

A City's Edge
Where the land meets water

by
Anshu Bangia

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in partial fulfillment of recognition for the
Degree of

Master of Architecture

Approved by

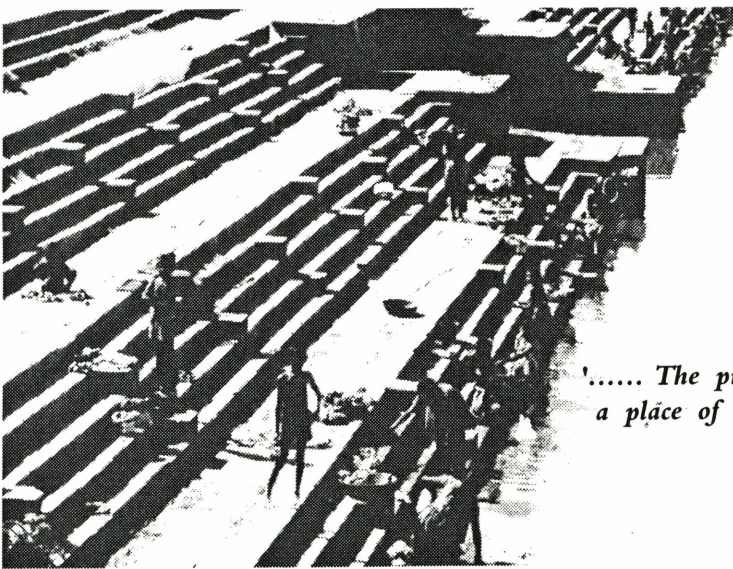
Heiner Schnoedt, Chairman

Jane Britt Greenwood

Dan Stuver

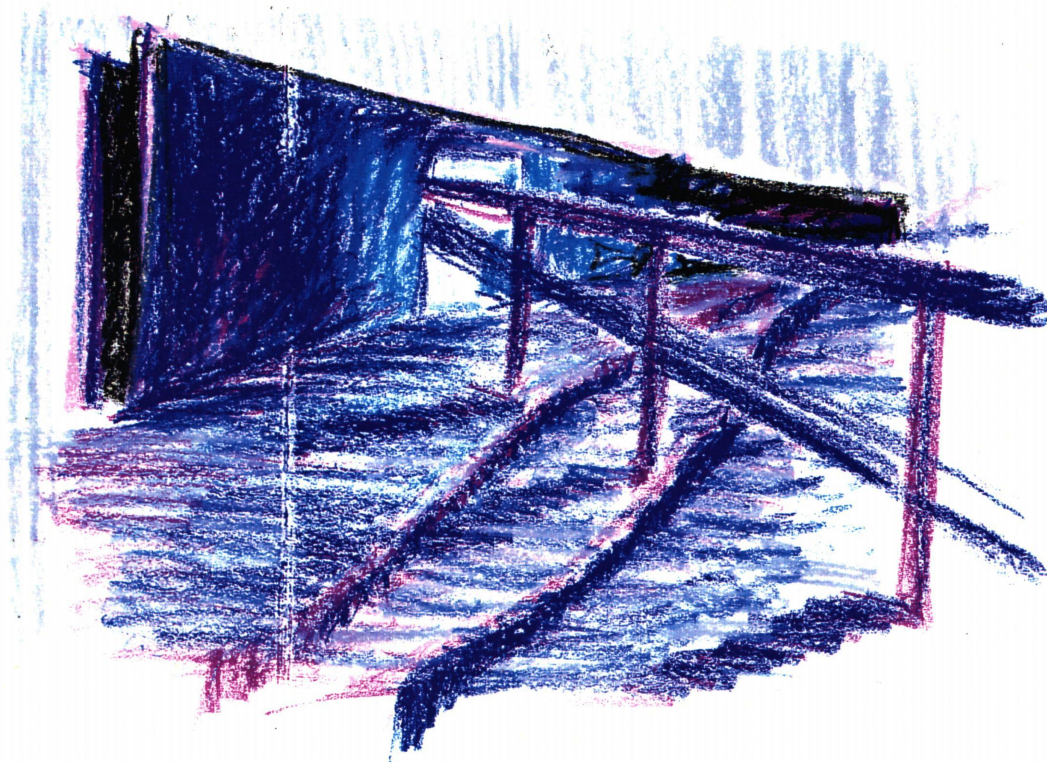
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*'..... The primeval meeting place of the elements of earth and water ,
a place of compromise and conflict and eternal change .'*

Rachel Carson



Abstract

*'The Edge of a City is a philosophical region,
where City and Natural Landscape overlap,
existing without choice or expectation.'*

Steven Holl

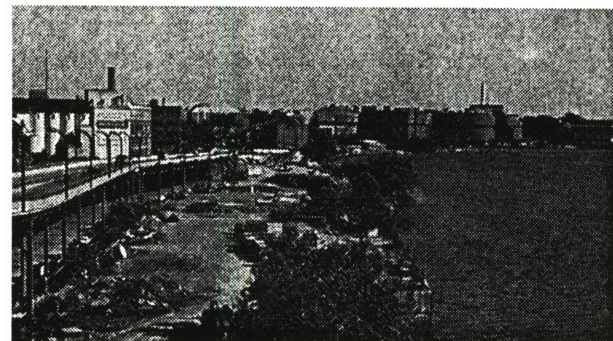
The interaction across boundaries sets up a dialogue that is highly complex and ambiguous. The periphery of a modern city presents itself as an erratic composition of fragments having little or no relationship to the existing fabric of the city. The mediating ground between natural landscape and a built-up environment, the city's edge is an opportunity for a new synthesis of urban life and form. But more often than not it is treated as 'leftover' space with the only reminder of its urbanity being its proximity to the maze of curvilinear superhighways. This 'leftover' edge condition becomes more acute when the natural boundary is water.

Ignoring fundamental aspects in designing waterfront environments has resulted in an architecture and urban development that is visually chaotic and disorganized, reflecting a lack of harmony with self and surrounding urban landscape.

The development of urban waterfronts has always been one of the ways to enhance the urban environment. Besides contributing to the economic, recreational, cultural and industrial development of the place, the architectural character has always adapted itself to the maritime context maintaining a continuous dialogue between the urban edge and the water.

Historically employed as a means of transport and trade, it is only now that the potential of river or sea in relation to waterfront land is being recognized for its recreational and cultural aspects.

Decreasing waterborne cargo and passenger travel has left a large section of waterfronts unused or underused. It is the effective and appropriate reuse of these sites that poses a challenge towards urban land use, and establishment of an identity, and environmental quality of a city.



Site in 1972

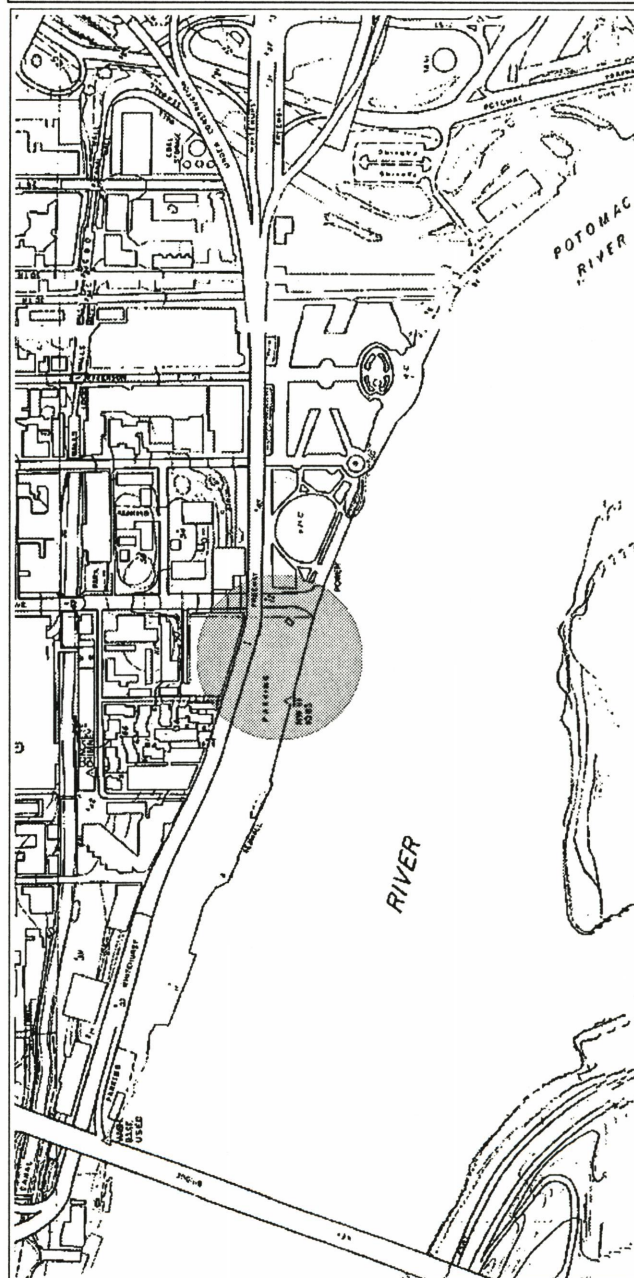
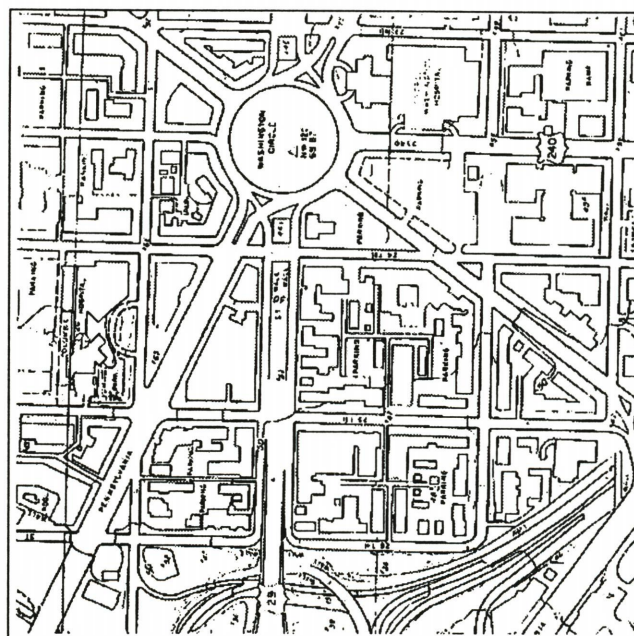


Present day site

This thesis is about ideas. It is an exploration of the possibilities in designing a 'people's place' at the edge of a modern American city. It attempts to give back to the city the natural boundary it has long forgotten and to weave a connection between man-made and natural.

The program includes exhibition galleries, cafes, and outdoor performance and gathering spaces. The process seeks to study the two distinctive edges of the site, the freeway and water, and their implications in architectural design in an attempt to draw people to the river. It also seeks to understand the different conditions and ways of how the built environment can address the water, either physically or visually.

The building site is a strip of land presently used for parking, between the Whitehurst freeway and the Potomac in Georgetown, Washington D.C., on axis with Wisconsin Avenue and opposite Roosevelt Island. Built in 1949, the Whitehurst freeway creates a man-made boundary negating the natural edge, leaving prime waterfront land available for industrial rather than civic use. The waterfront presently is characterized by three projects, the Watergate complex, the Kennedy Center and the Harbor Place. The undulating forms of Watergate and the terraces of the Kennedy Center are a contextual gesture towards the river but the projects themselves are separated from the water by a main roadway. The Harbor Place, a recent project situated to the east of the site, though considered as an architectural pastiche by critics, is the only 'urban space' along the Potomac.

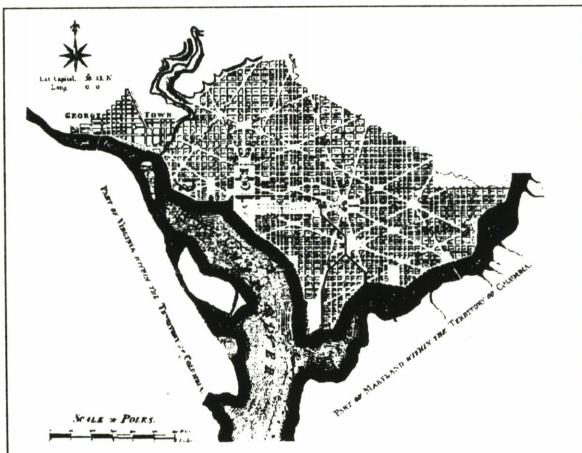




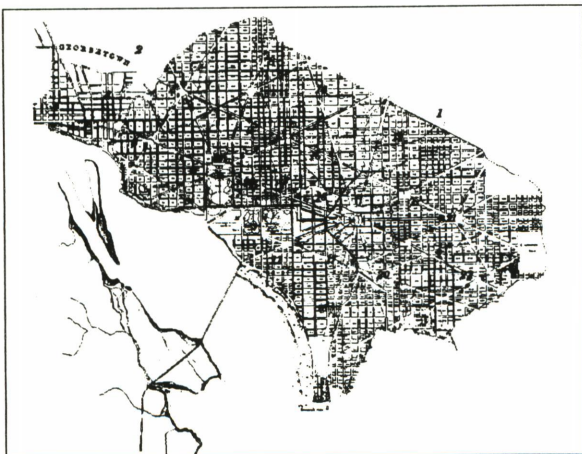
plan of Washington D.C., by L'Enfant : 1791

The architectural character and identity related to river based civilizations and settlements have varied according to the historical, geographical, and functional significance of certain rivers in a culture.

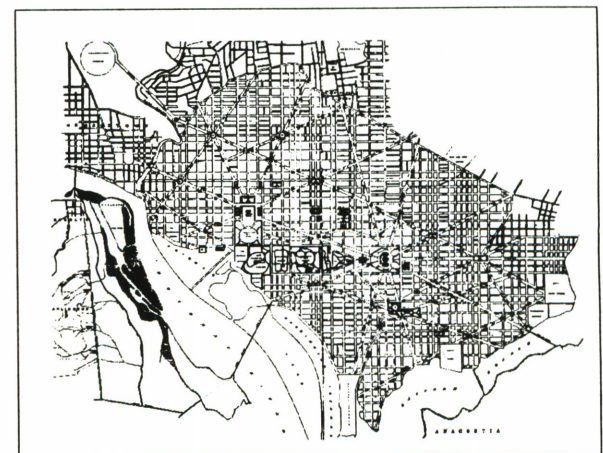
Cities in the United States like Baltimore, Seattle, Chicago, San Antonio and Boston address and acknowledge the presence of water as its boundary by designing recreational, cultural and public activities along the waterfront. Though initially planned in relation to the Potomac, Washington D.C. has time and again ignored its natural boundary.



plan of Washington D.C., by Andrew Ellicott : 1792

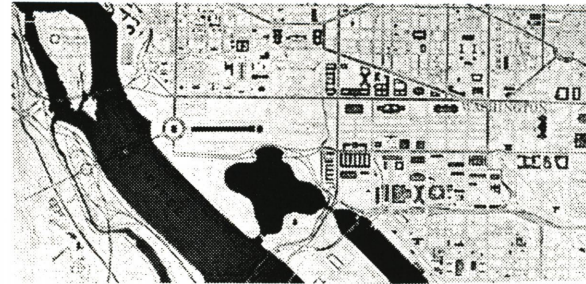


plan of Washington D.C. : 1873



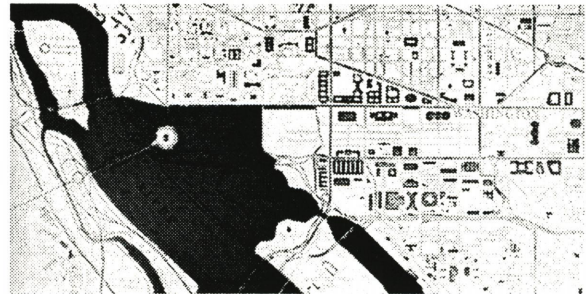
plan of Washington D.C. : 1900

While L'Enfant's initial plan for Washington D.C., recognized the value of the city's location on the banks of the Potomac, resulting in a design of land and water, the McMillan plan of 1902 severed the city from the river by creating the tidal basin and the Lincoln Memorial with its reflecting pool.



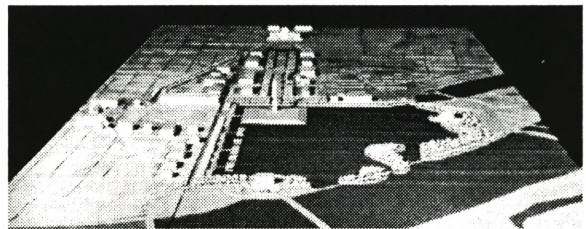
McMillan plan of the Mall and Tidal basin

Though the ideal but impractical situation would be to restore L'Enfant's plan, there have been schemes suggested to restore the initial Potomac bay as conceived by L'Enfant, by making Lincoln Memorial an island connected to the land by the Memorial bridge and 23rd street. Also suggested has been the opening of the city to the water by means of cafes and a series of docks as terminating points of perpendicular streets along Constitution Avenue.

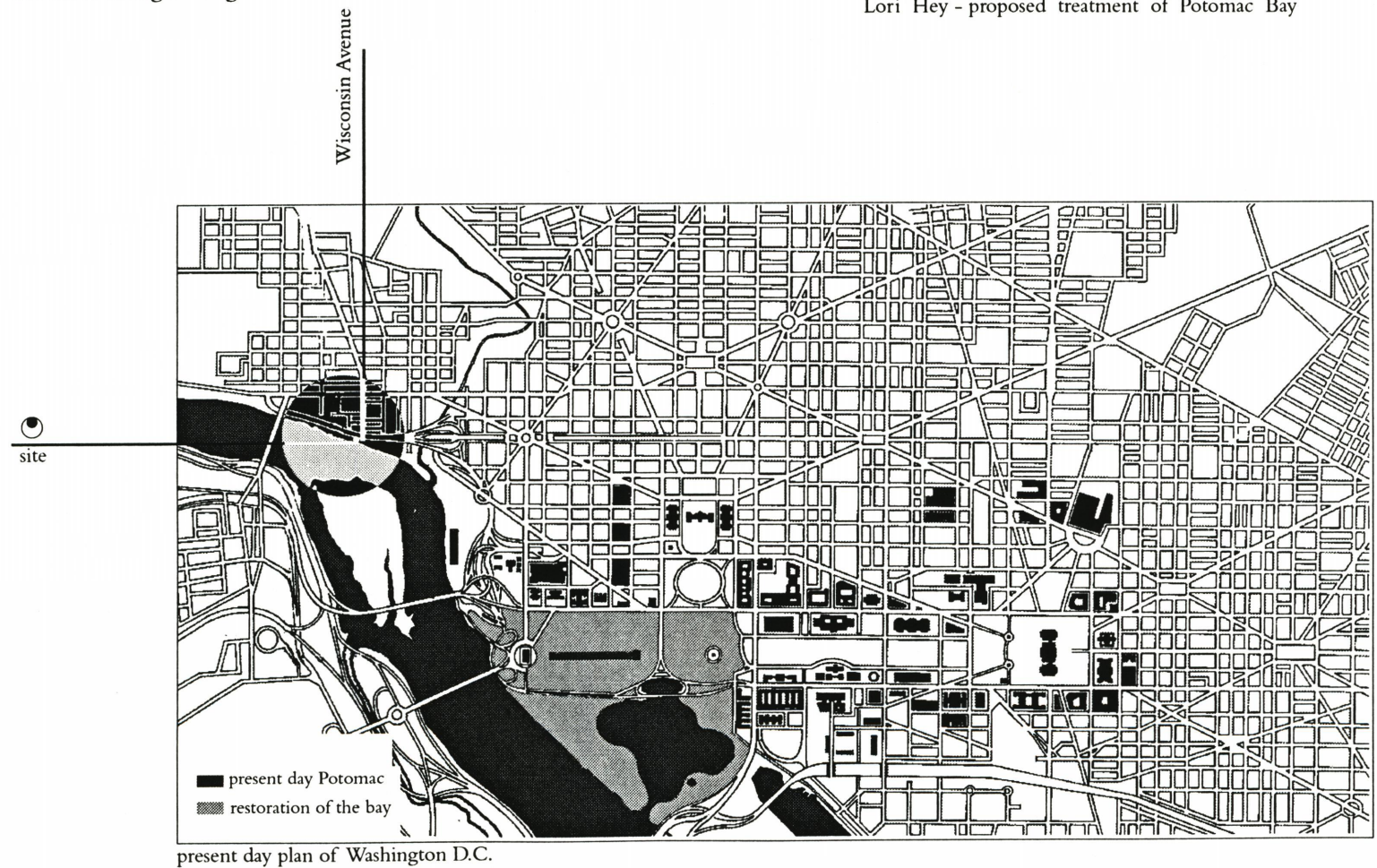


Restoration of the Bay

If the restoration ever does take place, then it would be possible to develop the present day 'strip' in Georgetown as a public place linked to the restored bay and the Mall, forming a continuous promenade along the Potomac, and echoing L'Enfant's concept of the bond between a city and the river along its edge.



