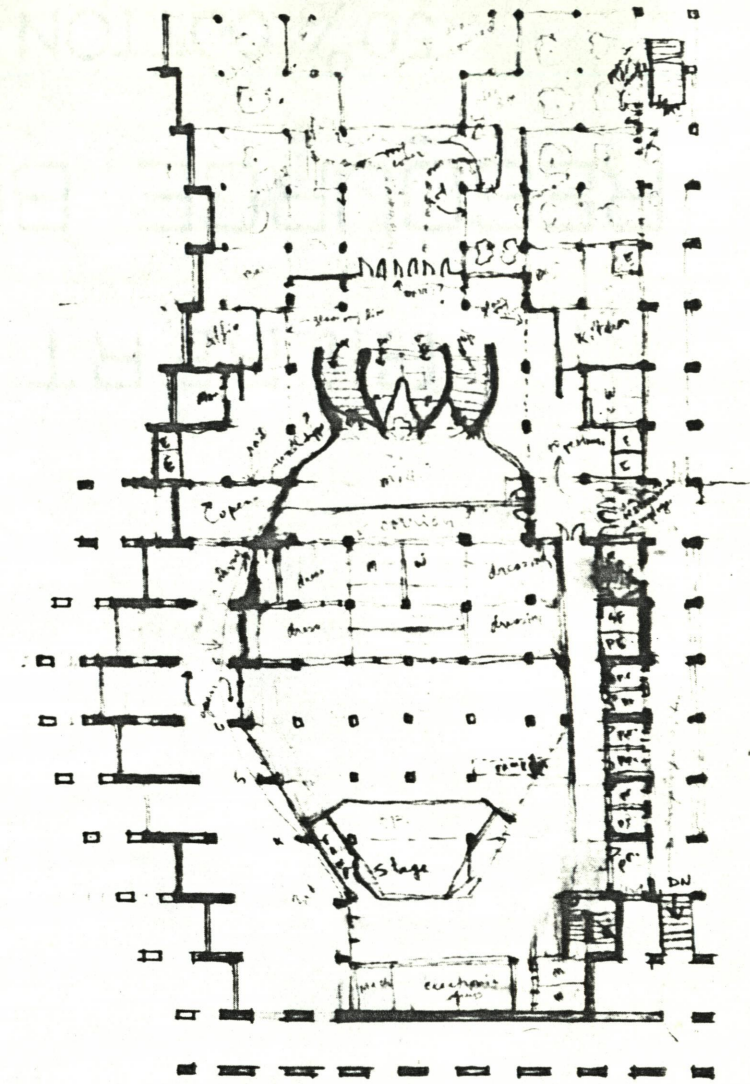
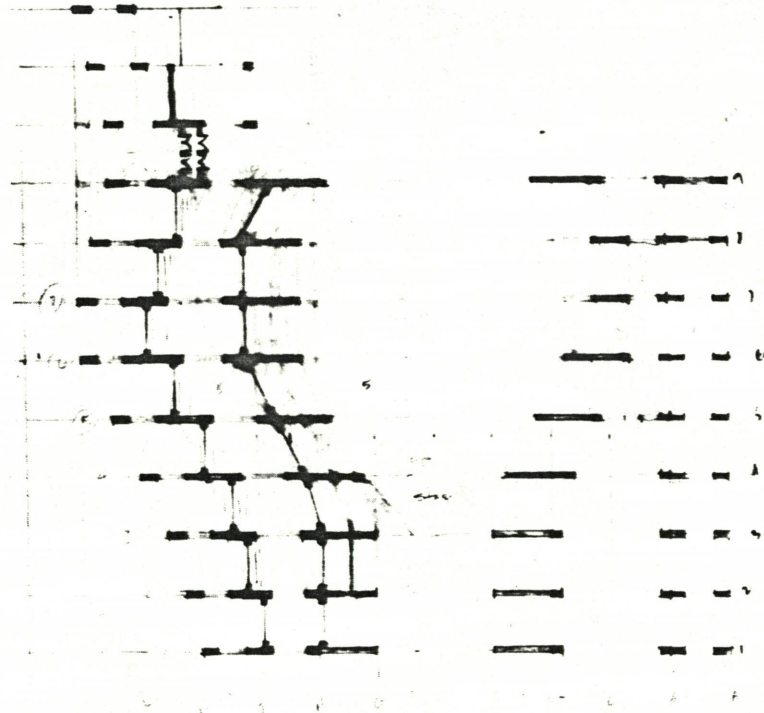


- Conceptual models
- Models of structure

## TOOLS

- An average bay size (20'), extracted from the vernacular buildings, was used to set grid dimensions.
- The vertical bay elements, similar in material and proportion to the surrounding buildings, were used in keeping with the city block fashion.
- A parallel wall plane system was used to order the structure, while perpendicular penetrations were rendered for circulation.
- Planes of brick and green were major materials for wall enclosures to adhere to Old Town context and to keep to a human scale.
- Planes of glass were used for transparent enclosure and exposure to maintain a constant visual connection with land and water and for comprehension of internal spaces from outside.
- A trellis was used for intermediate landscape architecture between building and land to soften the edge.
- A concrete pier system was used at the auditorium only to support a long span folded plate roof. This also helped differentiate spaces by a change of material.
- A concrete column system was used to differentiate space where functions dictated more open spaces.
- Roof enclosures consisted of glass, trellis and folded plate with copper finish.

- Emergence of structure
- Sketch of floor plan



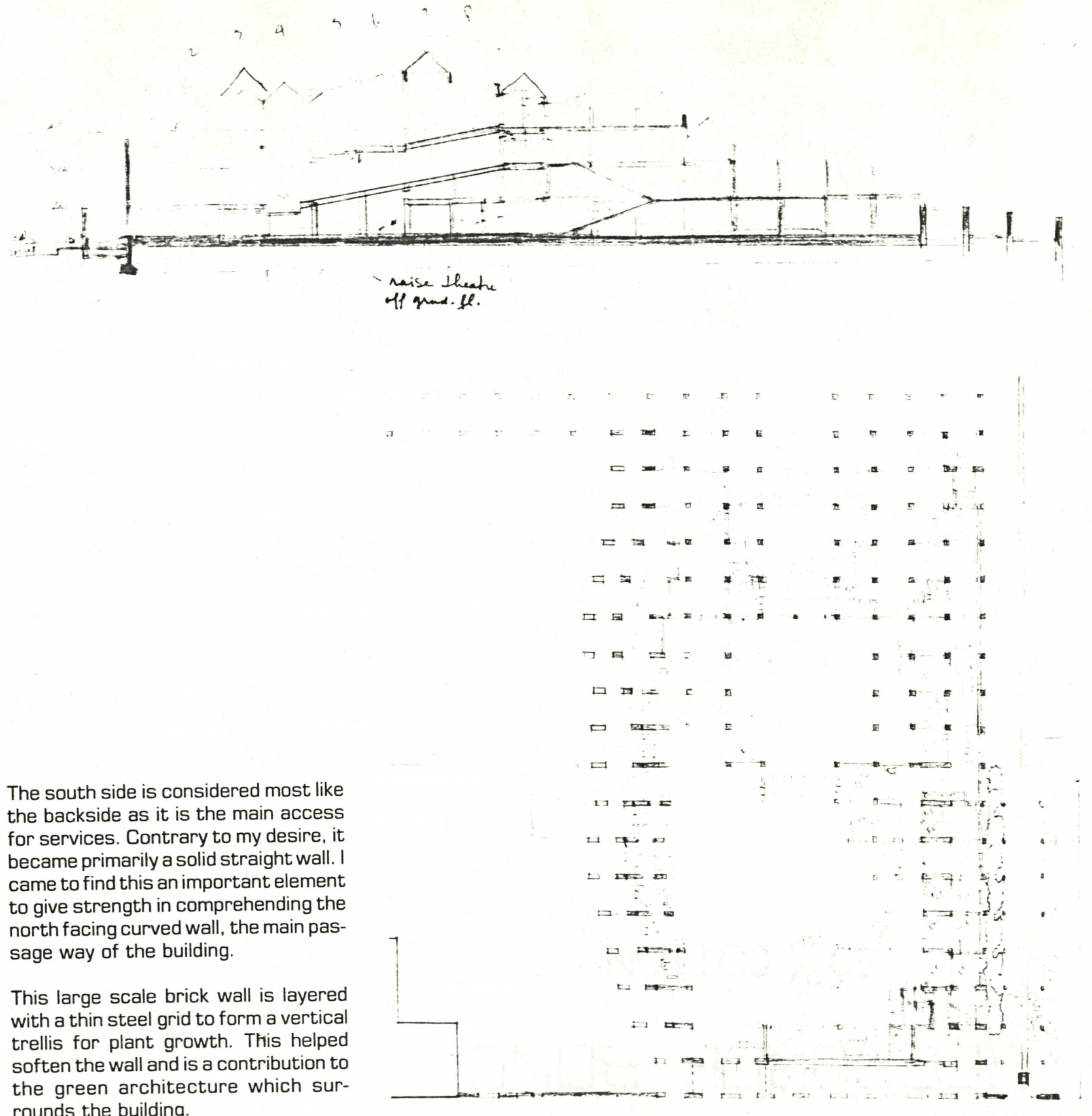
## PROCESS

The process of designing this building offered particular challenges. Due to the nature of the site, all four sides of the building were perceived and handled as fronts. They each reveal totally different functions of the interior which helped to achieve diverse elevations.

To accommodate such a large scale function, while not overwhelming so small a scale context was a difficulty that I used to help generate a pattern. The building is pulled away from Union Street sidewalk by one bay. Between the sidewalk and the building is a free standing 12' high wall with openings, giving access to a lily pond, behind which stands the back wall of the theatre. The proceeding walls slowly step away from the street, rising at 5' high increments, consecutively at each bay, finally to the highest point of the theatre and return back down. The height increments change at the central lobby and at the restaurants, to give each floor unencumbered views of the river.

Possibly the greatest challenge relates to the previously mentioned pattern which evolved from the changing roof heights. The building "began" with dimensions familiar to those of the neighborhood, then grew and unfolded incrementally to suit the space requirements. I did in fact want a structure that transformed in a mutable manner to create motion. Never did I intend to form a monolith. A struggle endured to break the singular form, but to no avail. Rather, differentiation was achieved by operations in plan and elevation, and by changing materials.

- Conceptual sketches



The south side is considered most like the backside as it is the main access for services. Contrary to my desire, it became primarily a solid straight wall. I came to find this an important element to give strength in comprehending the north facing curved wall, the main passage way of the building.

