

PORTLAND, MAINE:
Toward An Essential Modern Language

by

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Submitted to the Department of Architecture in Partial Fulfillment of the
Requirements of the Degree of Master of Architecture at
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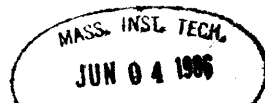
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ABSTRACT

This work is an investigation of the sense and spirit of a place, notably the urban waterfront setting. It is an exploration of the physical and built characteristics of the setting, and how these attributes can be brought forth in a design project located on the waterfront of Portland, Maine.

Five waterfront settings have been chosen for observational studies. They share certain location and physical similarities, but they each have specific characteristics that evoke a certain expression of place. These attitudes will be expressed during the design process.

The purpose of this thesis is to present my attitude toward the assemblage of building and landscape forms. This process of assembly and design as the project responds to the contextual and programmatic requirements is the major emphasis of this thesis. This process will begin to delineate a design vocabulary, lessons learned from observations of a specific place, and scruples toward the modern era we live in.

Thesis Supervisor: Fernando Domeyko
Title: Associate Professor of Design

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Introduction

This thesis is a dialogue of investigations, observations, and processes that will be utilized in the development of a vocabulary for design. This thesis is the culmination of efforts to build upon previous educational and professional experiences, interactions with certain individuals' concerning ideals and theories, and an intense desire to establish a vocabulary for design which can be built upon in the future, but ultimately this thesis is just another stage of growth.

This thesis has two major and interdependent parts. Within the first part I have observed the built elements and environments of three cities in which the waterfront and the sea is or has been the major focus of the city. They share a similar geography, history, and their waterfronts have often played similar roles in the development of the city. These cities are East Boston, Mass., which still serves as a shipping port for the city of Boston, although now most of the piers and waterfronts are abandoned and neglected. Portsmouth, New Hampshire, is still an active fishing port and has a nearby naval shipyard, but the focus of the waterfront activities in the city has been toward tourism and historical restoration. The last city involved in these observational studies is Portland, Maine, which is trying to balance the traditional uses of their working waterfront with the pressures of development. Observations and references from Sydney, Australia, and Helsinki, Finland, as well as other cities, will be used when they illustrate a specific point.

The second part of this thesis entails a series of processes and design explorations in an effort to define and develop the "new space". I have chosen a site along the waterfront of Portland, Maine, that will serve as a vehicle for these expressions. What is appropriate for a waterfront site is an important design issue that will be combined with historical precedents, program needs, observations, time, climate, and specific forces and needs exerted upon the site. An emphasis will be placed on what determines the special qualities of a waterfront setting, and then how can these qualities be introduced and expressed in a contemporary design project. These are modern times and I am searching for a modern expression to portray them.

Rigby, ed.,
Urban Waterfronts,
1983, p. 5.

Waterfronts have always represented a sense of the frontier. As this country expanded, waterfronts and waterways defined the new edges. When this country became more industrialized the waterfronts defined the edge of the industrial development. Now, because industry is not as major of a societal focus, urban waterfronts denote a different, commercial frontier. (1) Most nineteenth century industrial uses and buildings are now being replaced by uses that are predominantly consumer marketplace type of activities. In some cities such as Portland there is still an emphasis on ocean oriented industrial uses, but there is an increase in pressure for marketplace type development.

The three cities that have been chosen to observe each demonstrate these different use cycles. East Boston's waterfront still has the dilapidated remains of its former industries, and the city has not yet shifted to a more commercial emphasis. In Portsmouth, New Hampshire, the residents and government began twenty years ago to shift the emphasis of activities on its waterfront.

Now its inner downtown harbor is dominated by marketplace activities with an emphasis on historic preservation and restoration. The government and residents of Portland, Maine, are making efforts to preserve much of the so called "working waterfront" within its harbor, while allowing for some mixed use development. This is being controlled by zoning ordinances passed in 1983.

The transformation of nineteenth century waterfronts with an emphasis on industrial uses to a twentieth century people oriented place involves many social, political, and design issues. Some are environmental issues that require technical solutions. Design issues include aesthetic considerations, and day to day functions. Public issues involve the policy and election debates over for whom are the new developments being developed for, and who is going to pay for them? Realizing the considerable quicksand these issues represent, I have placed the focus of this thesis on the design issue involved in a mixed use development on a central waterfront site.

A conflict exists between those that wish to keep the waterfront as it was during the nineteenth century industrial period, and those that wish to develop new retail, commercial, recreation, and housing on the waterfront. There is a need and a prerogative to maintain these industrial uses as a vital part of a waterfront community. It must be realized that the days of tall ships and salty characters are a figment of the past, and that protectionist policies based on nostalgia are more damaging than what aesthetic worth can be derived from them. They are often counterproductive from new uses along the water that are geared toward fulfilling the needs of a larger populace. There is a place and a need for the historical preservationists.

These activities are often-times necessary, but much time and money is required before any preservation work is realized.

All of these issues prevail in Portland. Private individuals and developers began to develop the Old Port District during the mid 1970's. This stimulated growth throughout the rest of the city. People realized that the economic foundation of the city of Portland was built upon the waterfront, and there was a concerted effort to preserve much of the "working waterfront" in its original state. These efforts resulted in changes to the zoning laws in 1983. This political and economic groundwork for the design project have been established, and will be dwelt upon during the design process.

In a larger sense, this thesis is a journey toward gaining a sense of place. What is the sense of place? How can it be defined? Is this an illusionary quality of architecture that we are taught not to strive for today during our reckless journey to learn the developers trade, or to gain a sense of how to recapitulate the past in new and more daring post modern fashion? This entails a search of what a modern ethic of architecture should be - an experiential, mysterious, fantasy provoking, language of forms and concepts that both challenge and comfort the user. It is not a game of developing a generic built form language based ultimately on structure and not on a human need or use. And, yes, it involves a search into the past for previous antecedents, but this is not a process of mindless copying of a previous era. It is a game of joy, an expression of the poetics of what can be; an exuberance of life that should be carried over into the built environment that we are surrounded by.

Steele, The
Sense of Place,
1981, p. 5.

How can a sense of place be perceived or defined? Place is one of the most used words in our language. It can be used to denote a location, a psychological state, a social status, the location of something in one's mind, a standard or evaluation. (2)

The word has come to symbolize a significant number of factors in one's daily life. People who live in a particular location, such as a coastal city, tend to make the visible world into their entire cosmology or world view. Places also tend to shape the individual characters of the residences. Finally, the sense of place contributes to a sense of security to individuals and groups.

Ibid., p. 8.

The concept of place can be used both as an object of people's interest, concern, influence, and enjoyment, and as a cause of people's feelings, moods, responses, constraints, achievements, and survival. (3) Some basic characteristics are the following: the concept of space is interactional and psychological as well as physical; settings have both short and long term affects on people; people also can have an affect on creating or caring for the physical settings of a place; and finally, there are certain settings that evoke a strong sense of the "spirit of the place" that affects many different people. (4) Therefore, it seems logical that a sense of place is the particular experience of a person in a specific setting. And the spirit of place is the combination of characteristics that lend a setting a special feeling or personality. The setting is a person's immediate surroundings including the social and physical elements. Later discussions will focus in more detail the certain spirit of place that is involved in a perception of waterfronts. There are several basic ingredients have to be endowed upon a

Ibid., p.9.

location for it to exude a spirit of place. These characteristics include: special physical features such as the water; the attitudes of the user and other involved people; a sense of the mystery and the fantasy; and a personal involvement with the particular setting.

This concept of a "spirit of place" dominates the observational studies, and it has become the underlying theme for the studies of different waterfront environments. The physical focus of these observations were the town planning in reference to the water, different forms of access to the water, patterns in building orientations in respect to the water, and individual built features. These results were used as guidelines, references, and inspiration for the later design investigations.

The design studies will reflect a concerted effort to develop a flexible process that will result in the expression of a personal design vocabulary. This expression is needed because these are new times that call for a new spirit of design. Architecture with a sense of quality only results after there has been the opportunity to absorb as many impulses and information as possible and there is time for reflection upon this stimuli. This "new space" that is the result comes from this reflection, and a respect for the past. Architecture has to be viewed in its context, but this context is part of a continuity. Space has no meaning without a connection to time. How can a designer swallow up this space and make it into a totality with a fusion from within and without? This new space is a juxtaposition between the machine and the permanent, that can best be expressed with discreet, basic forms that are then refined. Ultimately, a designer involved in an effort to produce a certain level of high quality cannot be divorced from history,

especially the cutting edge of new epochs. This work is a search and expression of beginnings whether from the past or the place. These beginnings are part of a total involvement in life, and they are involved in the effort to incorporate the essentials within a continuum. This design project has become a search for the metaphor, a search for the basics, and an effort to connect the unconnectable.

The focus of this thesis is to develop a strategy for formulating a design vocabulary based on observations within the built and natural world. These observations provoke associative recognition of referential contexts that are the stimulus for design.

In summary, an urban waterfront offers the greatest opportunity to reclaim and build upon our urban heritage. People are naturally drawn to the water, and this leads to more pressure to develop waterfront sites than any other part of an urban environment. These issues provide an opportunity to study and express concerns and ideals toward design.

Site Analysis

Beard, Maine's,
Historic Places,
1982, p. 302.

Portland, Maine was first settled in 1633, making it one of the oldest ports on the Atlantic seaboard (1). The current buildings along the waterfront and adjoining Old Port District date from the early nineteenth century. The port has consistently remained as a major economic and leisure focus of the city of Portland. The city is currently experiencing an economic revival that was first started in the Old Port District. The waterfront has not been developed yet, because the focus has been on the adjacent downtown areas of the city. Now there are intense and diametrically opposed arguments of how to develop and yet preserve the waterfront.

In order to gain a better understanding of Portland's context, it is important to examine the overall environment of Portland's location. Portland is located along the southern coast of Maine in a protected harbor of Casco Bay. The coastal landscape of Maine consists of a series of glacially formed drumlins - hills and islands that extend into the sea. These forms are repeated along the entire coastline forming different bays and peninsulas. These drumlins are the link between the land and the sea, much as the piers and wharves are the connection between the land and the sea in a waterfront setting.

The peninsula that Portland is located on can be considered to be a drumlin, but it is orientated in an east-west direction while most of the other drumlins are orientated in a north/south direction. The wharfs along the waterfront are an extension of the urban grid just as the drumlins are extensions of the natural landscape into the water.

The coastal charts show that the islands and drumlins are surrounded by an underlying mass of land. This becomes exposed as a visible extension of the island into the sea during periods of low tide. A design has to reflect the many different movements along the water's edge that reflects changes in the water level. These decks and platforms also fluctuate with the tides and act as a transition zone for the user/observer and the sea.

There is a continual observation of figure/form reversals along the coastline with either the land or the water dominating. These dominant forms are usually where the habitation and other primary activities are located. My design emphasized the theme of figure/form reversals in direction of movement, building forms, the marinas and the land, towers, and open spaces.

The islands and the peninsula that South Portland is located upon protect Portland from the ocean storms and weather conditions such as wind and rain that comes in from the sea. The Pocahontas pier was large enough to justify creating an inner protected harbor much in the same way as the larger harbor and bays were formed. This was in direct response to studies of the natural environment.

The overall form of the city of Portland is similar to other urban centers. The layout of the street grids roughly corresponds to the geography of the peninsula that it is located on. The grids shift according to the local topography. There are some major streets that run diagonally across the peninsula and do not correspond to any particular system except as the



2.1

2.1

Inhabited islands in
Casco Bay.

2.2

Drömlins and peninsulas
found in Casco Bay.



2.2

2.3

Physical setting of
Portland, South Port-
land, and Casco Bay.



2.3



2.4

2.4

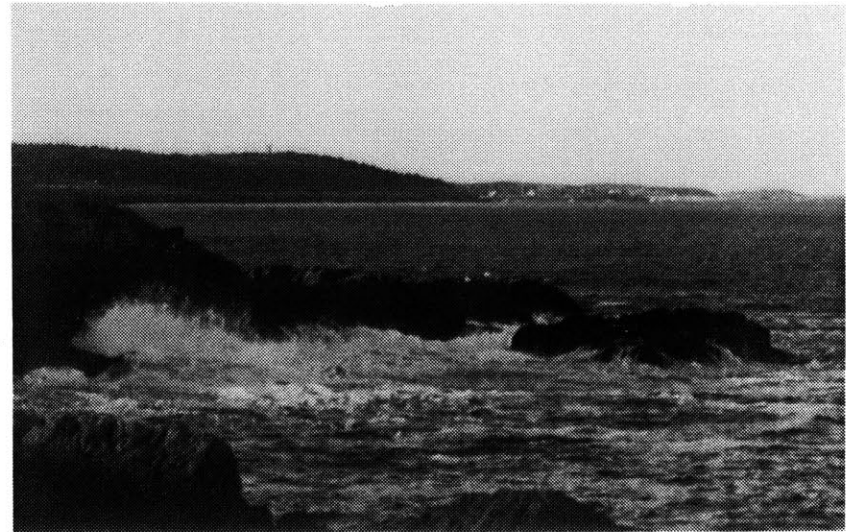
Sketch of Portland's
waterfront from
South Portland.

2.5

Casco Bay.

2.6

View toward Spring
Point and Portland
Harbor.



2.5



2.6



2.8



2.7

2.7

Casco Bay from the
East Promenade neigh-
borhood of Portland.

2.8

Spring Point Light-
house and Fort George
in Portland Harbor.

Schmidt, Portland, Maine's, Historic Urban Waterfront, 1981, p. 16.

location of a historic path. The rectilinear blocks are further divided into rectilinear parcels. (2) These smaller forms define the local areas, but not the overall peninsula.

The waterfront of Portland, Maine was selected as the site for the design project because of the inherent sense of place that exists there. The waterfront evokes a spirit that is undefinable and transcends a traditional view of time and history. A large highway separates the peninsula it is located on from the surrounding landscape resulting in many early buildings and uses being allowed to remain on the waterfront. This mixture of built forms and the natural landscape provoke a series of associative references and images that are important to the potential user and designer.

Lynch, The Image of the City, 1960, Chapter 3.

Some of the features that evoke this strong imagery are: paths used by pedestrians; built and natural edges along the water; historic districts such as the Old Port District; and the physical landmarks such as the church towers on the hill and the cranes and masts along the water's edge. (3) These forms provoke a need to explore and learn more of the waterfront. These physical settings have to be combined with the personal experiences and conceptions of the individual user in order to sense this spirit of place. These perceptions will change over time because the waterfront environment undergoes a constant flux of change. These concepts begin to align themselves with the ideal of the continuum, which is a basic idea of the new space.

Steele, The
Sense of Place,
1981, p. 164.

Waterfronts in general impart a special spirit of place because qualities of light, space, long views, a visual variety, and the potential for recreation. (4) To waste these qualities is to waste a large human asset. The residents of the city of Portland realize the benefits they can derive from the waterfront for a large cross section of their populace and visitors and they have taken steps via planning and zoning measures to insure that these benefits will extend into the future.

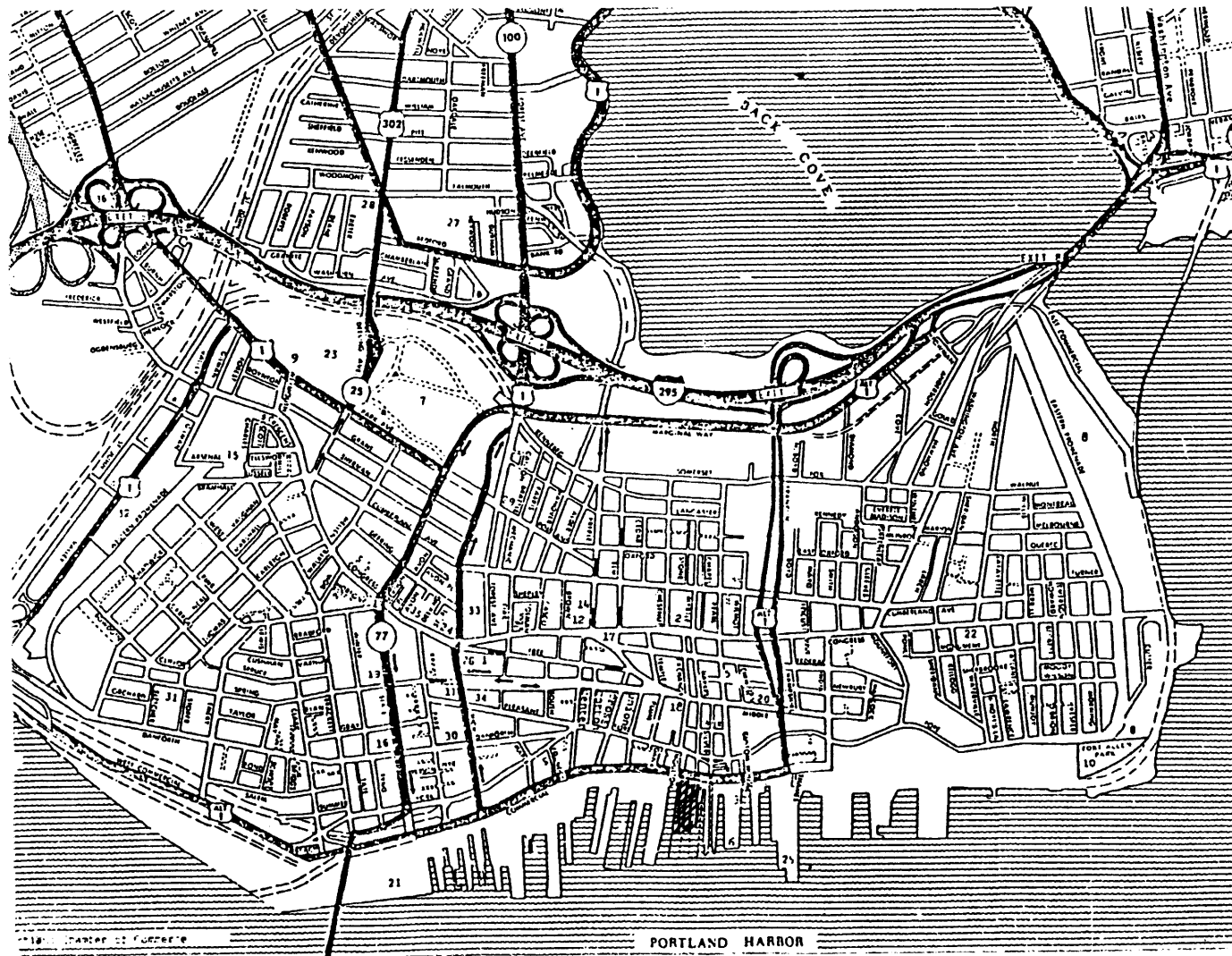
The waterfront of Portland, Maine, evokes a personal sense of a spirit of place because of the following reasons. There is a mixture of old renovated buildings and more modern additions to the built landscape of the waterfront. These buildings are used for a variety of purposes such as fishing, commercial, industry, offices, retail and residential. There is not a one-sided pattern of use. The water is quite accessible and there are several different areas to view the activities in the port, and of the city. This contributes to a sense of identity. The forms and activities lend themselves to a sense of unexplored mysteries and the ability for personal fantasy. The waterfront of Portland is a real city place within a large, stimulating natural environment.

Portland City Council, "Strategies for the Re-development and Revitalization of the Portland Waterfront", 1982, p. 26.

Ibid., p. 7.

The Pocahontas Wharf and the adjacent Central, Portland, and Custom House Wharves are closest to the central business district. Their potential uses have generated the most controversy during any discussions of what can and should be done on the waterfront. These discussions led to changes in the zoning law in 1982 that made only the Pocahontas, Long, and Custom House Wharves open to potential mixed use development. (6) The city government and residents agreed that the other wharves should be maintained as a district for a "working waterfront". This part of the waterfront is the most logical to develop if there is any effort to be made to physically connect the downtown, Old Port, and waterfront districts. A mixed use development in this area would provide for a variety of uses, and could connect the people to the sea as a visible connection of the built world and the water. The zoning ordinances advocated adapted reuse of the existing structures. Residential development would be allowed on these piers only if it didn't displace any of the existing fishing industry. (7) Residential development was allowed on the upper floors of the buildings located along Commercial Street. This was to maintain a place for the business that needed direct access to the nearby water.

The city government was trying to be very careful to maintain a certain status quo for the existing, as well as allowing for the expected expansion and development to take place. In general, very restrictive zoning ordinances detract rather than enhance quality design, because it leads to the creation of a general architecture that is in offensive.



2.9 2.9
 Map of Portland,
 Maine, The site is
 shaded.

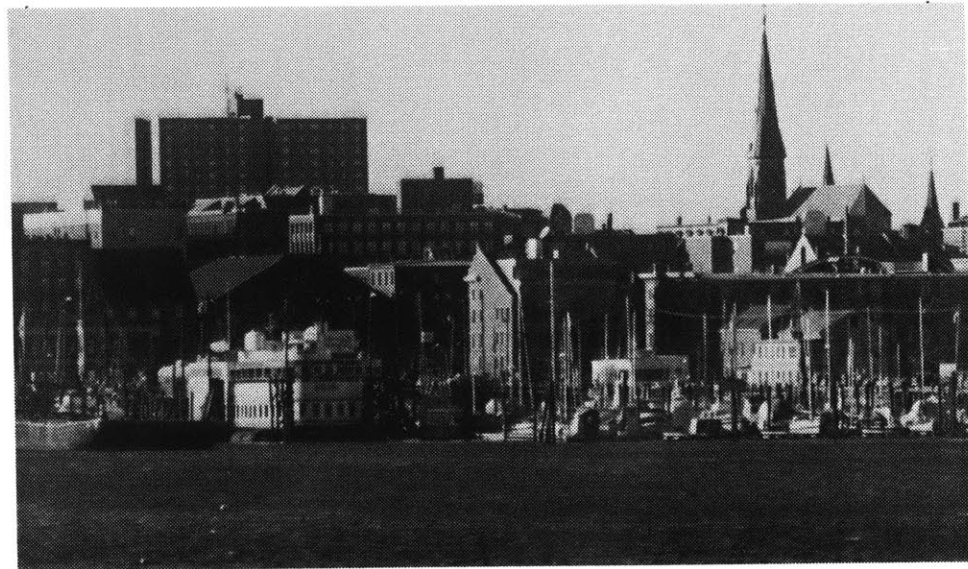
This map shows how the traditional downtown section located on a ridge is connected by roads and access to the historic Old Port District and the adjoining waterfront. My site is shaded.