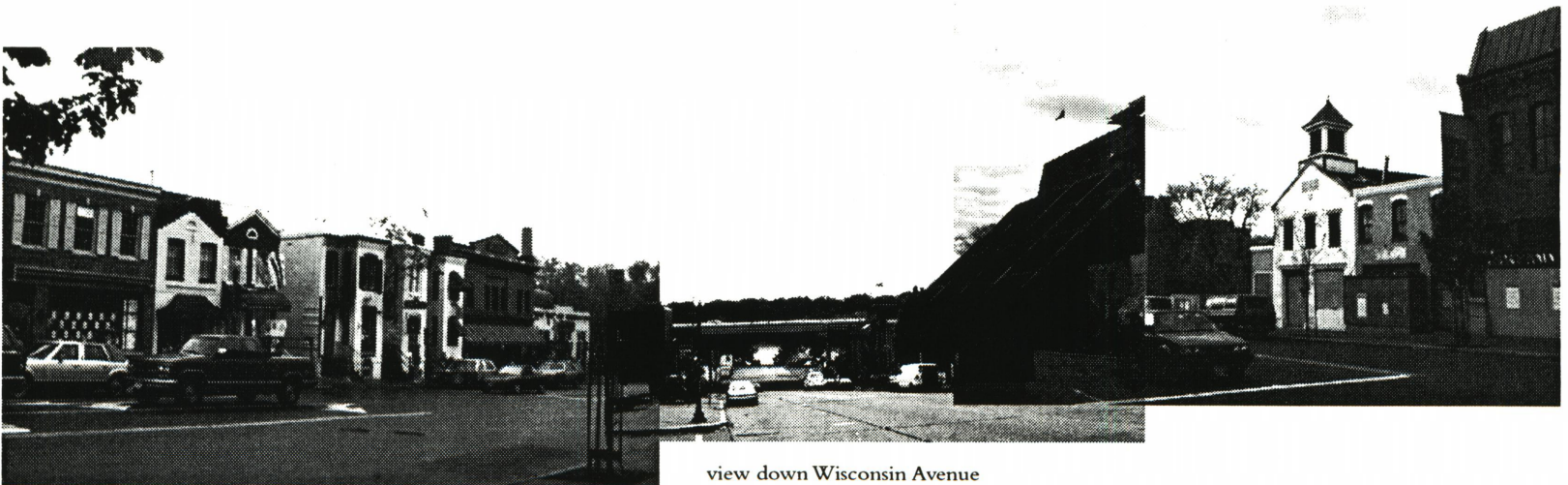
Lori Hey - proposed treatment of Potomac Bay



present day plan of Washington D.C.



site from K Street, under Whitehurst freeway



view down Wisconsin Avenue

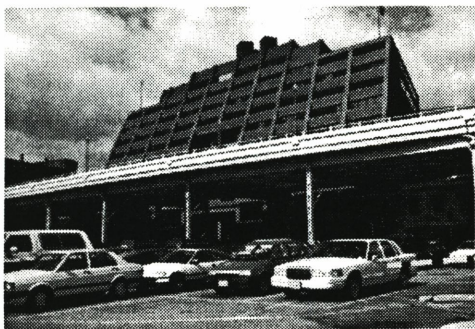
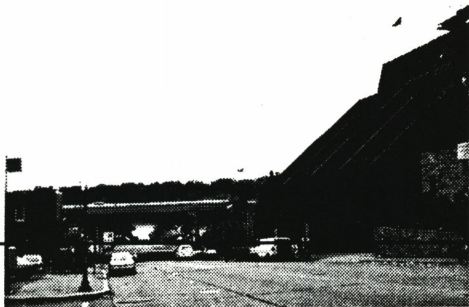
Architecture is bound to its site. The purpose of architecture is to make a site a 'place', to uncover the potential meanings present in the given environment and context.

Therefore the initial studies identify, and subsequently attempt to manipulate the tangible and intangible elements of the place and understand the forces of the site. In this thesis, the Potomac, the Harbor Place, the Waterfront Building, Wisconsin Avenue, Roosevelt Island, the Whitehurst freeway and K Street were the forces that influenced the design decisions.

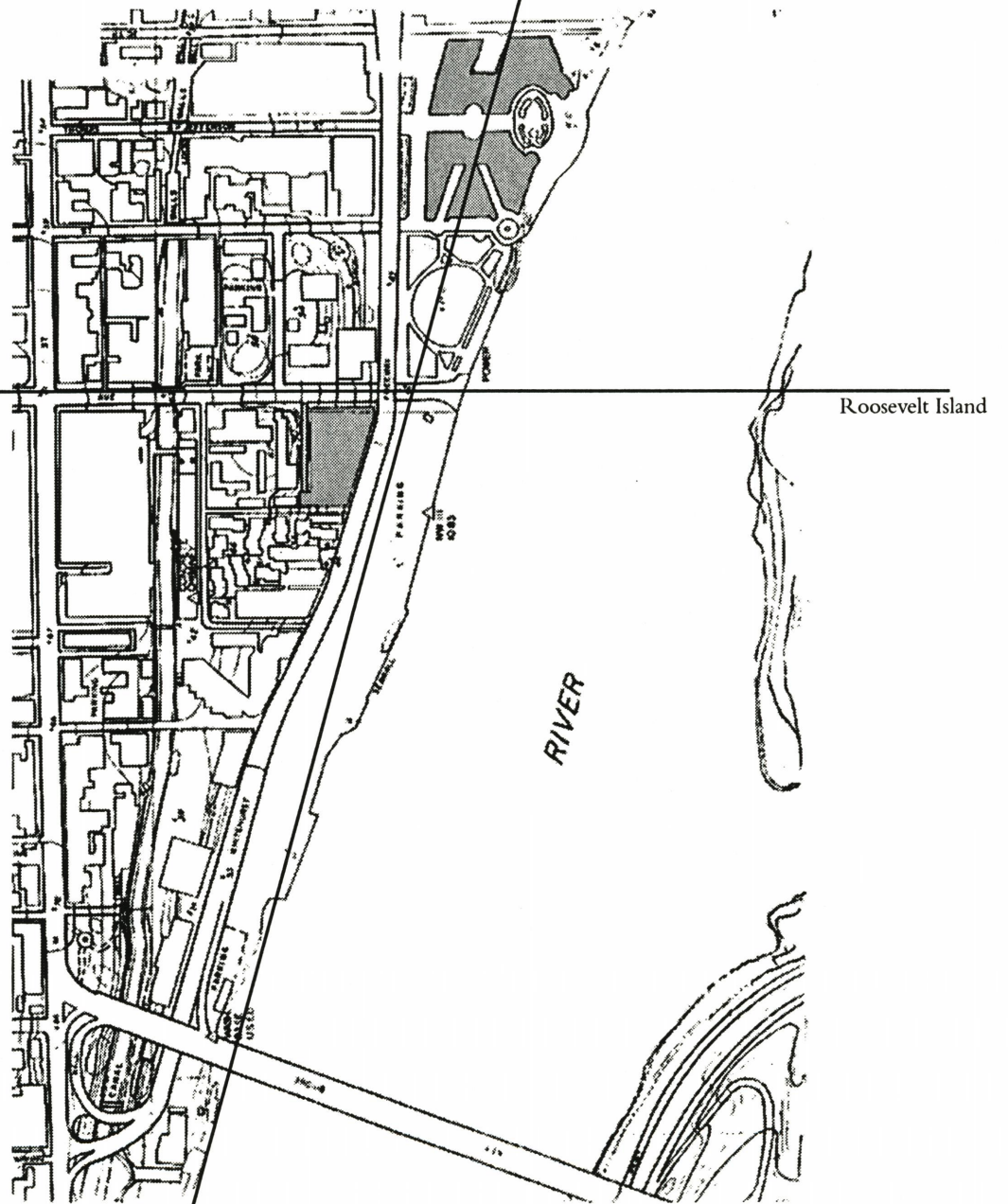


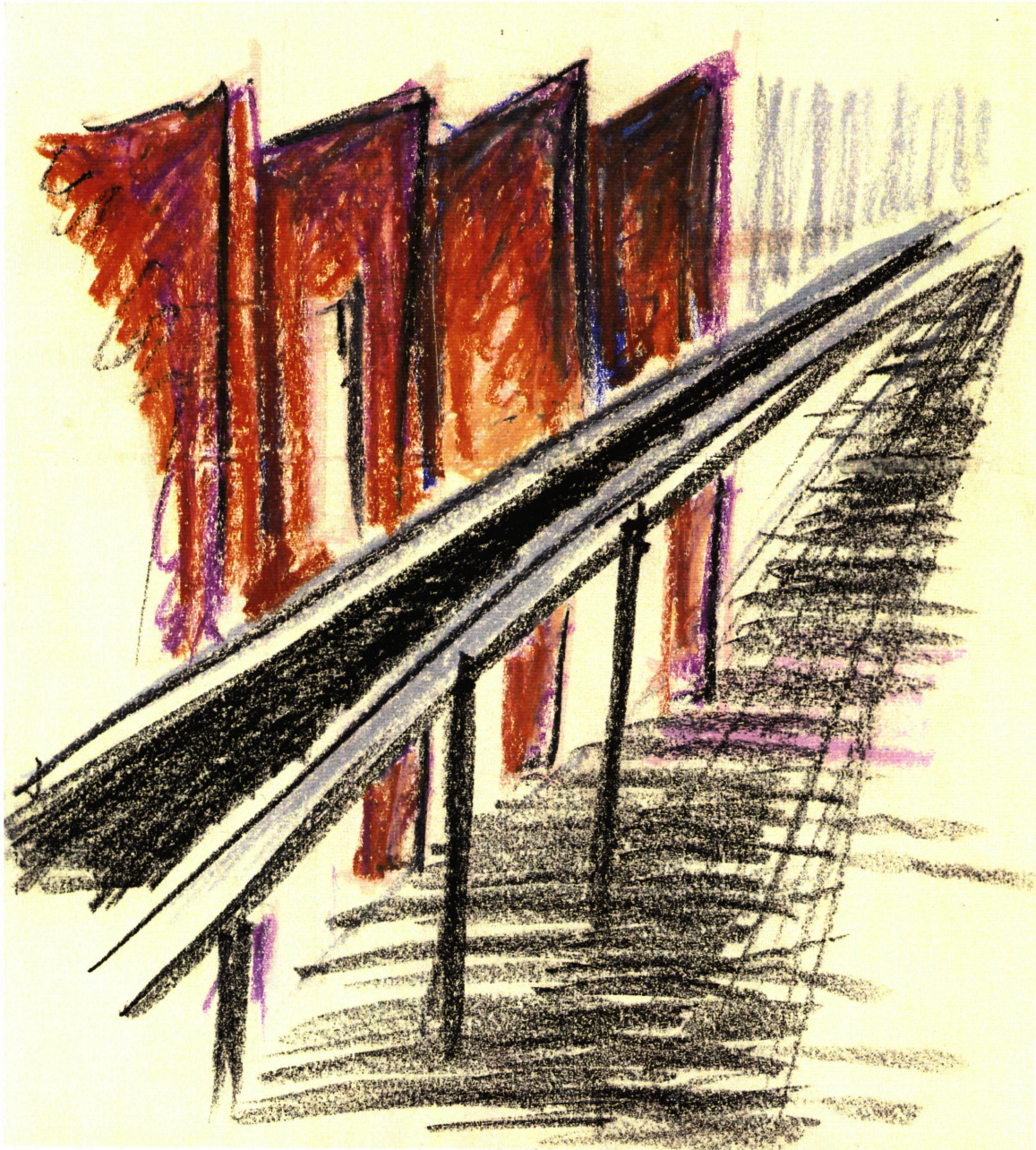
Harbor Place

Wisconsin Avenue



Waterfront Building





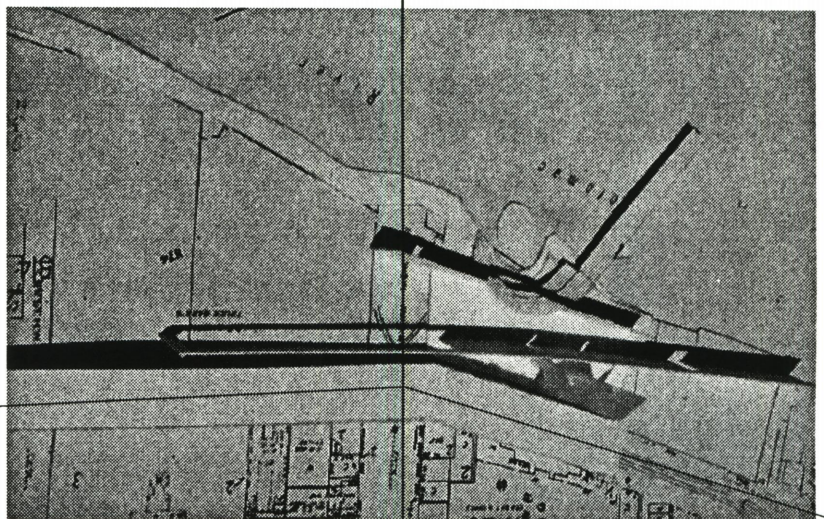
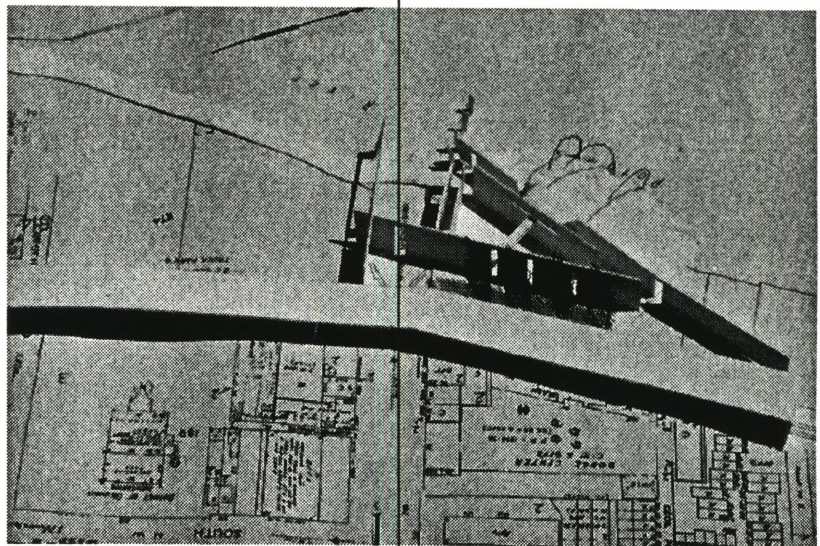
Initial Studies

The study concerned itself with some critical issues pertaining to the site. The issues focused on the resolution of the different scales encountered at the freeway, on addressing the axis down Wisconsin Avenue to Roosevelt Island, establishing some kind of connection with Harbor Place, and responding to the dialogue between the land and water.

The central axis of Wisconsin Avenue terminates in the promenade along the Potomac through an opening placed in the facade of the building facing the freeway, and extending out as a gesture acknowledging Harbor Place. The pedestrian thus gets a glimpse of the river when in Georgetown. Visually, however, the study blocks out Harbor Place by placing a wall against it, but further defining the axis of Wisconsin Avenue. The scale of the freeway is met by placing vertical barriers in the form of screens or banners that serve to indicate the presence of the project. The outdoor performance space is additive in this study and extends out of the art gallery building into the water, and is provided with a frame work for it to be covered in winter.

The axis of Wisconsin Avenue is dealt in a similar way as the above study though Harbor Place is not acknowledged at all. The barrier against the freeway is in the form of translucent vertical folded plate structures. The three dimensionality of the forms serves the purpose of announcing the project in the day, the effect being enhanced at night due to the street lights on the freeway. The amphitheater attempts to set up a dialogue between the outside and inside of the project and hence the water and land.

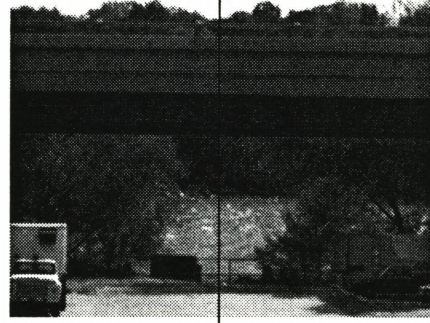
Whitehurst Freeway



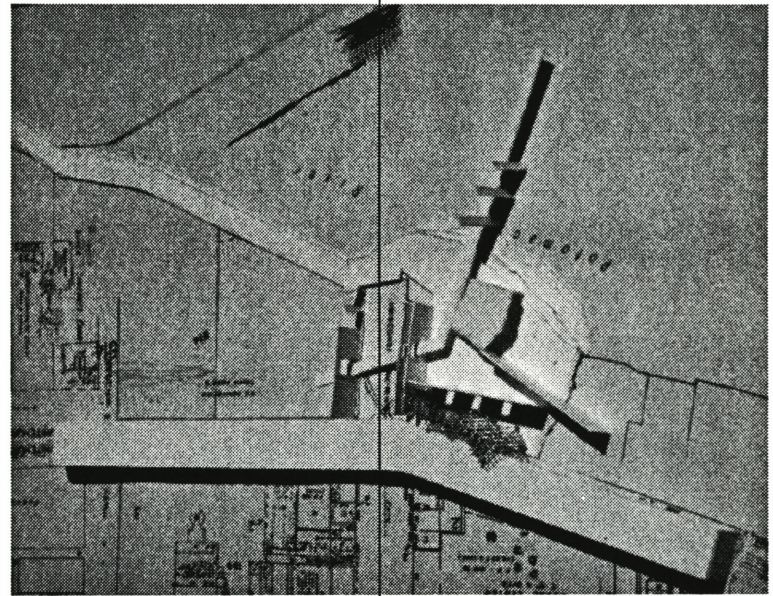
K- Street



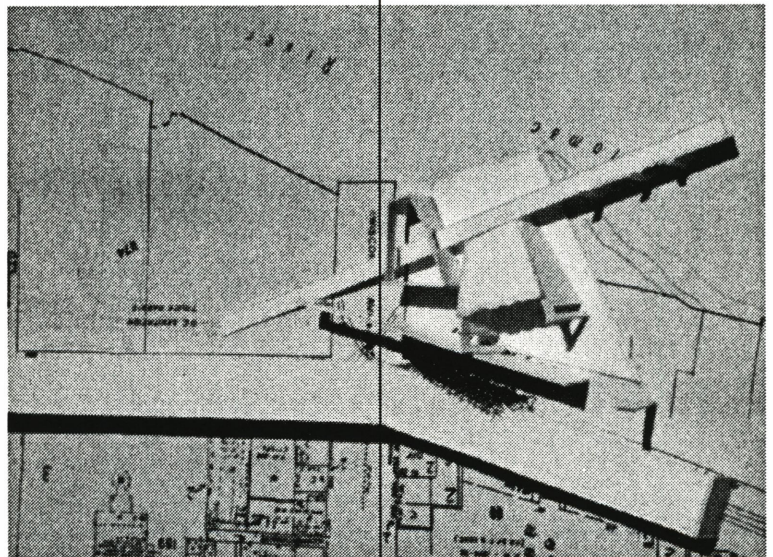
Wisconsin Avenue

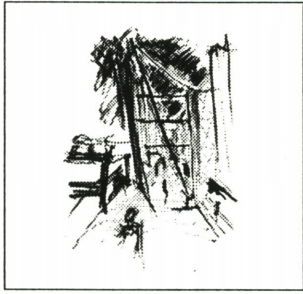


The dialogue with the land and water in this study is literal, resulting in the projection of the plinth and a pier into the water. The internal street of Harbor Place continues in the form of a ramp, leading the pedestrian from the garden between the two projects, through the building and out into the water by means of the pier. The axis of Wisconsin Avenue ends on Roosevelt Island in a projection screen for the amphitheater which shapes the form for the art gallery building. The scale of the freeway was addressed in a similar way as the first study.

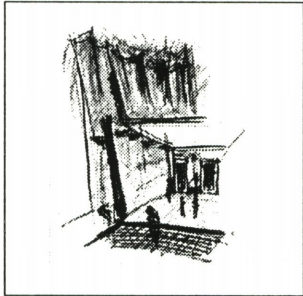


This study was a formal interpretation of the issues considered in the above exercises. Not resolved was the termination of the axis down Wisconsin Avenue.