This large scale brick wall is layered with a thin steel grid to form a vertical trellis for plant growth. This helped soften the wall and is a contribution to the green architecture which surrounds the building.

## PARTS

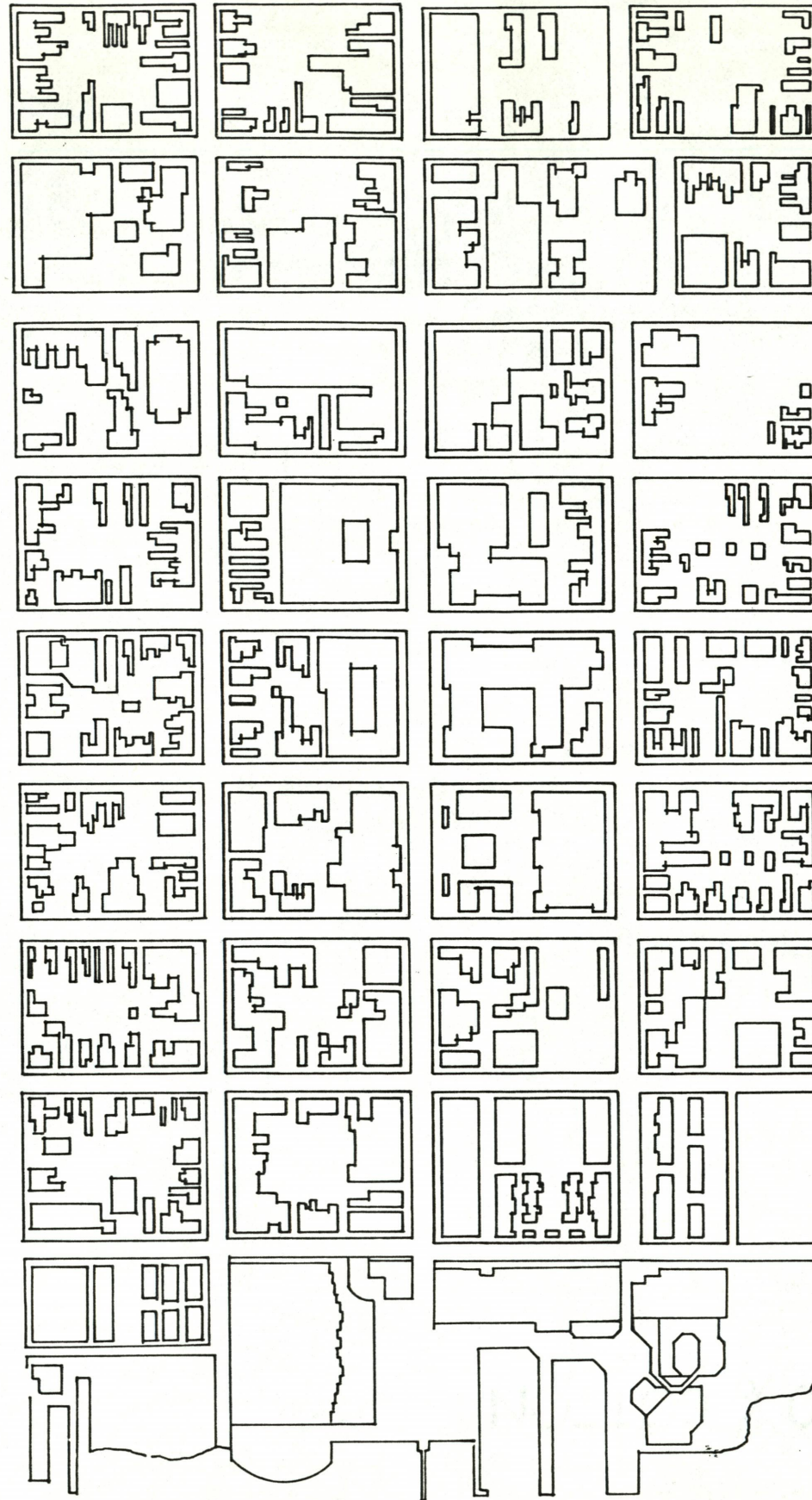
The east west streets of the city all have open vistas to the Potomac. In keeping with this plan, the termination of the major King Street is intended as a picture window perspective to the river and the Maryland shore. The proceeding line of trees divides the park into two sections. The north side is landscaped heavily to allow for privacy, while the south side is less dense. The water on this side also calls for activity.

Filtered water is brought into the north side of the site, flows in front of the theatre, bends again and is expelled as a thin channel down the end of the cobblestone Prince Street. This water on Prince Street serves to enhance the often unattractive service areas. The terminus of Stand Street is the service entrance to the building. On that same axis is a public entrance to the north side of the building.

The second floor trellis walk on the south side is an access to an entrance for employees. It also acts as a sun-screen and offers seating, with a quite place for retreat.

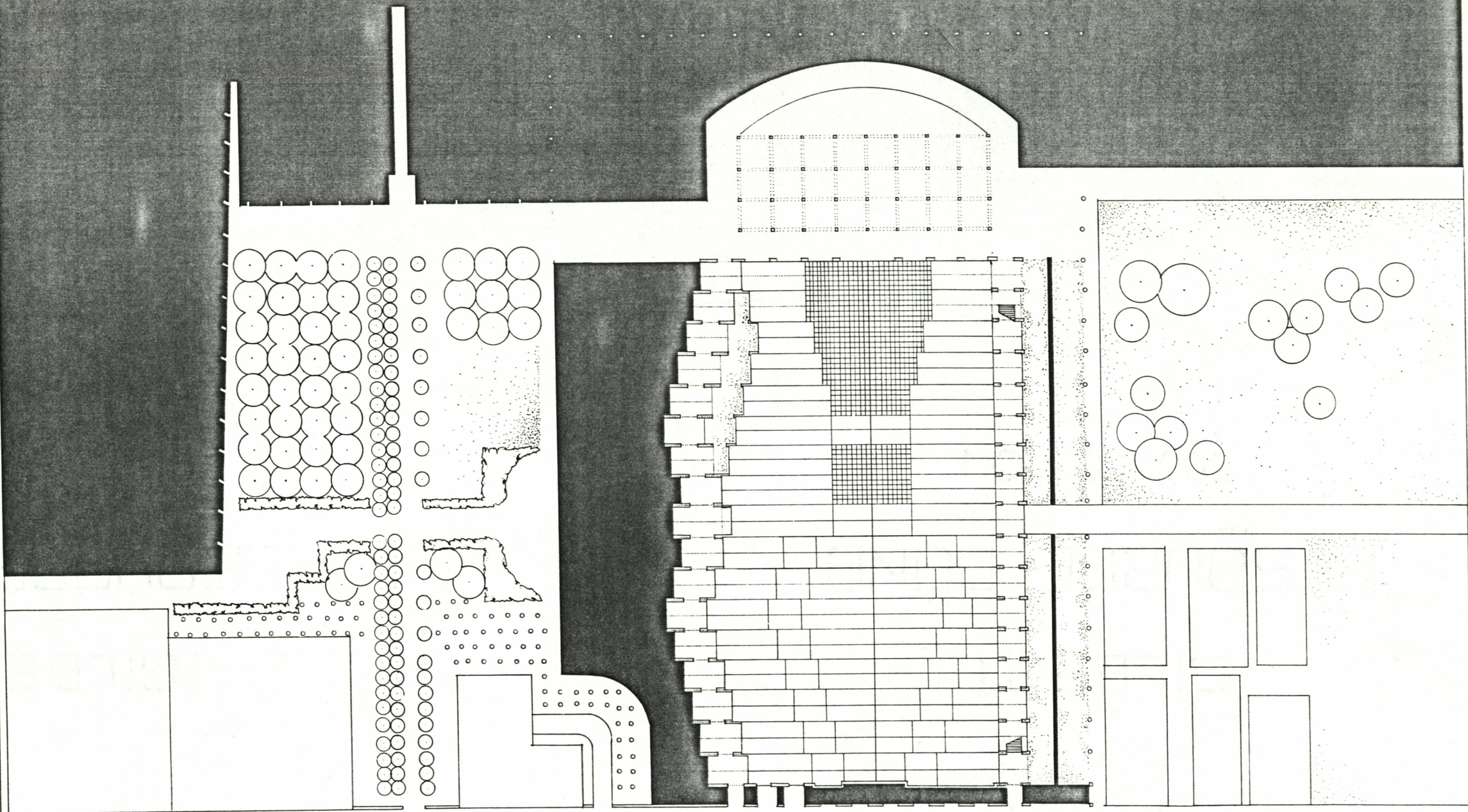
The ground floor lounge facing the river functions in conjunction with the adjacent trellised area which serves for an outdoor concert area. This may also be used for dancing if the source of music is within the lounge.

The exposure of the building's structure is intended to visually express the building's smaller parts. This helps to bring the building into scale.