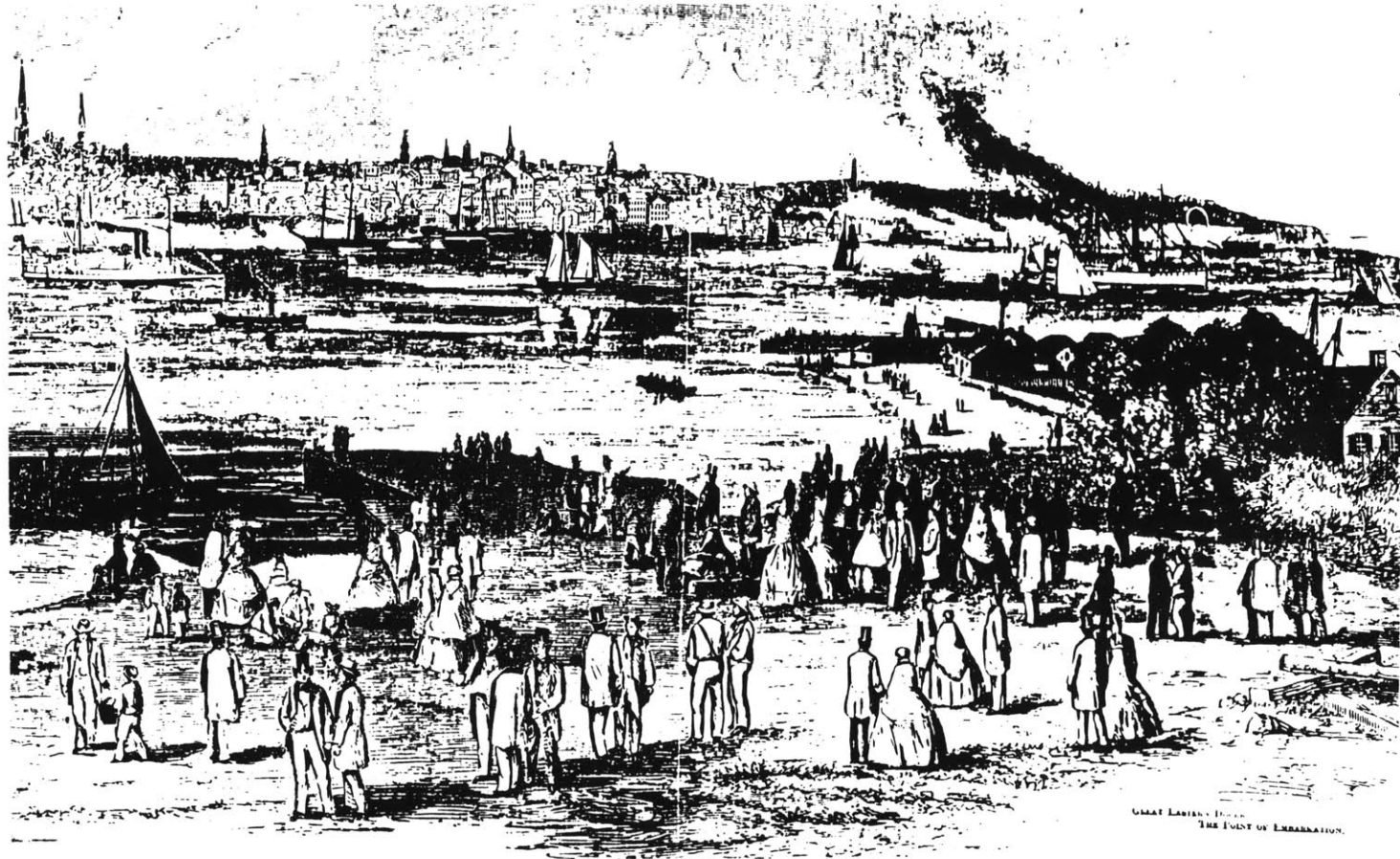
2.10

2.10
View of Portland's
waterfront from
South Portland.

2.11
Pocahontas Pier and
marina.



2.11



GREAT EASTERN DOCK
THE POINT OF DEPARTURE.

2.12

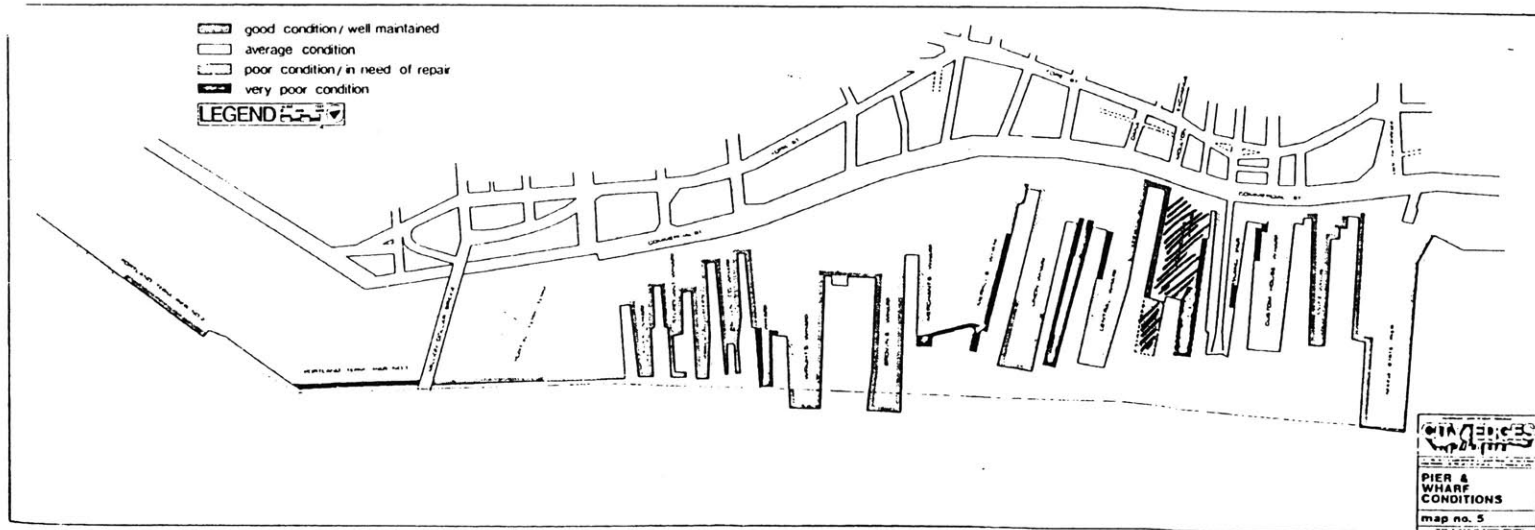
THE CITY OF PORTLAND, MAINE, ON THE OCCASION OF THE DEPARTURE OF THE PRINCE OF WALES, OCTOBER 20, 1860.

2.12

View of Portland
from South Portland
in 1860.

The section of the waterfront, including the Pocahontas pier, is centrally located along the waterfront and is adjacent to the southern part of the restored historic Old Port District. The lot measures 350 feet across along the Commercial Street frontage. It is zoned to be a possible 1000 feet long, but currently it consists of 500 feet of land fill used as a parking lot and 200 feet of wooden piers used for a small boat marina. (5) A floating restaurant is located at the marina.

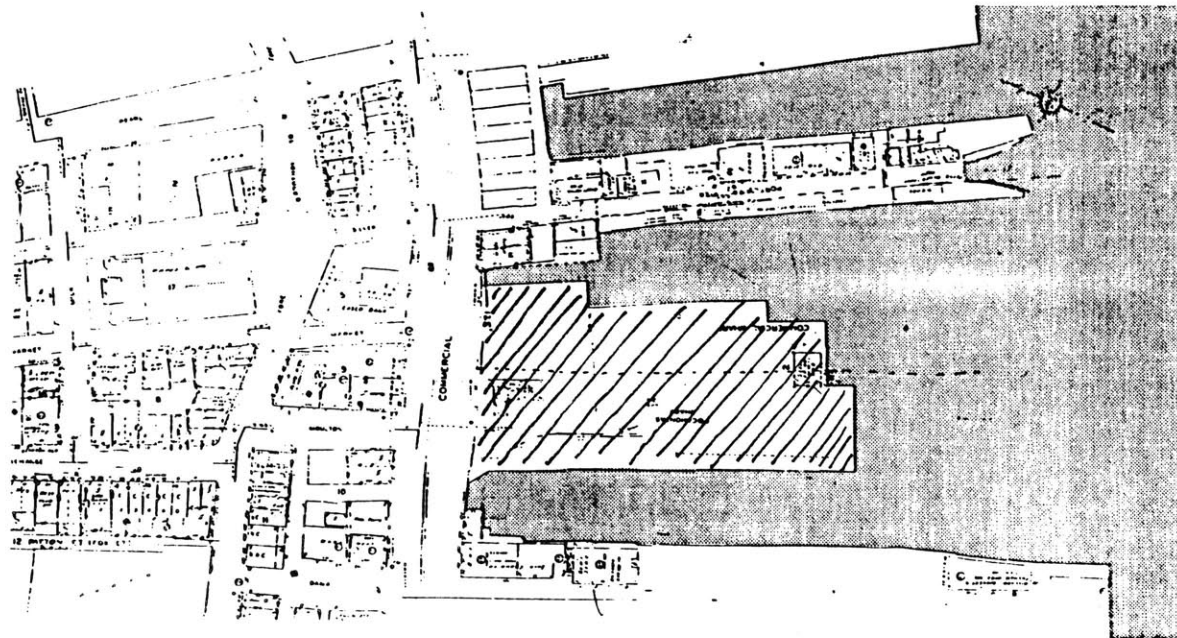
Schmidt, Portland, Maine's,
Historic Urban
Waterfront, 1981,
p. 24.



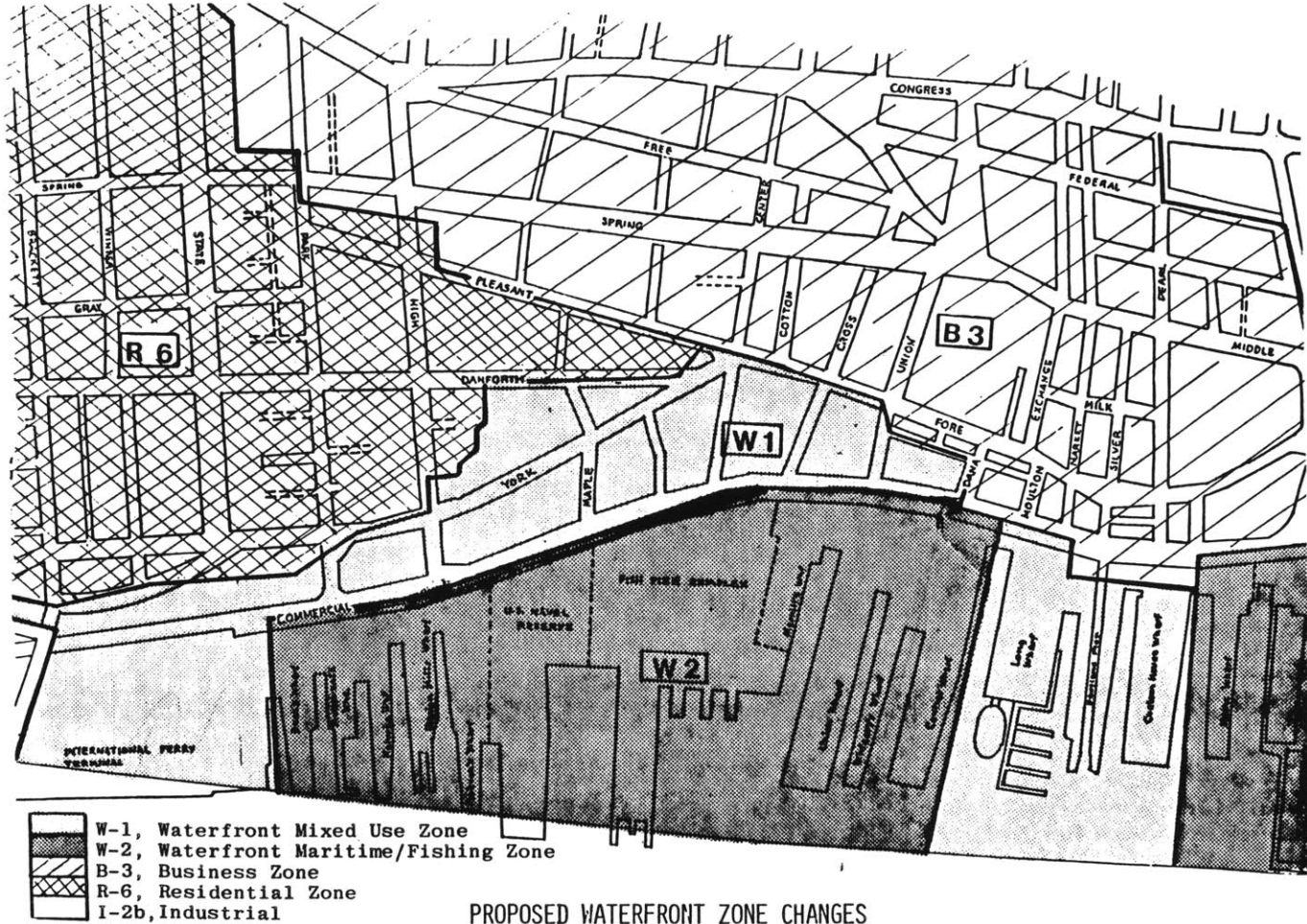
2.14

2.13
Map of Pocahontas Wharf.

2.14
Waterfront and adjacent blocks of the city.



2.13



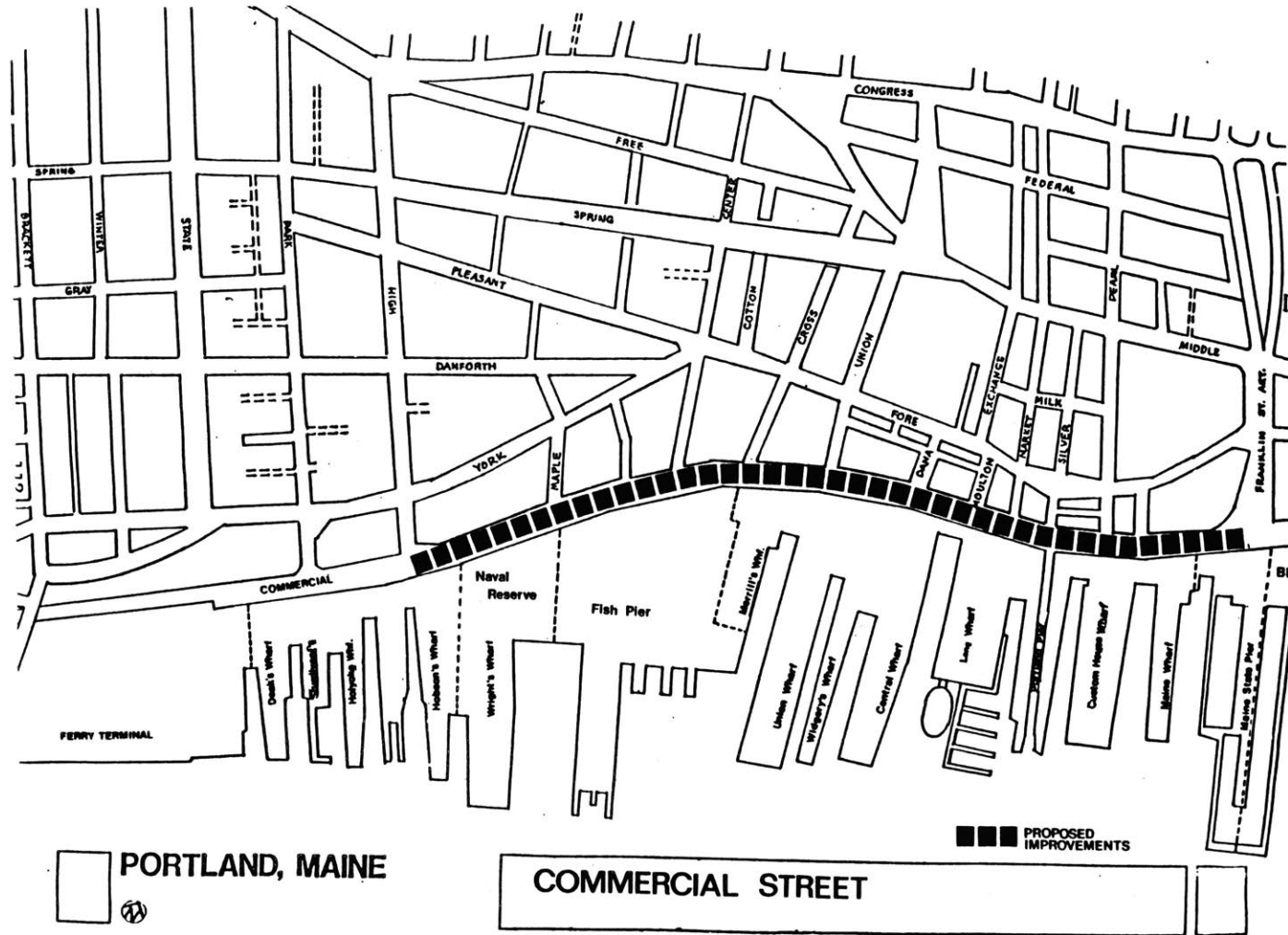
2.15

PROPOSED WATERFRONT ZONE CHANGES

2.15

Proposed zoning changes approved in 1983.

Before these new zoning ordinances were enacted in 1983, the entire waterfront was zoned as a mixed use district. The industrial uses that currently occupy the mixed use zone have the right to remain there.



2.16

PORTLAND, MAINE

COMMERCIAL STREET

2.16

Traffic and pedestrian amenities by the city are proposed for this section of Commercial St.



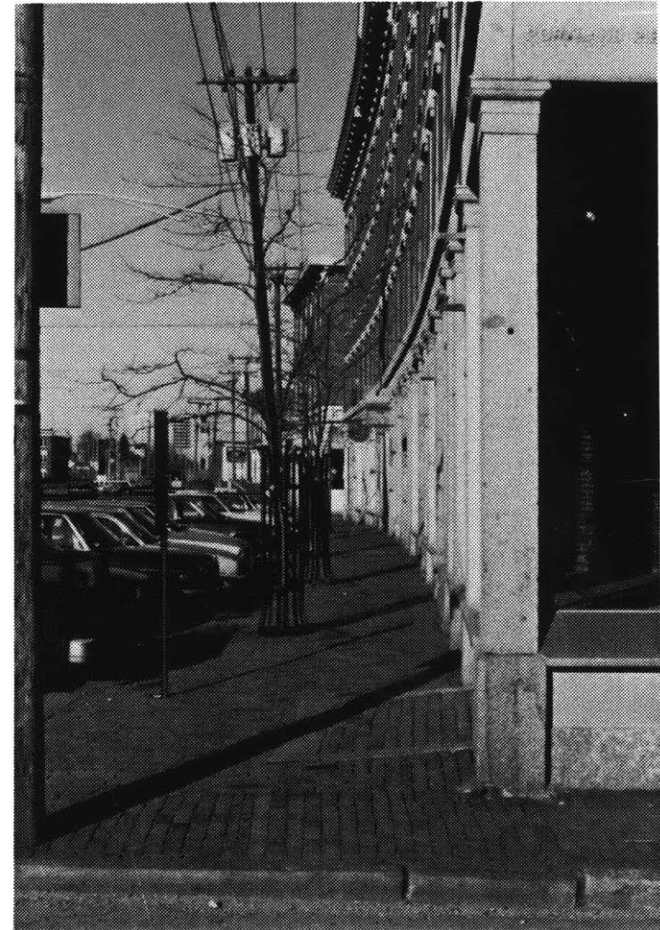
2.17

2.17

Looking east along Commercial St. with Pocahontas Pier in center of view.

2.18

Existing street conditions and dominant building patterns.



2.18

Commercial Street runs parallel to the water, and it consists of restored warehouse buildings that were originally used to service the maritime industries. A consistent pattern of 12 - 15 feet high first floors used by retail shops has been established. The upper floors house residential and commercial interests.

The top photograph shows a panorama of Commercial Street showing the different building types and mixed uses that currently exists. The crane in the Bath Iron Works Shipyard acts as a landmark for the street. Fore Street (bottom), is the major vehicular artery through the Old Port District. This secondary artery is one block north and it runs parallel to Commercial Street. It carries much of the traffic destined for south Portland over the Million Dollar Bridge. The Custom House tower on Fore Street acts as a landmark

2.19 for the pedestrian.

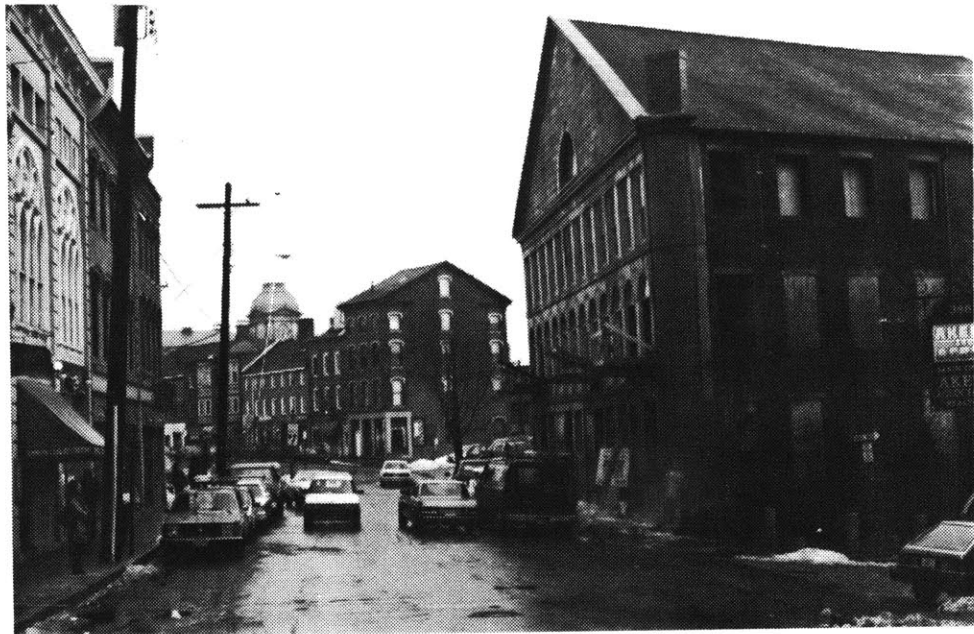
View down Commercial St. from the west.

2.20

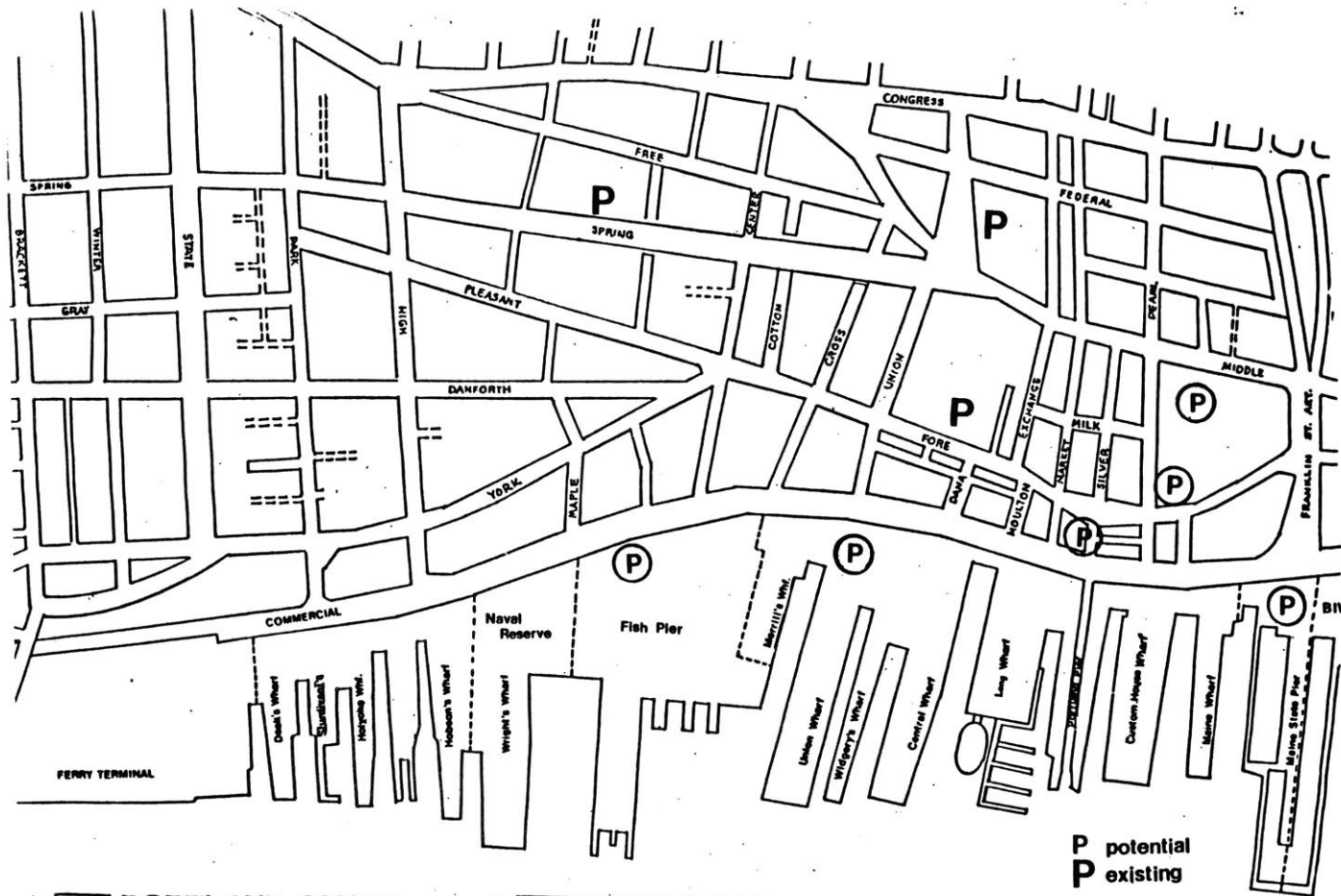
View of Fore St. from the west.