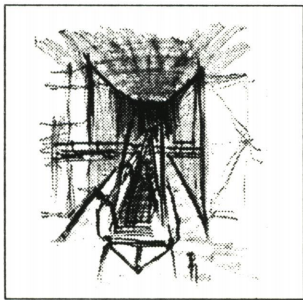




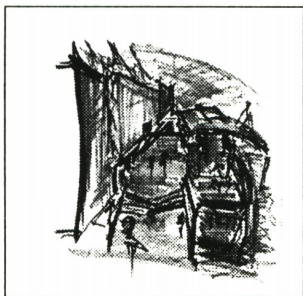
1. screens



2. gallery



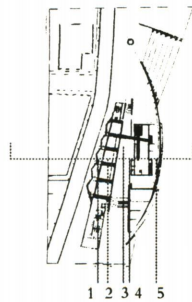
3. the connector

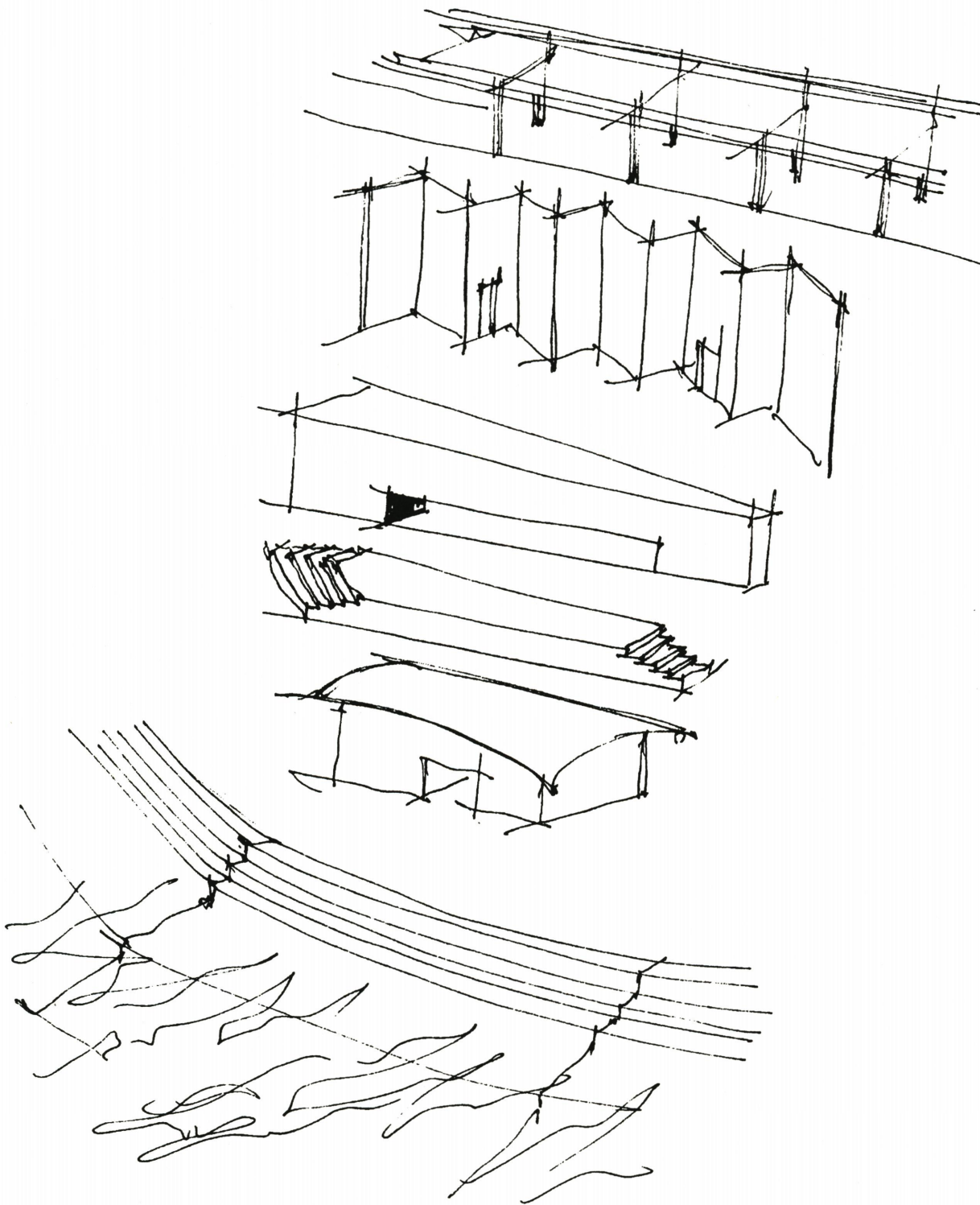


4. internal street



5. an edge



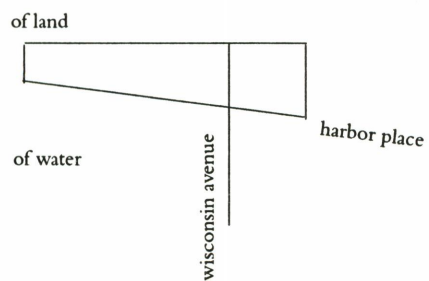


The design decisions addressing the critical issues were the placement of a barrier in the form of screens along the freeway, a linear 'wall' holding the galleries in response to the linearity of the site that would act as an urban filter, an atrium which later forms an internal street as an extension of the city's grid, and a pavilion structure for public activities that relates to the water. The city thus extends through the site in layers, with the design being an analogue in scale to the urban landscape. Similarly, the pedestrian goes through the same progressive interaction with the layers of the building before filtering through to the water.



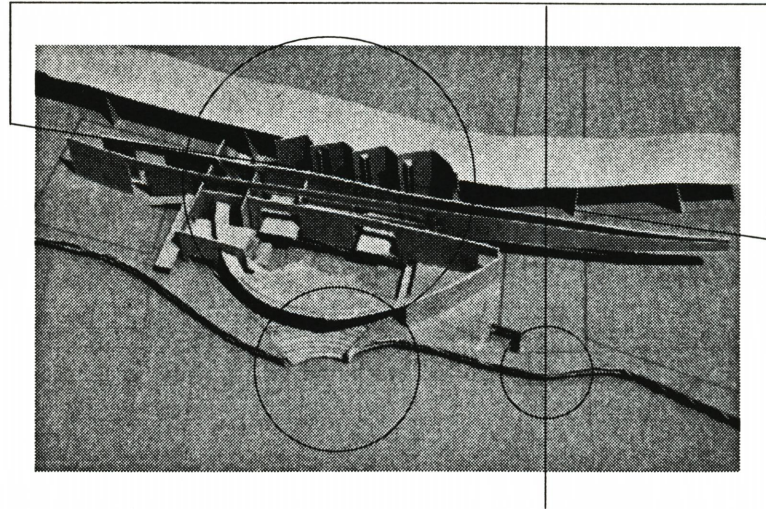
The three proposals presented are formal interpretations of the design decisions. The three projects differ essentially in the hierarchy placed on the area of focus, whether it be the urban fabric of Georgetown, or the natural boundary formed by the Potomac, or just the building itself.

Each of the projects were studied in terms of an idea that is rendered as an 'urban filter'. The architectonic manifestation of this idea is through the layers of the screens, the gallery, the cafe, and the immediate edge of land and water as a means of access to the water.



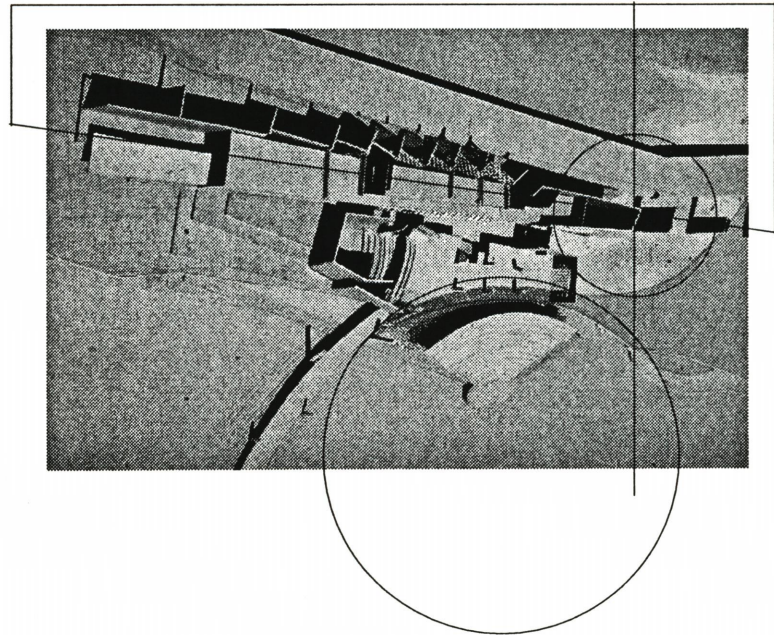
Proposal 1

The response primarily addressed the city at the scale of, and at the edge of, the site facing the freeway. Offering an introverted facade to the water, the building opens up more towards the freeway creating an ambiguous condition of both a barrier and filter. More thought was given to making dynamic interior spaces while the dialogue with the surrounding built-up environment was simply in terms of it being a gesture. The water is addressed by modulating the landscape while the building stands at a distance from the Potomac, more as an isolated venture in the urban context.



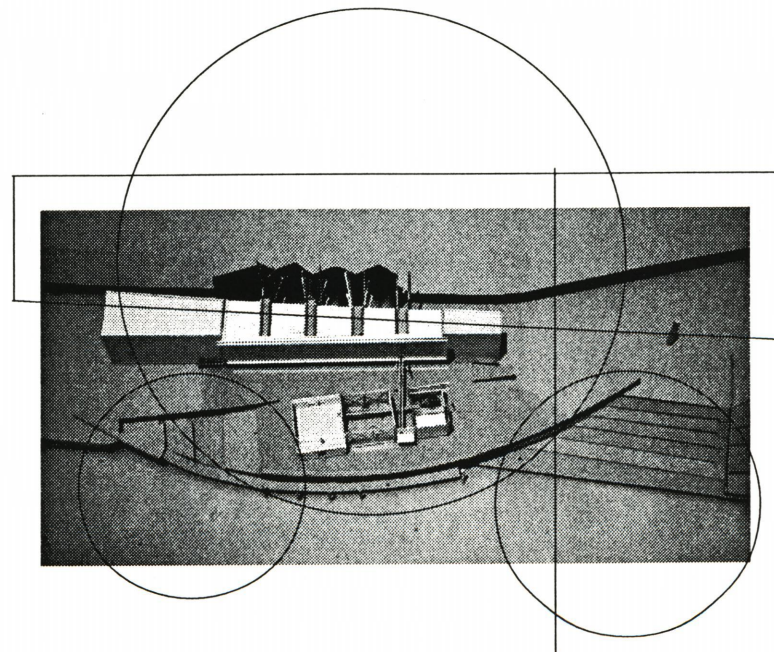
Proposal 2

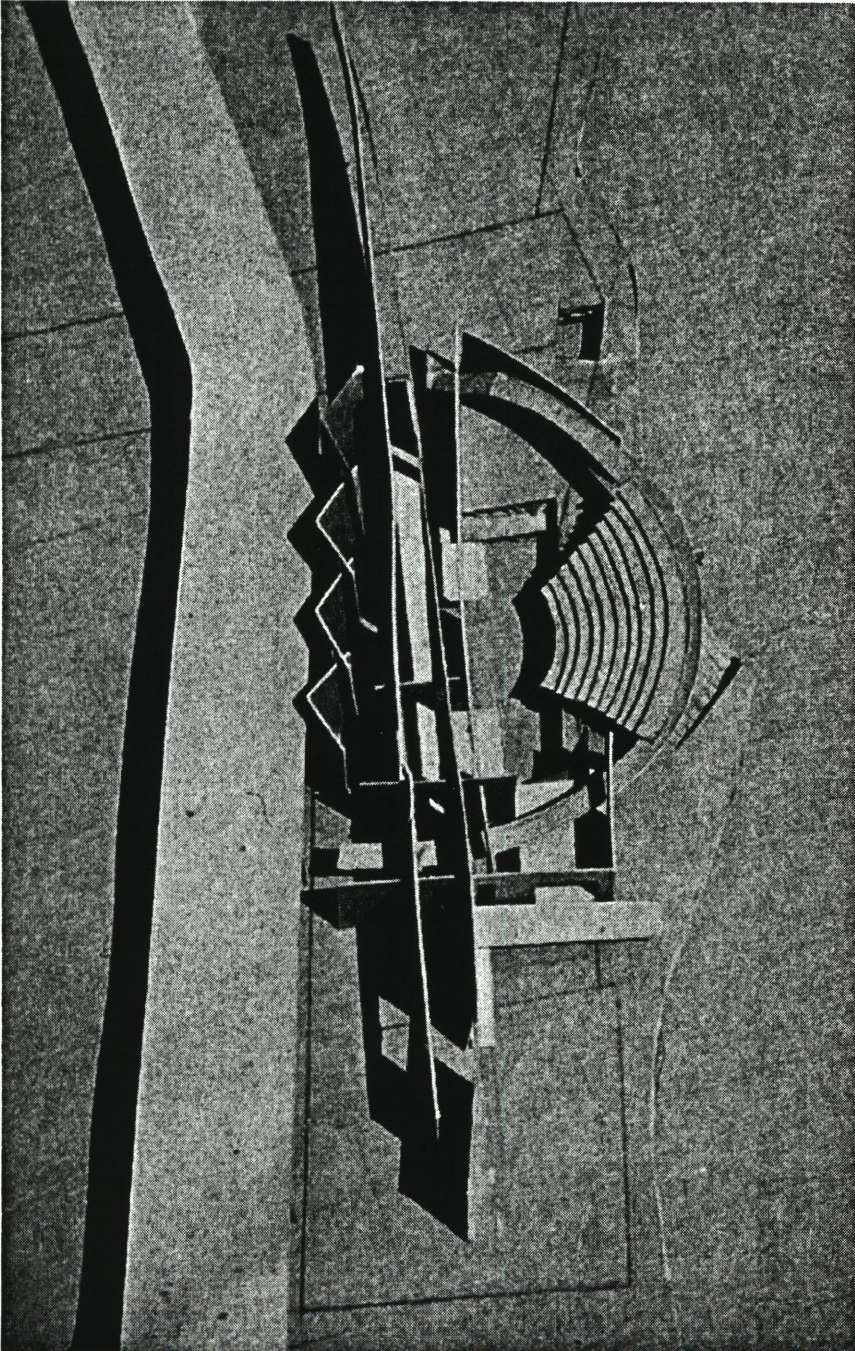
Structurally integrated with the linear gallery building, the transition from the city to the project is less gradual. Now the individual exhibit spaces face the freeway directly, buffered only by a glass block wall. The building itself addresses the water by means of the elevation stepping down to meet the Potomac and the extension of the pier. Questioned is the extent of being literal in addressing the water and the resolution of the juncture of the amphitheater and the facade behind it.

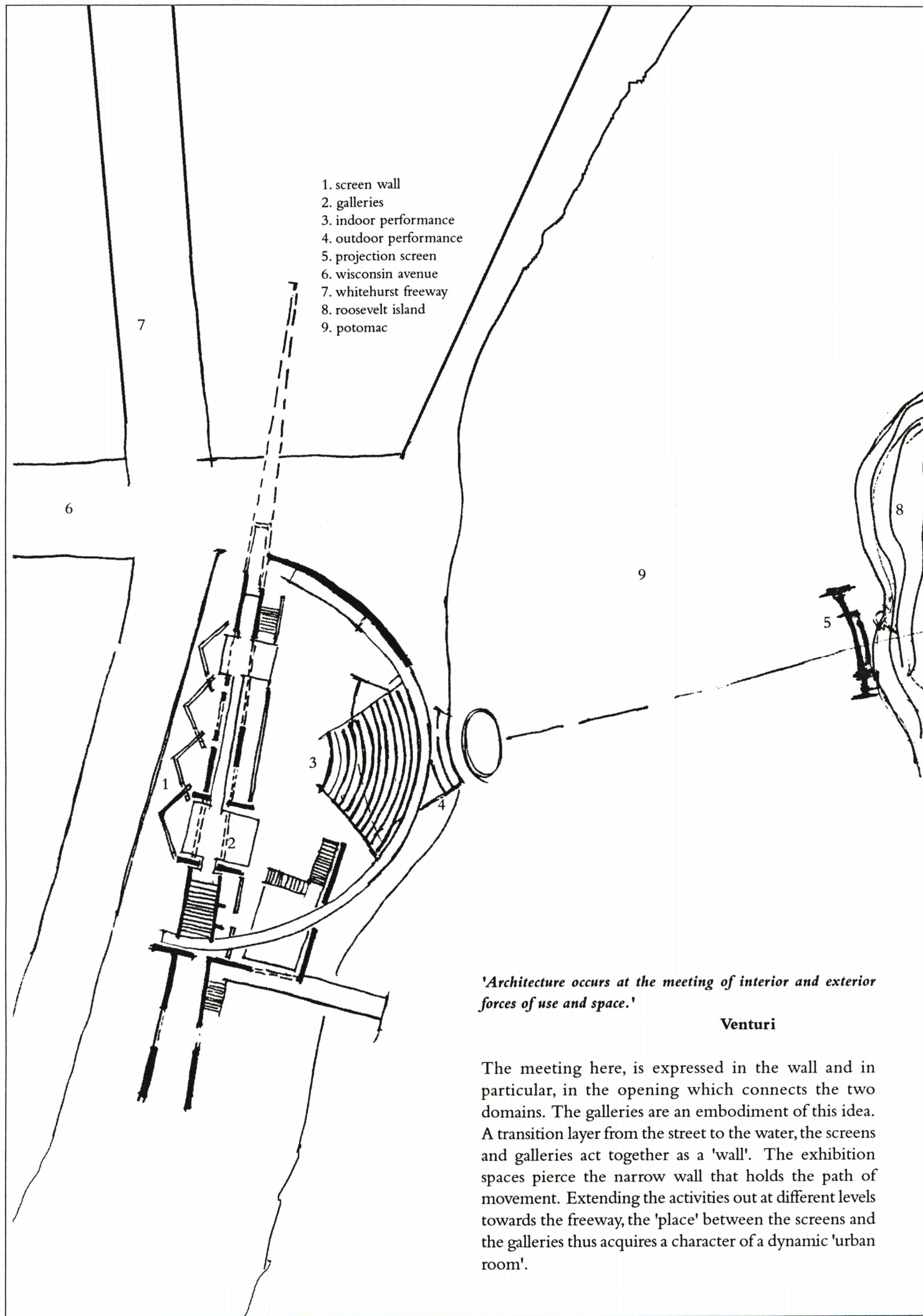


Proposal 3

The project defines two distinct edges of the site: one that relates to the city and the other that relates to the water. The screens against the freeway are not just attachments but also contribute to the making of the internal space of the gallery. Unlike the other two proposals the connection with the water is less literal. More attuned to the urban landscape and its immediate context, the proposal tries to integrate the city and the Potomac.







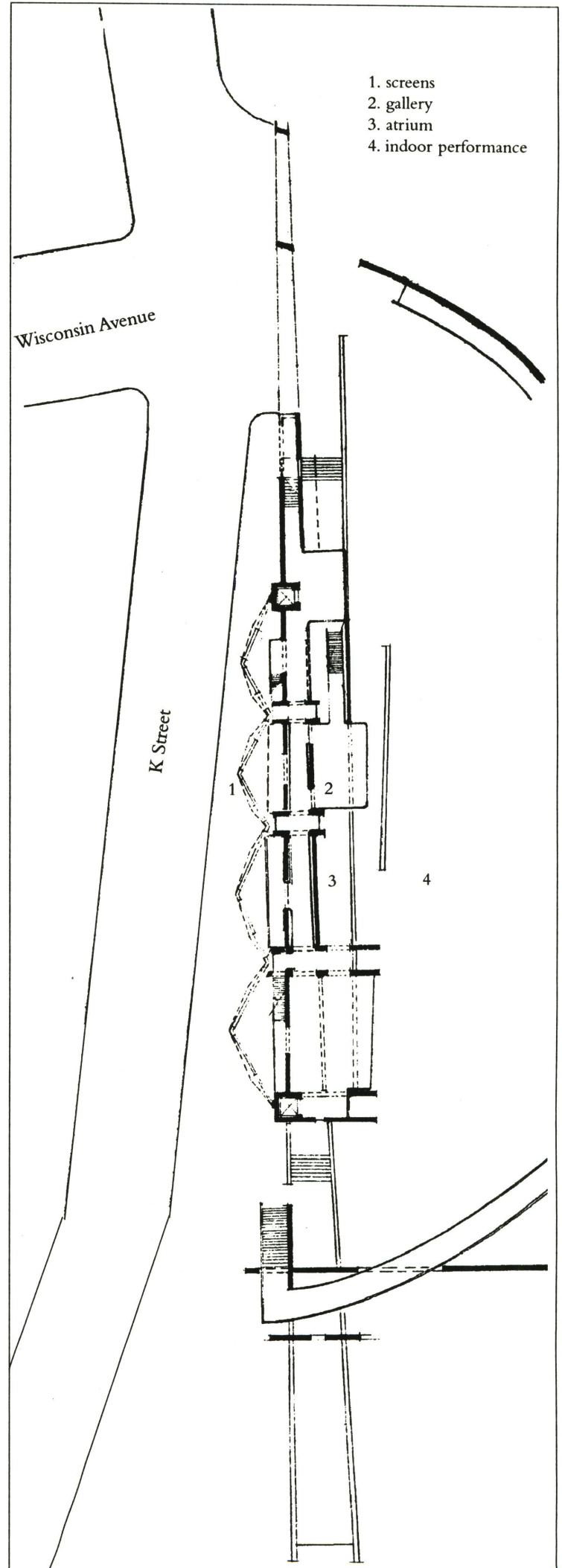
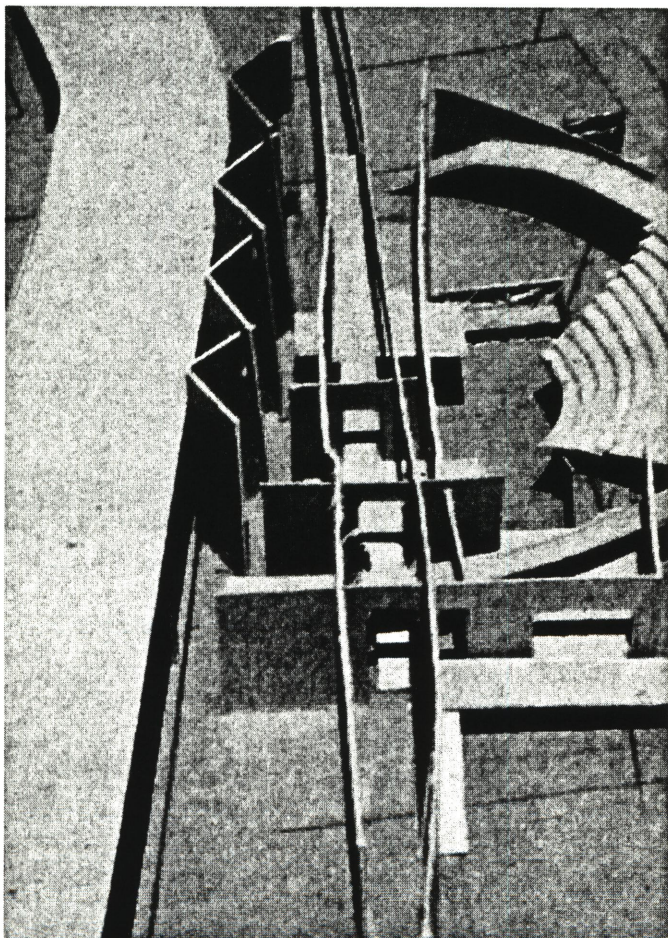
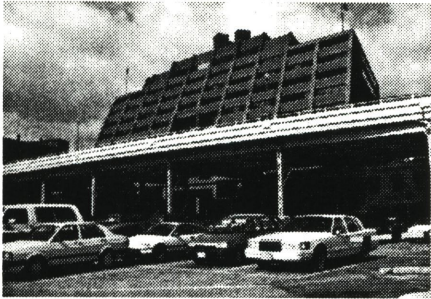
- 1. screen wall
- 2. galleries
- 3. indoor performance
- 4. outdoor performance
- 5. projection screen
- 6. wisconsin avenue
- 7. whitehurst freeway
- 8. roosevelt island
- 9. potomac

'Architecture occurs at the meeting of interior and exterior forces of use and space.'