- Partial city plan

POTOMAC RIVER

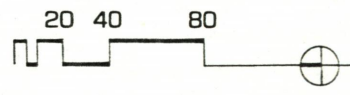


UNION ST

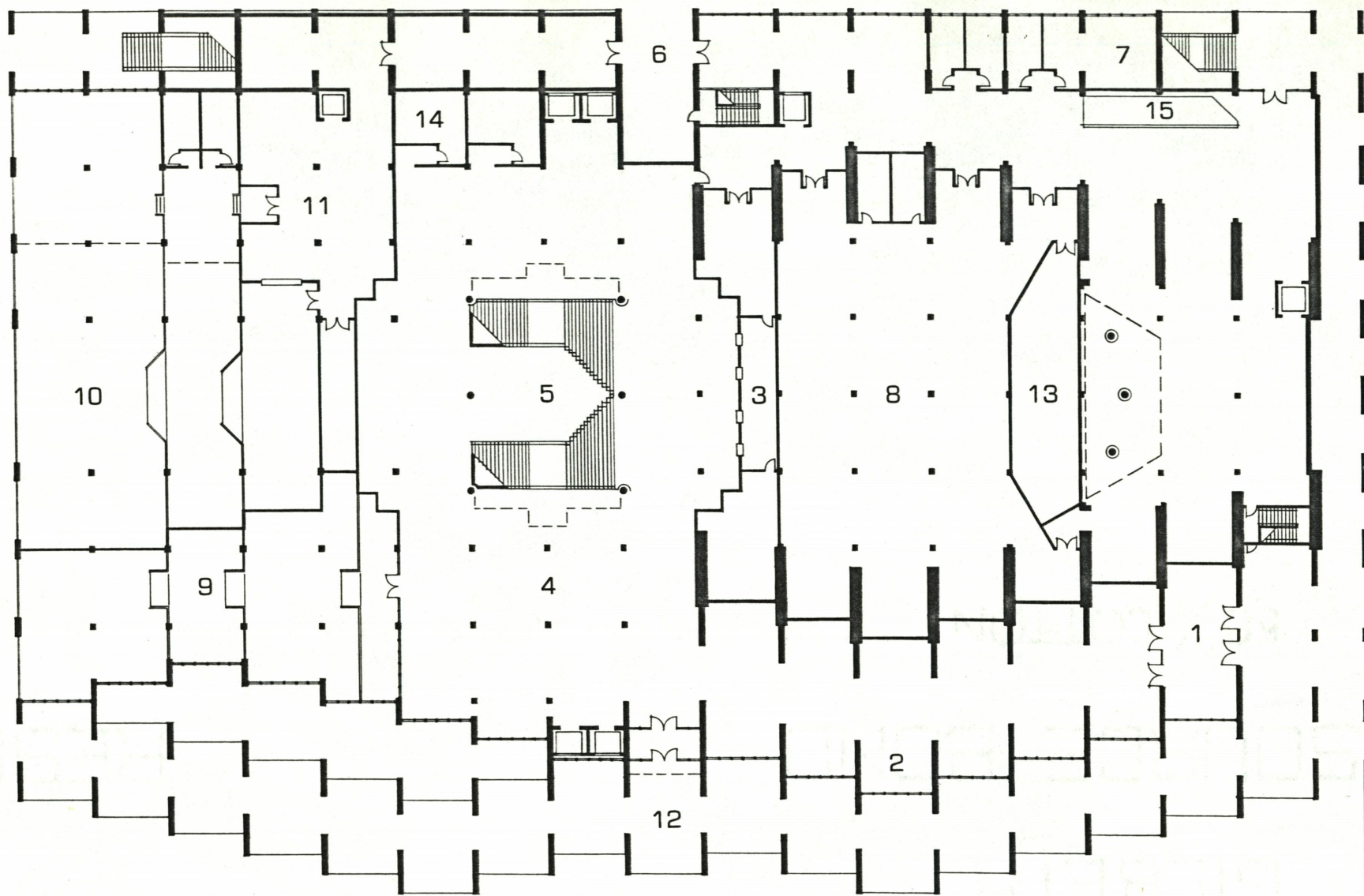
KING ST

PRINCE ST

SITE PLAN

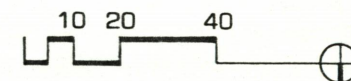


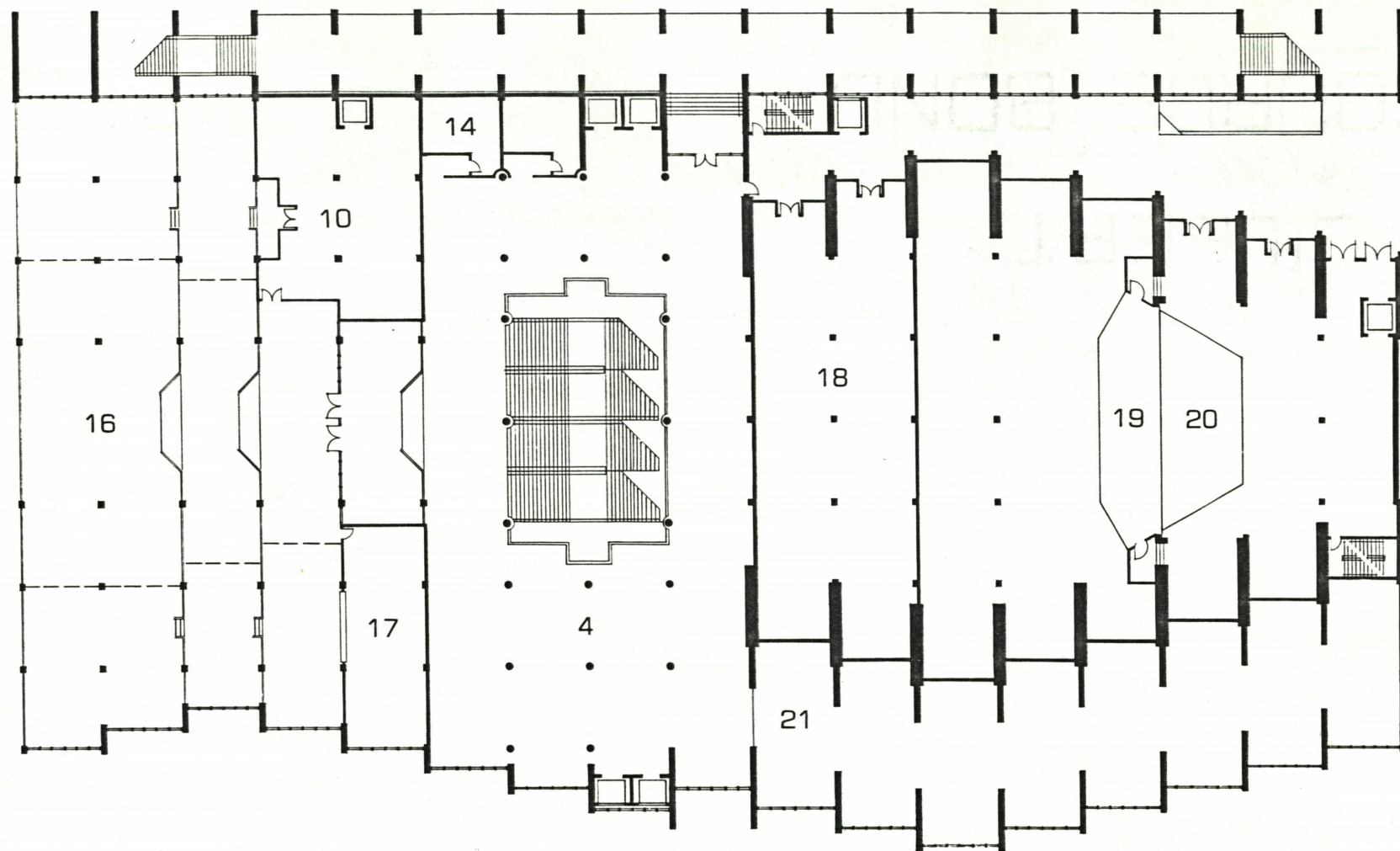




- |                    |                        |
|--------------------|------------------------|
| 1 Main entrance    | 9 Bookstore            |
| 2 Exhibit bays     | 10 Cafe / dance lounge |
| 3 Box office       | 11 Kitchen             |
| 4 Lobby            | 12 Trellis path        |
| 5 Sculpture        | 13 Mechanical          |
| 6 Service entrance | 14 Restrooms           |
| 7 Offices          | 15 Ramp                |
| 8 Green room       |                        |

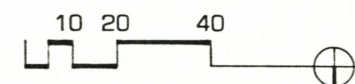
FIRST FLOOR PLAN

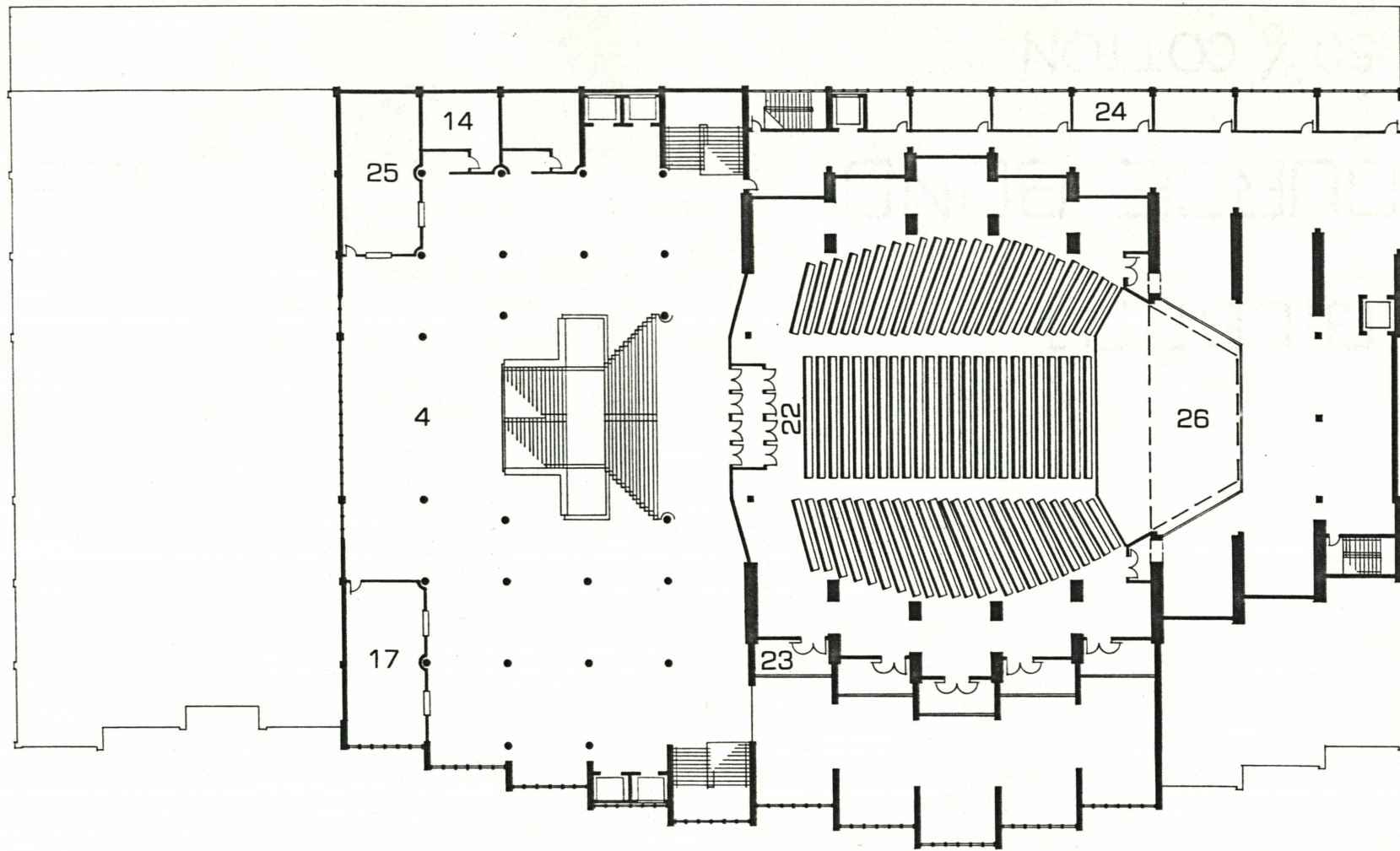




- |                  |              |
|------------------|--------------|
| 16 Restaurant    | 14 Restrooms |
| 10 Kitchen       | 4 Lobby      |
| 17 Bar           |              |
| 18 Dressing area |              |
| 19 Orchestra pit |              |
| 20 Stage         |              |
| 21 Open to below |              |