2.19



2.20



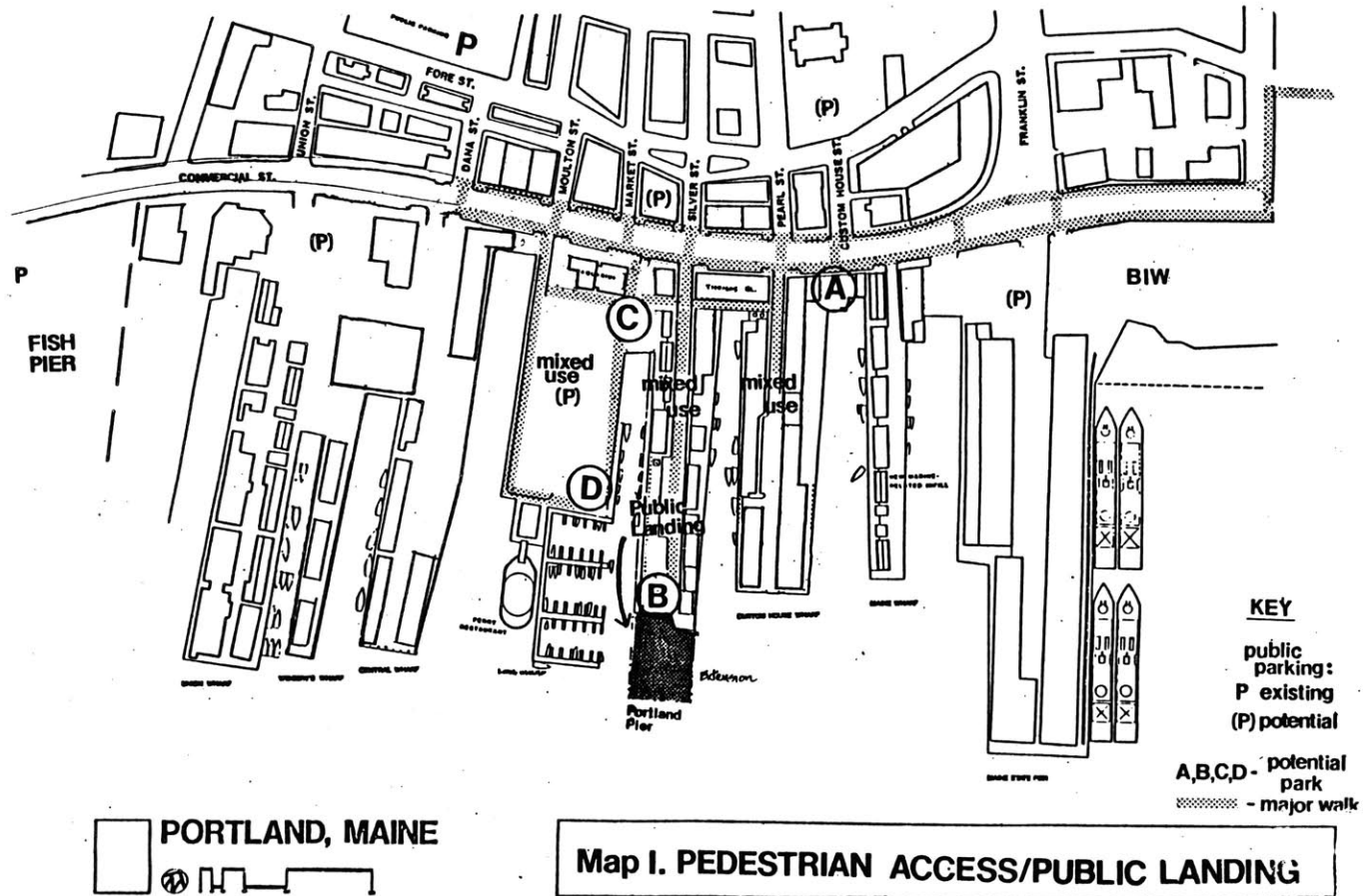
2.21

PORTLAND, MAINE

Parking - alternative sites

P potential
P existing

2.21
Existing and proposed
parking for the
area.



2.22

2.22

Existing pedestrian access to waterfront from Old Port District.

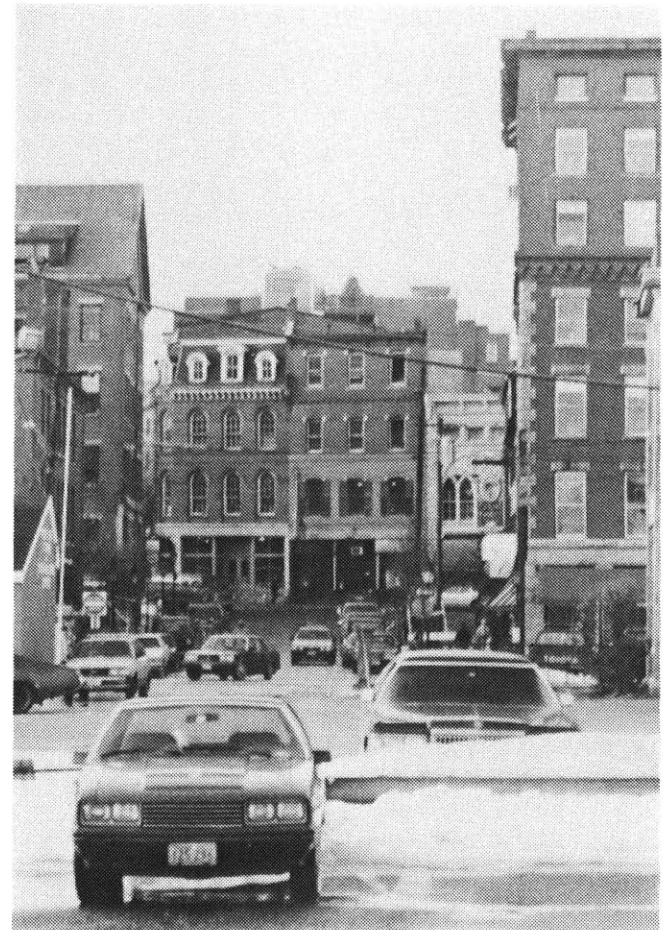
The map shows the proposed pedestrian linkages between the private and public activities along the waterfront. These paths have to incorporate vistas, visual corridors, destinations, and focal points such as towers. The map also shows the open park proposals that should be linked by these paths. The prevailing winds come in off the water so protected rides have to be provided in these open areas.



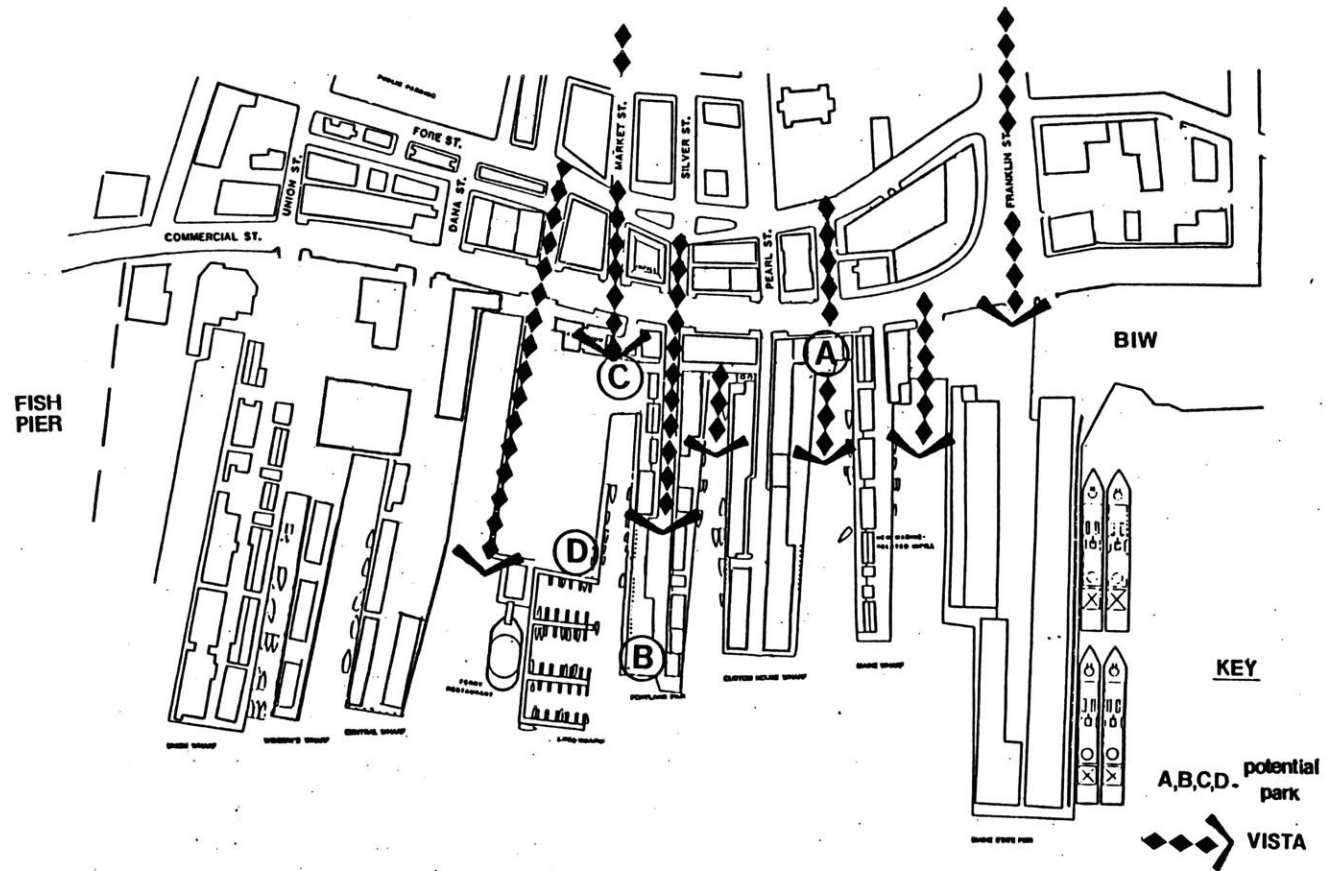
2.23

2.23
View of Pocahontas
Pier from Moulton St.
the main pedestrian
access from downtown.

2.24
View from pier toward
Moulton St.



2.24



2.25

PORTLAND, MAINE

Map II. OPEN SPACE

2.25

Major views to the harbor.

The city wants the visual access to the harbor maintained.



2.26

2.26

View of site from
the northeast.



2.27

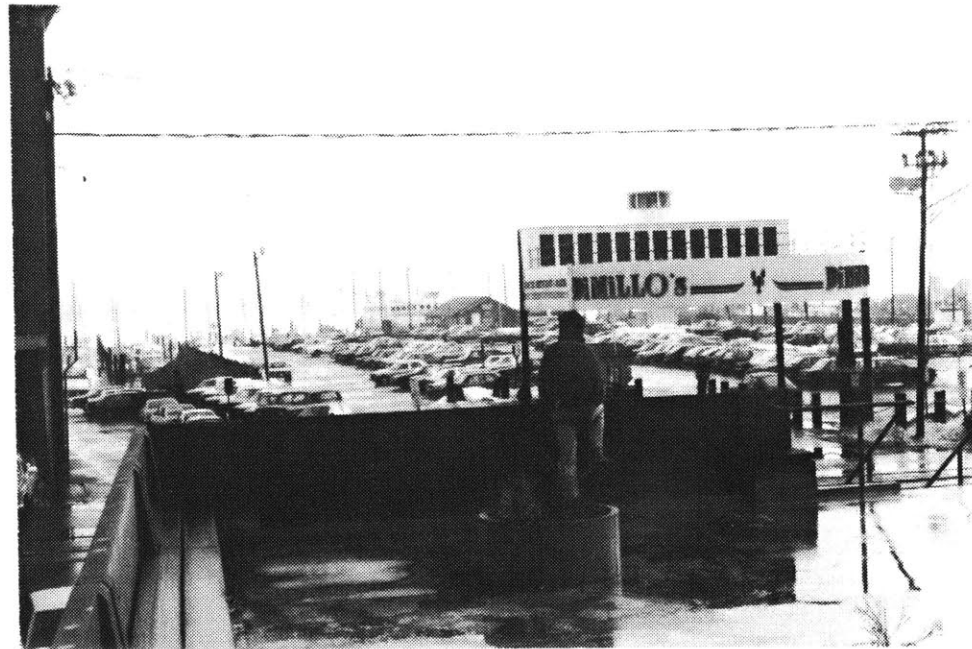
2.27

View of site from
corner of Market and
Fore St.'s.

2.28

View of site from
across Commercial St.

2.28



There currently exists a rich mixture of mixed uses along the waterfront area zones as mixed use district. The Custom House Wharf, which is two wharves to the east of my site contains both fishing industry, restaurants, and the ferry slips for the local island ferries. I propose that a pedestrian walkway be established parallel to Commercial Street and along the water's edge that will connect the four wharves zoned for mixed use.

2.29



2.29

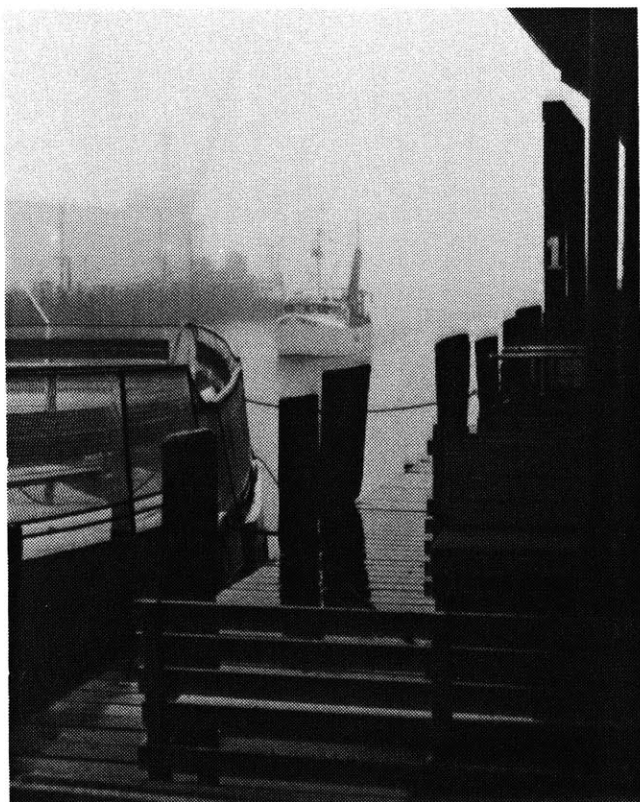
Fishing industry concerns on eastern half of Custom House Wharf.

2.30

Existing ferry dock on Custom House Wharf.

2.30





2.32

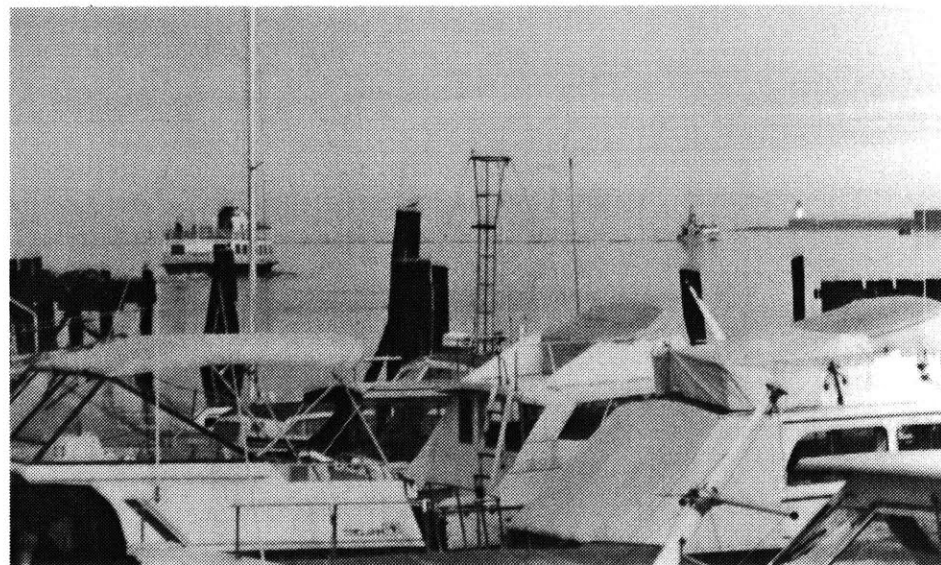
2.32

Ferry arriving at ferry
dock on Custom House
Wharf.



2.31

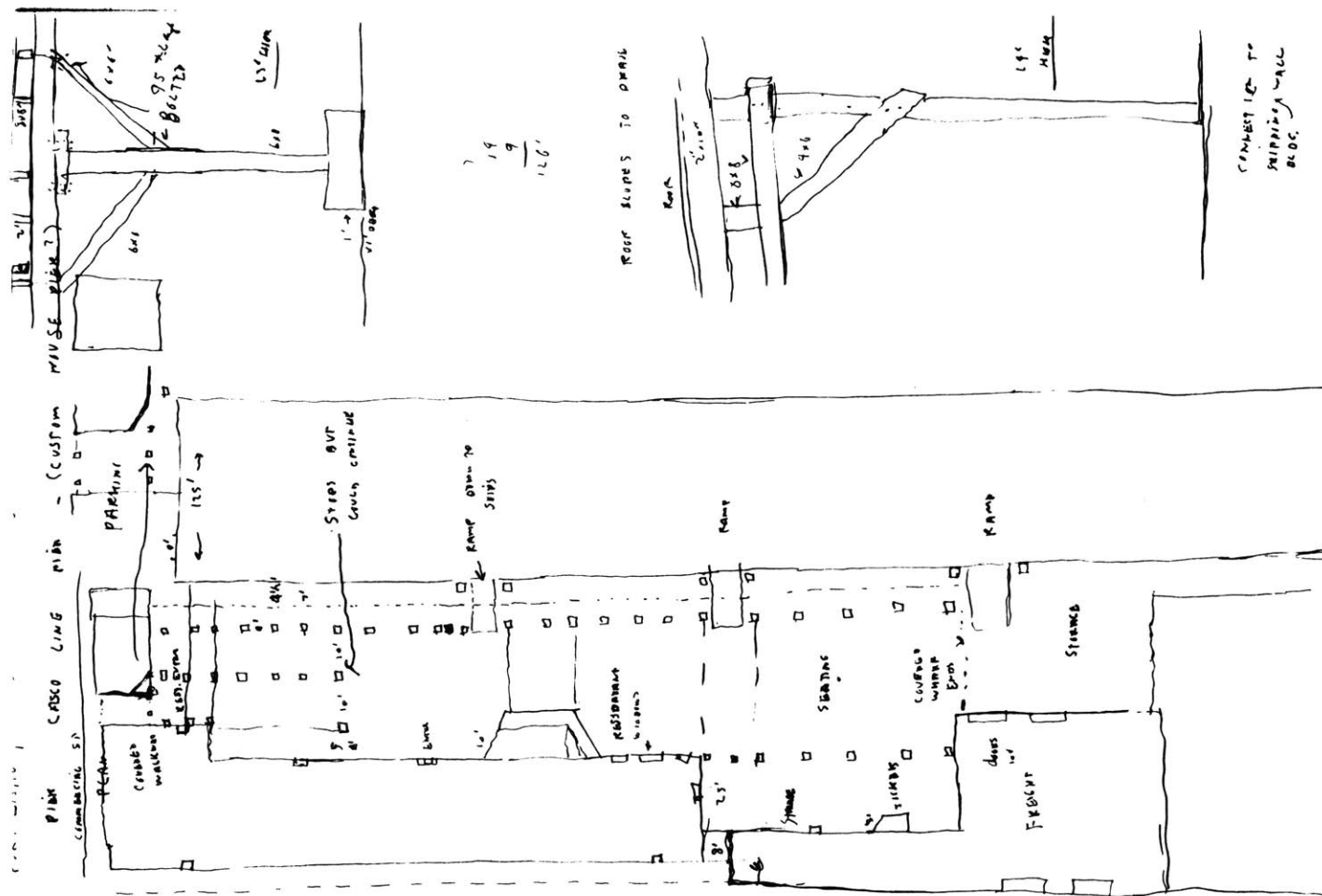
2.31
Passenger arrival area
of ferry dock.



2.33
Ferry leaving water-
front for harbor
islands.

2.33

2.34



2.34

Field studies of
ferry landing. Cust-
om House Pier.

The adjacent Portland Pier contains a mixture of mixed use activities. The pier is in disrepair and currently little is being done to it until the issue of what large mixed use development will occur on it is resolved. Access from the water both to it and the Pocahontas Pier where a marina is currently located has to be maintained.

I also believe that there has to be visual access from the harbor to the city to complete the continuum.

2.35

Toward Pocahontas Pier and Old Port District from Portland Pier.

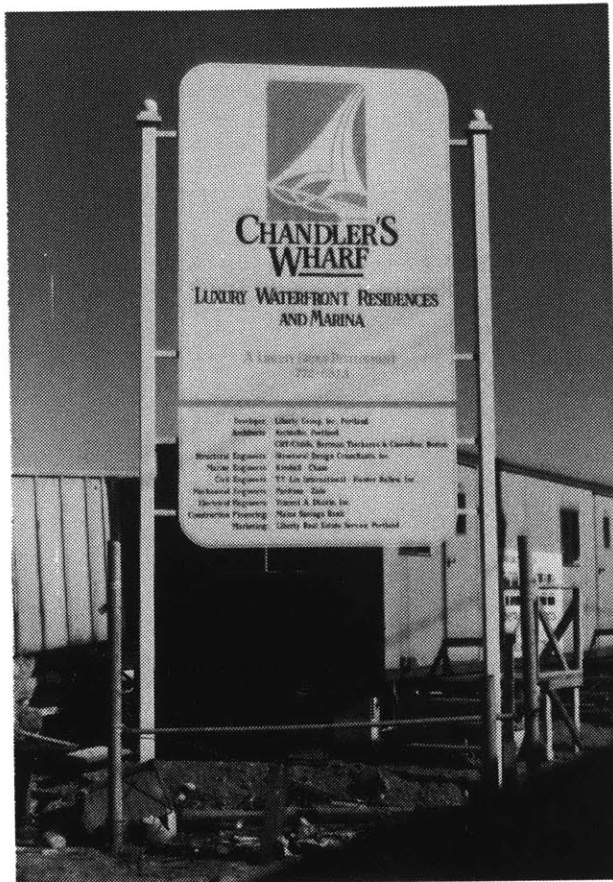
2.36

Toward Portland Pier.

2.35



2.36



2.37



2.38

2.38

Condominium development on adjacent Central Wharf.