Venturi

The meeting here, is expressed in the wall and in particular, in the opening which connects the two domains. The galleries are an embodiment of this idea. A transition layer from the street to the water, the screens and galleries act together as a 'wall'. The exhibition spaces pierce the narrow wall that holds the path of movement. Extending the activities out at different levels towards the freeway, the 'place' between the screens and the galleries thus acquires a character of a dynamic 'urban room'.

Conceptually designed as a sound and visual barrier against the freeway and the building adjoining the site, the screens are manifested as the first layer of the project which acts in unison with the second layer, the gallery space, as an 'urban filter'. Allowing pedestrian access at the street level, the screens announce the presence of the project at the scale of the car on the freeway.

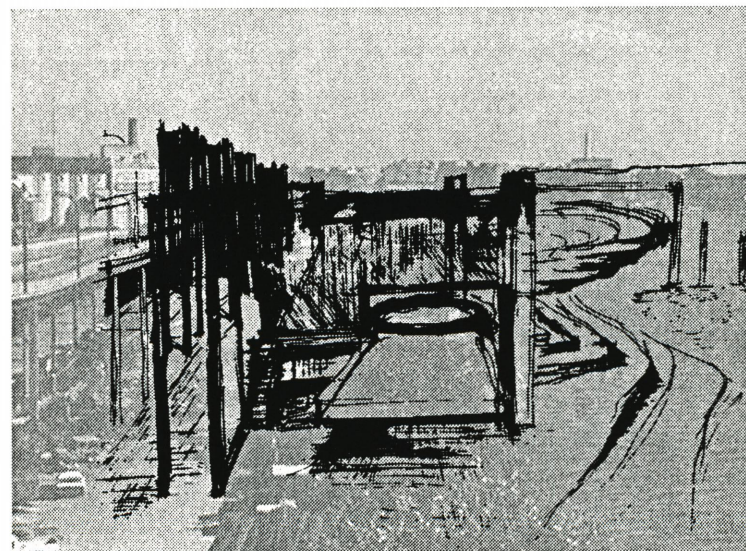
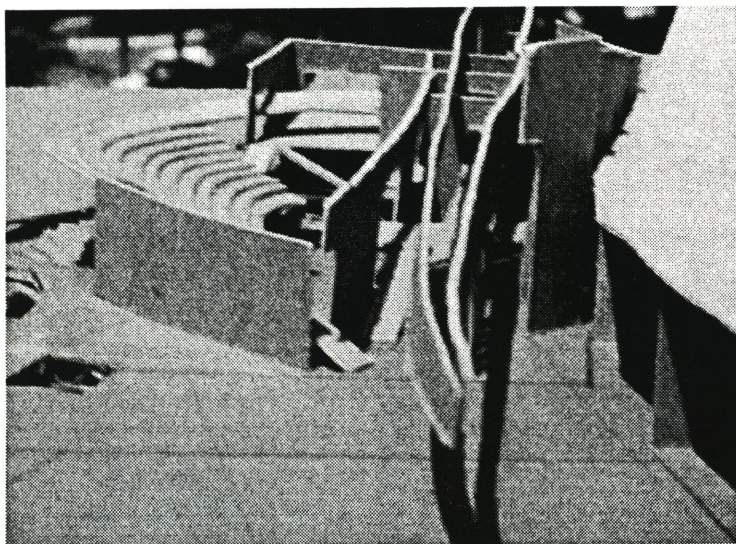


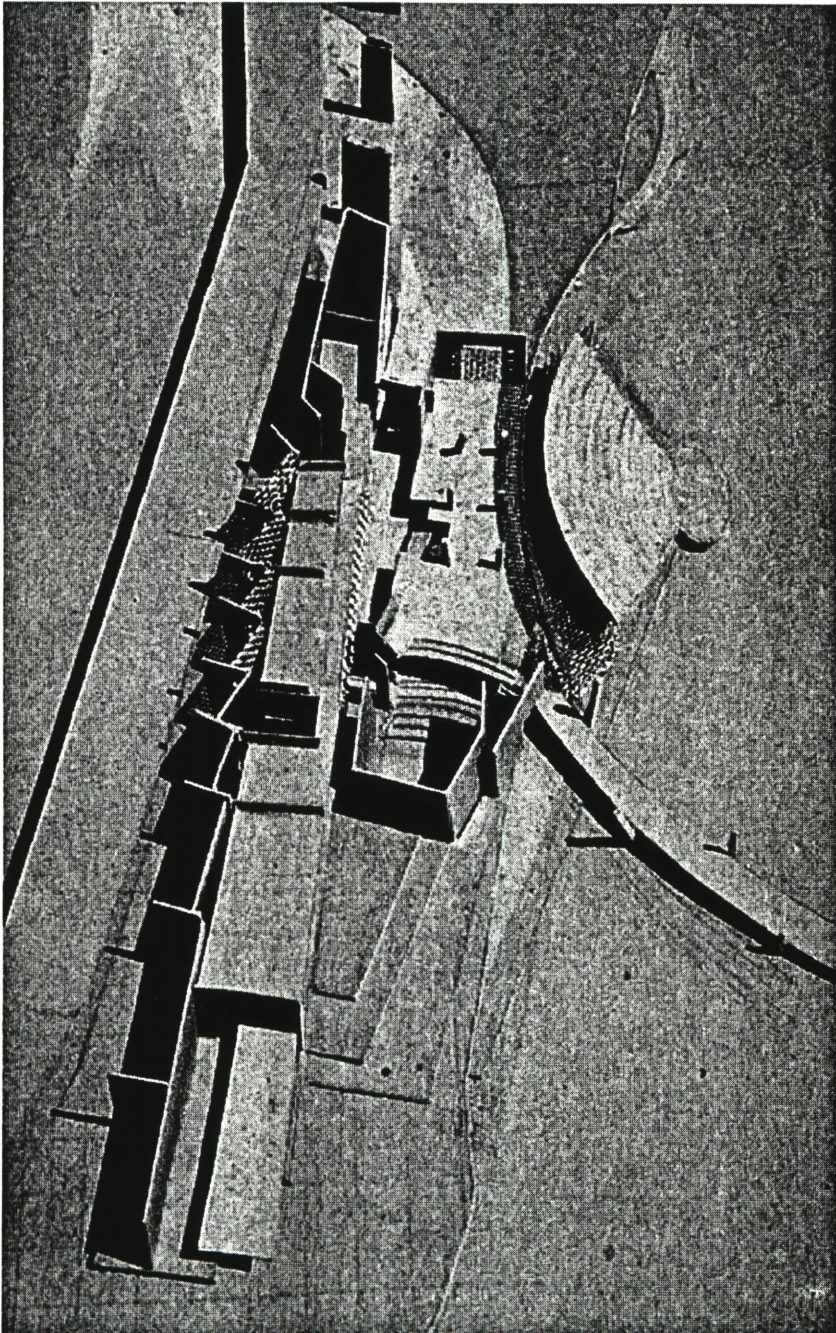
Ground level plan

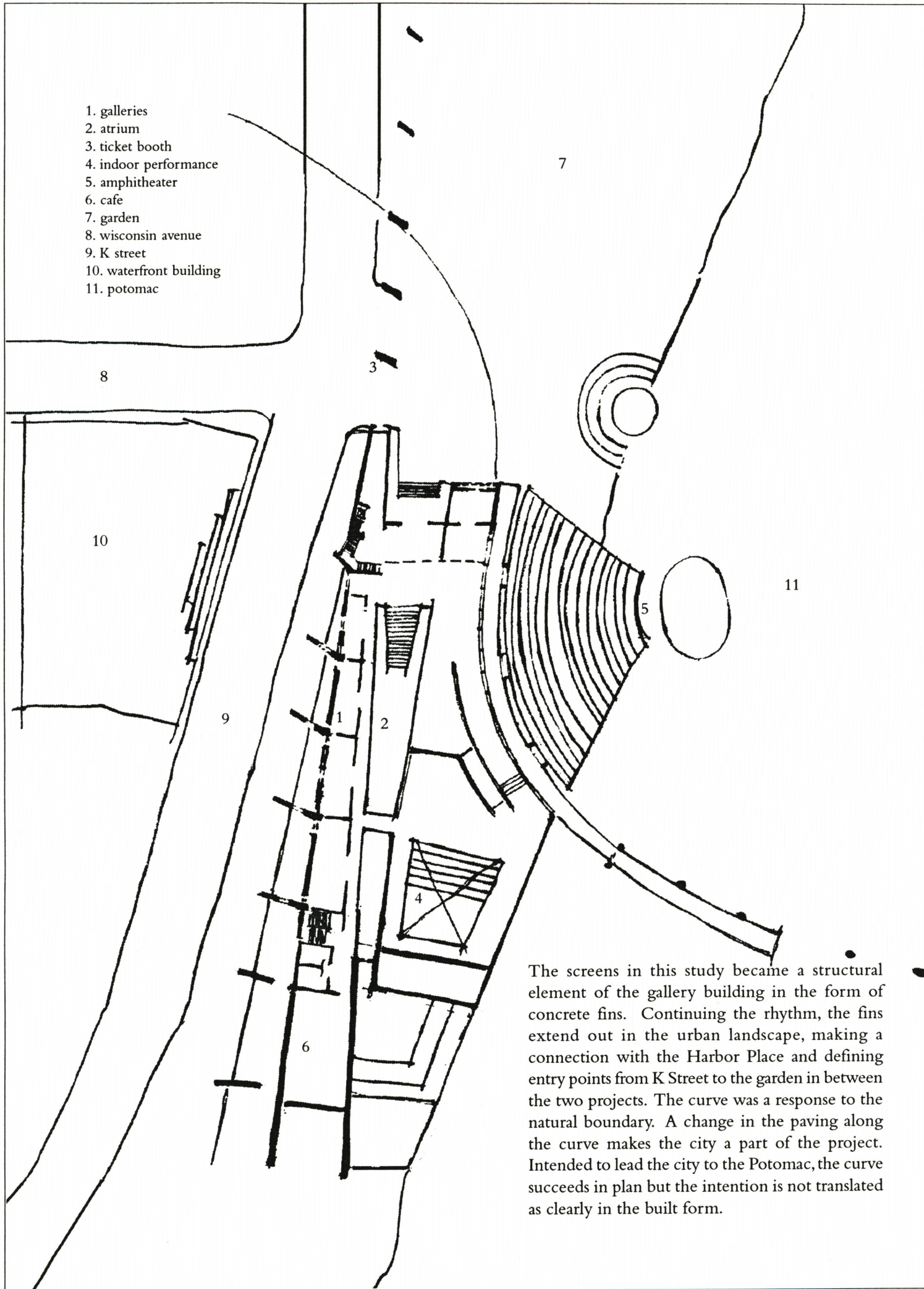
An Urban Filter - Screens and Gallery



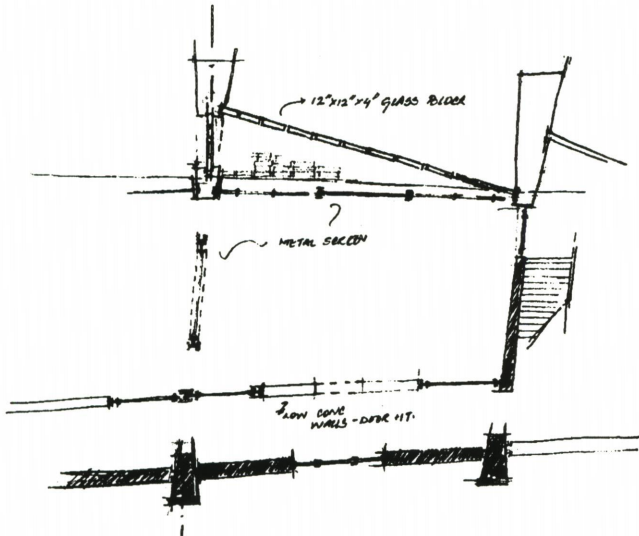
Beginning with the floor, the point of man's contact with the earth extends up to form the walls and over to form the ceiling. An alternation of enclosed and unenclosed spaces, architecture can define open space and by the same token become the ceiling for a 'semi open space'. Maintaining a similar duality, the floor of the indoor performance area thus helps define the seating of the outdoor performance area, drawing a fine line of distinction between 'outside' and 'inside' architecture. Sunk into the land and emerging from the Potomac, the condition of the outdoor performance and its ceiling is analogous to that of the land reaching out and covering the water.



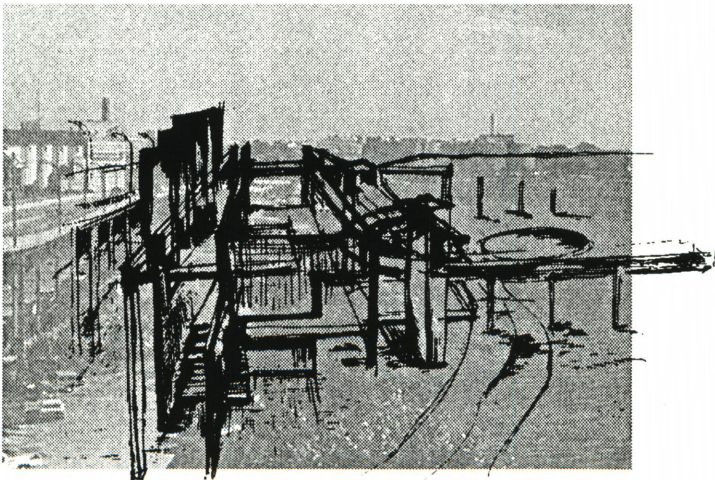




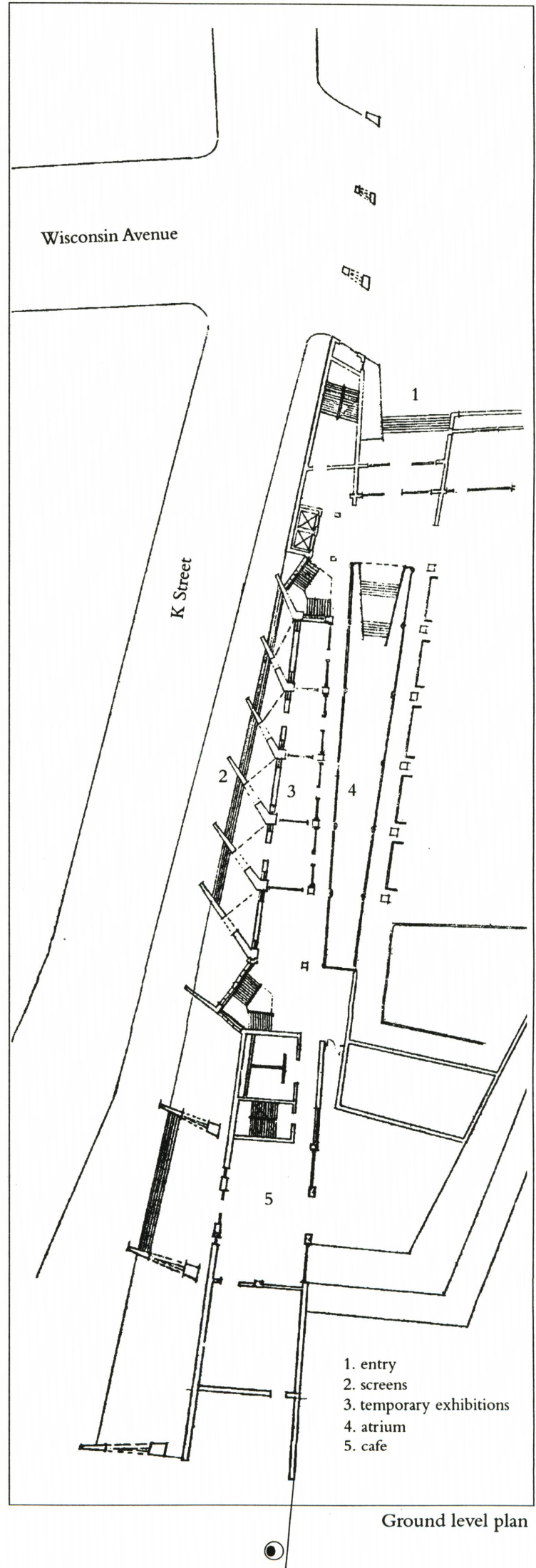
Relating to the movement of the car and the turn of the freeway, the concrete fins radiate towards the city. Integrated as part of the gallery building, the concrete fins now hold the individual exhibition spaces, exposing the glass block facade to the mobile sculpture of the highway. Lost in this proposal was the buffer area between the highway and galleries. It also detracted from the internal organization of the gallery space.



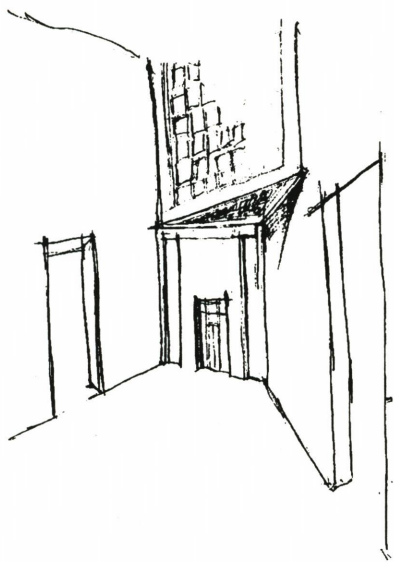
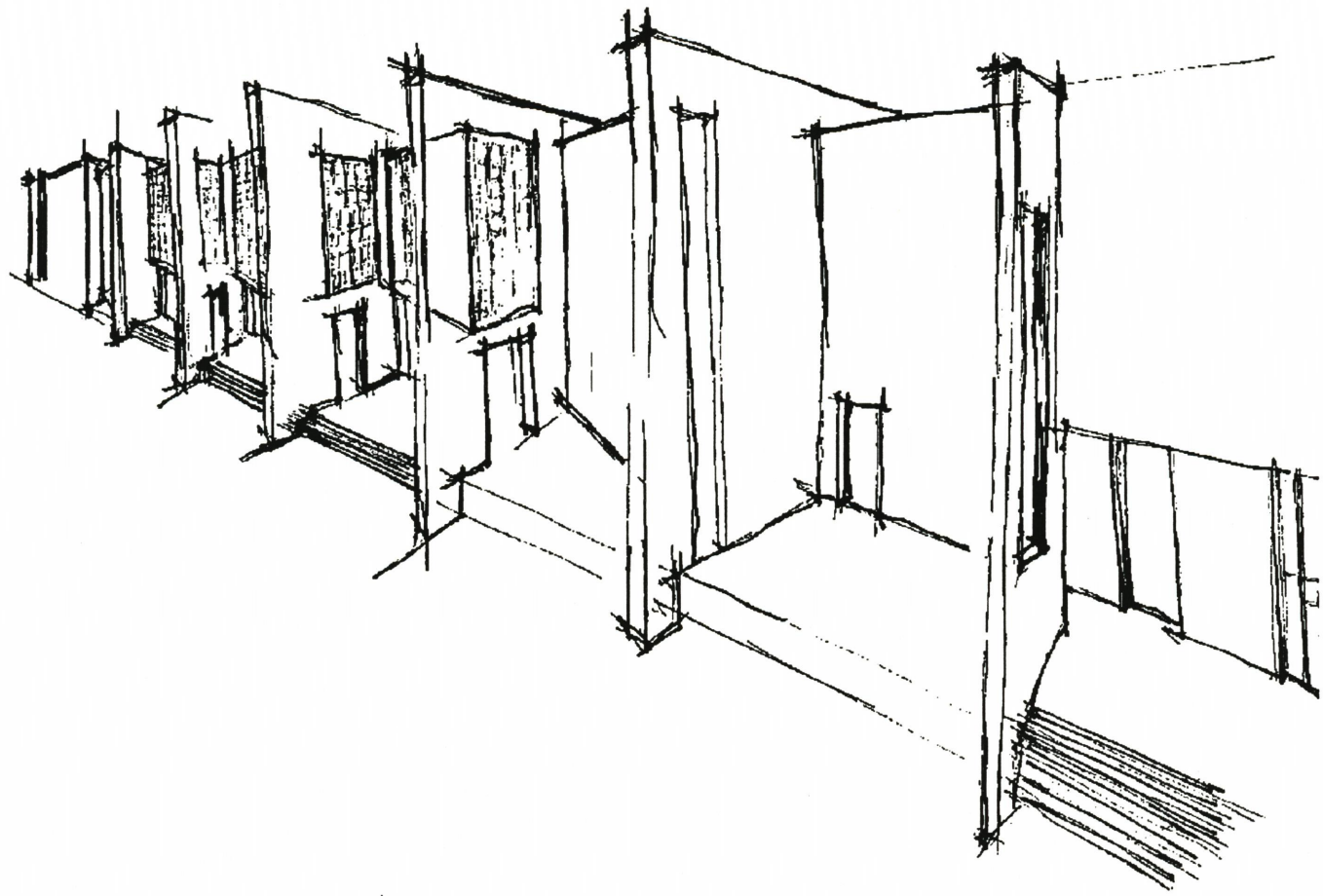
plan of individual exhibition space