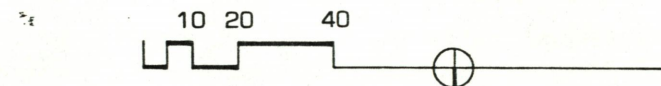
## SECOND FLOOR PLAN

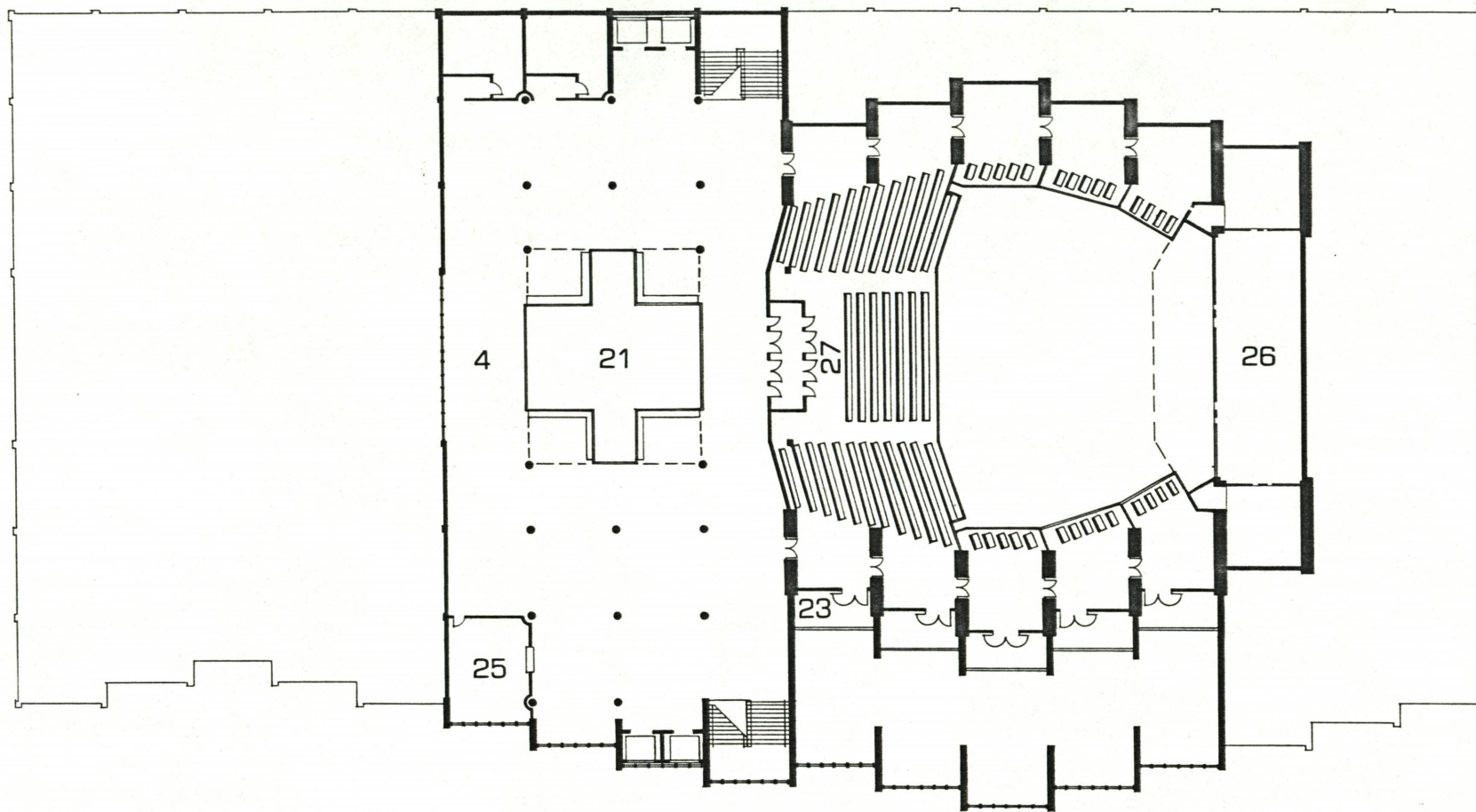




- 22 Auditorium
- 23 Balconies
- 24 Practice rooms / offices
- 25 Coats
- 26 Fly space
- 17 Bar
- 14 Restrooms
- 4 Lobby

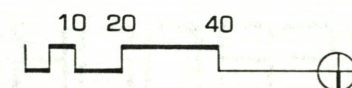
THIRD FLOOR PLAN

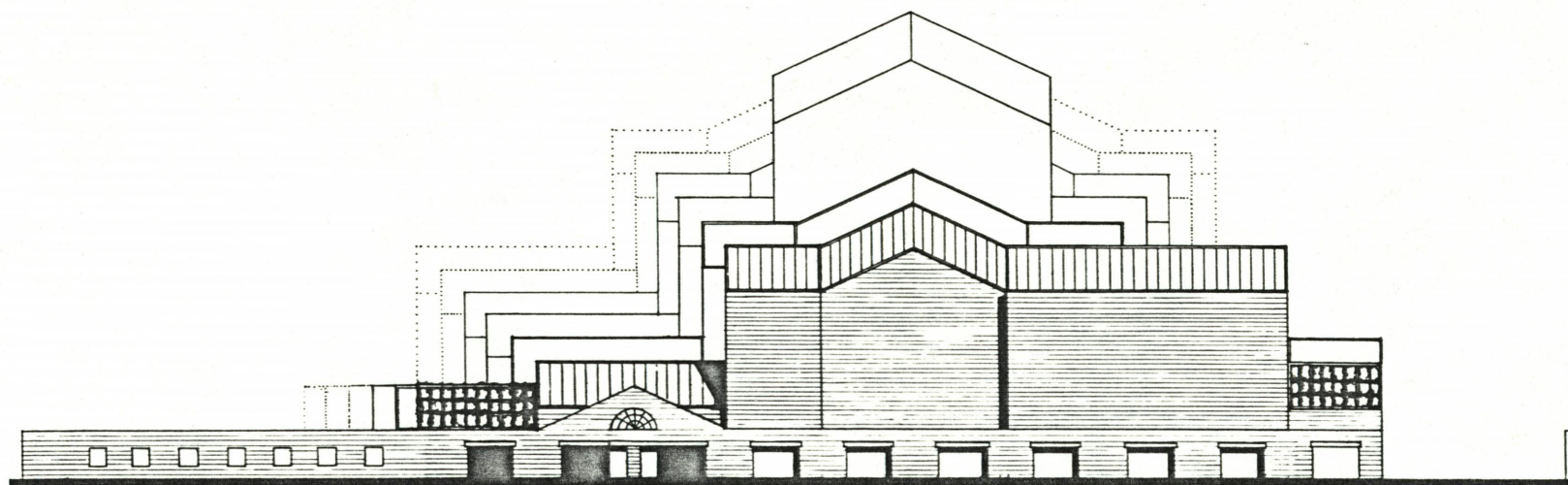




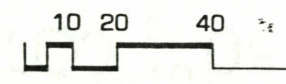
- 27 Balcony seating
- 21 Open to below
- 25 Coats
- 23 Balconies
- 26 Fly space
- 4 Lobby