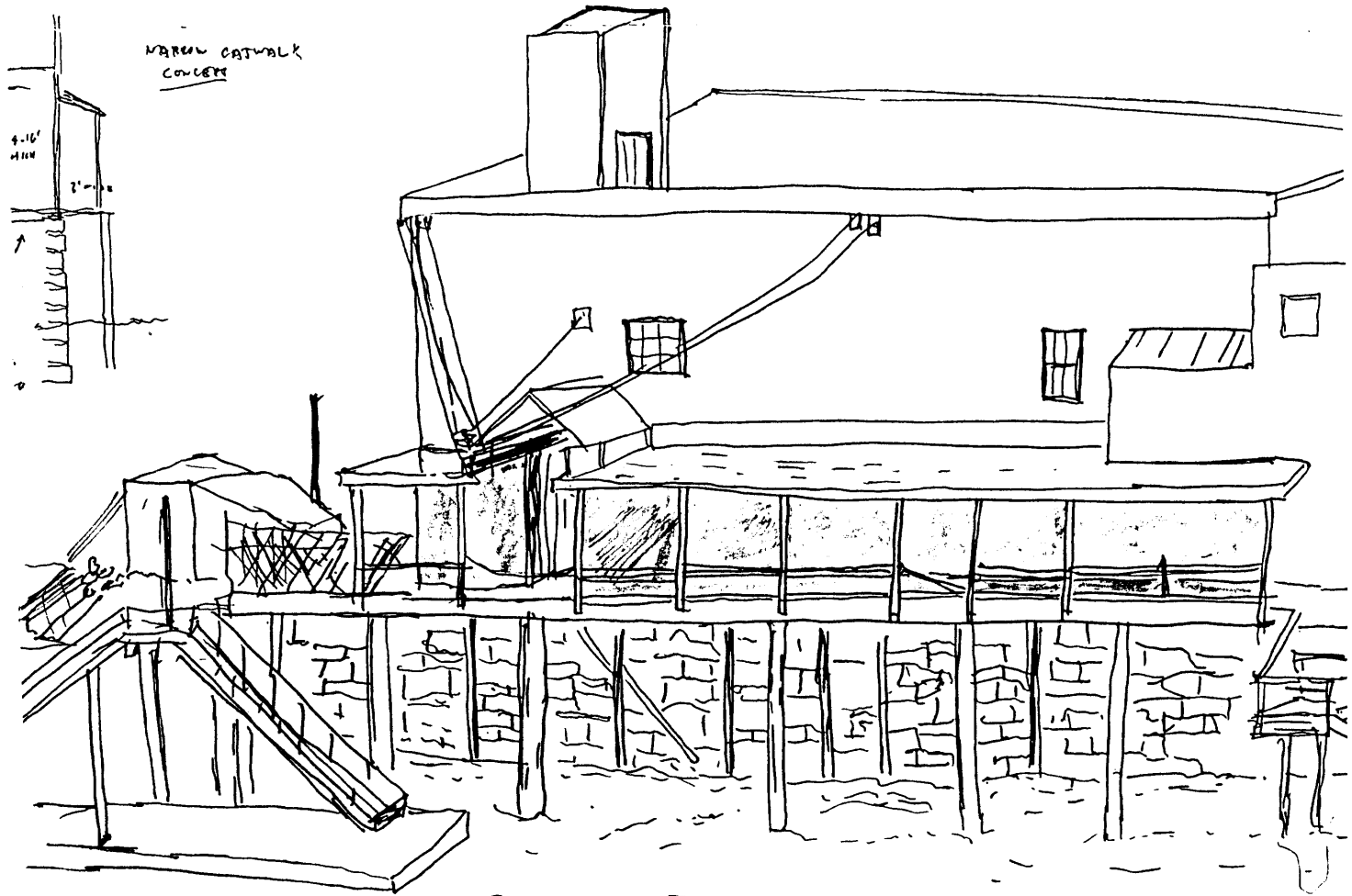
2.37

Pocahontas and Central Wharves.

2.39

Pedestrian walkway on Pocahontas Wharf.

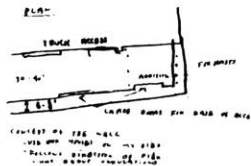
2.39



2.40
Field sketch of fish-
ing concerns on
Central Wharf.



STRUCTURES ALONG PIER PORTLAND
 - FORM WALL ON BENTON
 - 03 PIER
 - ALONG CURVE OF SHIP
 - STRUCTURES ON LAND
 - PORTLAND BRIDGE



2.42



2.41

2.41

End of Portland Pier.

2.42

End of Maine Pier.

2.43

End of Custom House
 Pier.

2.43



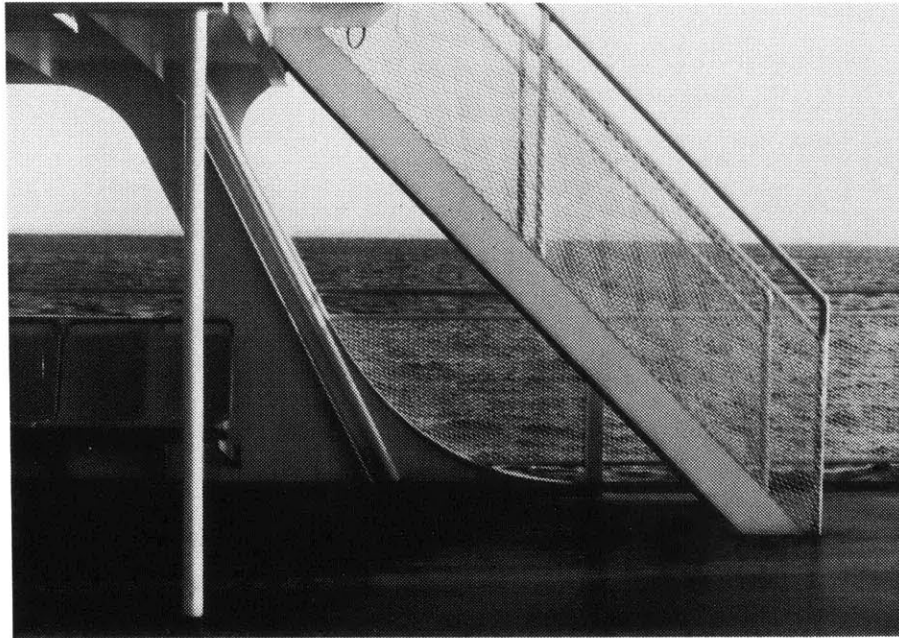
Design Process

This thesis is a story of a series of design explorations that built upon the previous concept and built form. A strategy was developed of how to incorporate the design references into the spirit of the new project. Each scheme added to these associations.

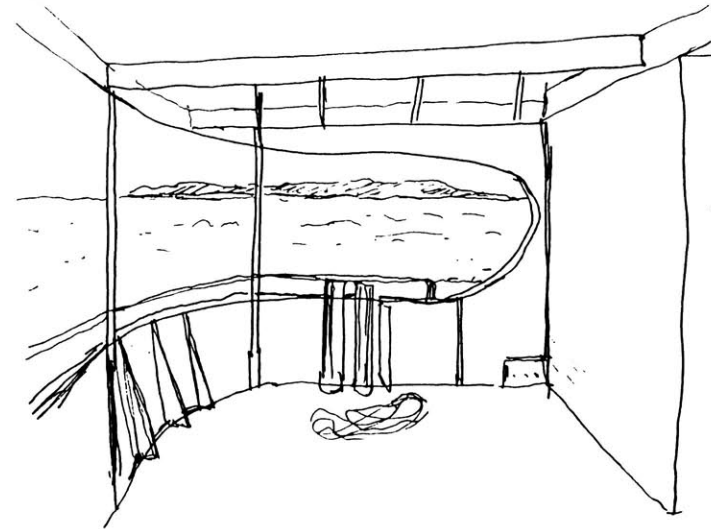
Architecture is based on human needs and dimensions, and these needs are expressed in three dimensional space. This space can evolve into a functional form of art. The arrangement of forms and shapes evoke emotions and there is a realization of spirit of place and order. It is the shaping of primary forms that allow us to see light. Mass and surfaces are the elements with which architecture manifests itself. This mass and surface are determined by the plan and section. The plan is the main generator, because without one there is a lack of order. The plan is what generates the masses, volumes, and surfaces. Architecture has nothing to do with the game of styles. The abstraction of built forms rising from the program, functions, and aspirations, is of the highest calling. A field arrangement of generic continuities of built forms extending across the landscape is a depressing denial of an essential modern architecture.

The following pages will illustrate different explorations, references, and attitudes that affected the final forms of the project. The semester has been an exploration of three dimensional forms that can best be seen in model form. These models were generated by plans, sections, and program requirements. They are illustrative of the search for a "new space" and design vocabulary.

All of the models were built in 1" = 30' scale. The model construction process allowed for derivations from the original site plan. Sometimes a specific exploration was carried out on a part of the model, and it did not necessarily relate to the rest of the mode. There were basic themes and forms that appeared throughout th process and were culminated in the last model. There is still a need to do refinements to the last scheme to reflect the changes brought by larger scale design investigations.



3.1



3.2

This thesis examines how one observes and references from the environment. How and what does one learn from the world around us.

3.1, 3.2

Screened and focused views from a boat.

3.3

Screened views from land to the water, and boats as objects aiding depth perception.



3.3

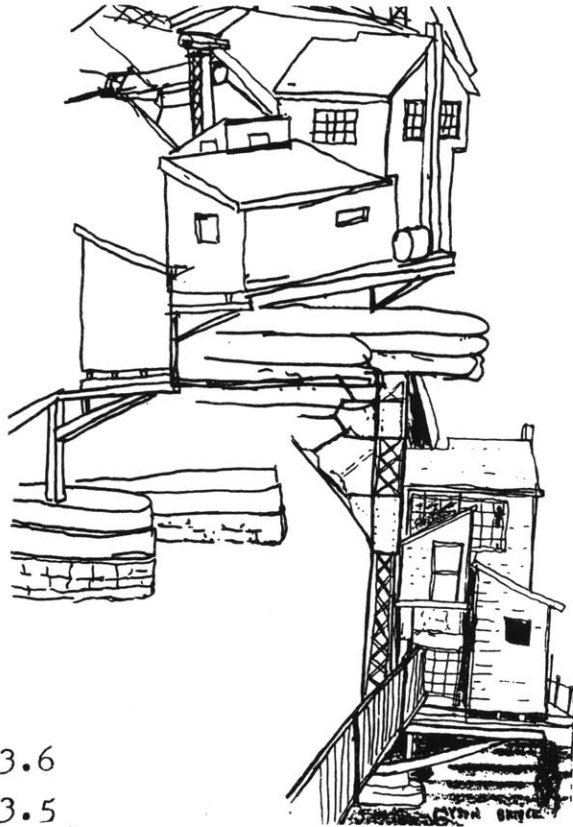


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Page 47



3.6

3.5

South Boston industrial waterfront used for a design reference.

3.4

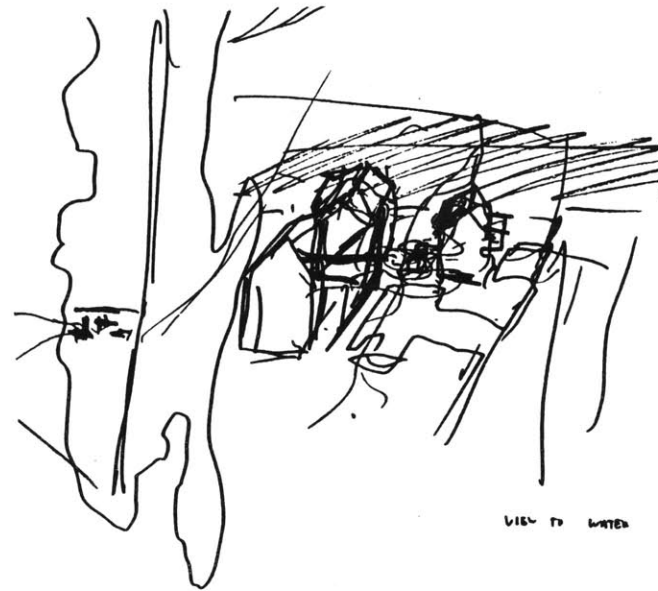
Sketch shows orientation of houses on the drumlins in Casco Bay.

3.6

Structure and houses of the Mystic, Connecticut, drawbridge.



3.5



VIEW TO WATER

3.4

The first scheme was an initial intuitive response to the site, context, and stated program needs. It was the first exploration of the concept of a "new space".

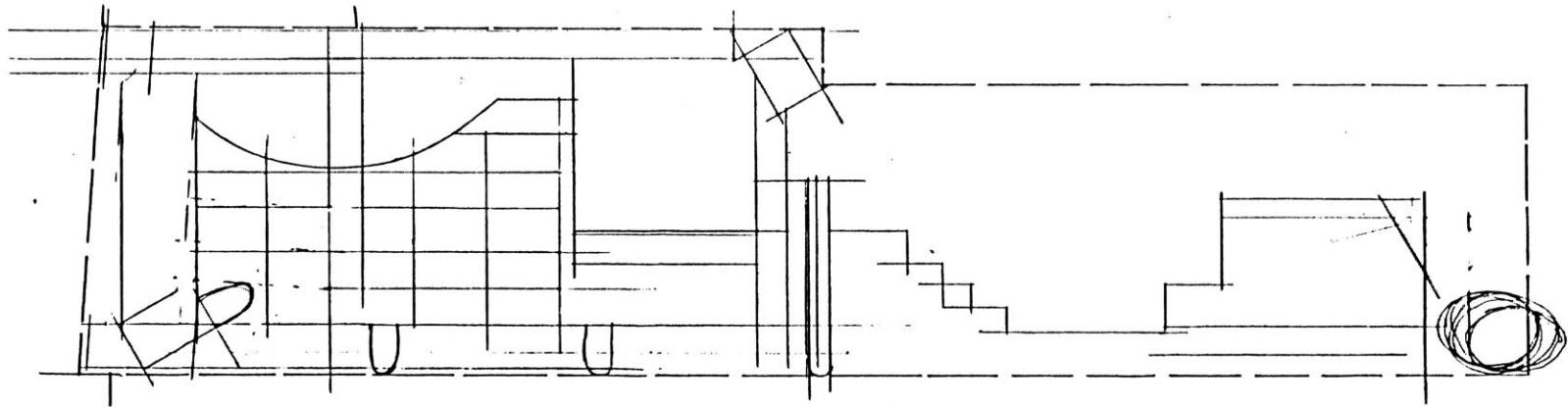
The emphasis of the first scheme was how houses should be orientated to the water and other public spaces. The houses were built in long rows in response to the straight western edge of the site. The first floor was parking and retail shops along the outer edges. Different sized courtyards were separated from the public domain for the private use of the residents. The houses also responded to the interplay of the light and shadow along the pier. The structural system of the piers would be repeated in a more abstract manner in an effort to focus and direct the light.

The western edge of the pier is straight and extends the furthest out into the harbor. The major pedestrian street from the down town district terminates on this edge. A promenade on the water will extend this path to the sea. The curved courtyard on the eastern edge of the site is where the walkways from the other piers and the city intersects the site. These moves reinforce a theme of connections that is being developed for the project work.

The 125 foot tower on the Commercial Street frontage was placed to act as a gate and hinge point for the street activities. The structure was expressed in response to the industrial references that had been studied. This large structural system introduces the structural theme of the site to the person

on the street. There are walkways under the tower to the residences and to the promenade. The tower is a medium sized hotel with meeting and conference facilities.

The bridge spans over an inner harbor with an open marketplace along its edge. Houses are suspended under the bridge structure. It terminates in an observation and restaurant tower. There is a requirement for more open space at its base for it to be a park. The towers and bridge are the landmarks and orientation points for the users and residents of the pier.



3.7

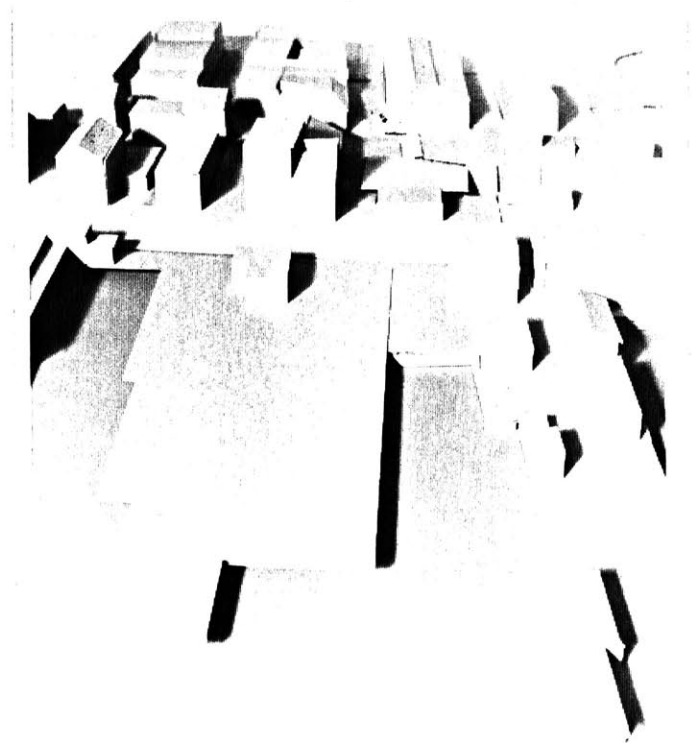
The western edge of the Pocahontas Pier extends the furthest out to the sea, and it will be developed as a "walkway to the sea." The curved courtyard is where the pedestrian access from the Portland Pier intersects the site.

3.7

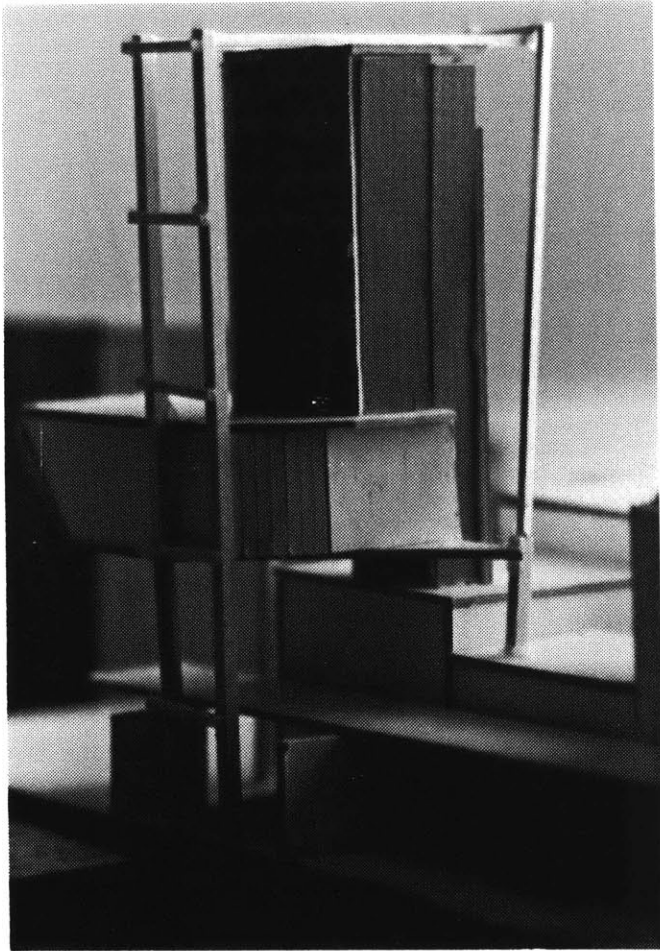
Site plan for the first scheme.

3.8

Model base shows Old Port District, Portland Pier, and the Pocahontas Pier.

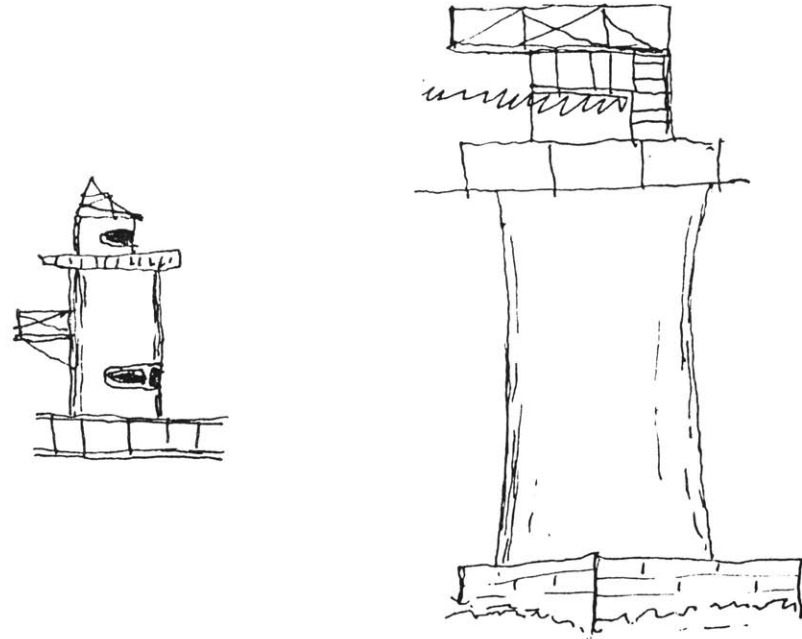


3.8



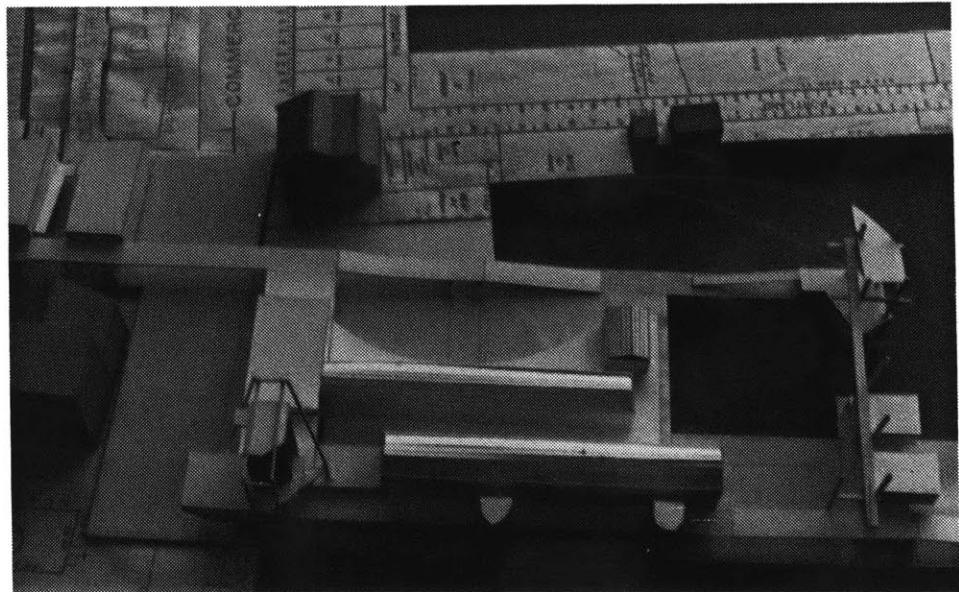
3.9
Tower from Chandlers
Wharf.