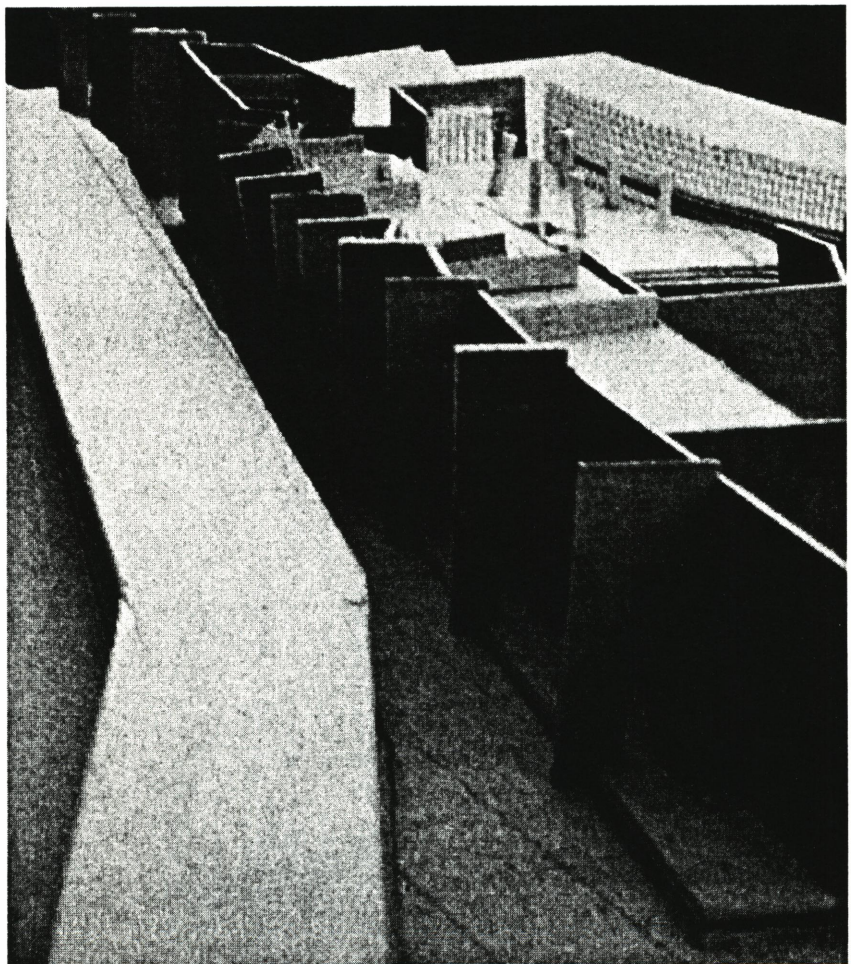
An Urban Filter - Screens and Gallery

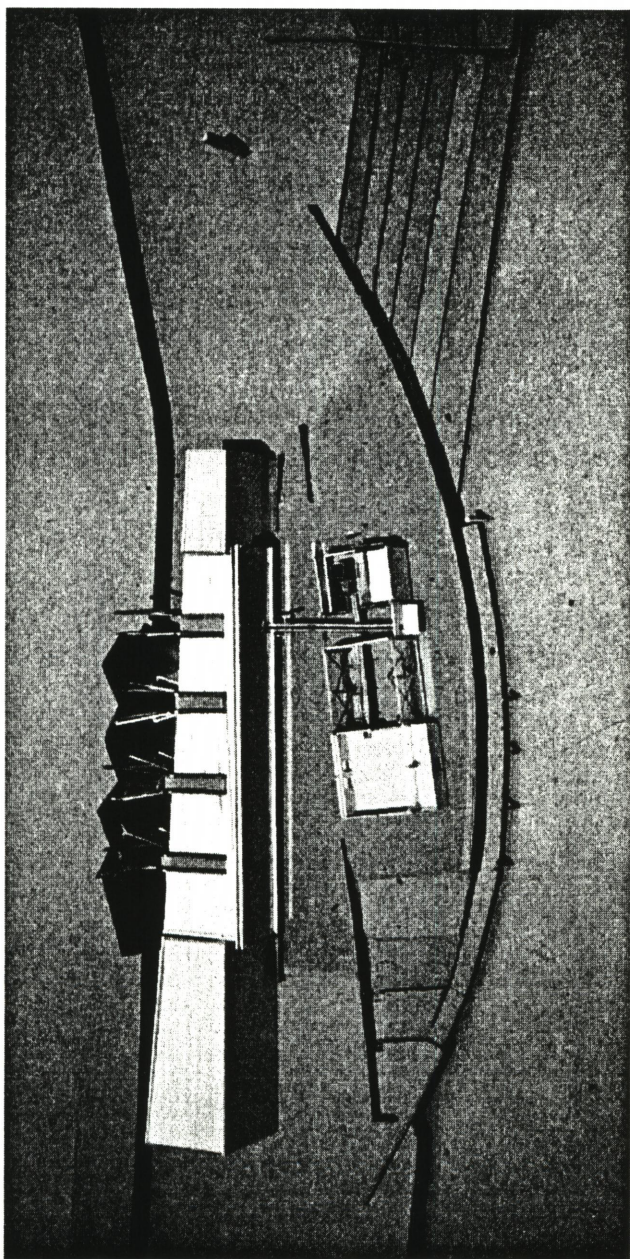


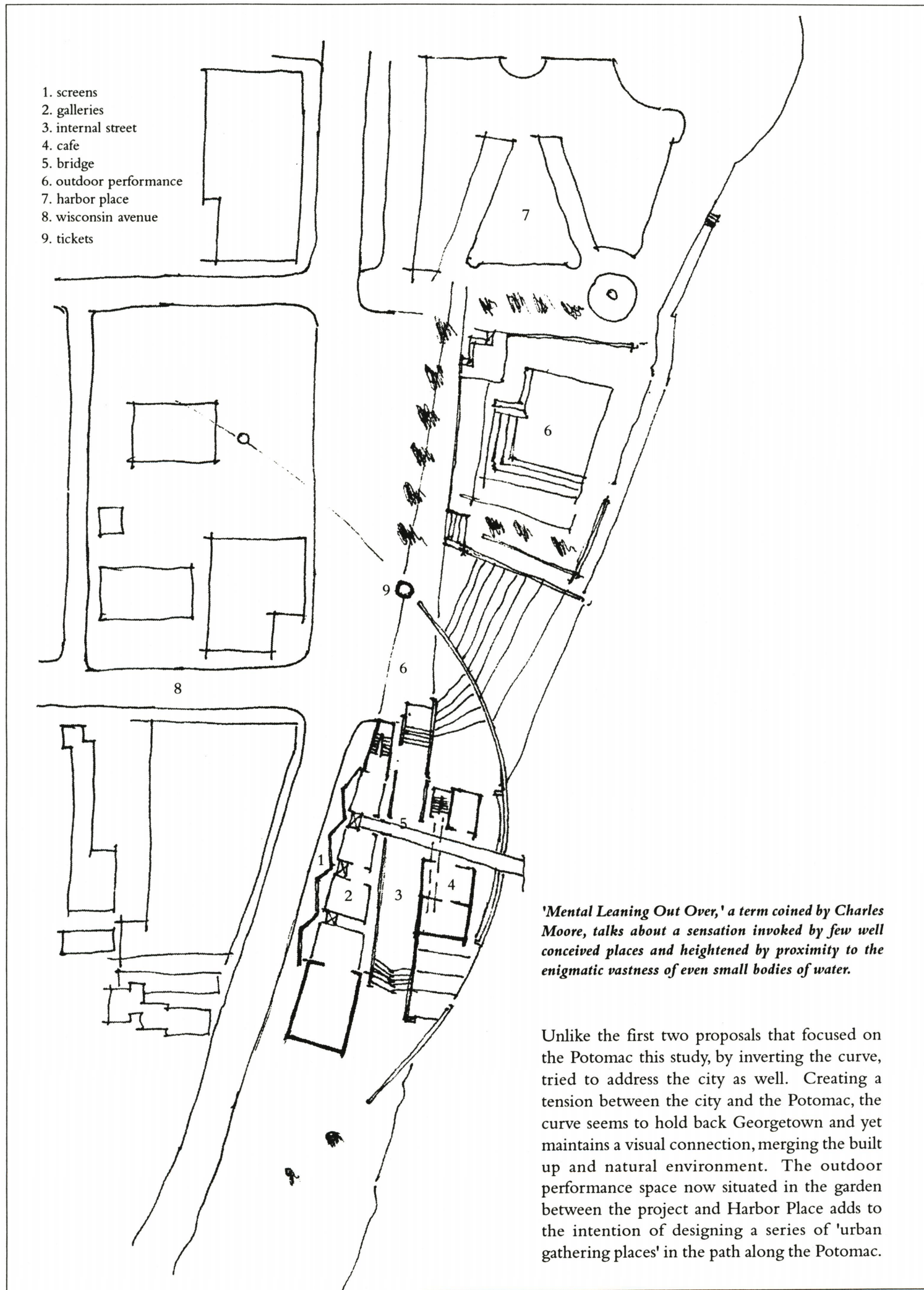
Ground level plan



K Street



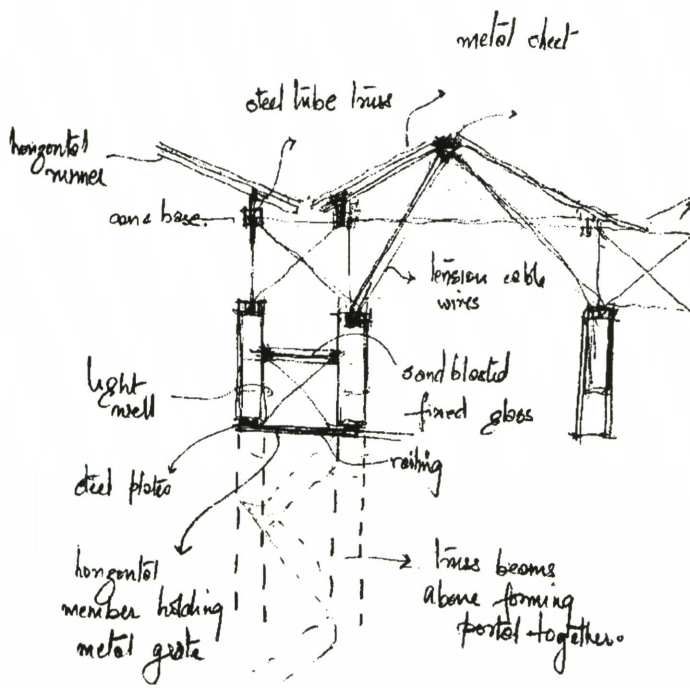
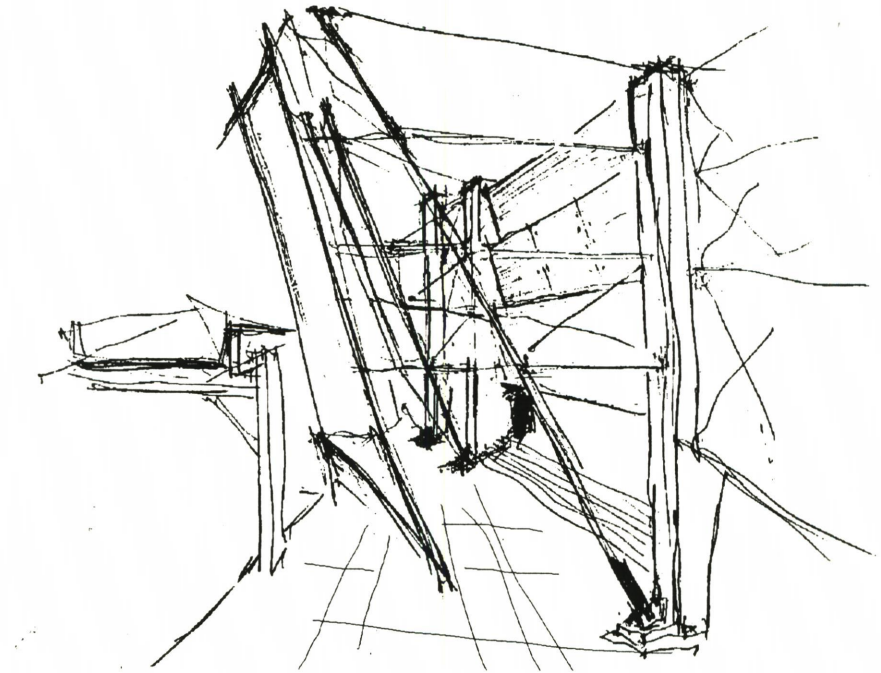
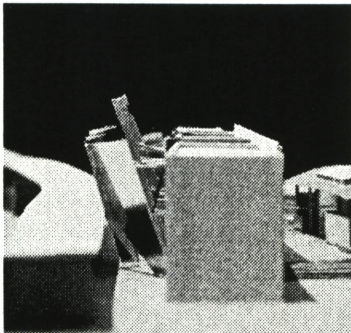




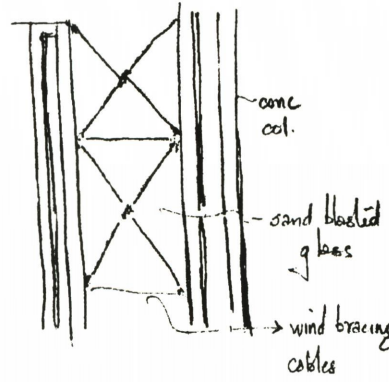


Constructed of metal sheets and supported by tension cables, the inclination of the screens combined with the reflective properties of the material direct diffused light in the gallery space.

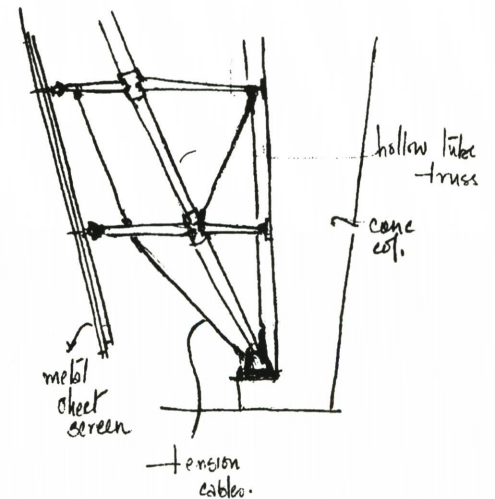
An attempt to establish a dialogue between land and water from the first layer itself, the wall of the screens in this proposal becomes an expression of water in the vertical dimension.



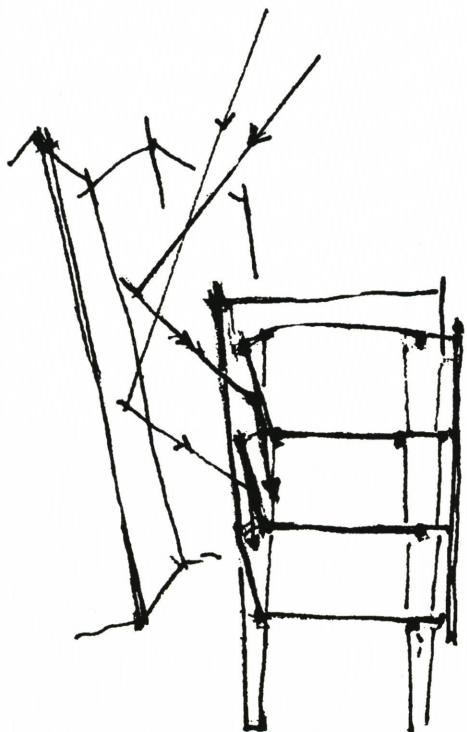
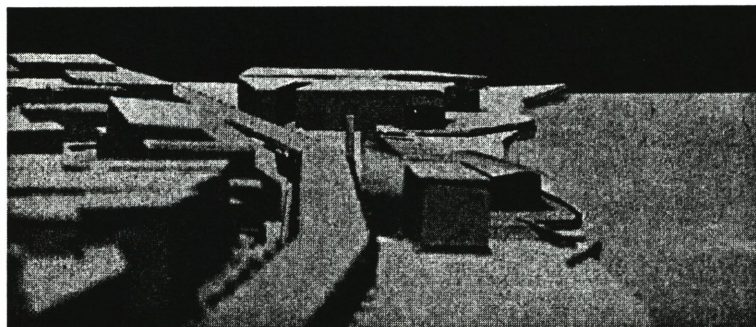
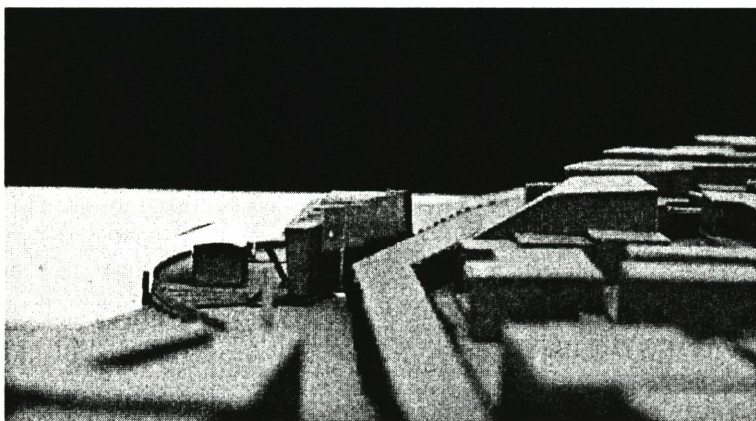
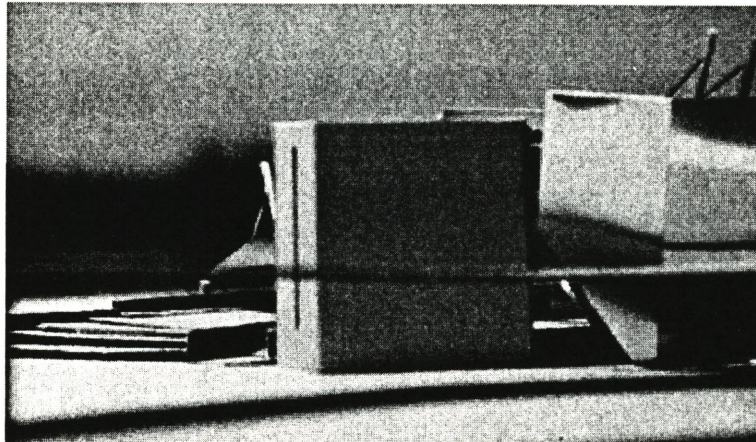
plan of screens and light well