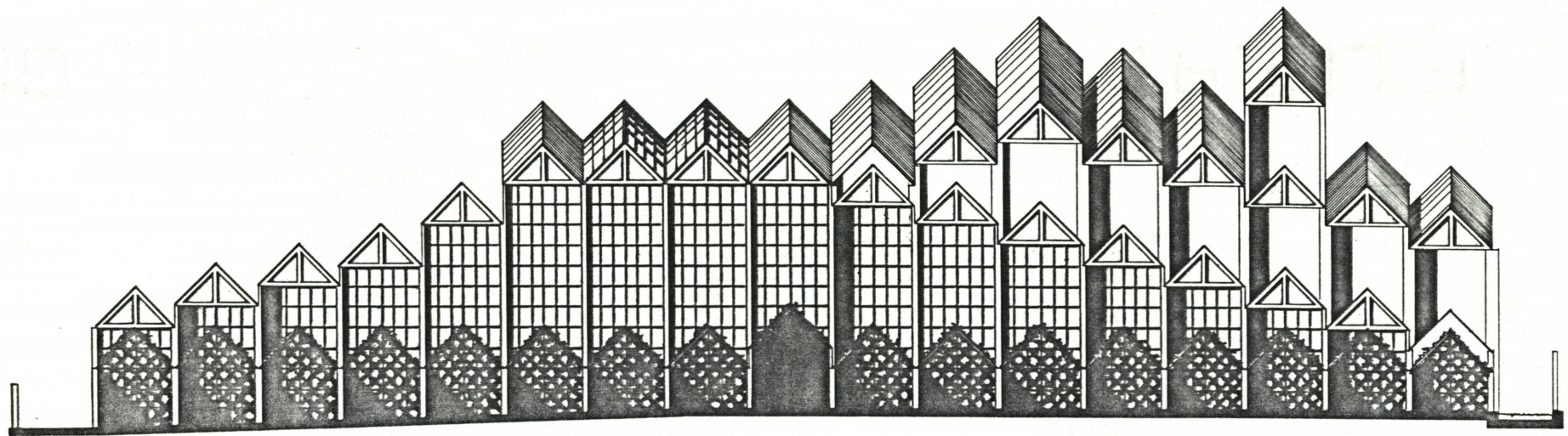
FOURTH FLOOR PLAN



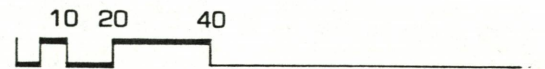


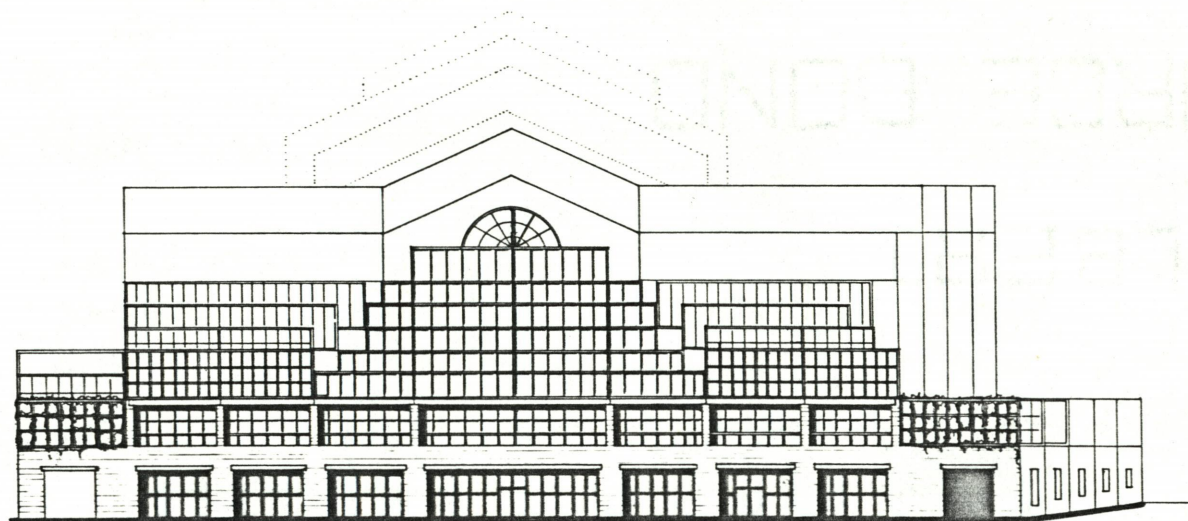
WEST ELEVATION



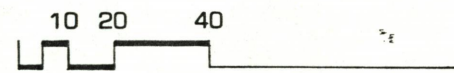


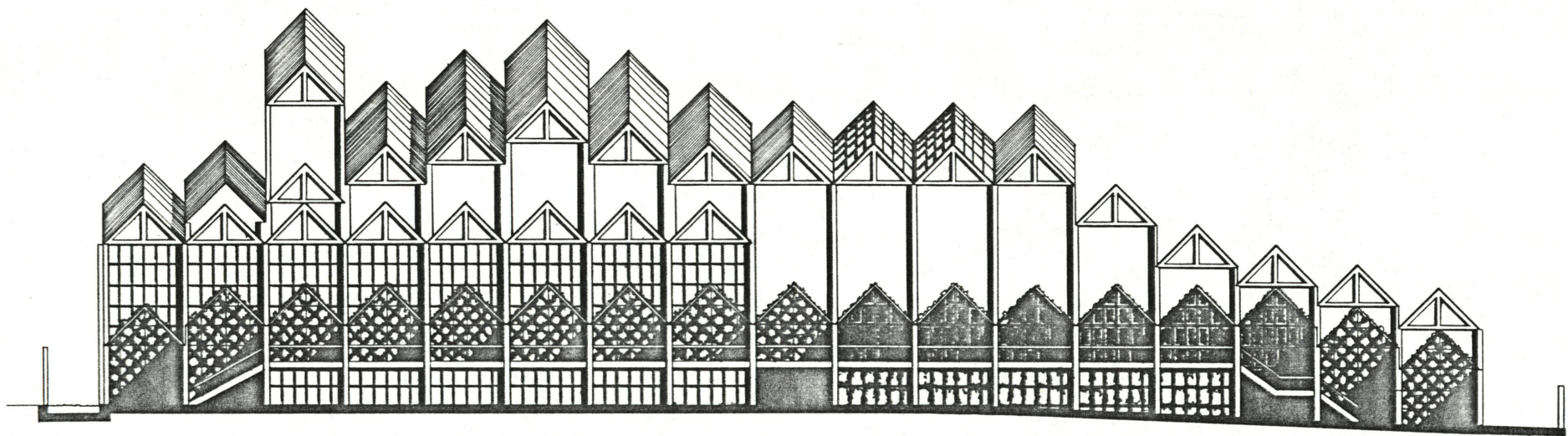
NORTH ELEVATION



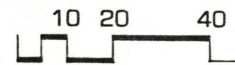


EAST ELEVATION

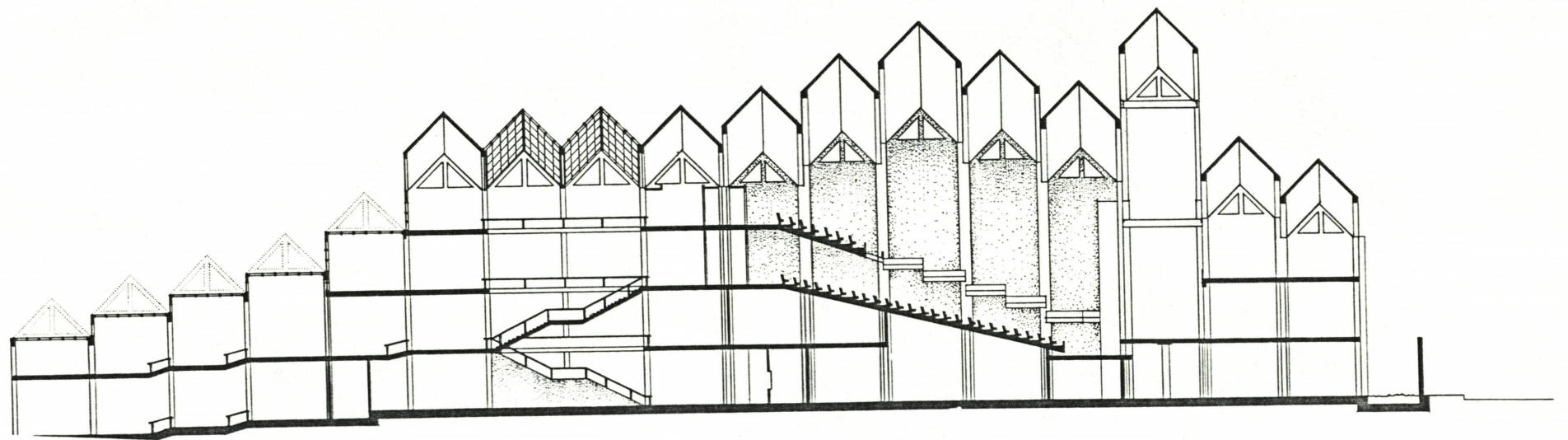
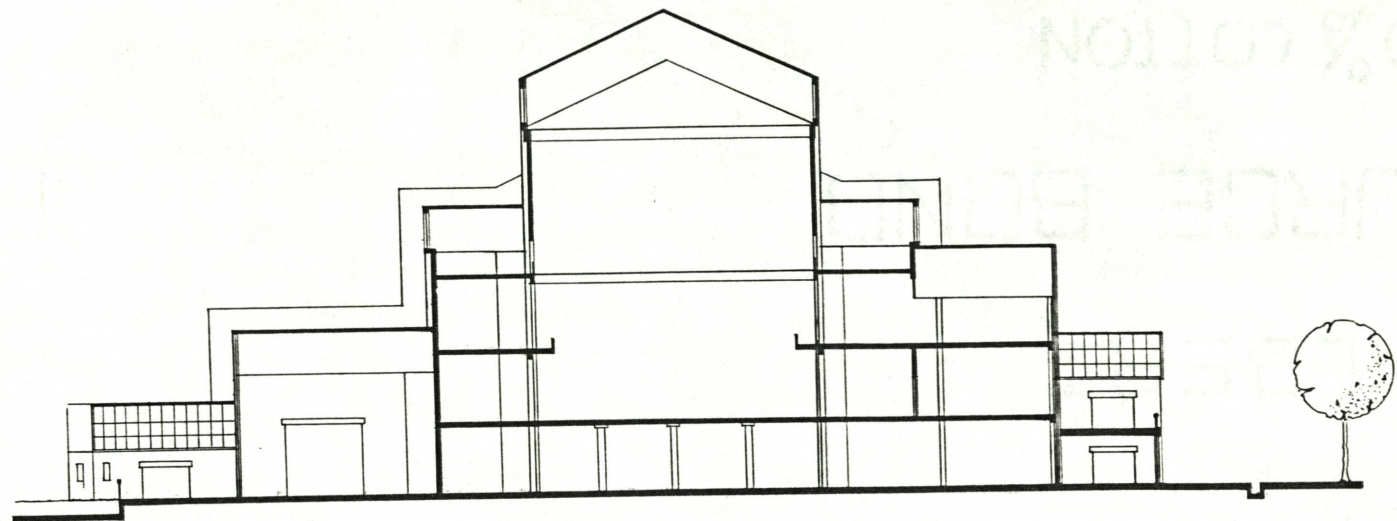