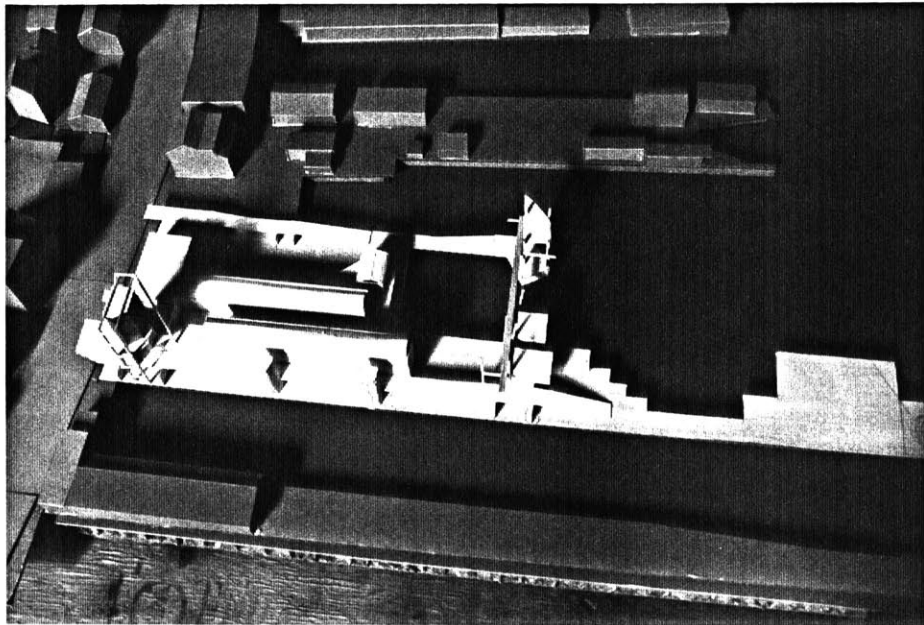
3.9



3.10
Aerial view of court-
yards, promenade, and
inner harbor.

3.10





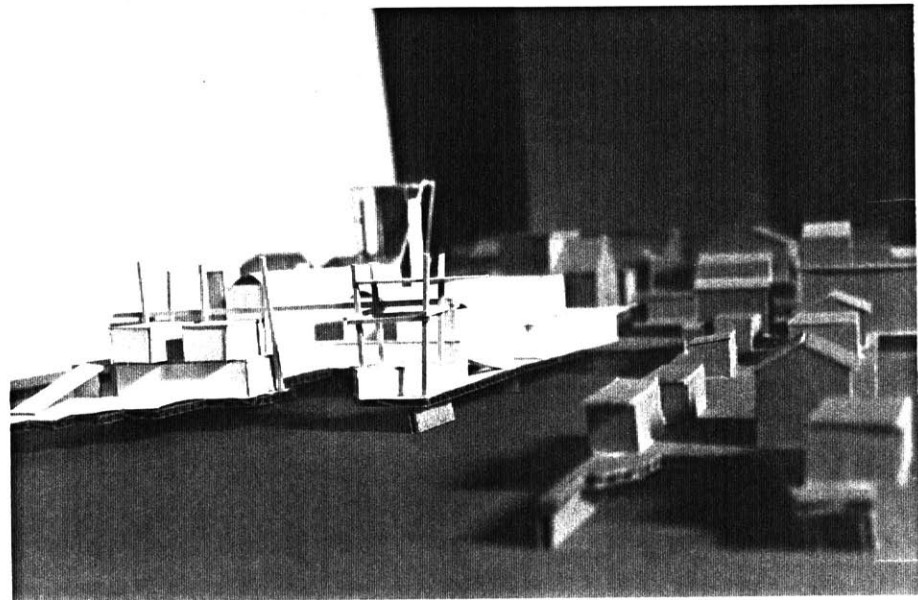
Model shows the bridge built across the proposed inner public orientated harbor. This scheme establishes a language of towers that denote important points of habitation and embarkation.

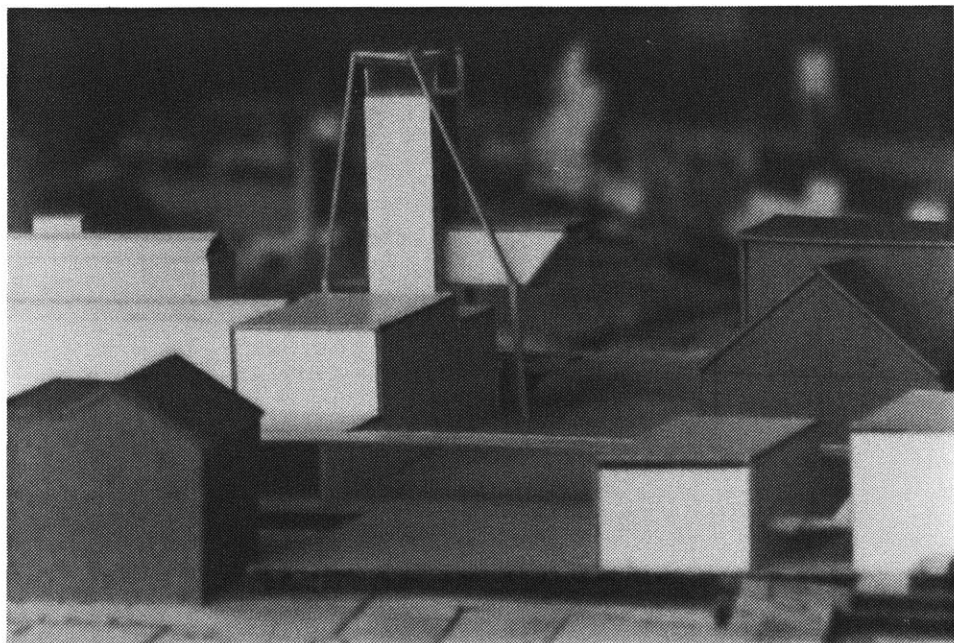
3.11

3.11
Aerial view of scheme.

3.12
Popeye's view of the pier.

3.12

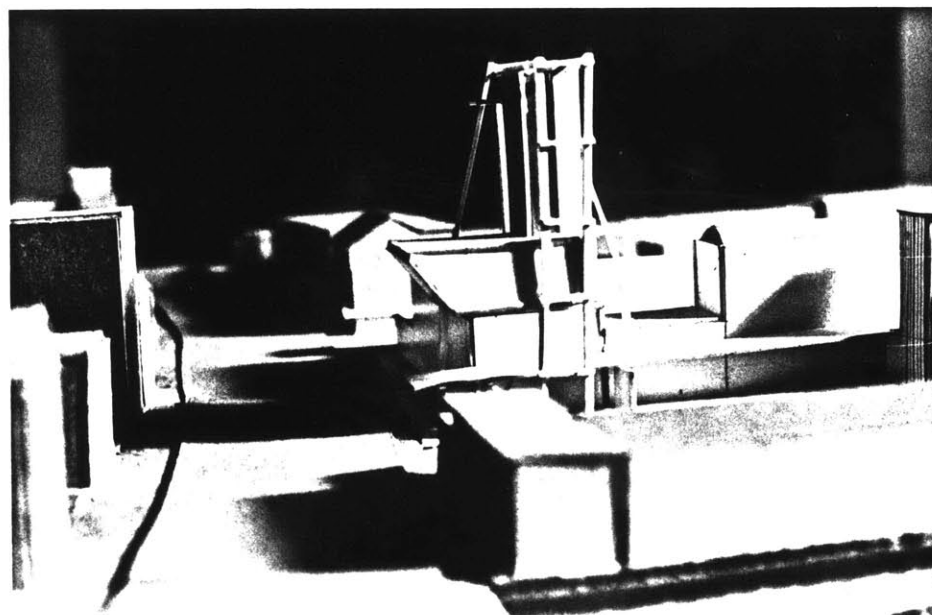




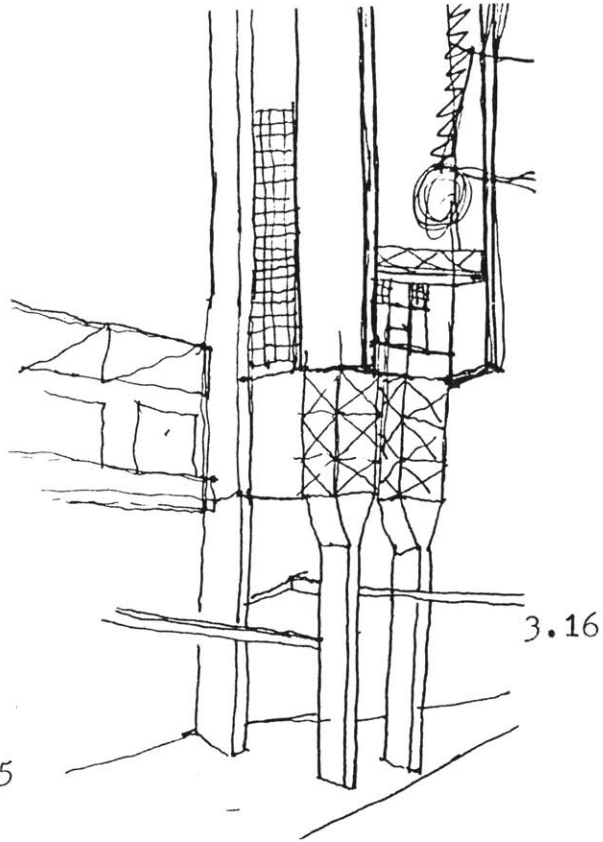
3.13

3.13
Tower and Commercial
St. from the east.

3.14
Tower and Commercial
St. from the west.

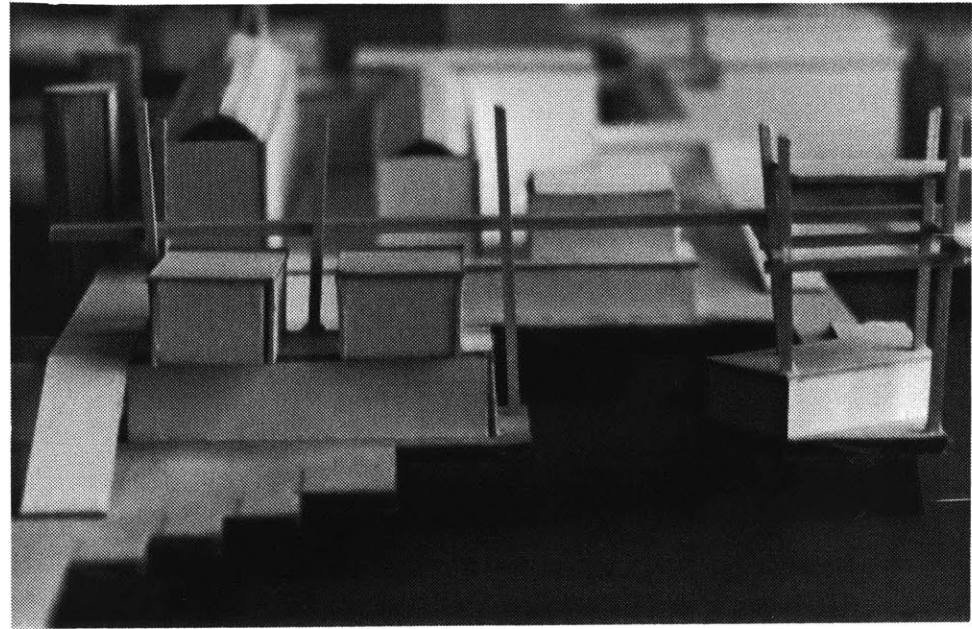


3.14



3.15

3.15
Early diagrammatic
sketch of tower.



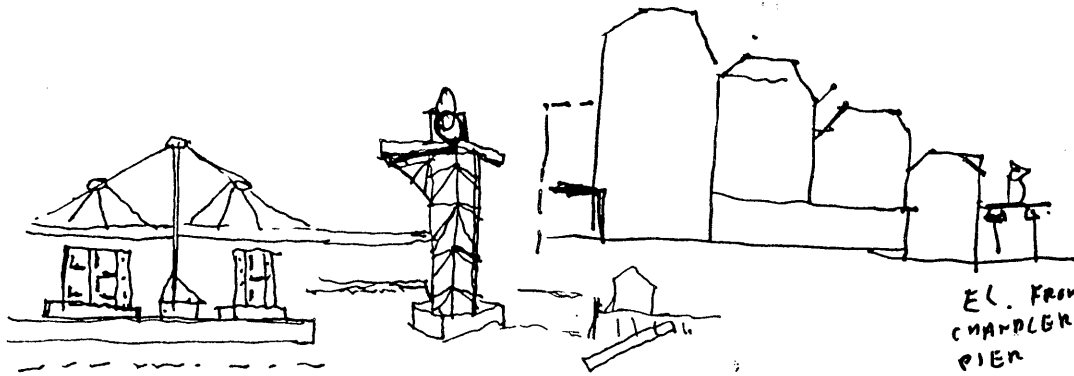
3.16

3.16
Bridge across site
enclosing an inner
harbor.



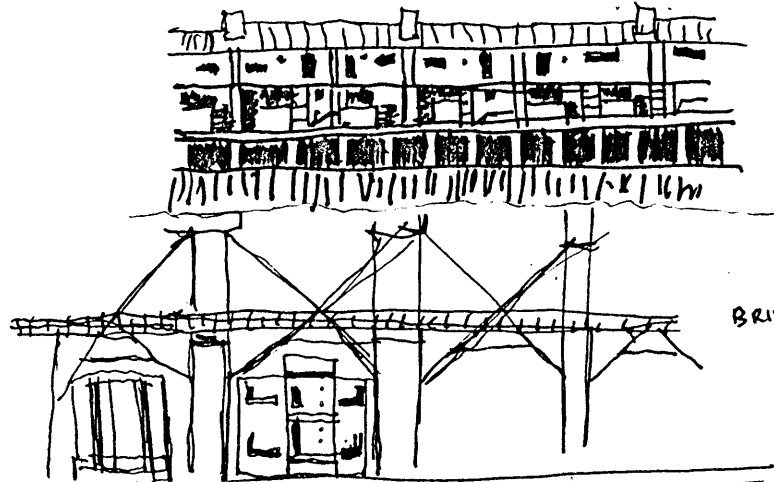
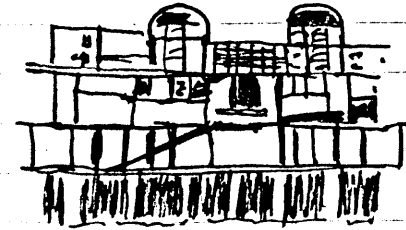
3.17

3.17
South Boston water-
front used as a
reference.



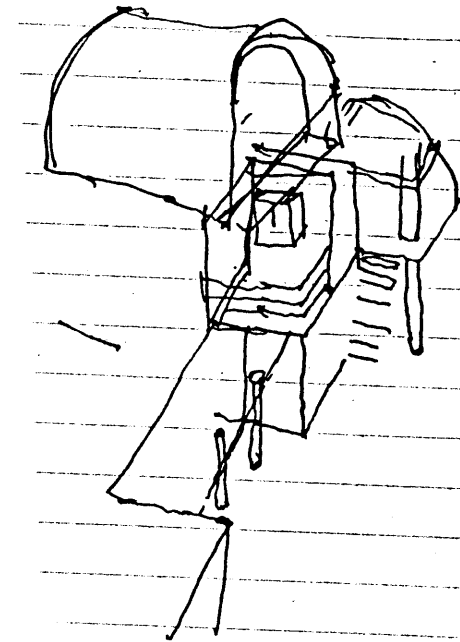
EL. FROM
CHANDLER
PIER

USE TRADITIONAL
FORMS IN NEW
LANGUAGE



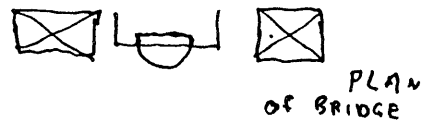
BRIDGE TO TOWER

ABSTRACTIONS OF BLACK/WHITE
WALL OF HOUSES



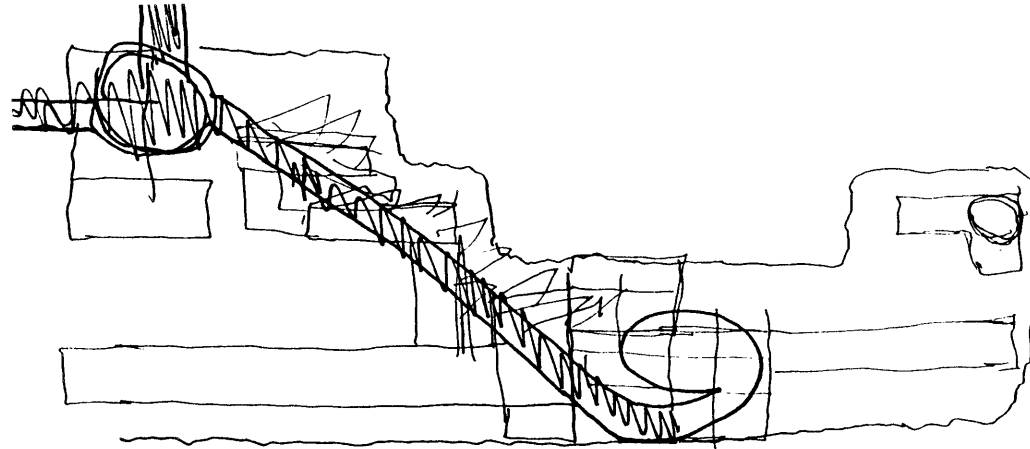
3.18

Sketches of bridge,
tower, and house
concepts.



PLAN
OF BRIDGE

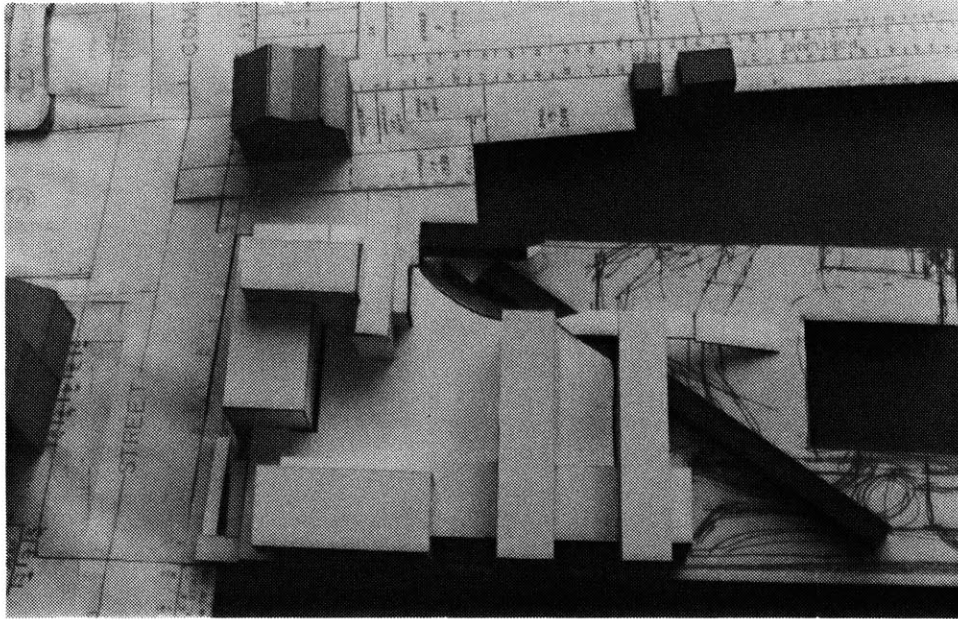
3.19



3.19

Site plan of second scheme.

The second scheme investigates courtyards and methods of access through the site. It involved an experiment of a method to bring people through the site via a constructed walkway, but it evolved into too dramatic and singular of a form. Instead, it was more plausible to assume that whatever public walkways through the site would connect a series of squares and plazas with different sizes and orientation. The large courtyard one level above the street level with orientation either toward the street or water. The dimensional sizes of these courtyards would have to be refined in order for them to be more functional. A large courtyard 130 - 150 feet across works well for one used for city marketplace activities. A smaller one would be more utilized nearer the water.



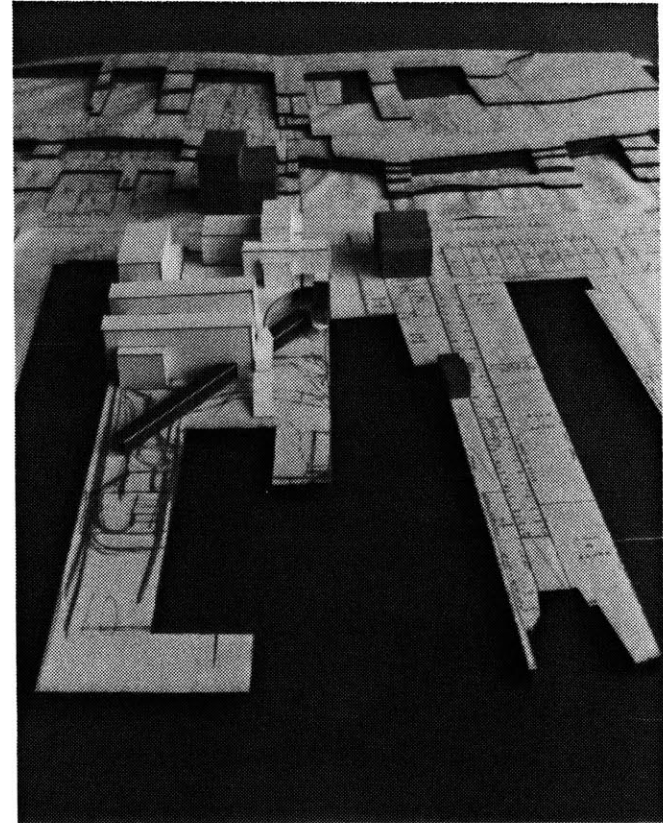
3.20

3.20

Aerial view of second
scheme from the
harbor.

3.21

Aerial view of houses,
walkway, and court-
yards.

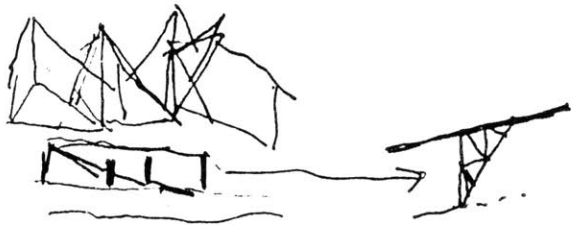


3.21

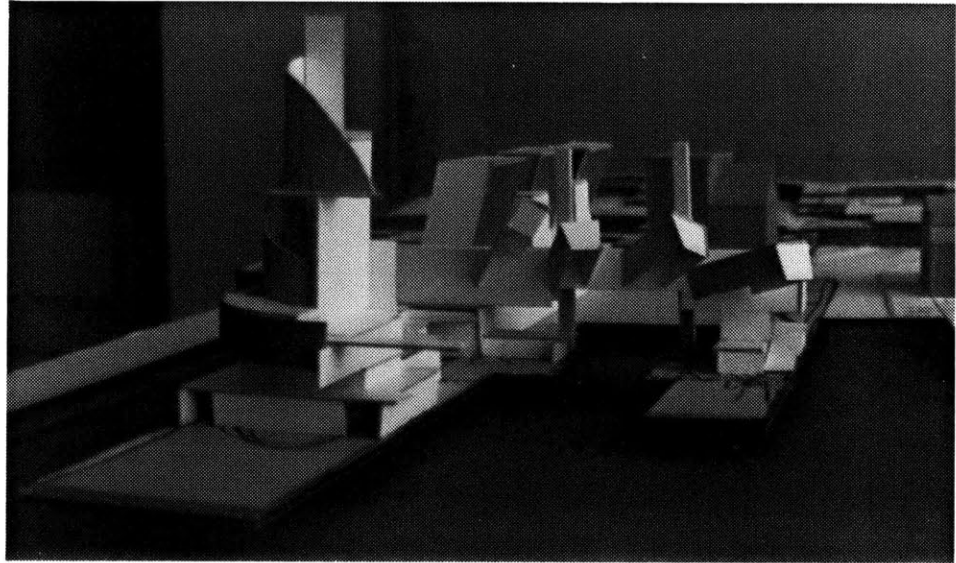
The third scheme is the basis for the more detailed schemes that follow. The basic diagram has now been developed. A bridge inhabited with houses spans over an inner harbor. There is a tower used as a restaurant, for retail shops, and observation at the end of the promenade along the western edge of the pier. There are intentions to create a marketplace at the as yet undefined edge of the inner harbor. The direct access route through the site was not developed.