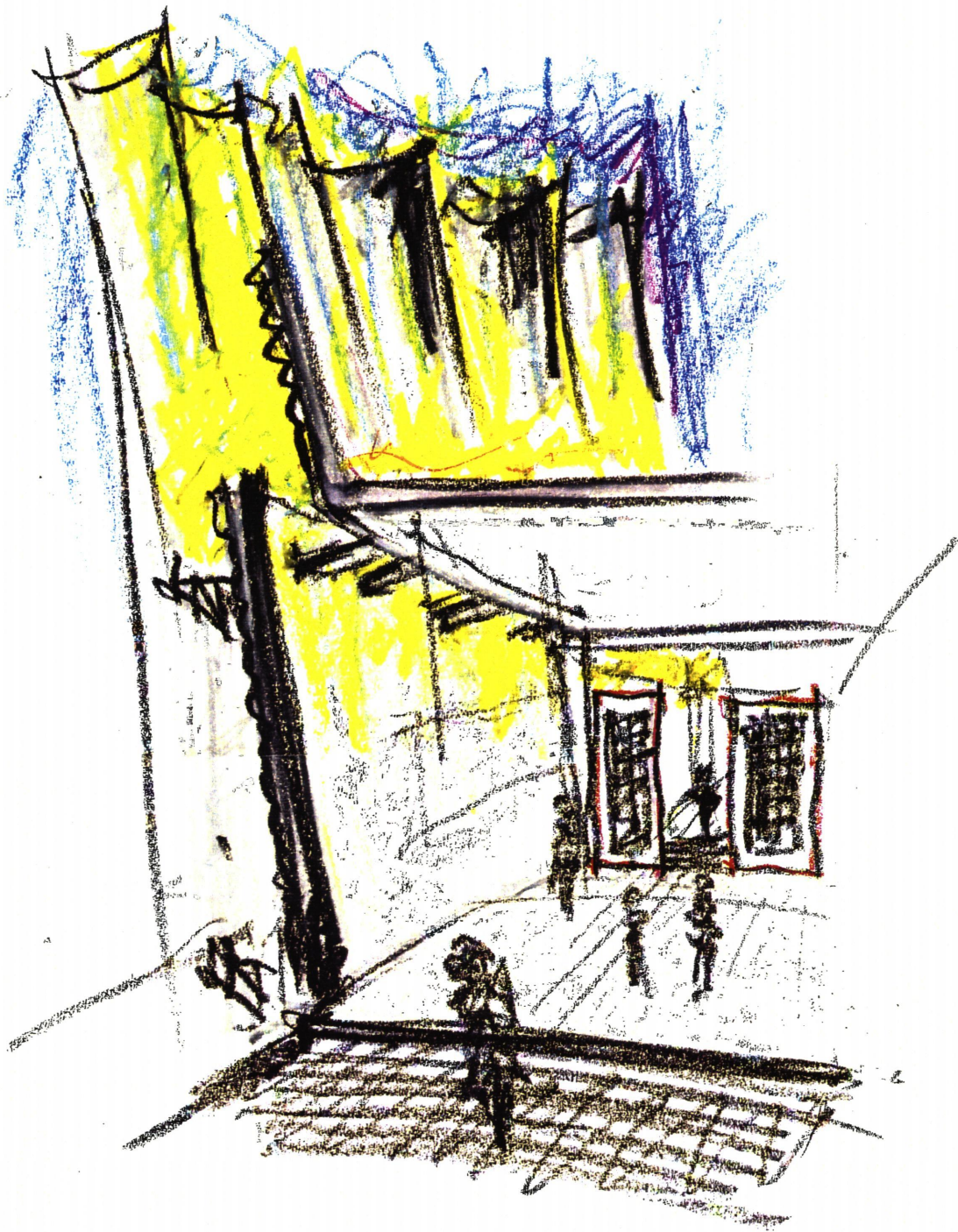


elevation of light well



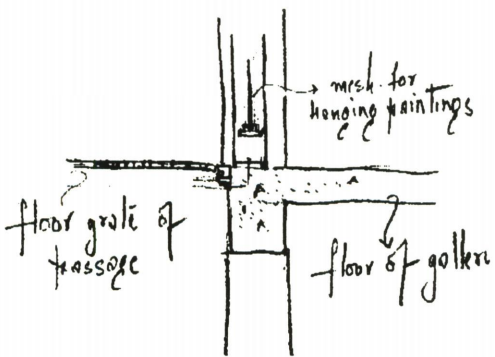
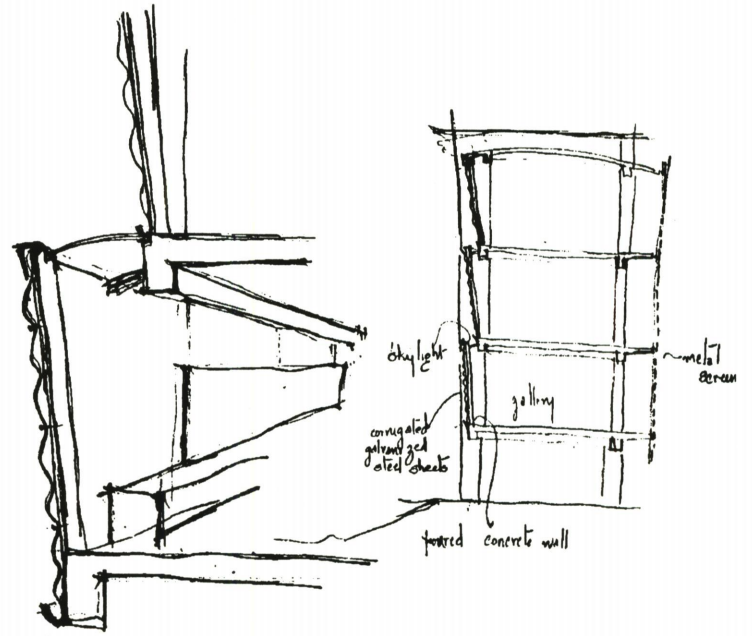
base of the screen



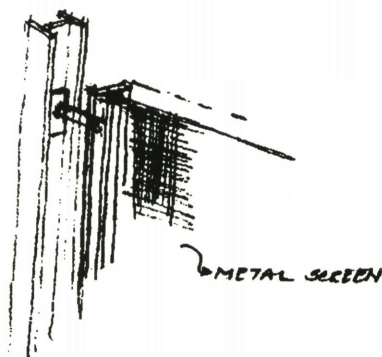


The galleries are hinged together with metal grate passageways and light wells. The metal sheet cladding on the inclined facade of the gallery building facing the freeway assists the screens in giving an ambient light to the space between the freeway and the galleries. The interior individual galleries are separated by metal grate screens used for exhibiting art and enabling the flow of one space to another.

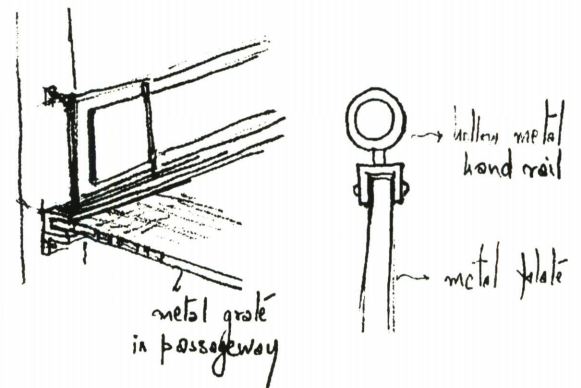
The south facade of the gallery building is inclined and made of hung mirrored glass. The city penetrates through the hung glass facade and into the cafe by means of a tenuous metal grate connector. Reflected in the mirrored gallery facade the Potomac becomes a part of the built environment. The choice of materials is attuned to the idea of the gallery being analogous to a permeable filter, for the city to reach the Potomac.



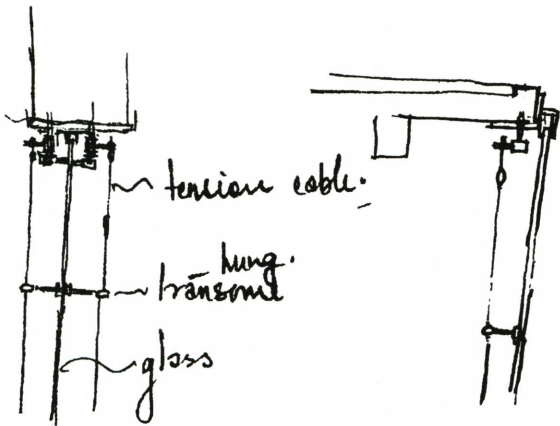
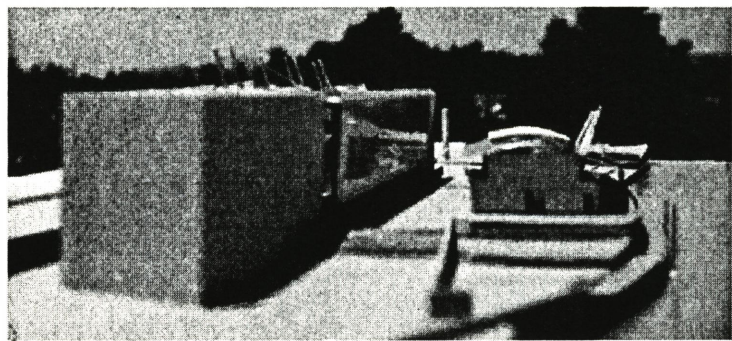
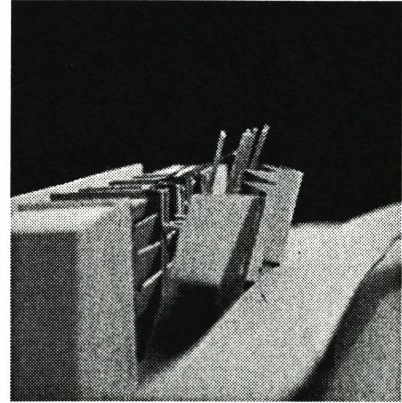
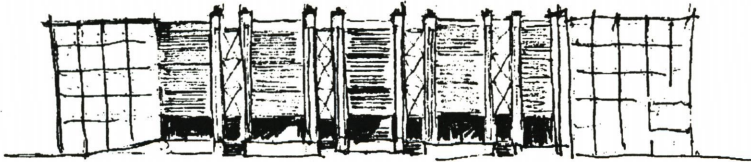
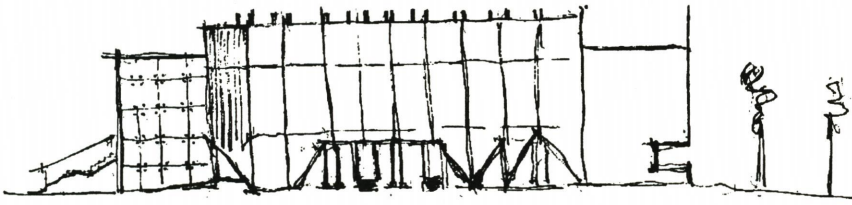
Section through metal grate passageway



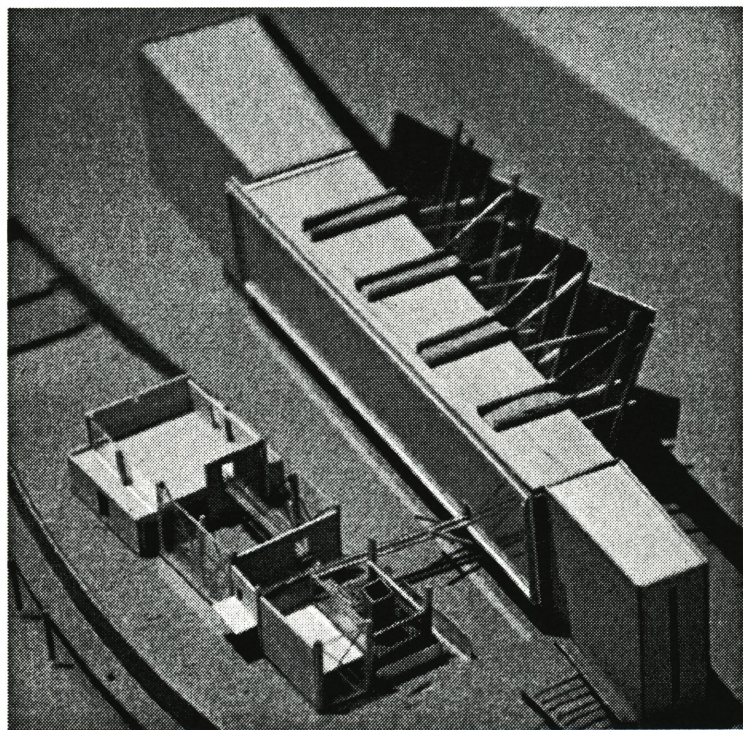
Metal grate partition

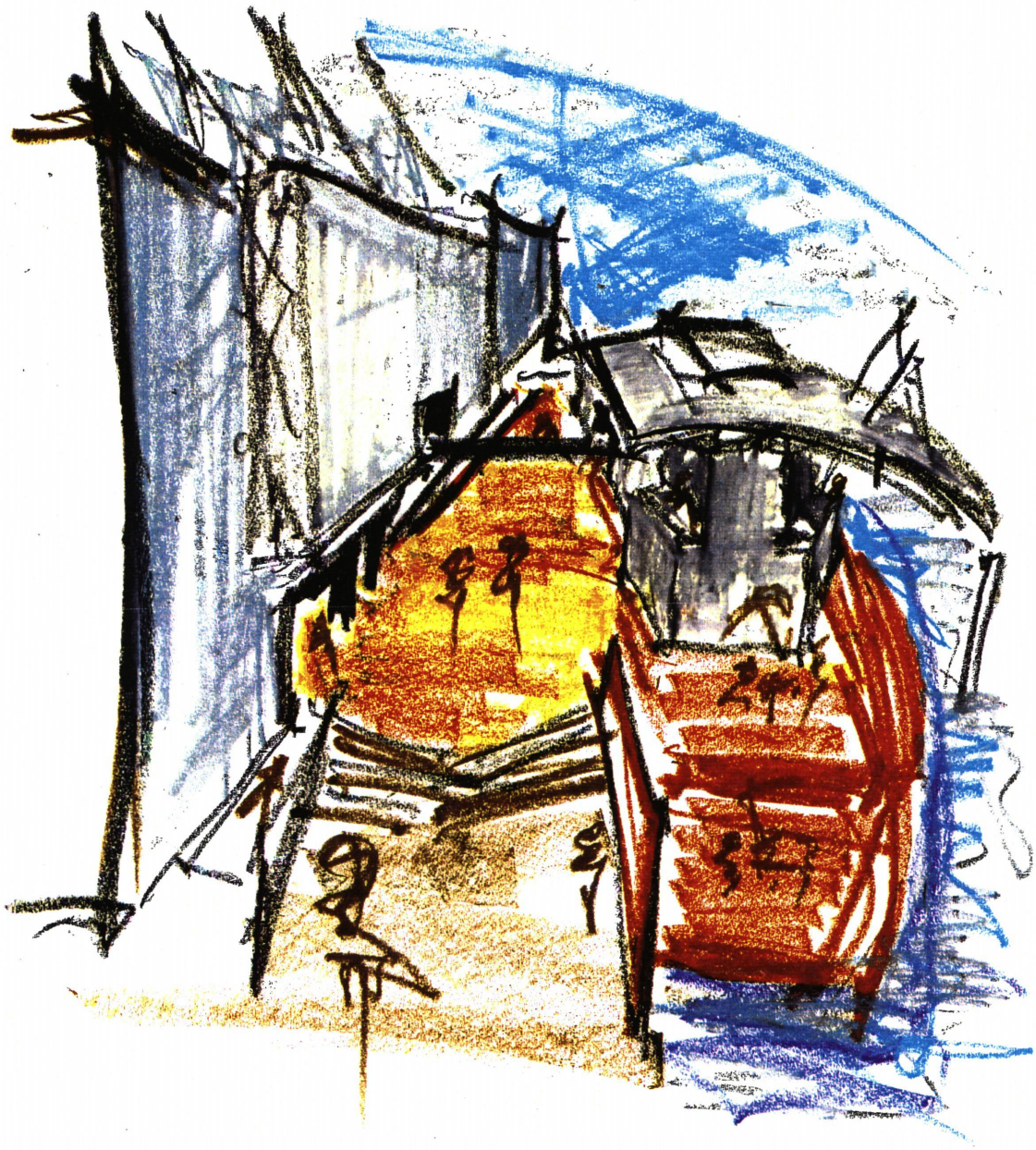


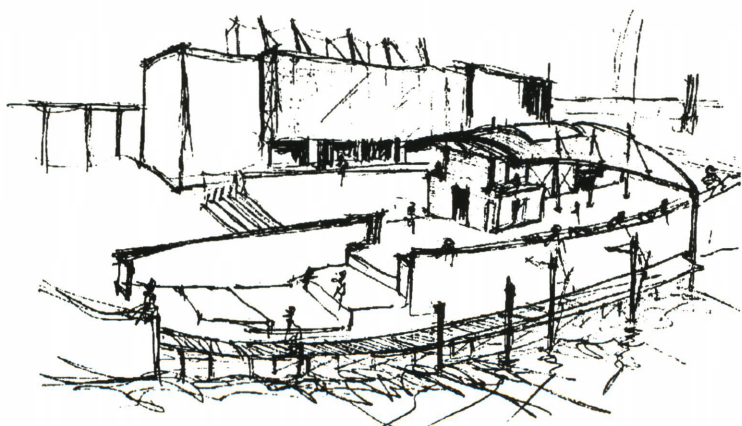
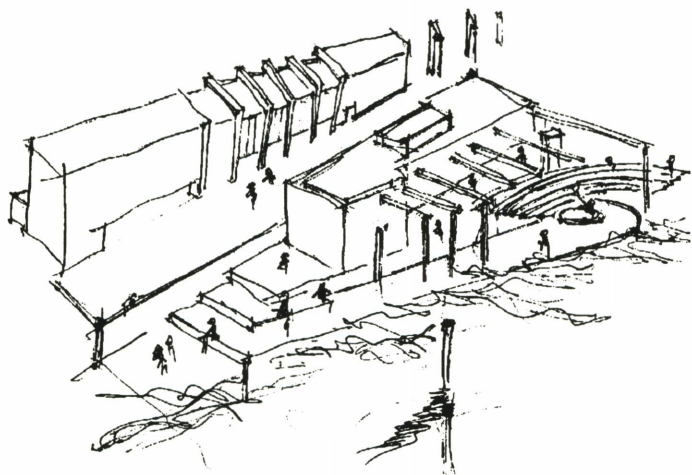
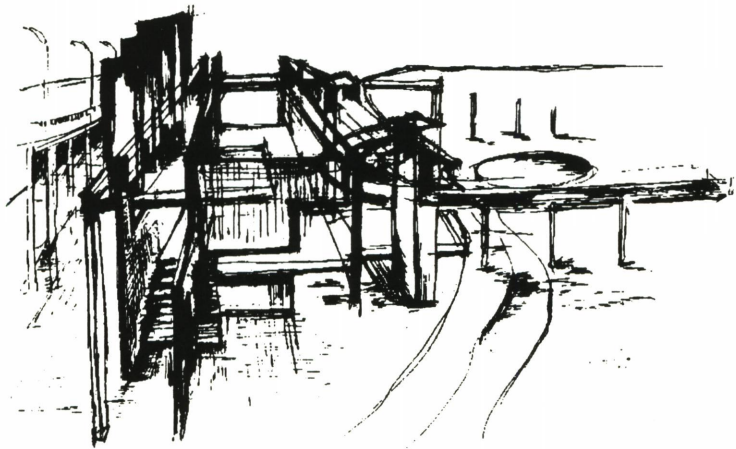
Railing detail in light well



hung glass in light well and south facade

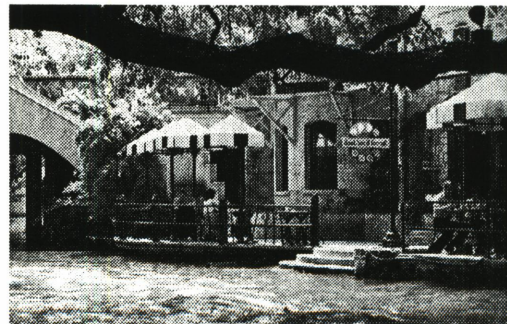






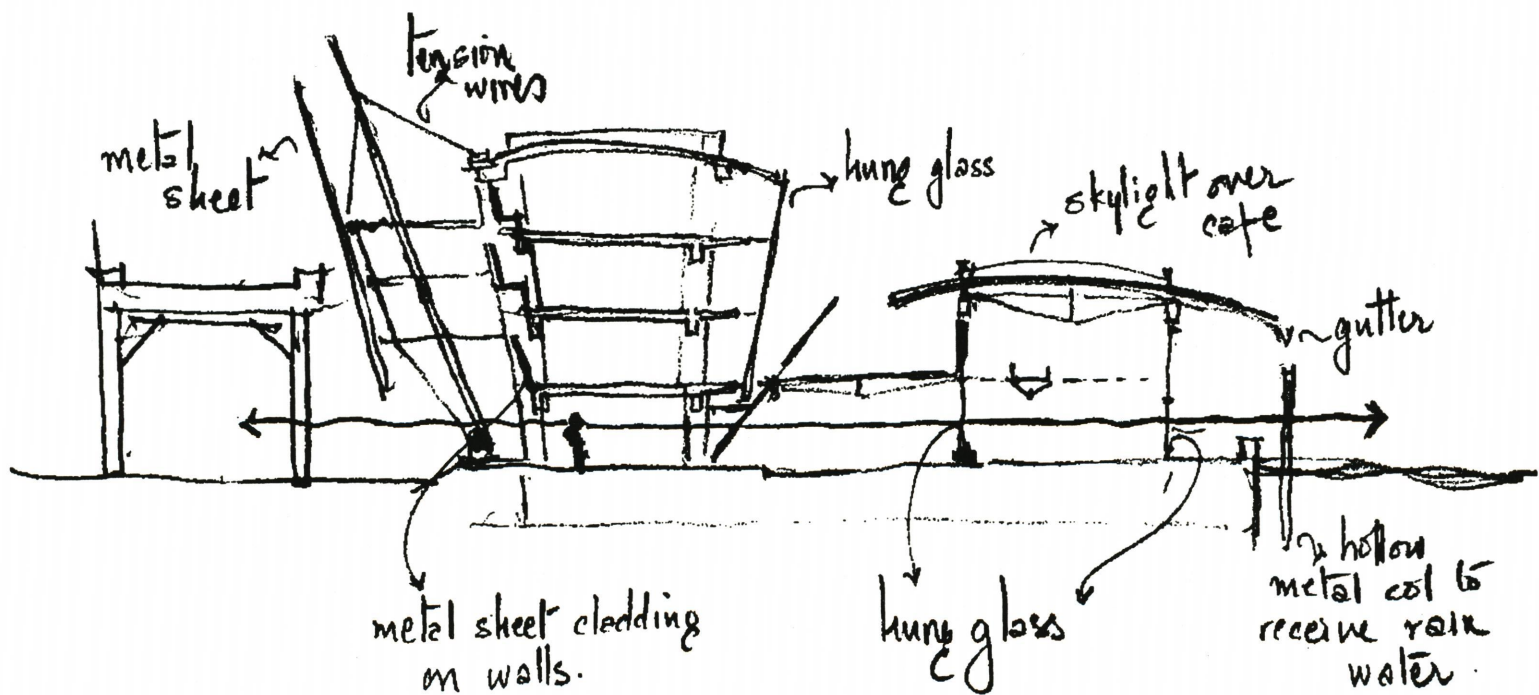
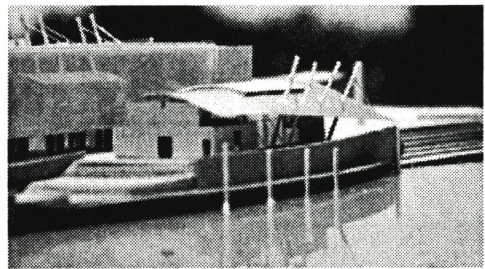
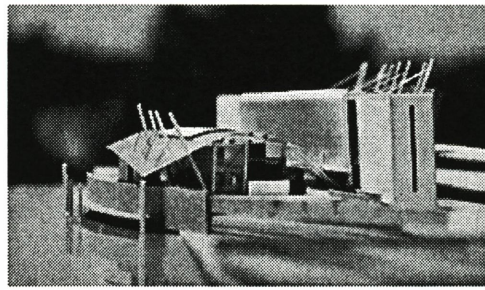
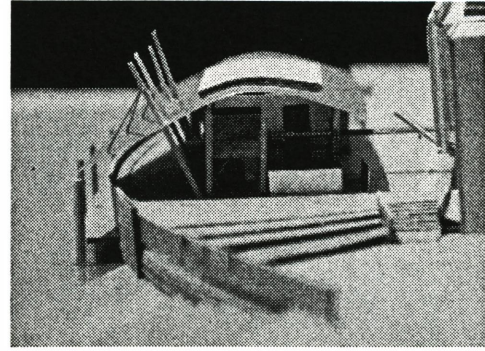
Psychologically important to man, water in a city relieves the claustrophobia of a landlocked environment. People are attracted to the edge perhaps with the awareness that the high level of urban stimuli will then be drastically reduced.