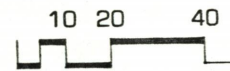
SOUTH ELEVATION

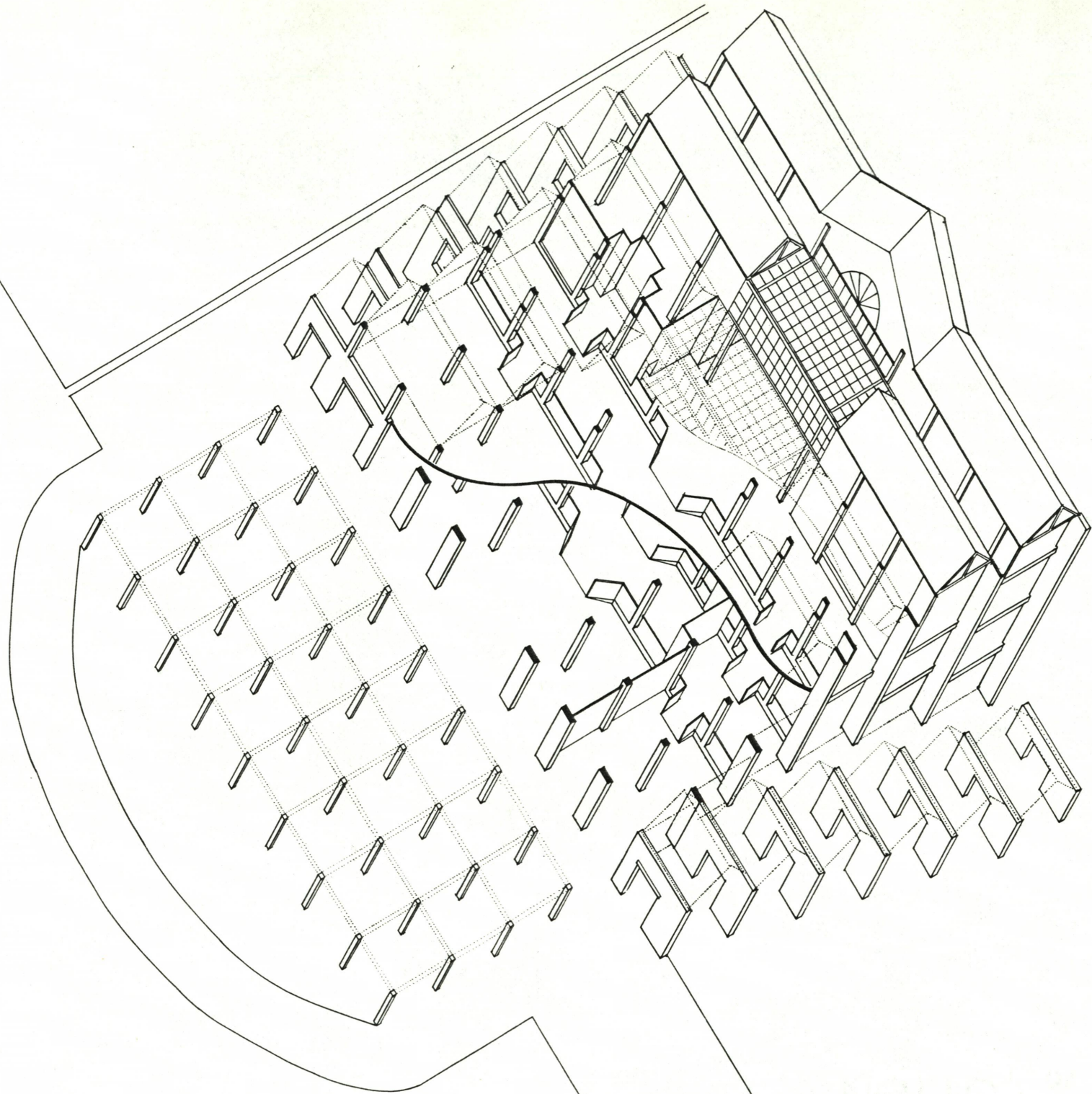




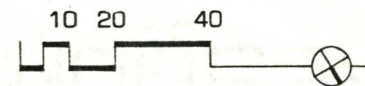


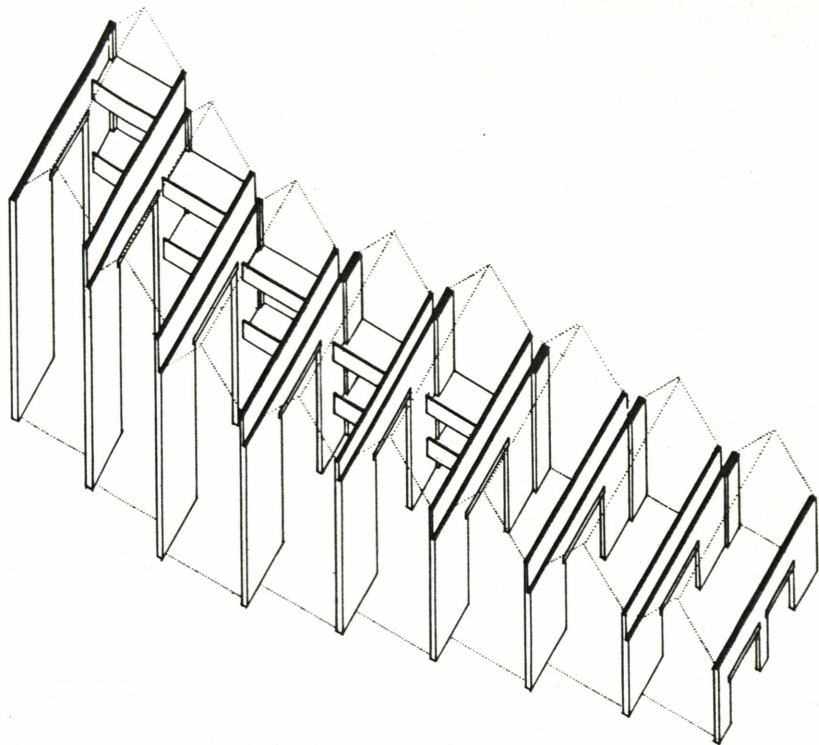
LONGITUDINAL SECTION



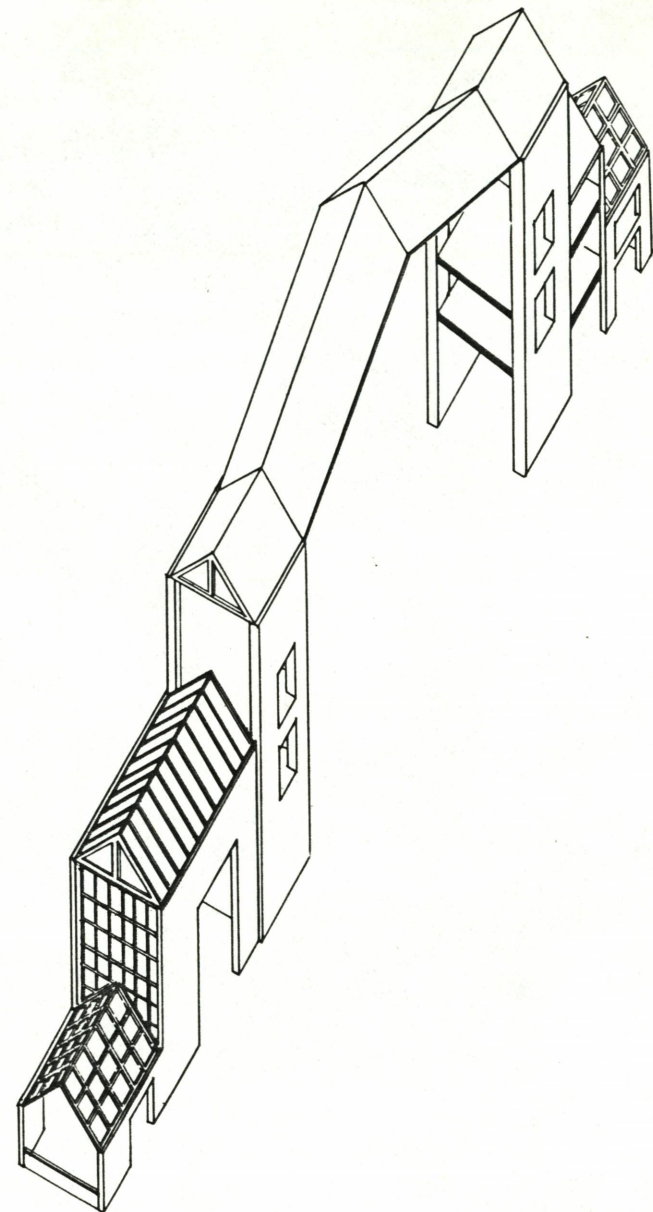


PARTIAL AXONOMETRIC at RESTAURANTS



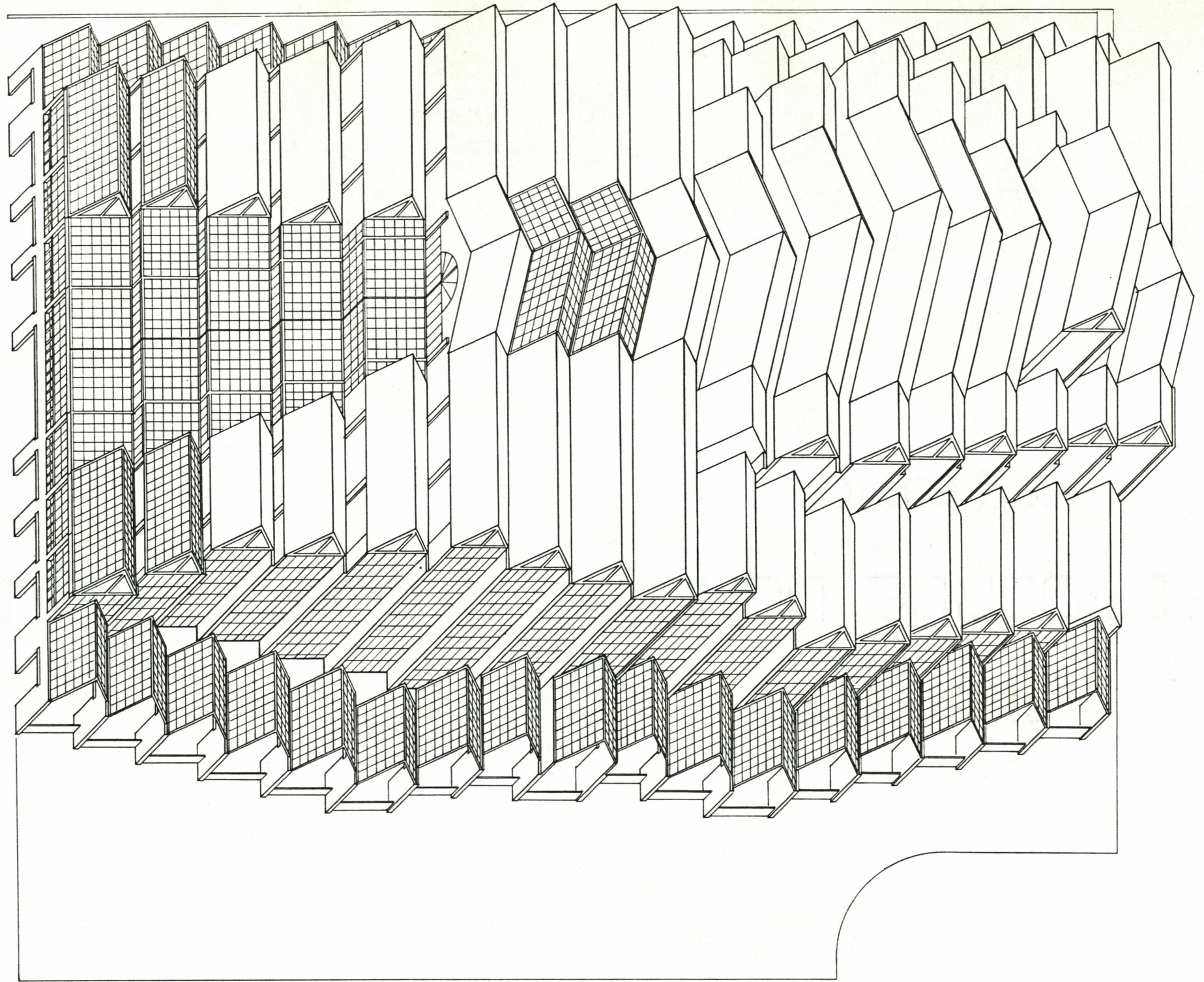


AXONOMETRIC at EXHIBIT AREA