SAIL UNDER SAILS
OF HOUSES

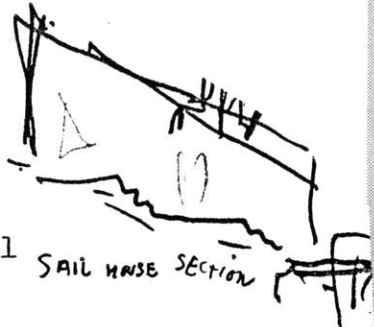


3.23



3.22
Sketches of "sail
houses" concept.

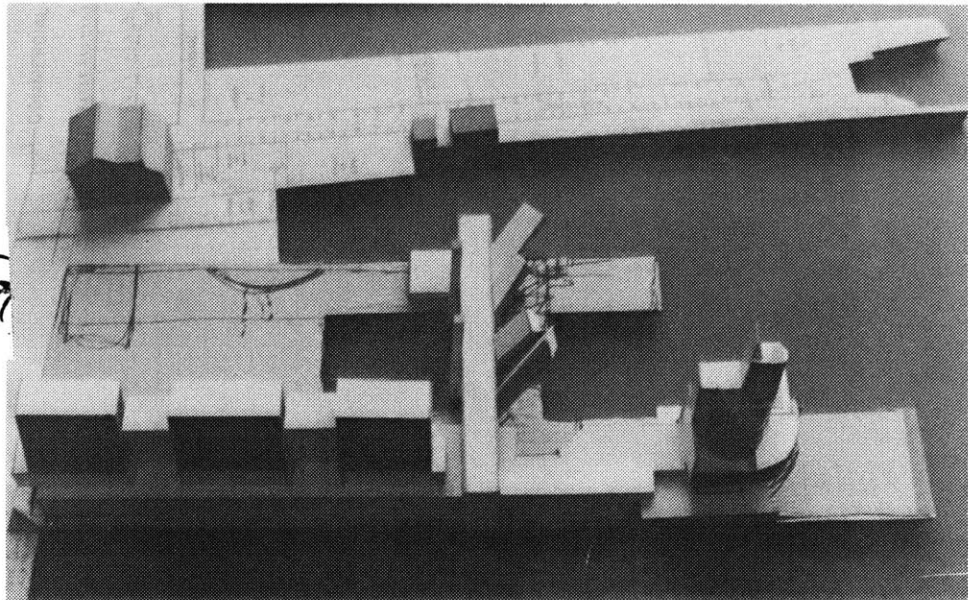
SAIL HOUSE SECTION



3.23
View of pier from
harbor.

3.24
Aerial view of the
third scheme.

3.24



This fourth scheme was a breakthrough in the process for the design of the sight. A hierarchy between street activities, plazas, waterfront activities, and the residential spaces began to take form. The basic overall site plan and massing for the site has been established.

The form, orientation, and use of the tower and the concept of an inner harbor within the site bridged with houses are the two most important aspects of the scheme. The tower is programmed to be a hotel and conference center. It has been moved to the eastern edge of the site to reinforce a pedestrian pathway from the city and to orientate the mixed use district of the waterfront. The lower third of the tower is open and exposed to allow for direct views to the water and for the melding of three different access and circulation systems. The main areas for the conferences, meetings, and restaurants are located in the center of the tower and the guest rooms are above. The tower also begins to establish the plaza behind the first row of businesses and retail uses, but it also acts as a transition from the city to the water and for indirect pedestrian access along the water and parallel to Commercial Street. The structure was expressed in order to introduce the pedestrian at the streets to the structural systems of the pier.

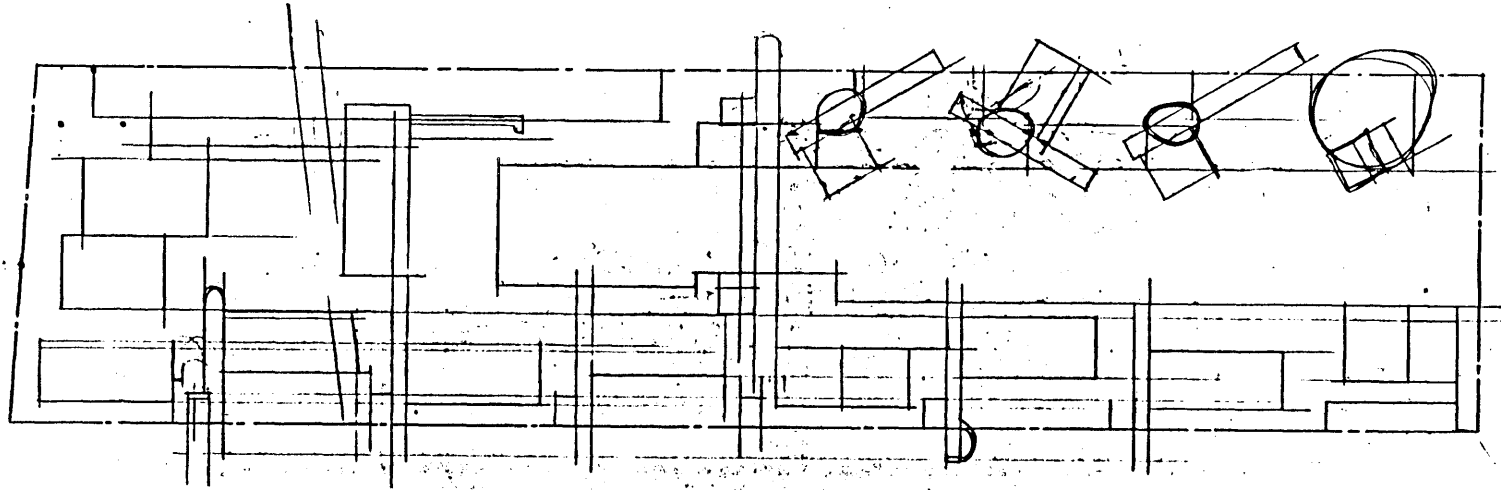
The bridge acts as a gateway from the bay into a protected inner harbor that can serve as a meeting area and a marketplace. The houses are a direct response to efforts to inhabit these constructed structural systems in an elegant, functional manner, and respond to the prevalent forms in the harbor. The structure is a visual effort to coordinate and give the project an overall theme. Architecture is a three dimensional form of art, and this is

an effort to bridge the gap between function and art in an abstract manner. The bridge is a visual guide post on this long pier for the orientation of the resident and pedestrian. The thousand foot length of the pier has to be subdivided into physical and psychological increments of 300 - 400 feet so as to not overwhelm the user.

The site plan still allows for a direct walk along the water's edge, but now the built edge is not as well defined. This allows for more diagonal vies across the pier. It allows for easier access to the inner harbor, but the private spaces of the residents have to be physically defined. The promenade is a grand public gesture, while the inner harbor beyond the bridge is orientated more toward the residents. A general vocabulary for access that been defined, but it still has to be applied to the specific.

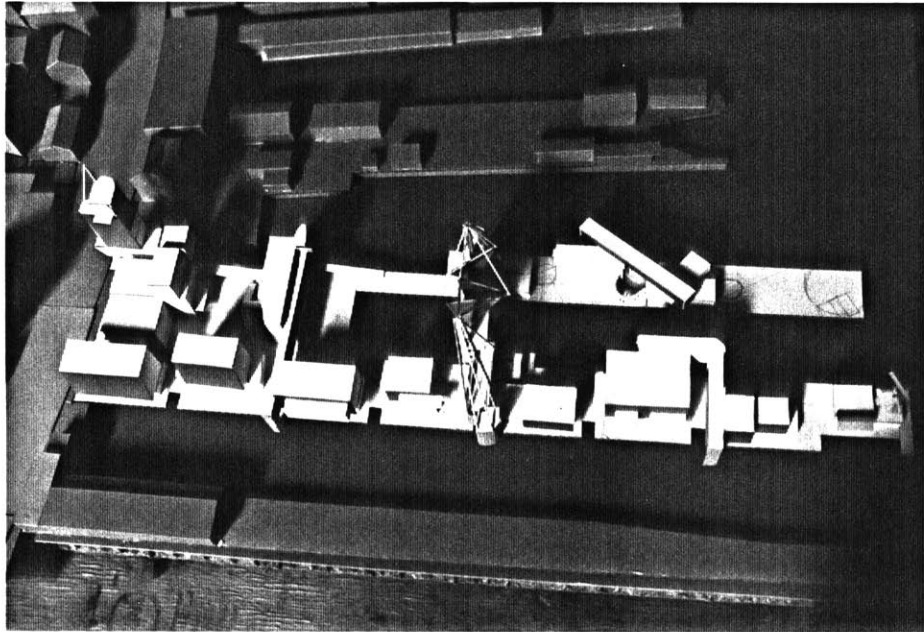
The concept of a bridge defining an inner harbor for residential use can be traced from Venice, and other diverse sources. This was discovered from the study of past epochs of history and using other waterfront areas for reference. The forms may be abstract, but they are based on human needs, attitudes, and aspirations.

The end of the pier will be marked with a tower that is constructed in a traditional functional form. This tower functions as an observation deck, and to assist in the docking of small cruise ships. This will reinforce the end of the pier as a space for public activities and access. The small bays along the promenade are for the public docking of small boats.

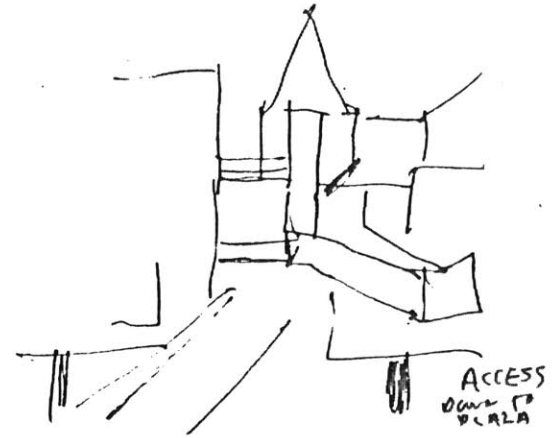


3.25
Original site
plan for scheme
4.

This is the original site plan for the fourth scheme. The concepts of a series of plazas, reinforcement of the Commercial Street edge, access through the site to other piers, groups of houses that form one edge of the walking promenade, and small groups of houses that can be referenced to islands along the eastern edge of the site are the major developments of this scheme.

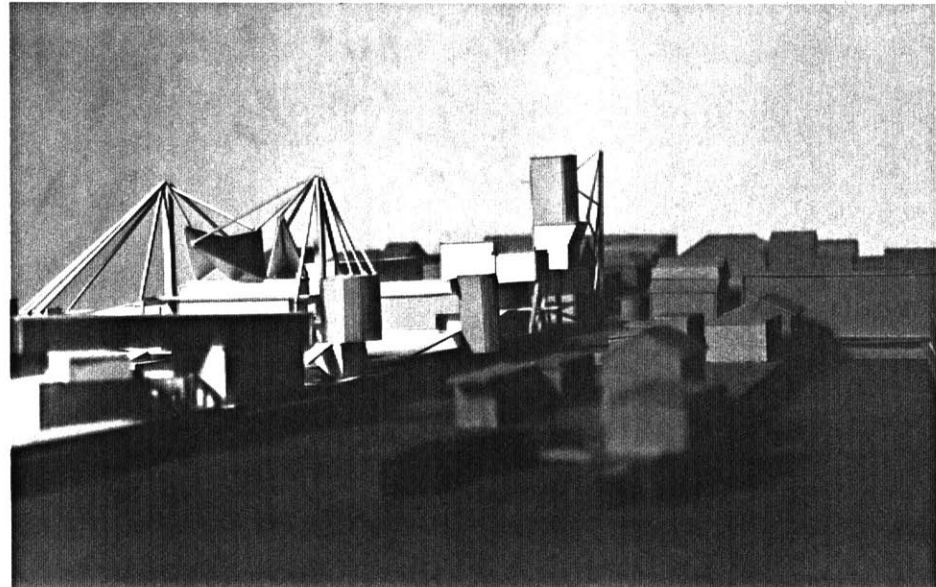


3. 26

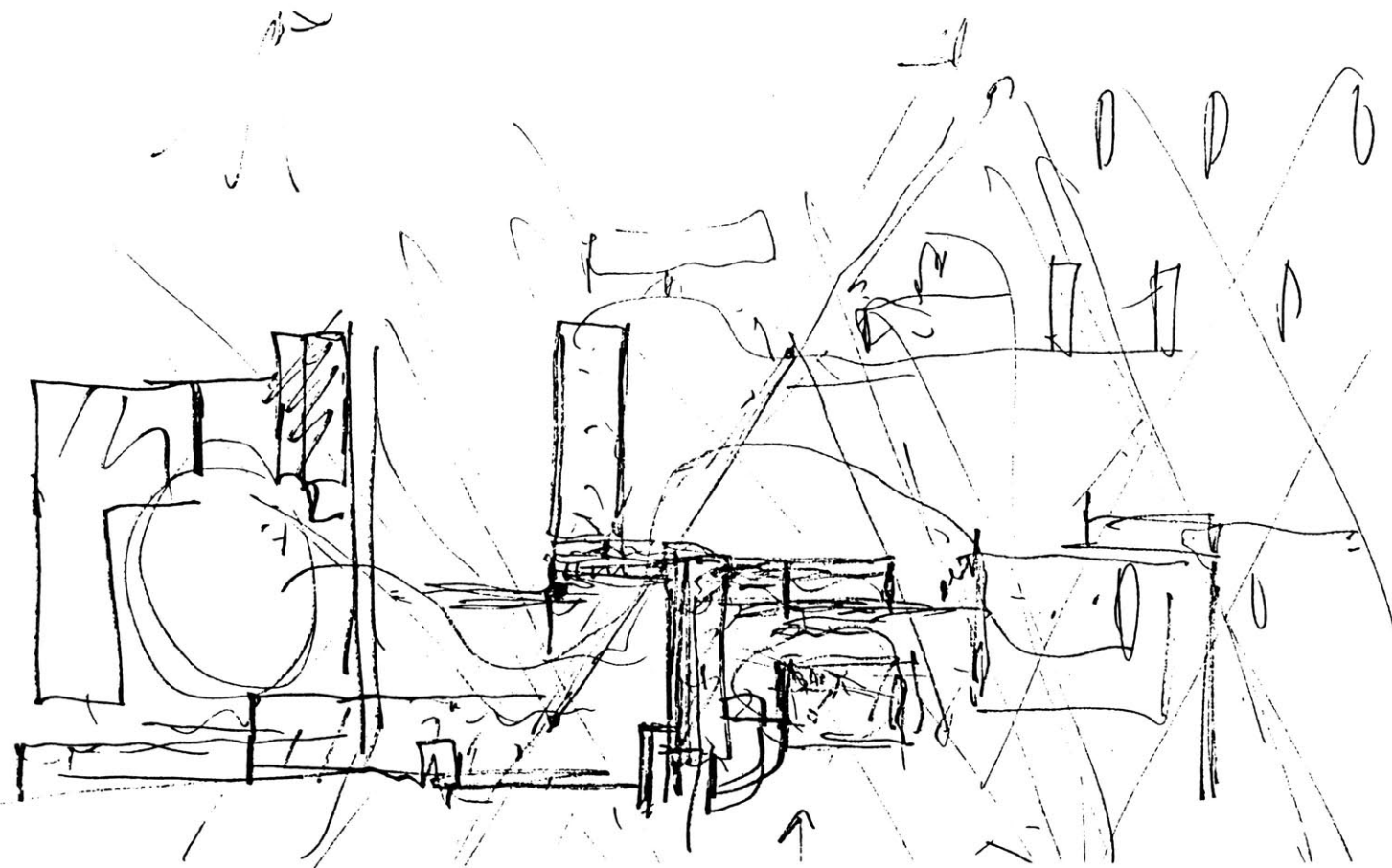


3.26
Aerial view of the
overall scheme.

3.27
Sailor's view of the
project and adjacent
piers.



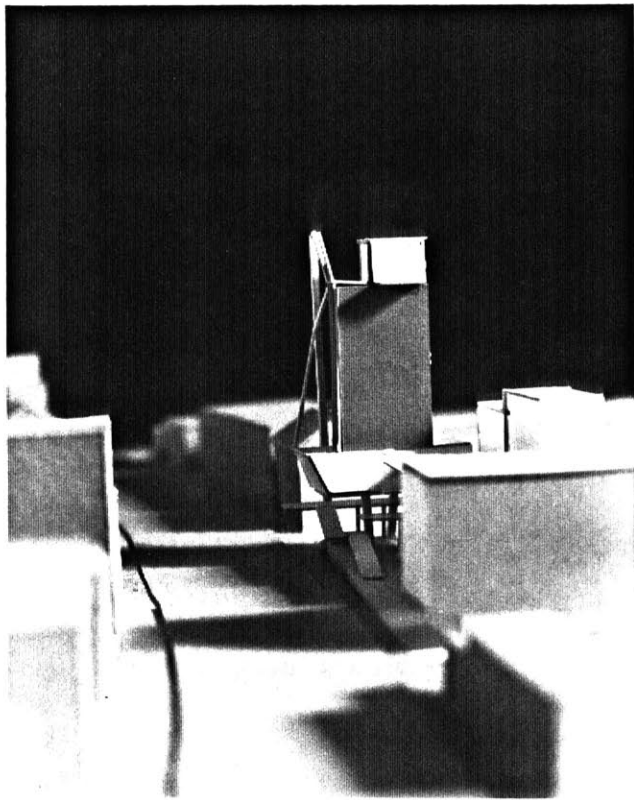
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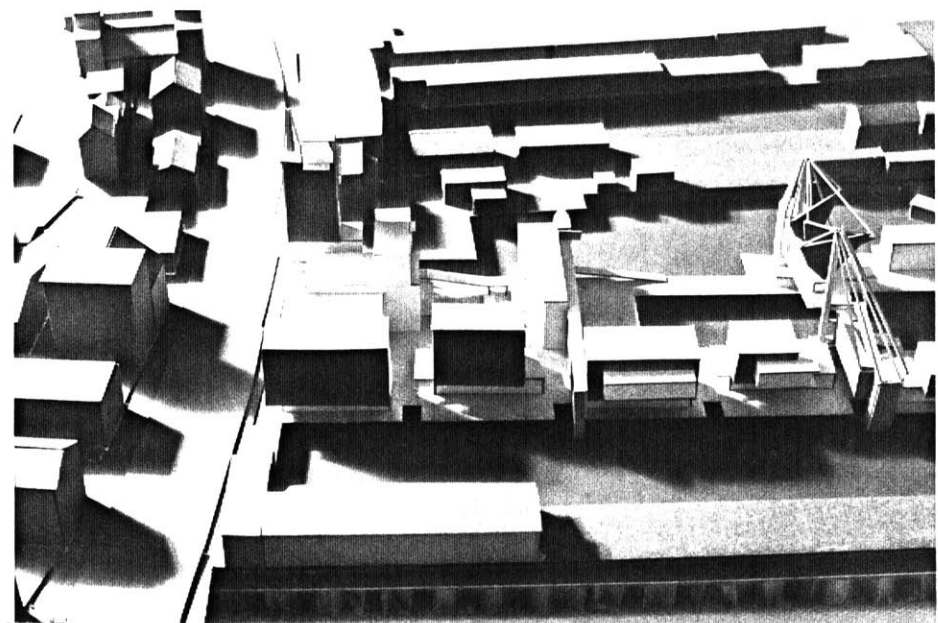
3.28

3.28

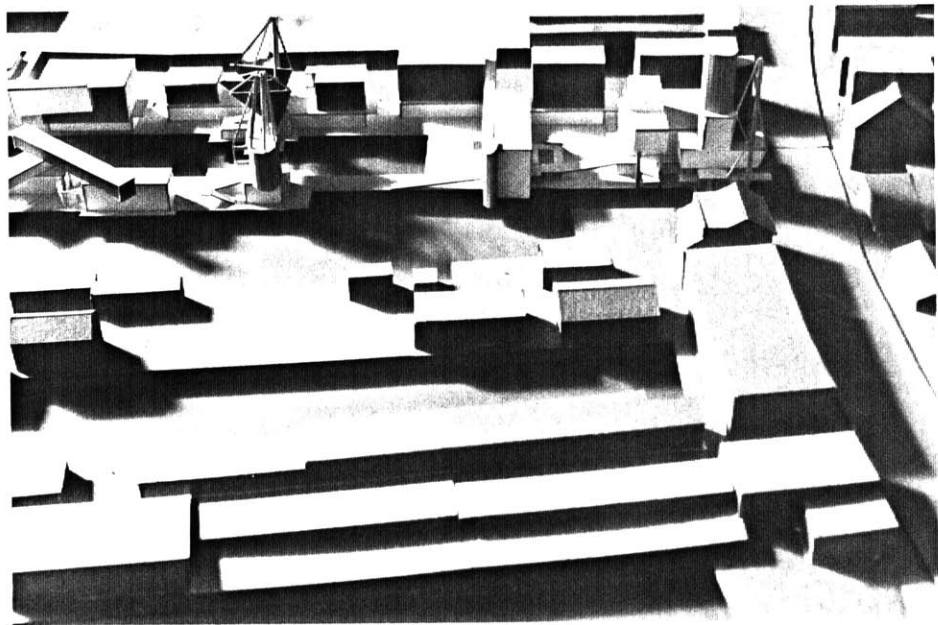
Diagram of the site plan showing how the diagonal view and access concepts have been established.



3.29
3.29
Tower and Commercial
St. from the west.

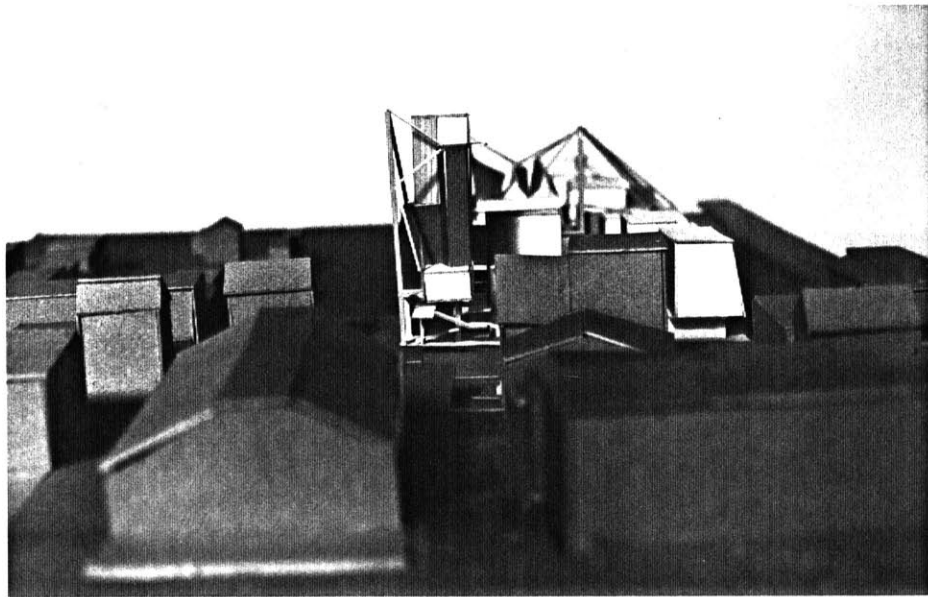


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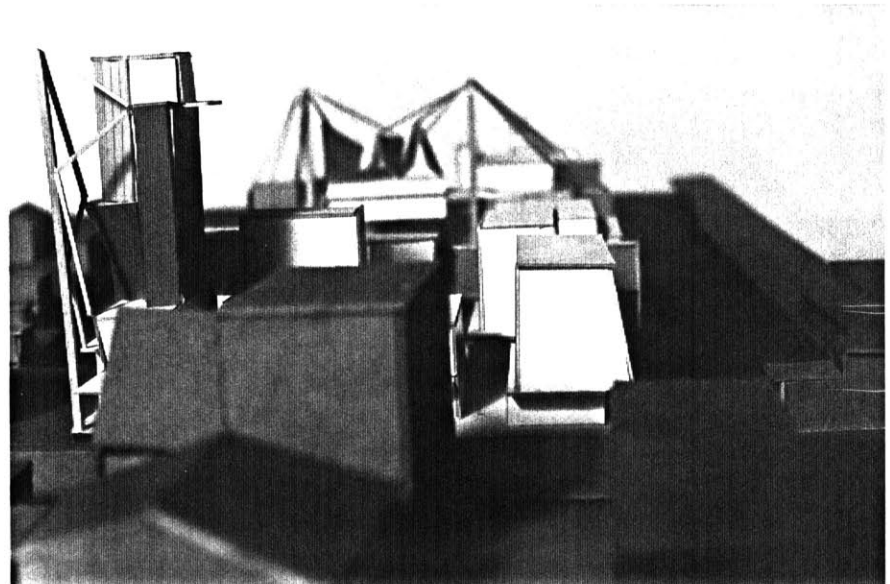


3.31
3.31
Adjacent piers and
pedestrian walkway
from the east.