Some of the most memorable shorelines, be it the river walk in San Antonio or the promenade along the Grand Canal in Venice or the monumental steps to the Ganges in Benares, give evidence of human occupation. Rarely are the waterfronts restricted to one use. What is of value is access to the water at all times, not just for certain events but for performances, fishing, hiking or just sitting at the water's edge and looking at it.



San Antonio riverside cafe

The cafe and the spaces around it contribute towards accessing the water and forming the next layer of an edge. The interior seating area of the cafe is enclosed by hung glass, giving the pedestrian a veiled view of the water through it from K Street, setting up the anticipation of reaching the waters edge. Belonging essentially to the water, the cafe is a pavilion type structure. The sheet metal roof and cladding used is the same as that on the gallery facade, only in this case reflecting the light off the water, making the Potomac a participant in the activities of the cafe.



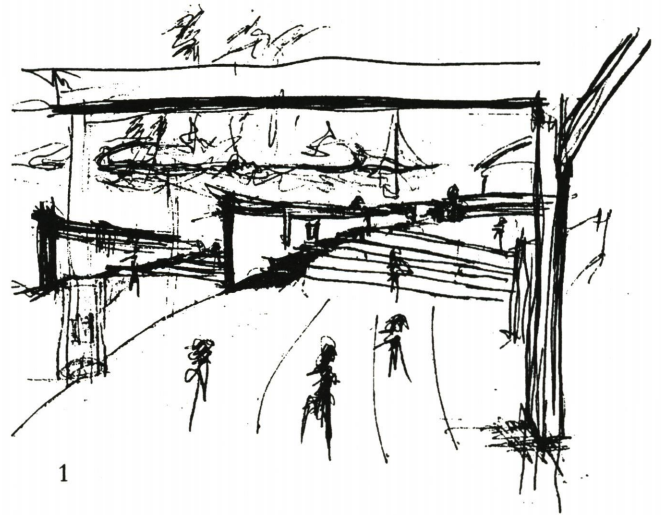
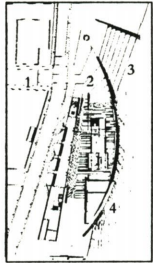


An Edge

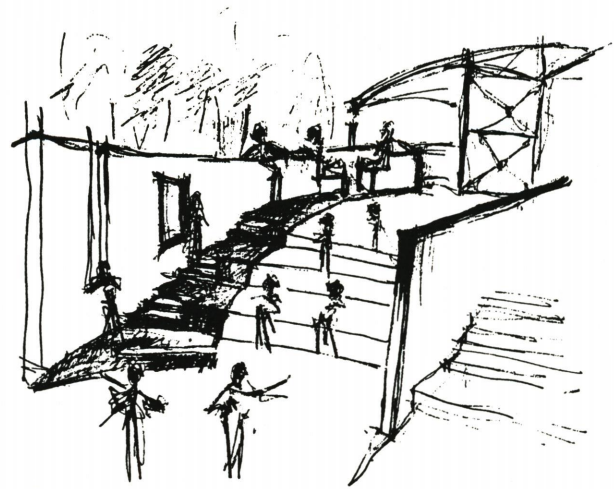


St. Petersburg

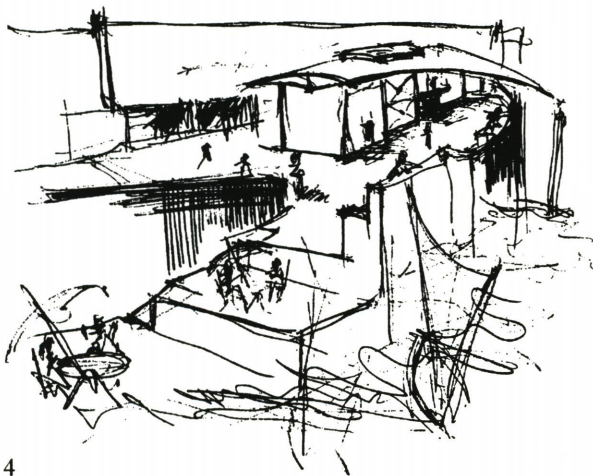
One of the most enduring images is that of the land entering the water, that of engulfment. Modulating the ground surface to provide different conditions in the way land meets water, the character of the edge thus becomes a function of time, changing with the course of day, tide and weather.



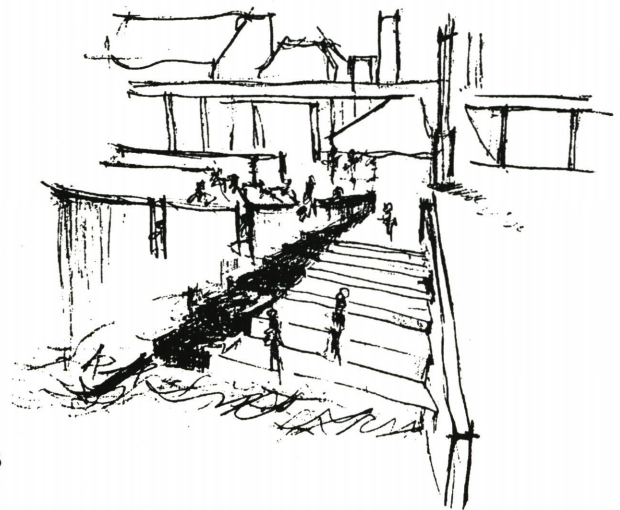
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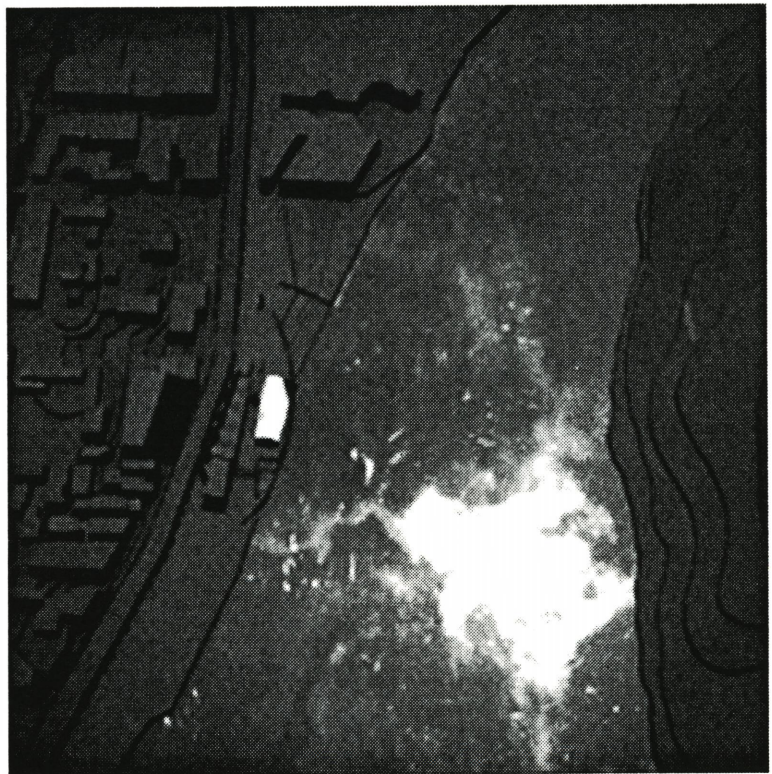
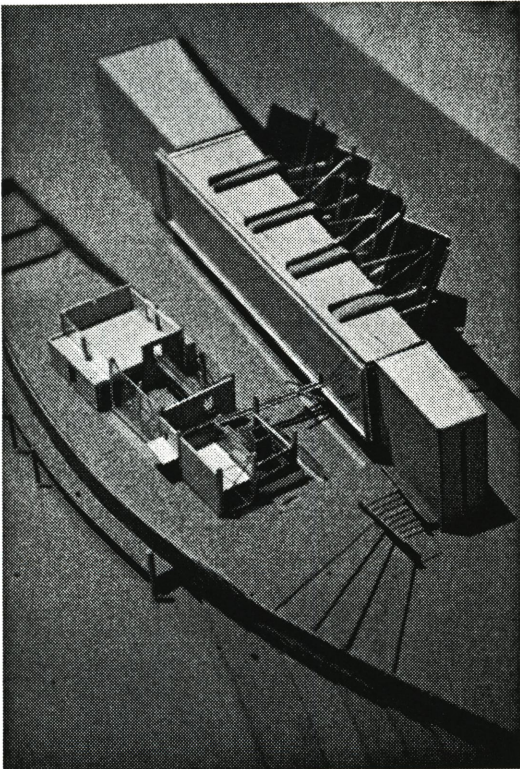
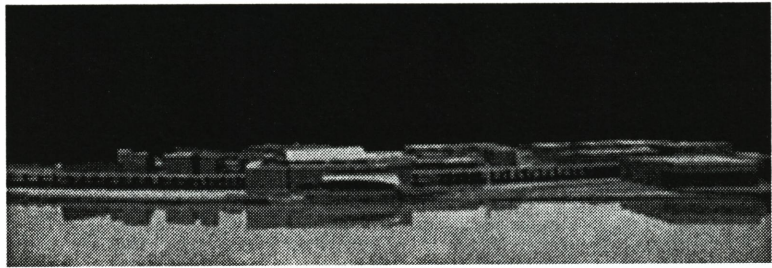
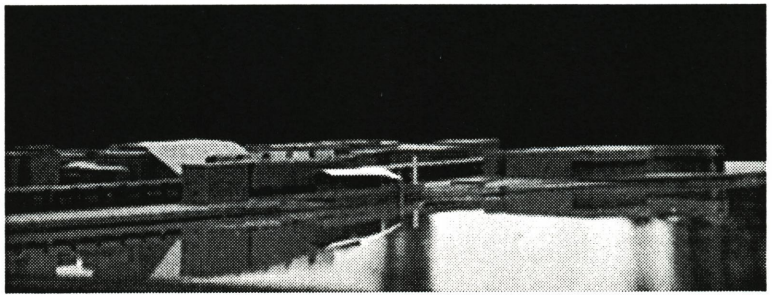
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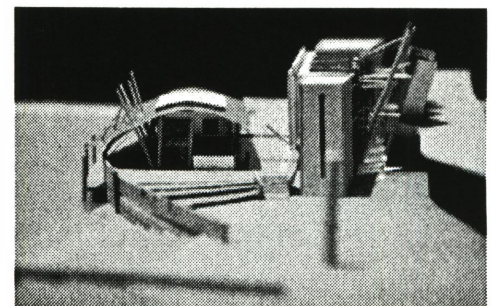
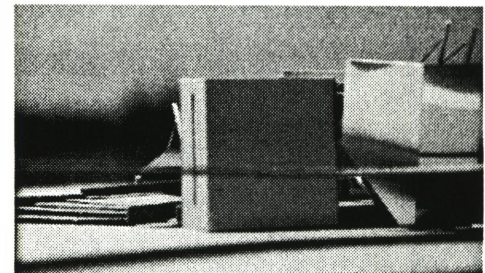
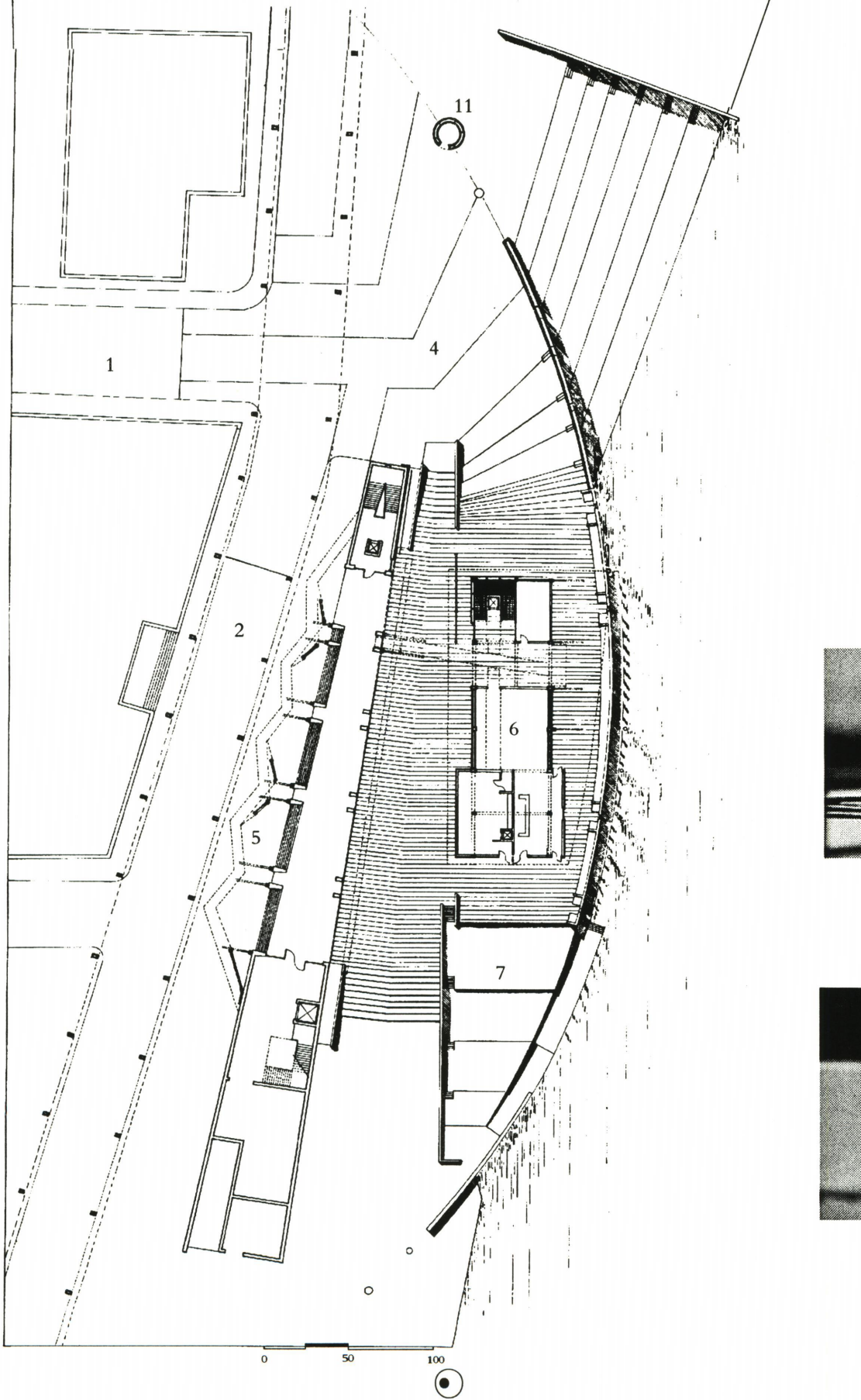
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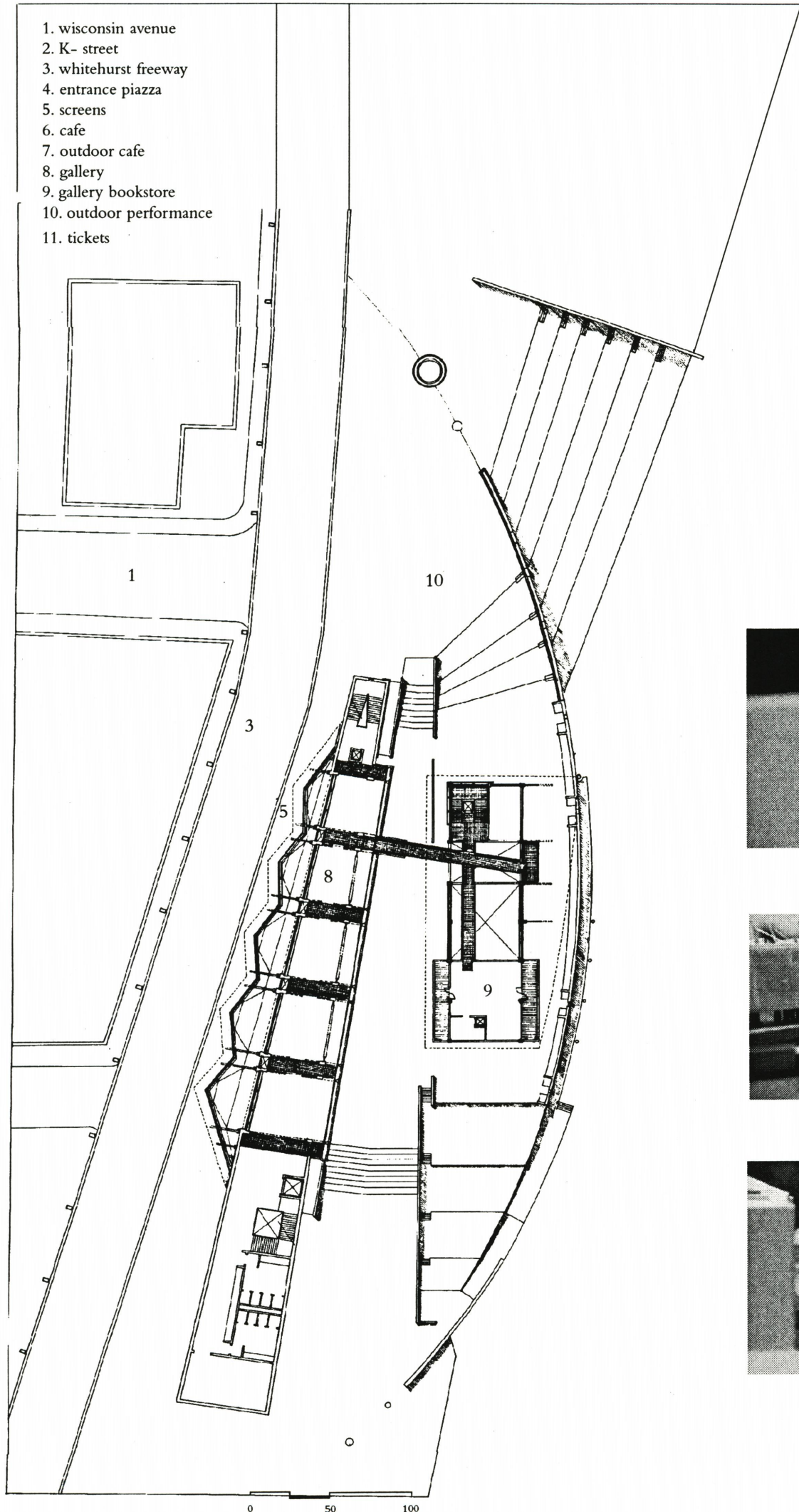




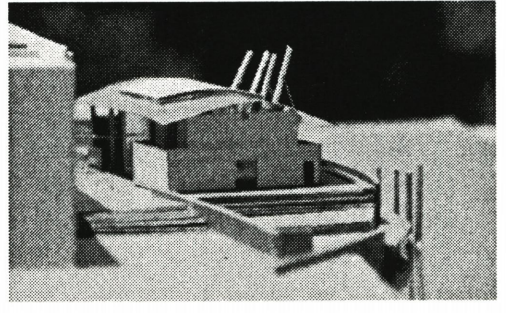
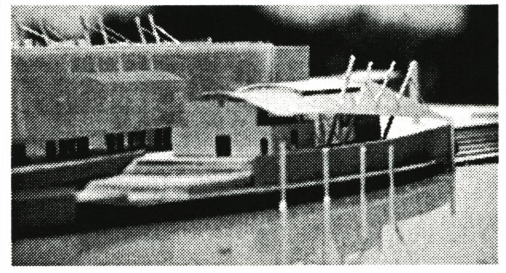
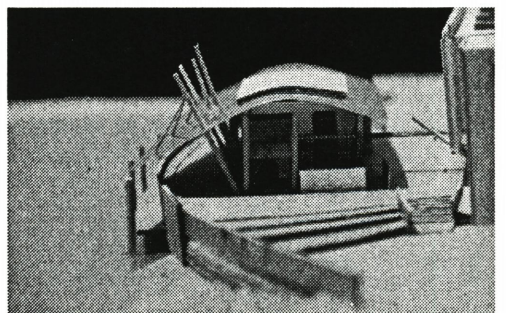
We first feel architecture with our feet. Articulation of the 'floor', its modulation and change in surface qualities, can be used to provide cues of movement and orientation. The project employs the same strategy by gradually modifying the 'horizontal' street of the city into places at the 'vertical' edge, in order to experience the Potomac visually, and, in areas, physically.