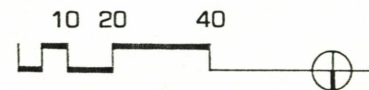


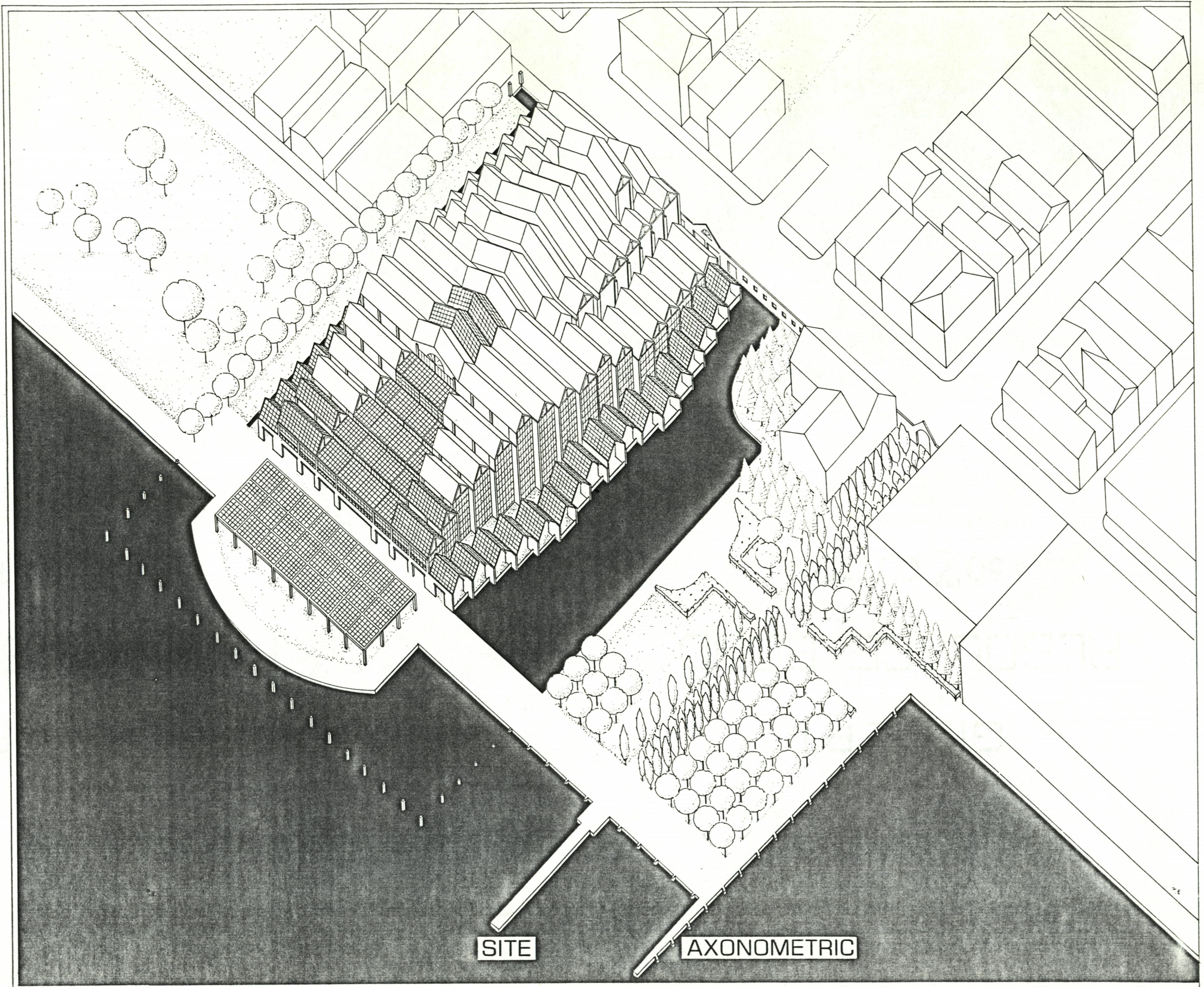
SECTION AXONOMETRIC





BUILDING AXONOMETRIC

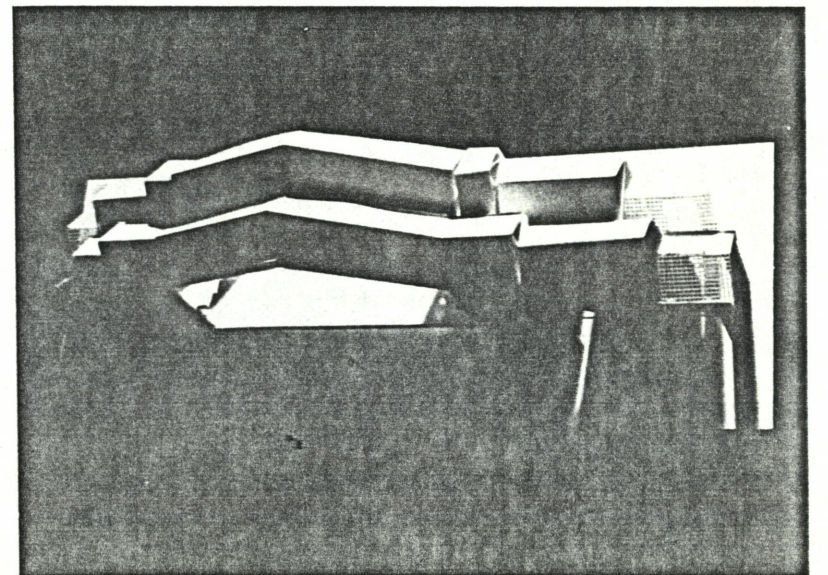
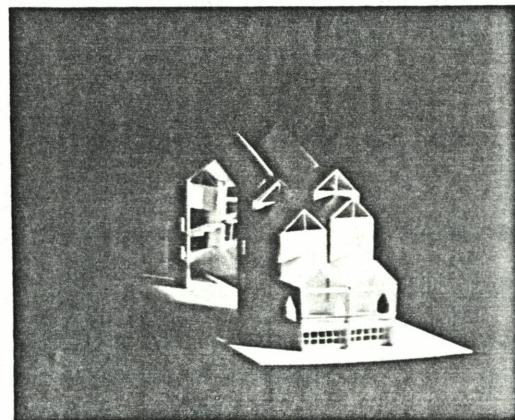
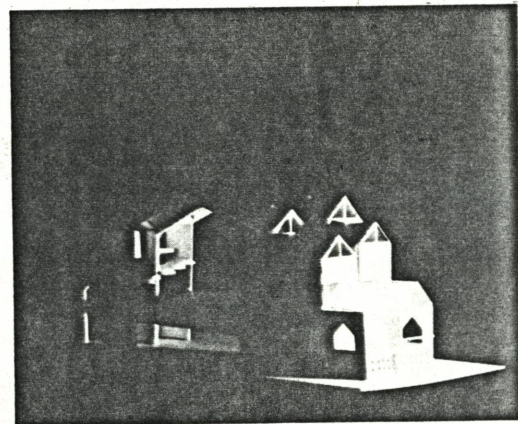
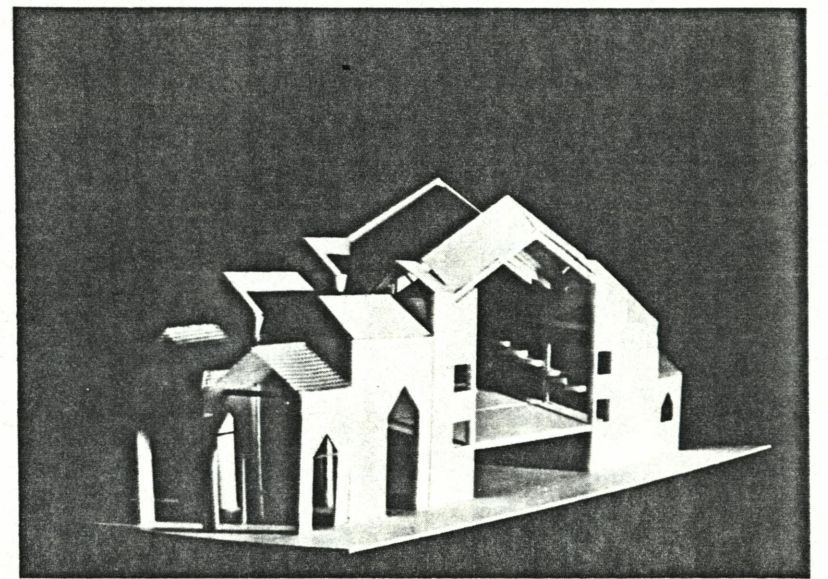
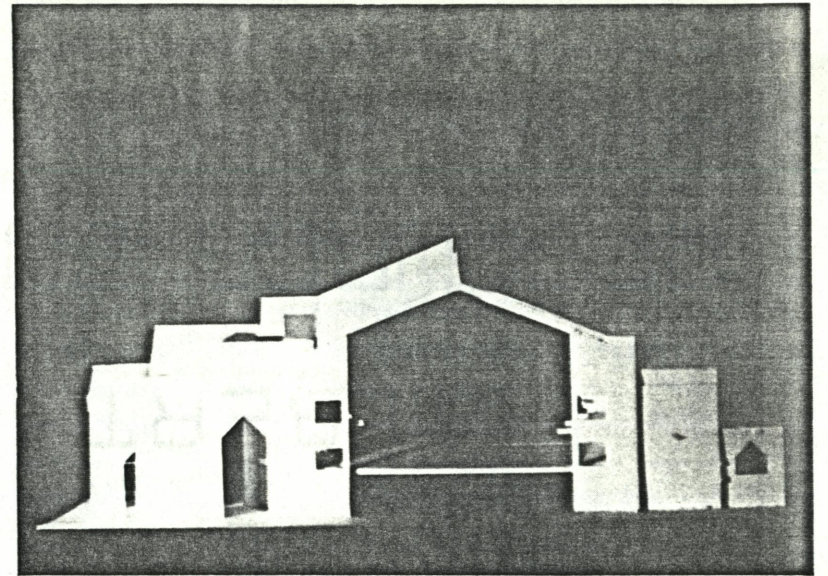