3.31



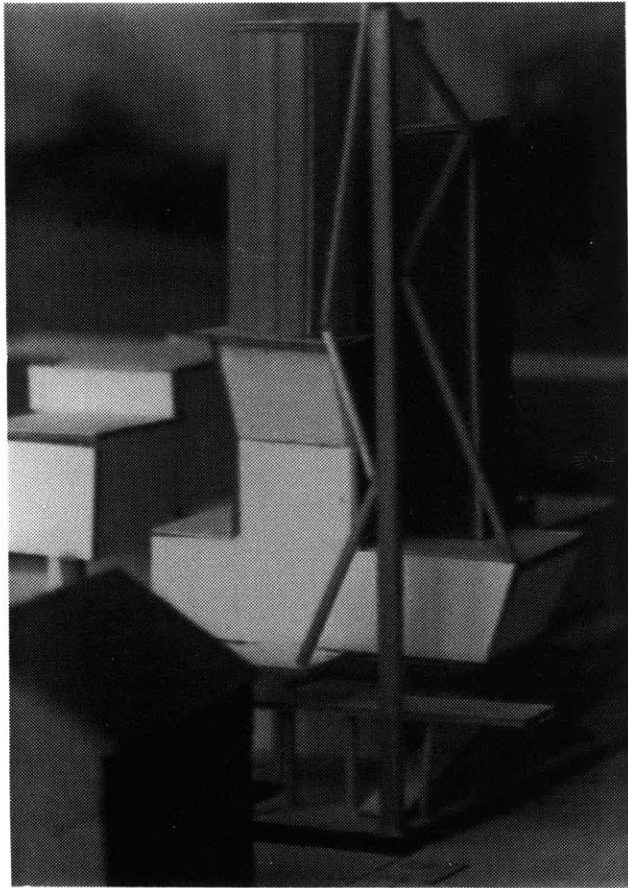
3.32



3.32, 3.33

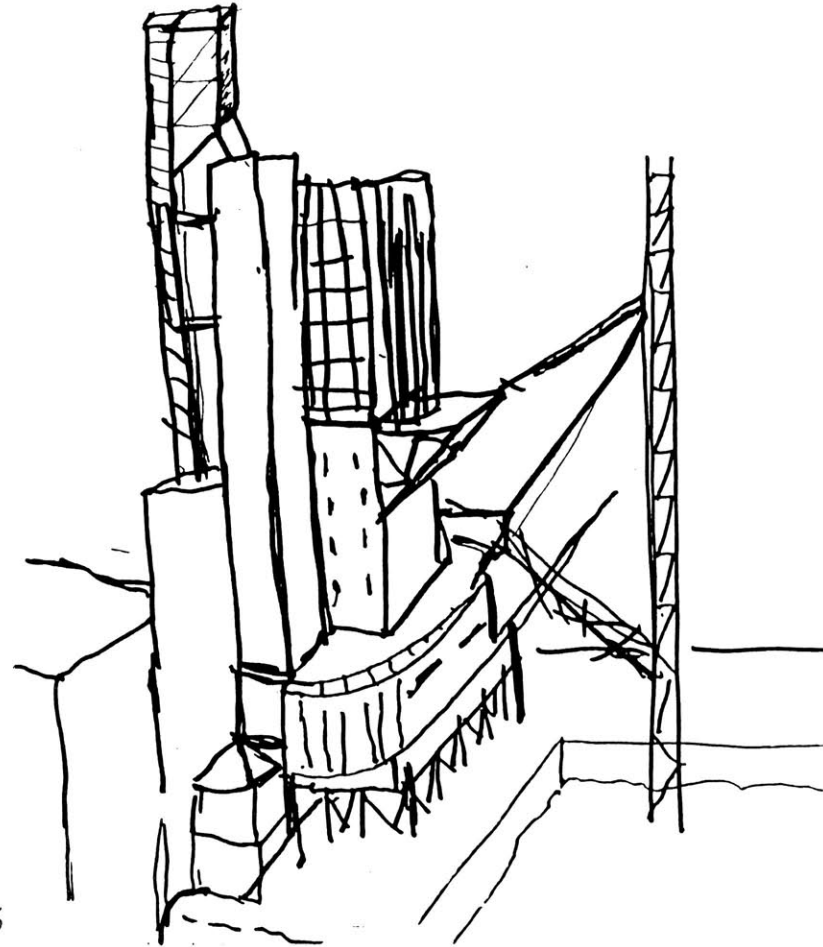
Views show how project
is connected to the
Old Port District.

3.33



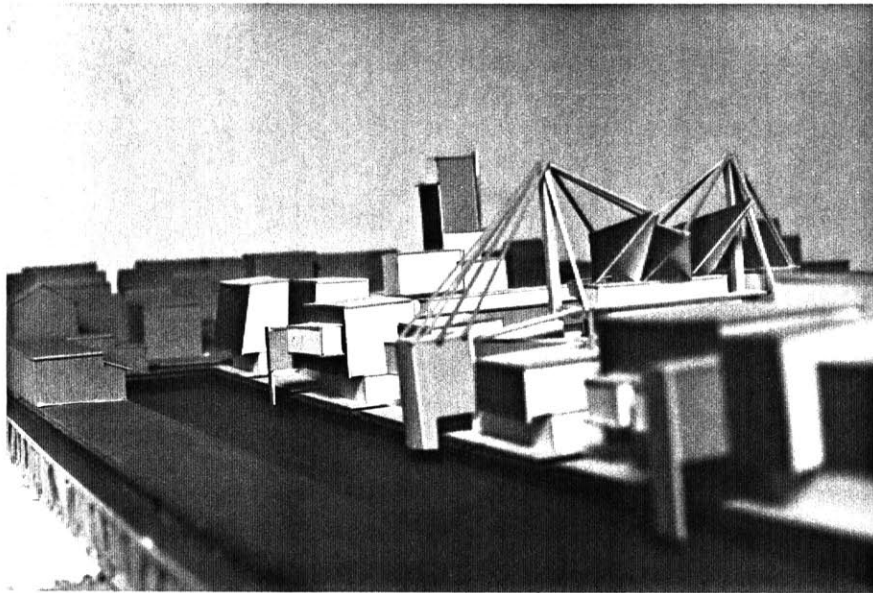
3.34
3.34
View of hotel tower
from the east.

3.35
Sketch of tower from
Portland Pier.



3.35

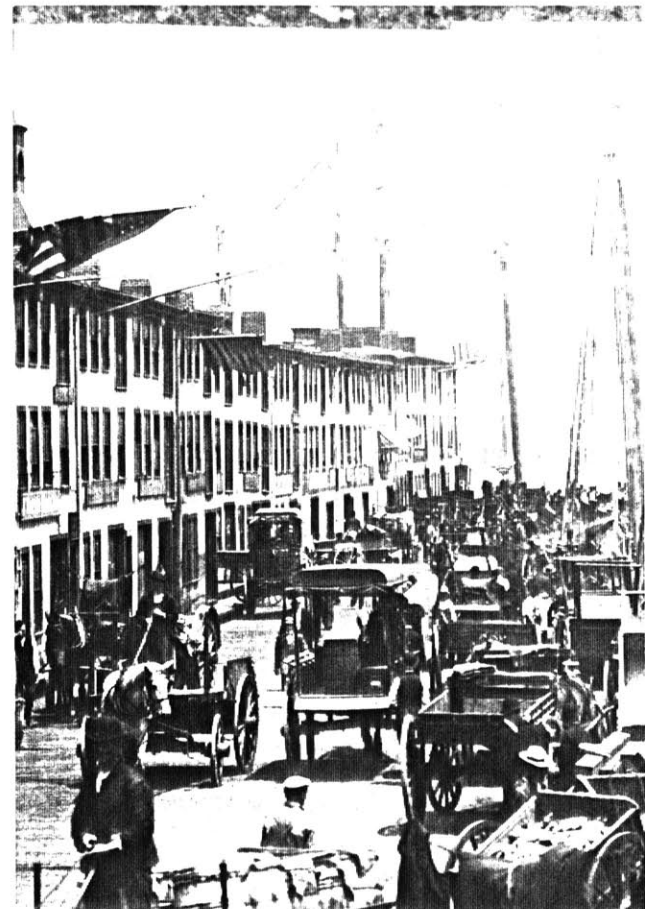
The structure of the tower was expressed at the street to introduce the structural vocabulary utilized along the rest of the pier. The tower serves as a transitional landmark between the city and the harbor.



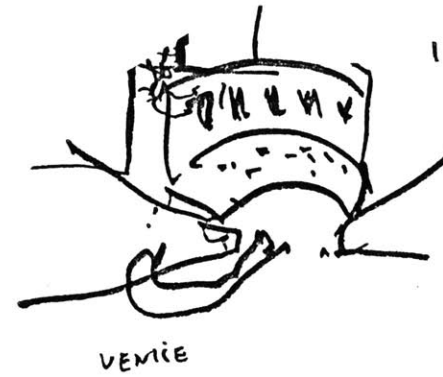
3.36

3.36
View of **Western**
promenade from the
sea.

3.37
View of **Commercial**
Wharf in Boston used
as a reference for
the promenade.



3.37



3.39

3.38
Diagrams of Venice
and how to build and
live over the water.

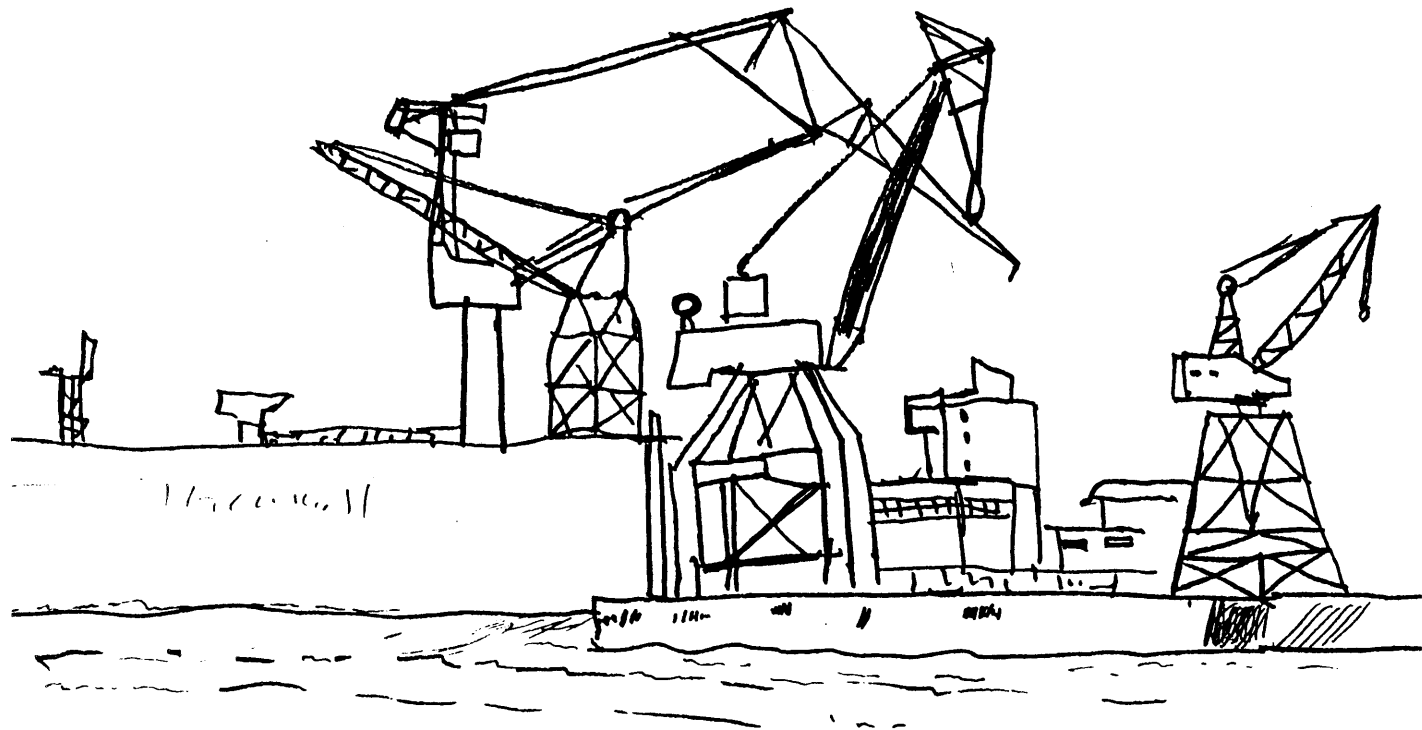
3.39

Bridge in East Boston
illustrates the inter-
play of constructed
light and shadow.



BUILD INTO THE WATER

LIGHT REFLECTION UP

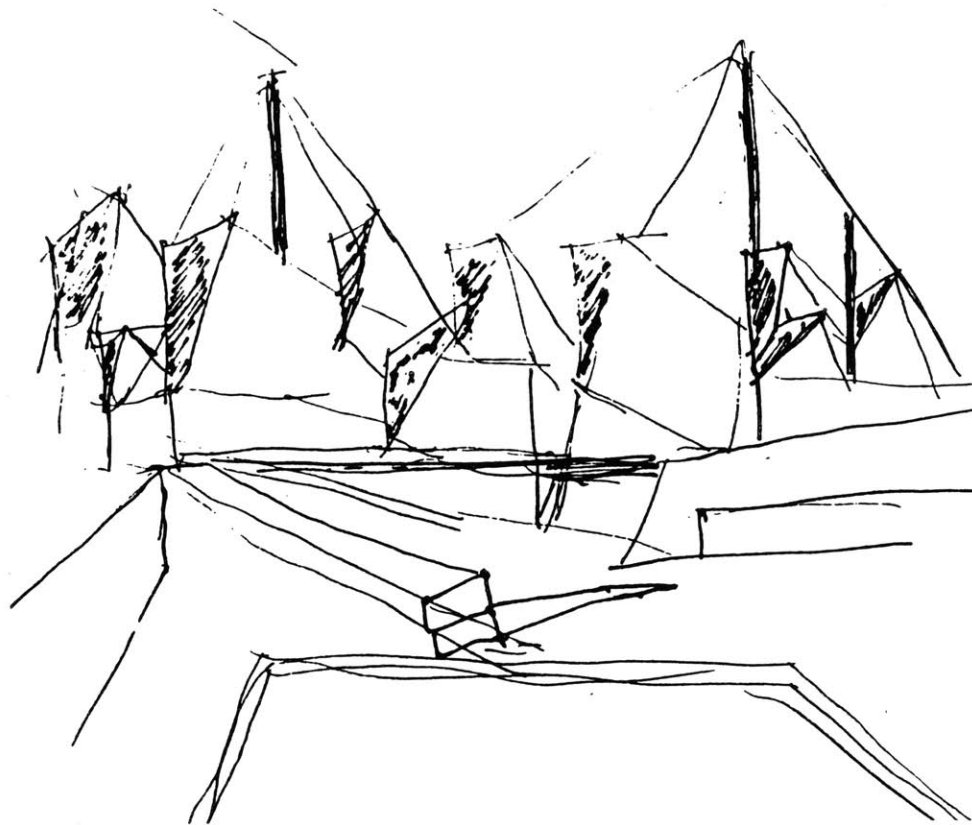


3.40

3.40

Study of forms and screens in the Goteborg, Sweden, shipyard.

One of the major themes of this thesis is that of connections. The connections between the city and water, connections of forms and uses, and the connections within oneself. The bridge is a thematic connection and ideal for the overall scheme. The bridge is a thematic connection and ideal for the overall scheme. The bridge establishes a hierarchy for the other uses and forms found on the site.

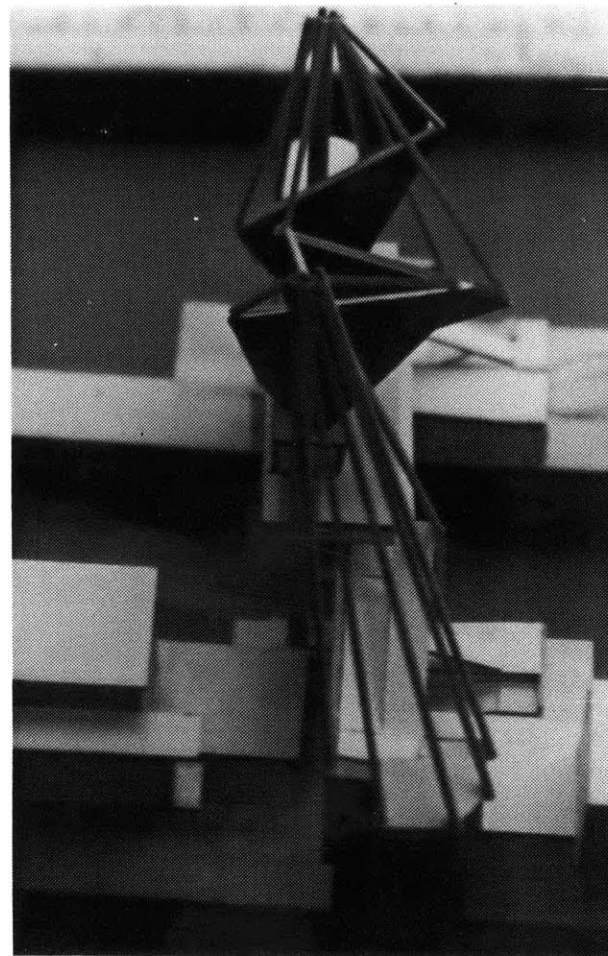


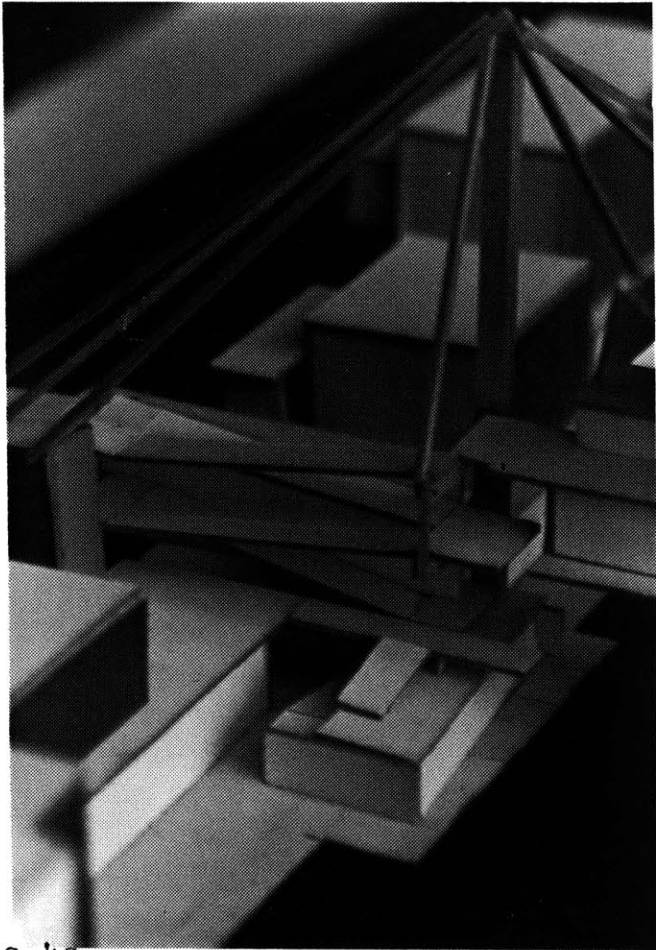
3.41

3.41
Conceptual sketch of
"sail houses" over
the harbor.

3.42
Model of concept.

3,42



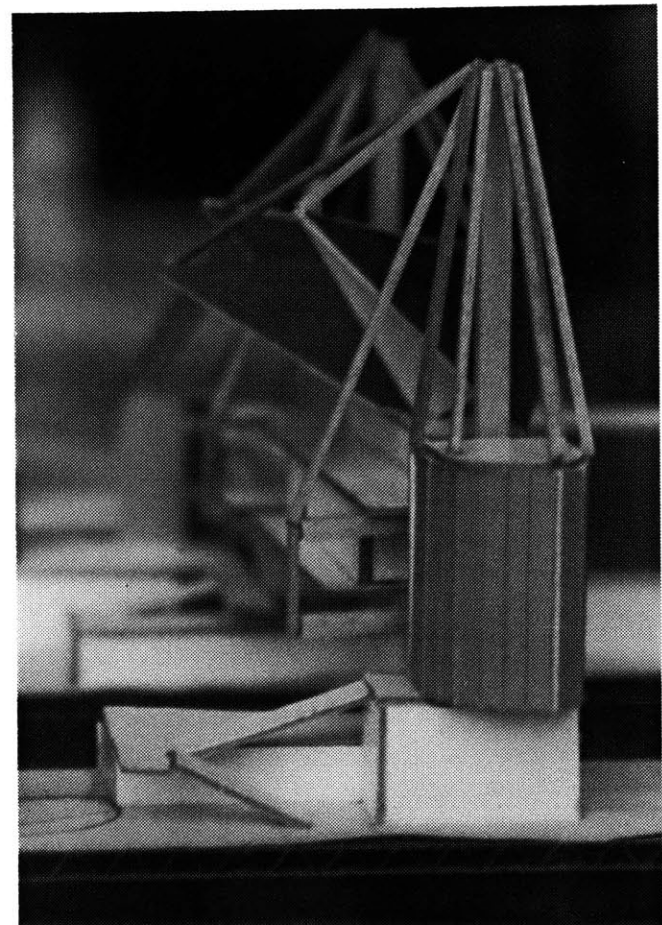


3.43
3.43

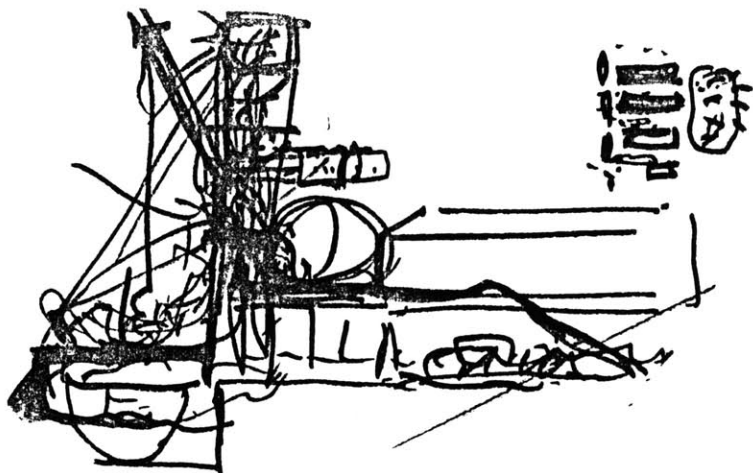
Access to the bridge
from the western
promenade.