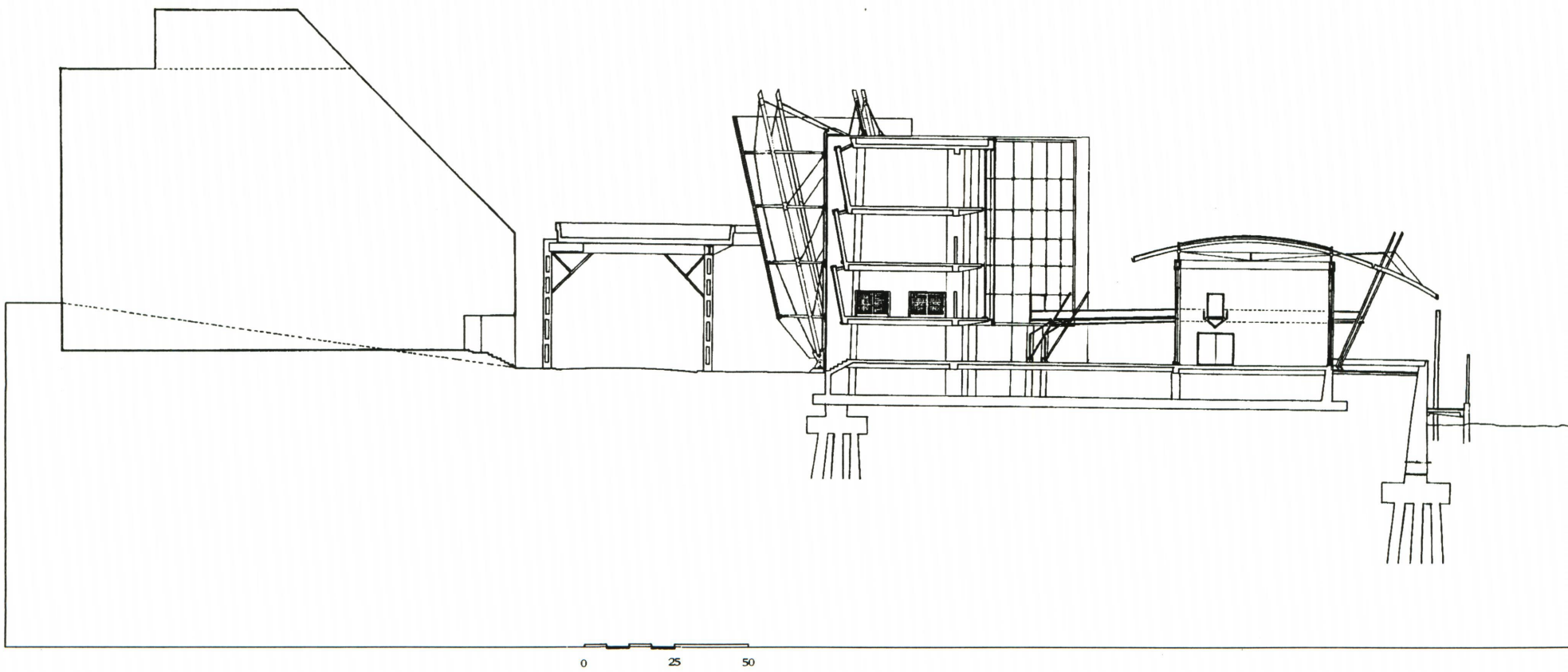
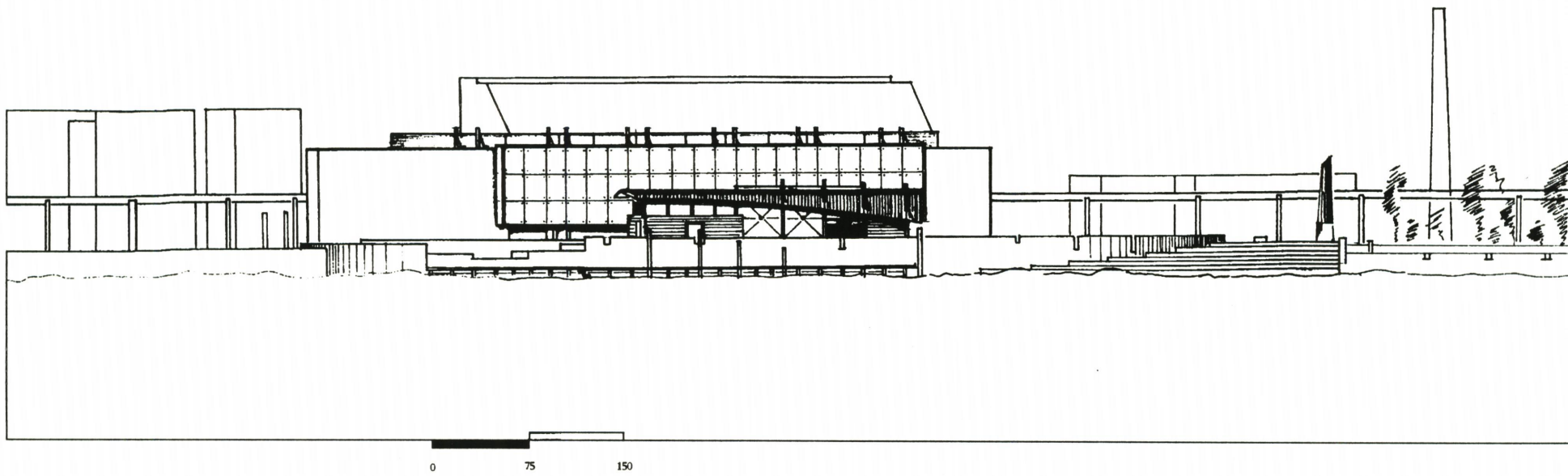
Entry level plan

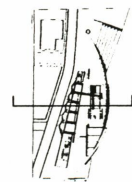
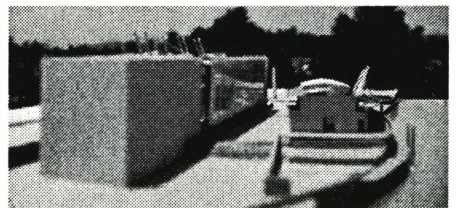
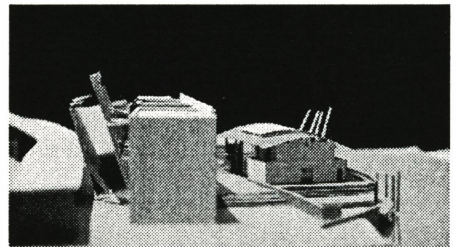
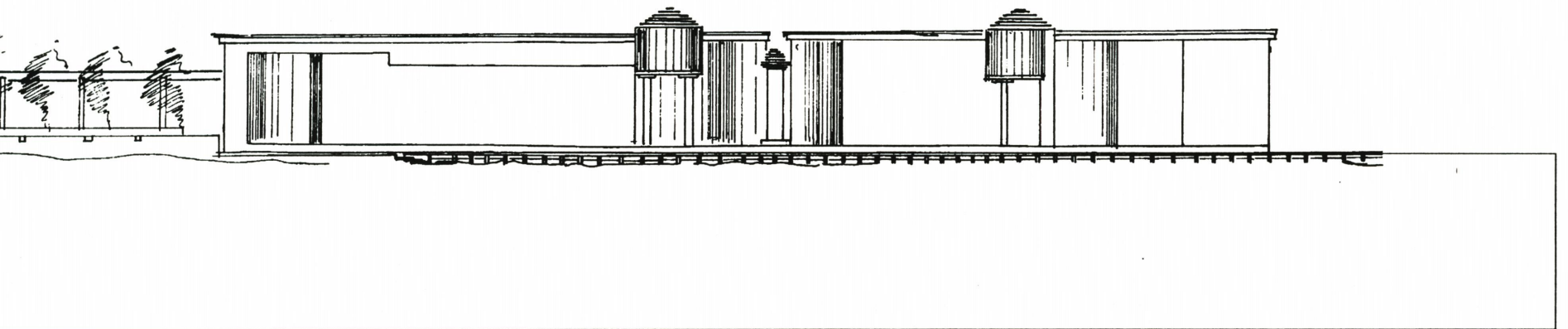
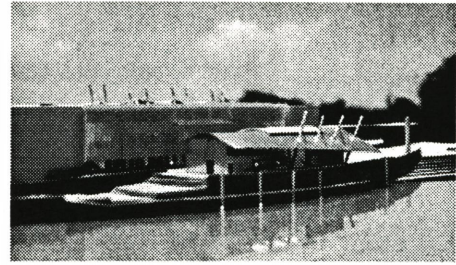


- 1. wisconsin avenue
- 2. K- street
- 3. whitehurst freeway
- 4. entrance piazza
- 5. screens
- 6. cafe
- 7. outdoor cafe
- 8. gallery
- 9. gallery bookstore
- 10. outdoor performance
- 11. tickets



Gallery level plan

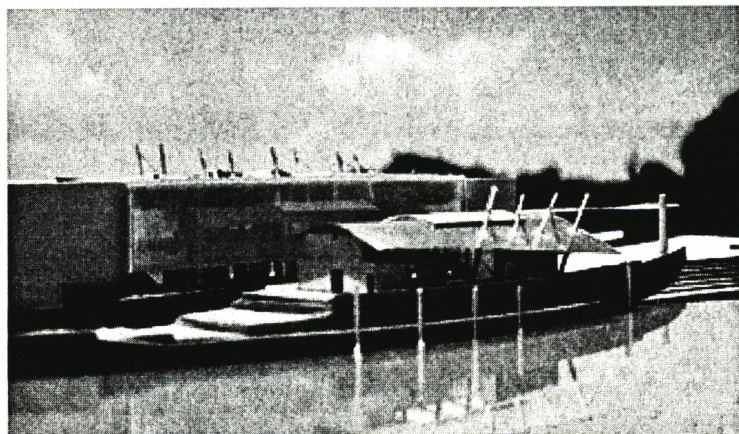
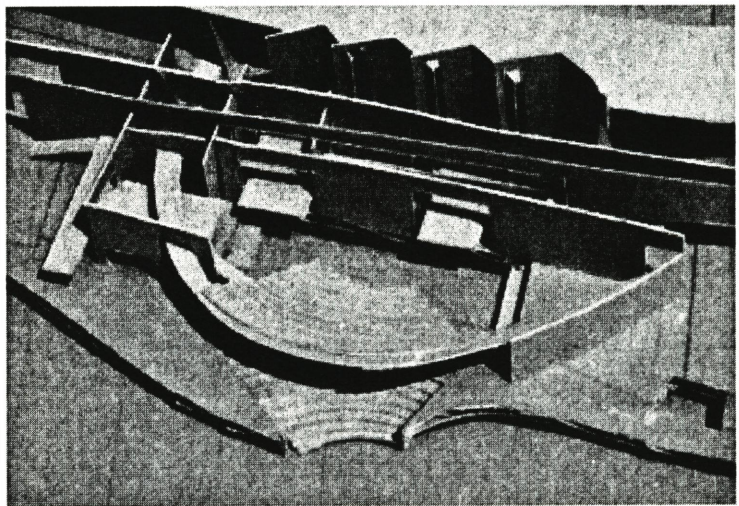
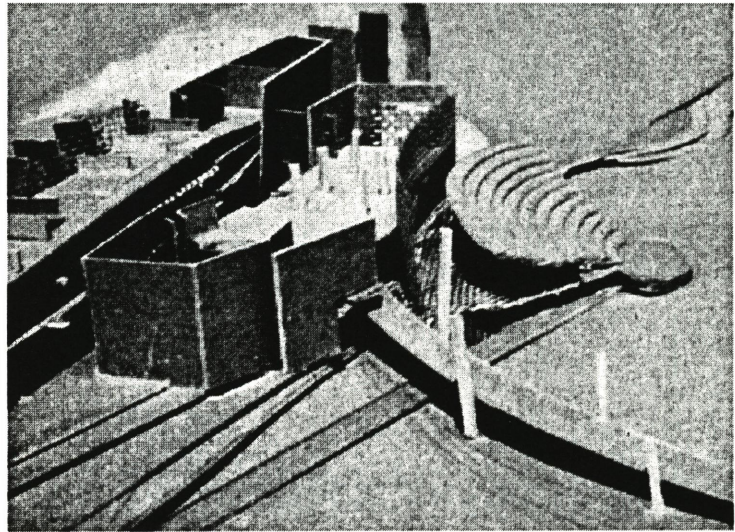
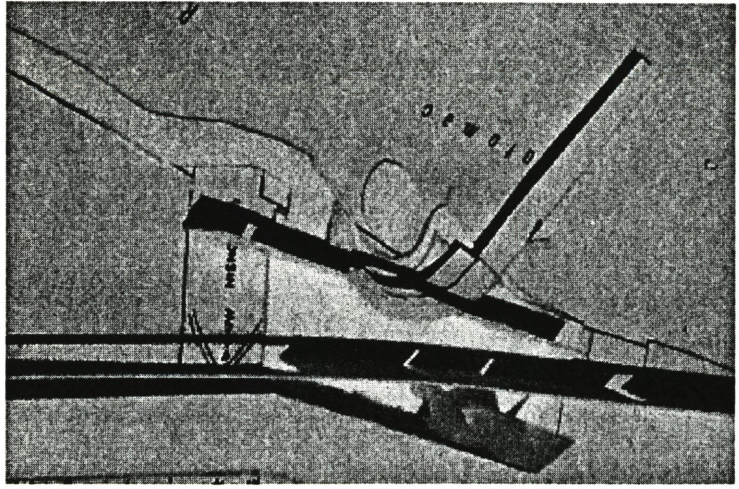


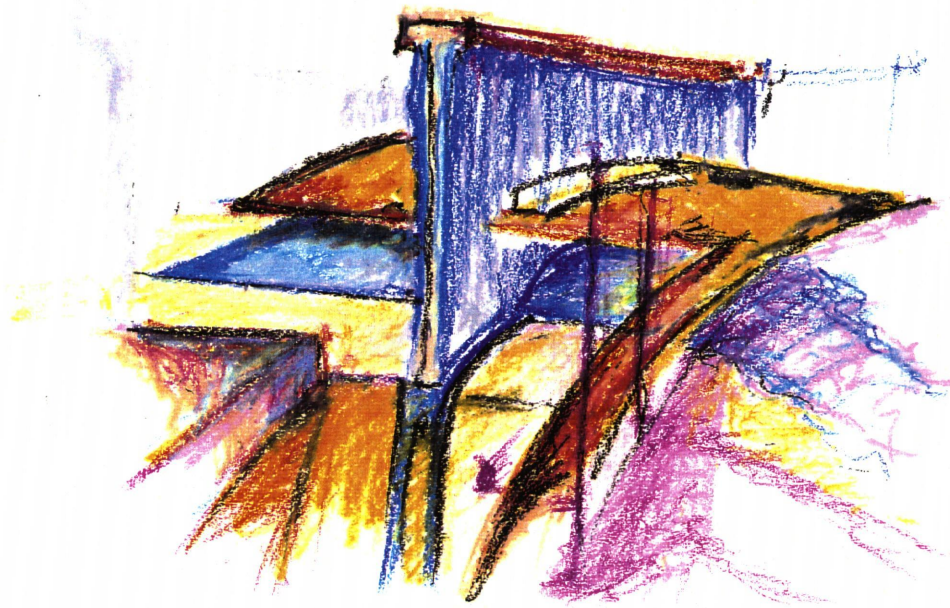




Paris, along the Seine

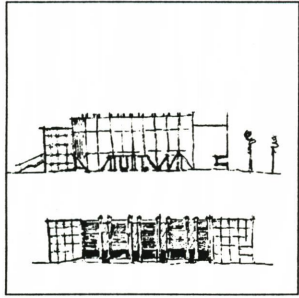
*'What is more powerful is access to
the water's edge.....
If you can get the community to go
down to the water,
the poetry is in the edge.'*
Eskew



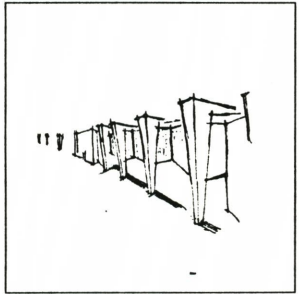
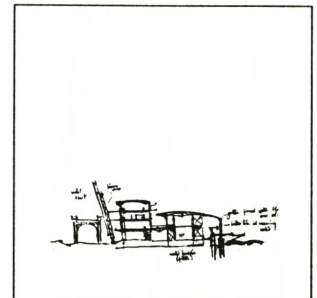
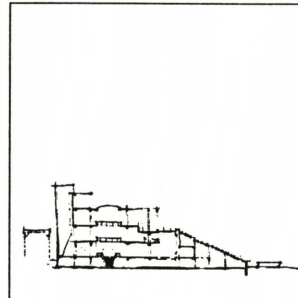
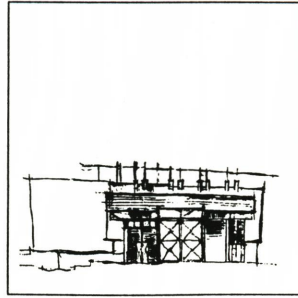


Epilogue

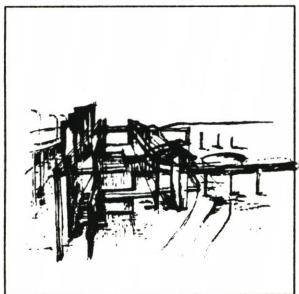
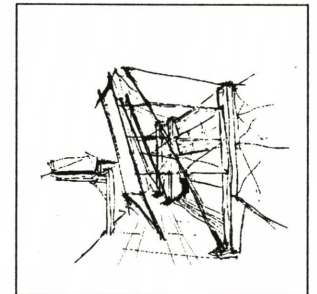
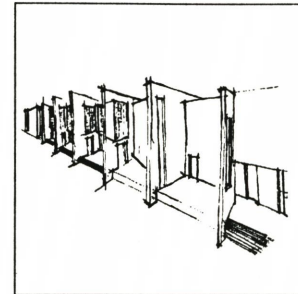
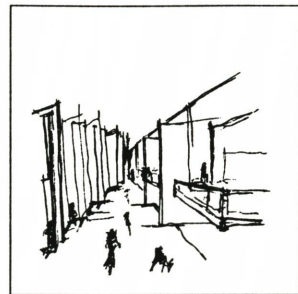
There are not different kinds of architecture, but only different situations which stimulate different propositions in order to satisfy man's physical and psychic needs. Bound to a site, architecture does not so much intrude on a landscape as it serves to explain it. Heidegger states that, 'An edge or a boundary is not at which something stops, but as the Greeks recognized, the boundary is that, from which something begins its presencing.' The edge studied in this thesis has been that of a city at the urban scale and the edges of a specific site at the scale of the building. The interdependence between site and architecture has been manifested in the past without a conscious intention in design but through the use of local material and craft, and by association of landscape with events of history and myth. But today the link can be found in new ways, which are a part of a constructive transformation in modern life.



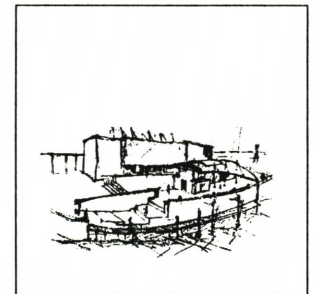
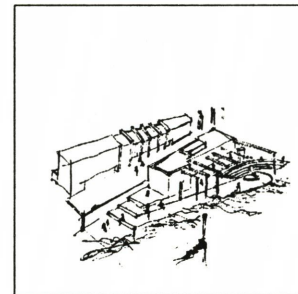
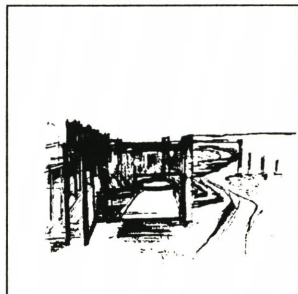
section and elevation studies



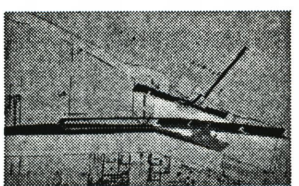
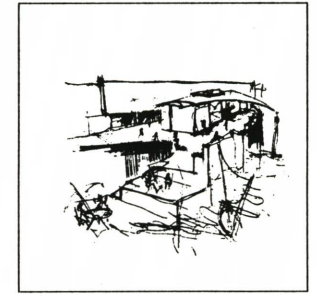
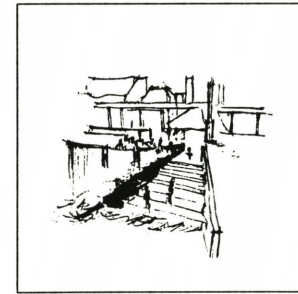
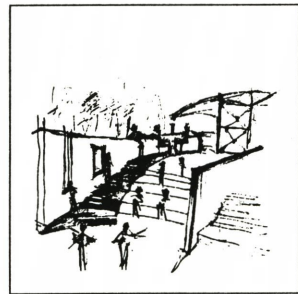
the screens - an urban filter



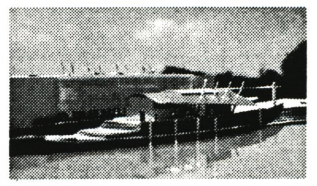
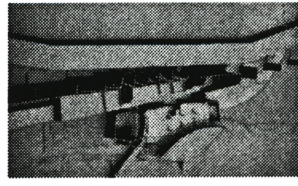
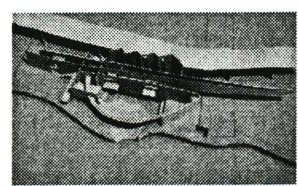
access



an edge



proposals



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