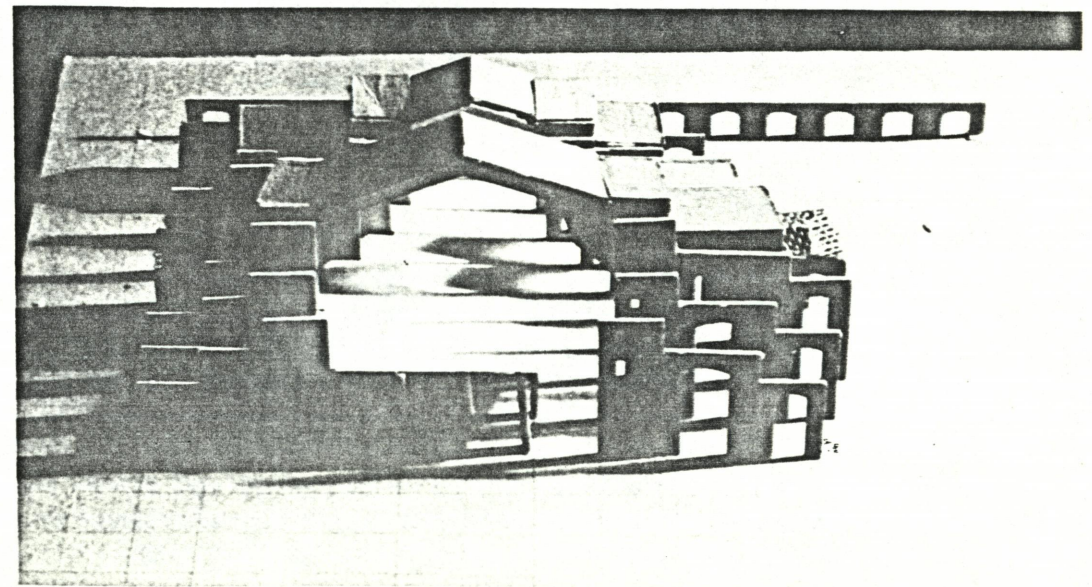
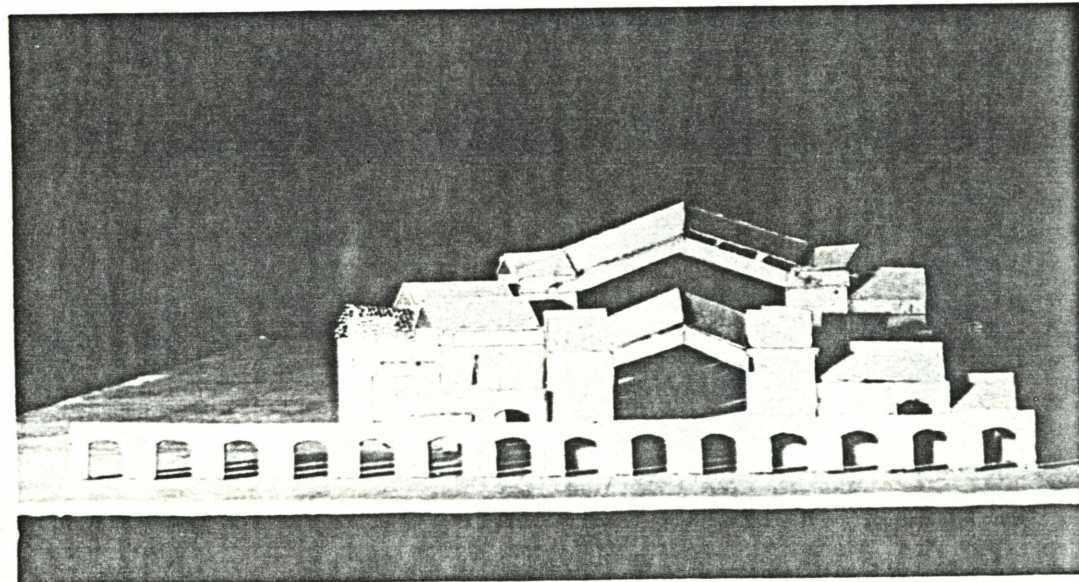
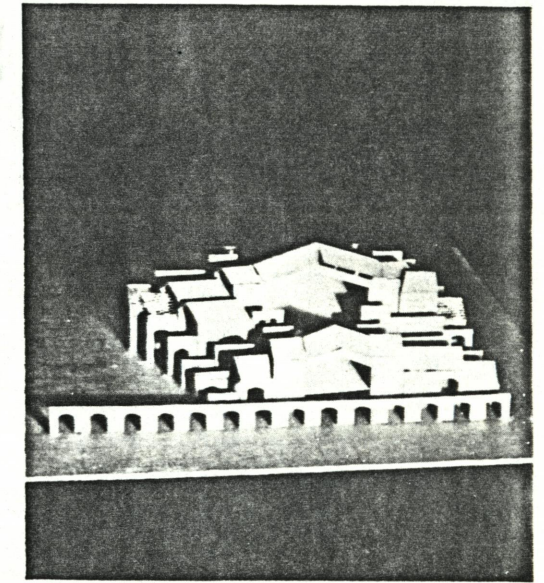
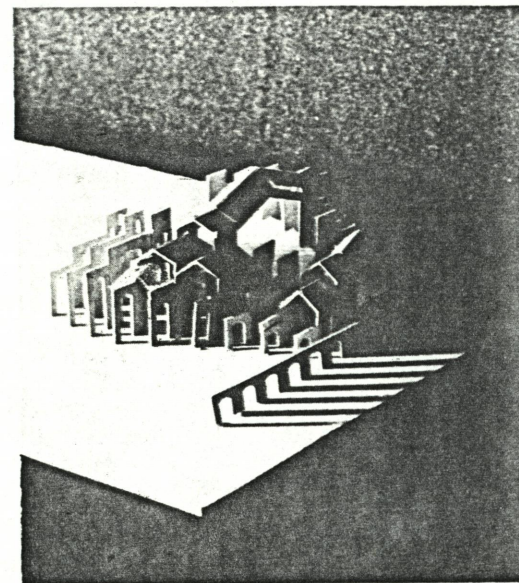
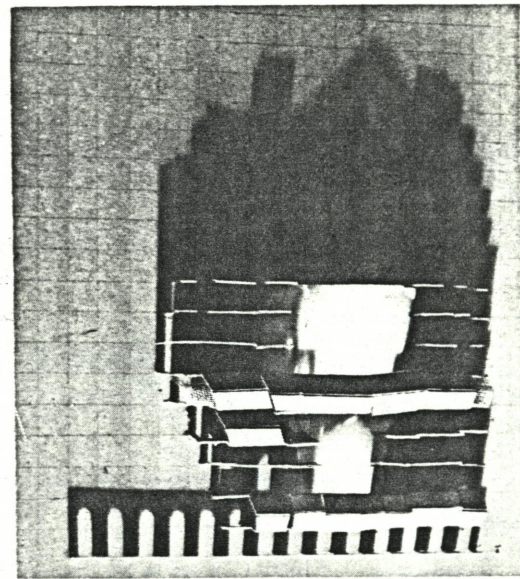
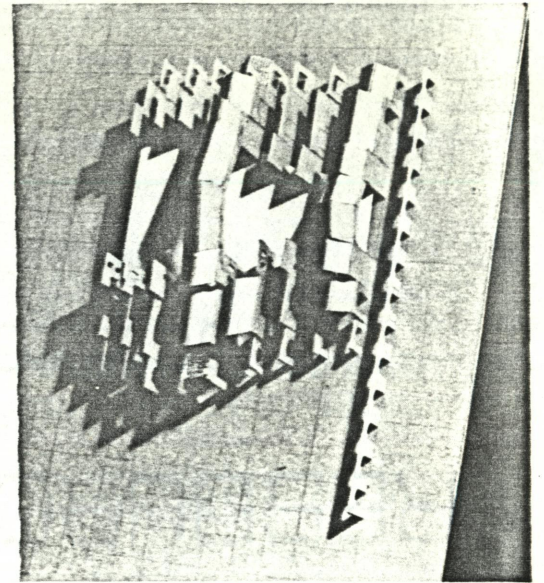
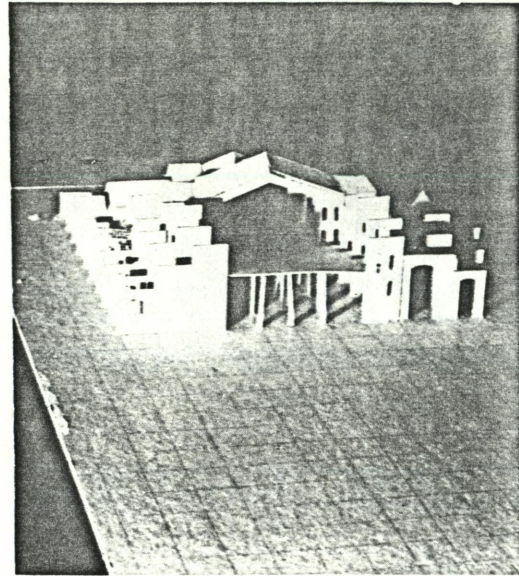
SITE

AXONOMETRIC

SECTION MODEL THROUGH  
THEATRE



PARTIAL MODEL AT THEATRE



## BIBLIOGRAPHY

Bachelard, Gaston  
The Poetics of Space  
Beacon Press  
Boston, 1969

Engel, Heinrich  
Structure Systems  
Frederick A. Praeger  
New York, 1968

Halperin, Lawrence  
Cities  
MIT Press  
Cambridge, 1973

Hopkins, G.M.  
City Atlas of Alexandria  
Philadelphia, 1877

Izenour, G.C.  
Theatre Design  
McGraw  
New York, 1977

Kahn, Louis  
Light Is The Theme  
Kimbell Art Foundation  
Fort Worth, 1975

Leacroft, Richard  
The Development of the English Play-  
house  
Cornell University Press  
Ithaca, 1973

Renovations to the Peabody Con-  
servatory  
Jewell Downing and Associates  
Baltimore, 1979

Smith, William Loughton  
Journal of William Loughton Smith,  
1790-1791  
The University Press  
Cambridge, 1917

The Alexandria Waterfront Forum:  
Birth and Rebirth  
1730-1983  
Alexandria Urban Archaeology Pro-  
gram  
Alexandria, 1983

Tyler's Quarterly Historical and  
Genealogical Magazine  
Volume IV  
Richmond Press  
Richmond, 1923

Ungers, O.M.  
Architecture As Theme  
Rizzoli International  
New York, 1982



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