3.44

Access to bridge from
the east.



3.44



3.45

3.45

Diagram of placement
of tower along water's
edge.

3.46

Industrial tower at
Portland's water
front.

3.46



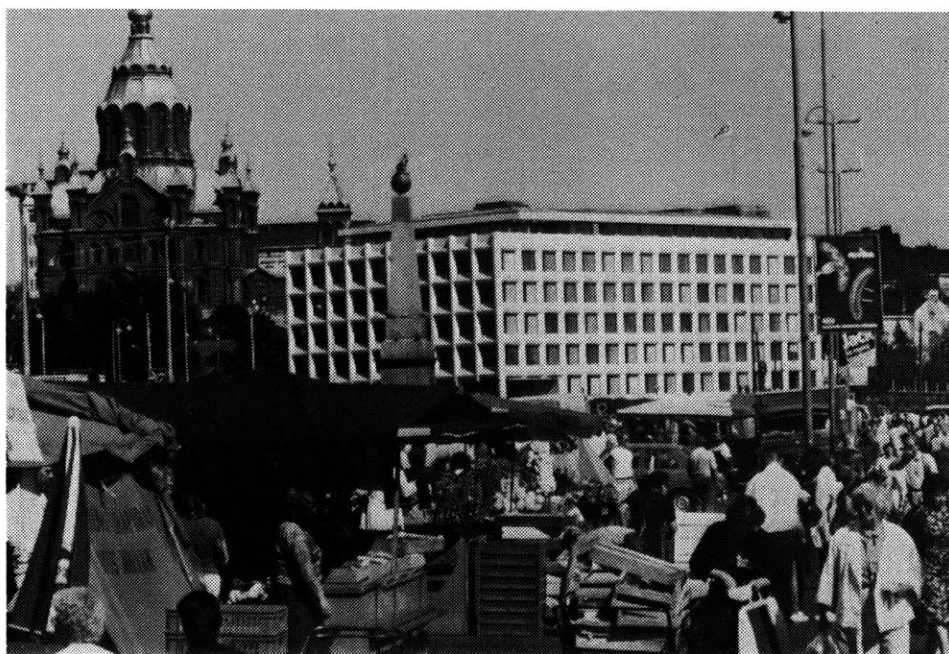


3.47
References from Helsinki, Finland.

3.47
Sail boat in Helsinki's
Harbor.

3.48
Marketplace on Helsinki's
waterfront.

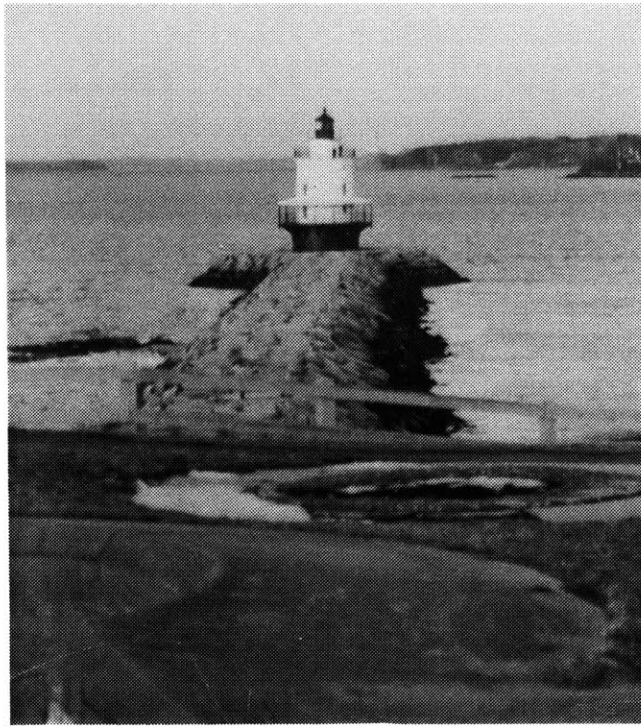
3.49
Reflected light in
marina



3.48



3.49



3.50

Three references used
for the fourth scheme.

3.50

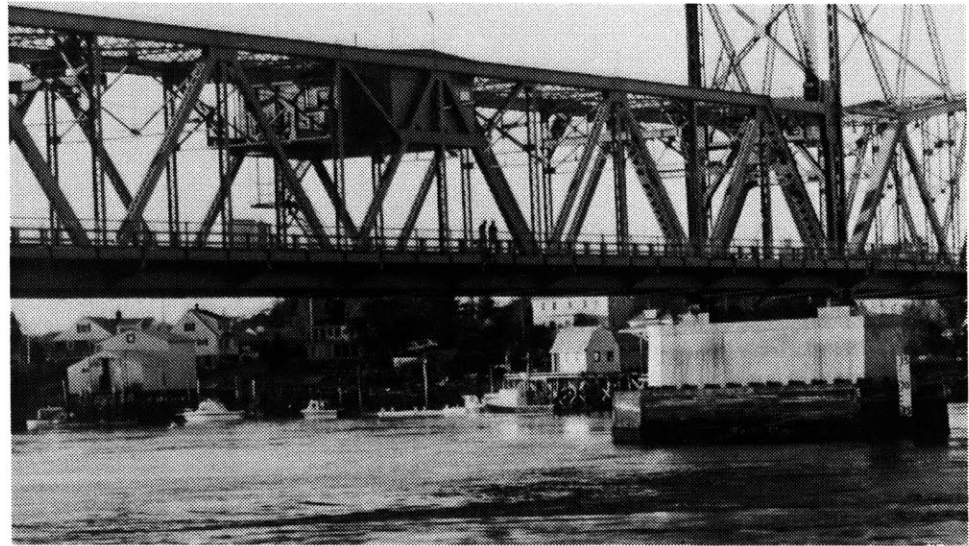
Spring Point light-
house, Portland.

3.51

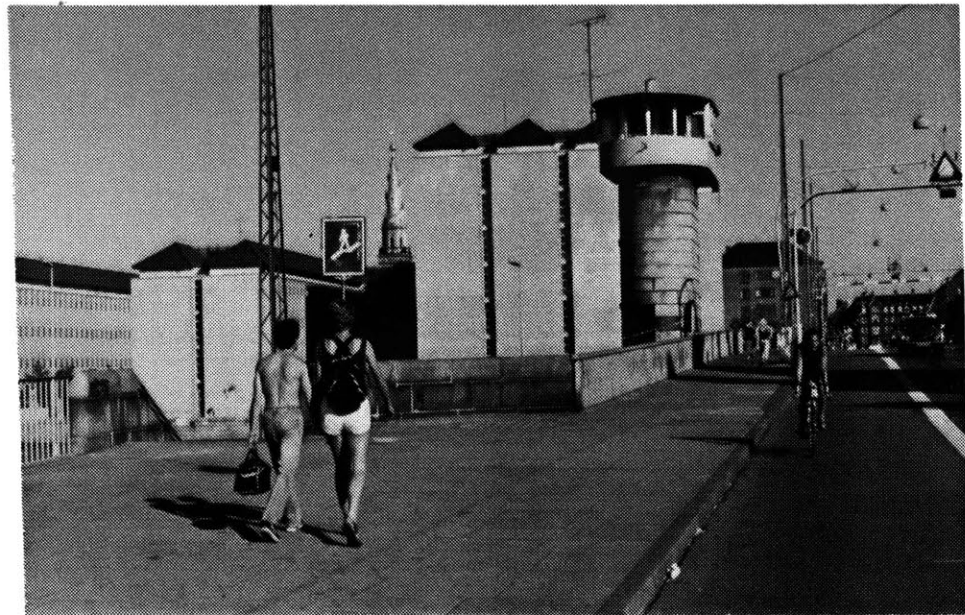
Route 103 bridge in
Portsmouth, New Hampshire.

3.52

Canal in Copenhagen.



3.51



3.52



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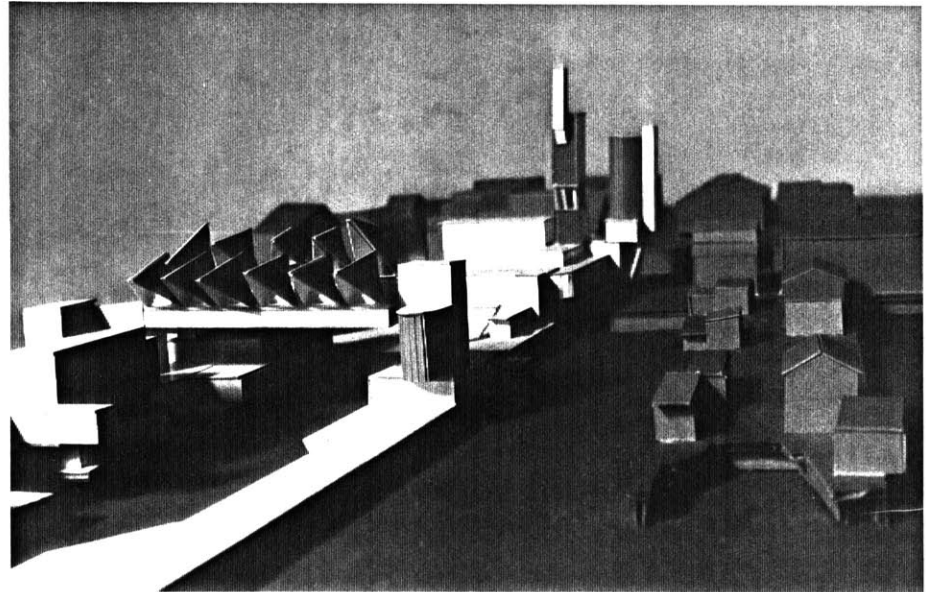
Page 77

The fifth scheme is a refinement of the concepts put forth in the previous investigation. The massing and site plan have become more defined and a sense of hierarchy and order has been established. This order that was developed in the plan led to a regularity that sometimes began to stifle the spirit of the place put forth in the previous scheme.

The tower is at the same setting, but it is higher and the structure is not as expressed. The program called for more room for the hotel. The main public functions of the previous tower were located too high off of the ground and thus removed from the activities of the street. The exposed plaza in the middle of the tower is for the guests and people attending meetings. There is still access from the city to the site via walkways through the base of the hotel, but now they aren't as open. The concept of the diagonal line organizes the forms visually, and it introduces the structure found elsewhere on the pier to the person on the street. The set backs correspond to the heights of the adjacent buildings, and they help carry the height of the tower to the street.

The access from the city leads to a plaza that orientated toward retail and gathering activities. A second plaza that relates to the water is beyond the "city plaza". The issues of the scale and dimension of these plazas and how they are connected to the site and to each other are now being studied. The plaza at the edge of the inner harbor is for a public market area and a place to meet the sea. The buildings form a "U" shape containing public functions such as shops and restaurants around the harbor and extending to the bridge.

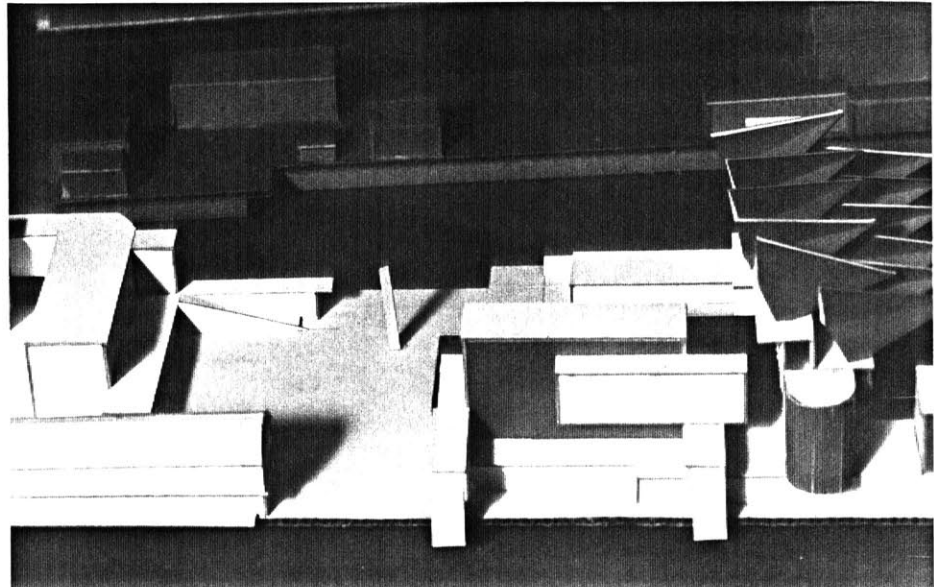
A design needs to be infused with an internal sense of order that is simple and concise, so that variations and refinements can be undertaken. This order occurs both in plan, section, and elevation. The houses on the bridge are too orderly and without a sense of space for the individual.



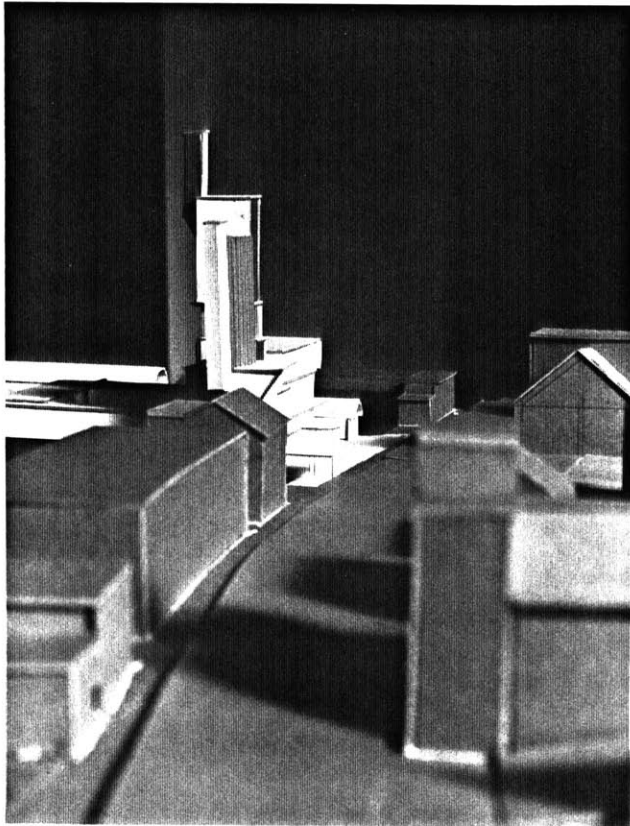
3.53

3.53
Sailor's view of the project.

3.54
Aerial view of water plaza and "sail houses"



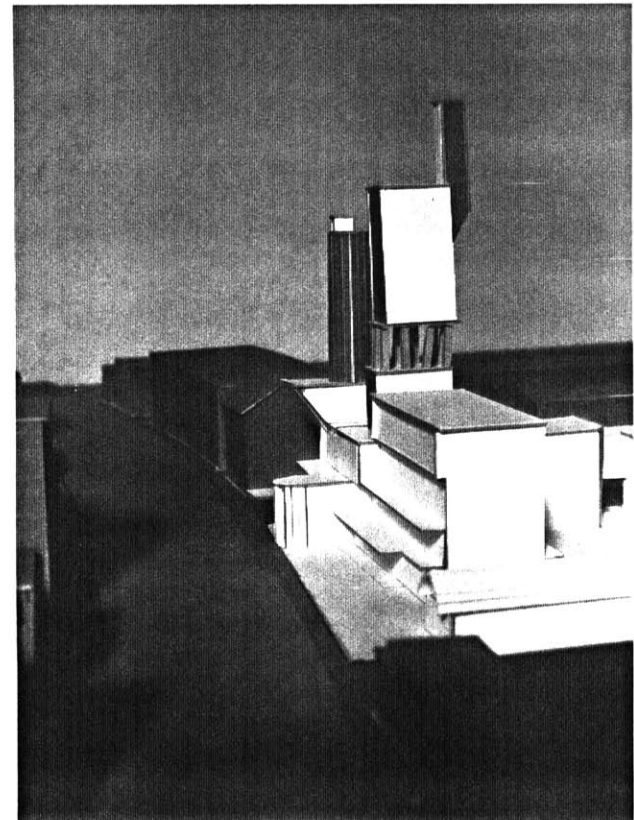
3.54



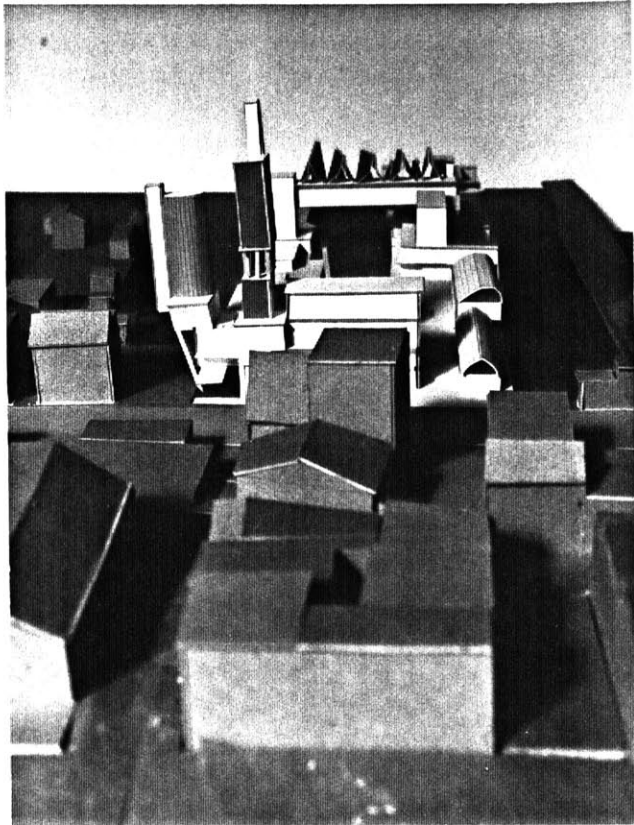
3.55

3.55
Tower and Commercial
St. from the east.

3.56
Tower and Commercial
St. from the west.



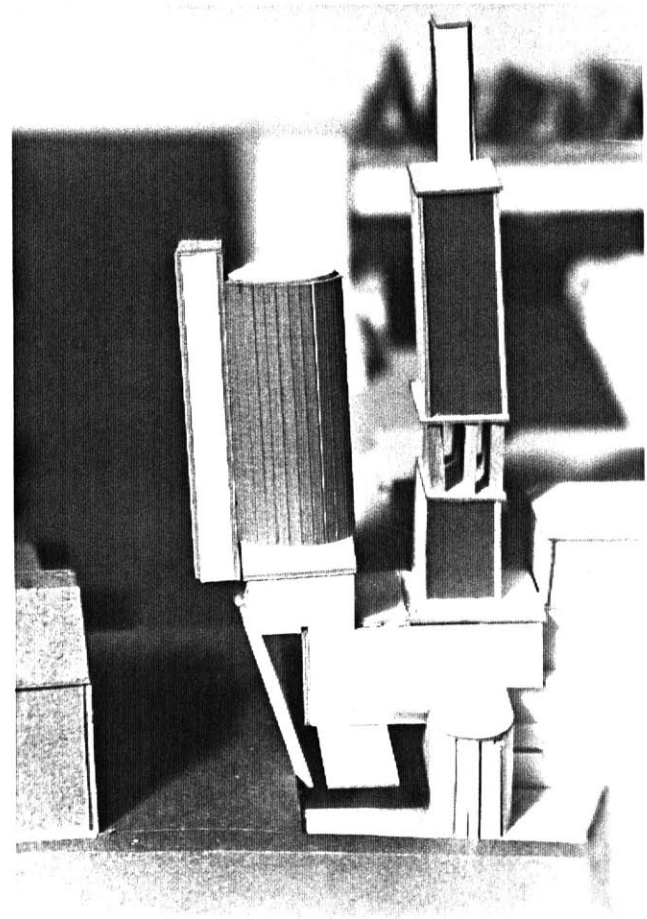
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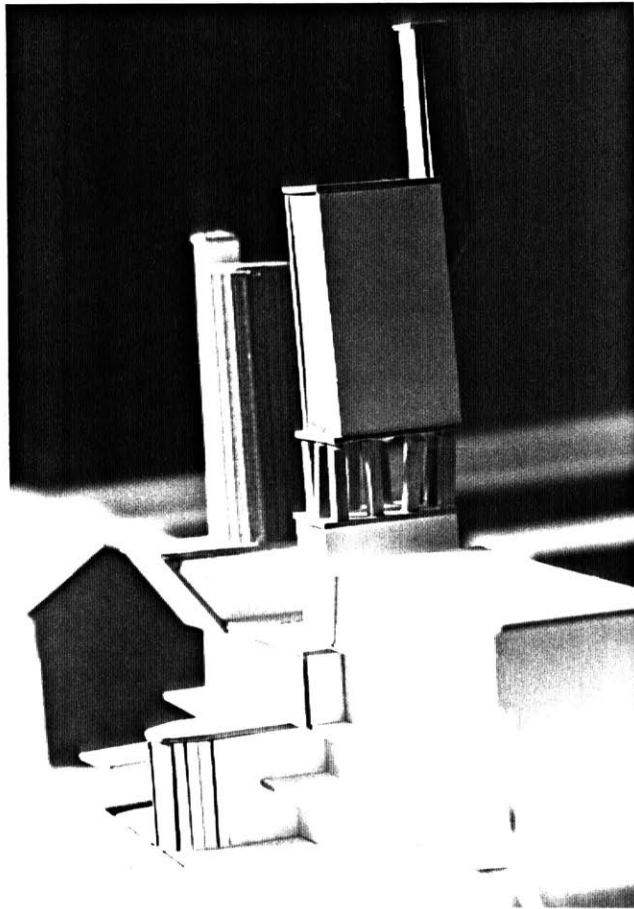
3.57

3.57
Project from Old Port
District.

3.58
Frontal view of tower.

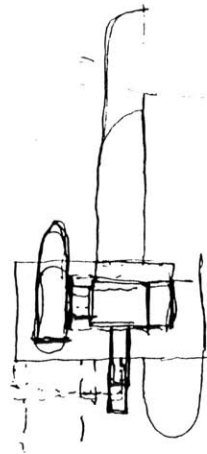
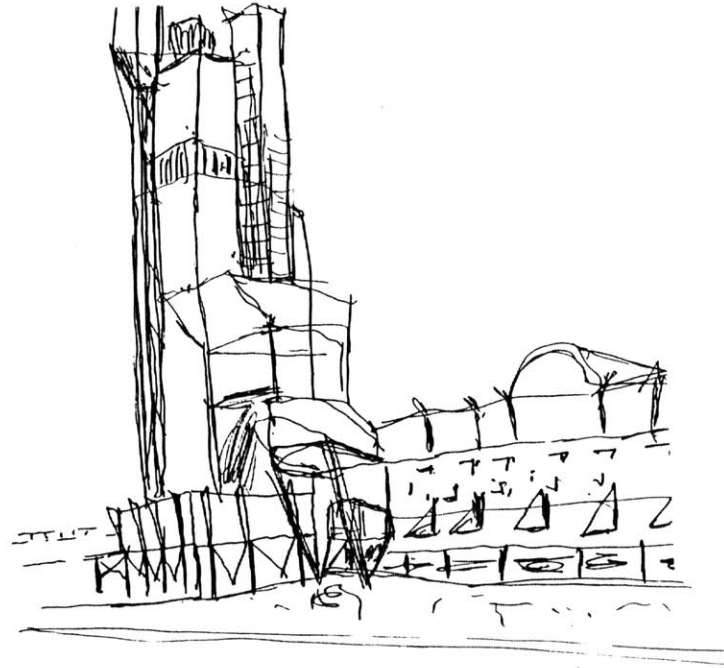


3.58

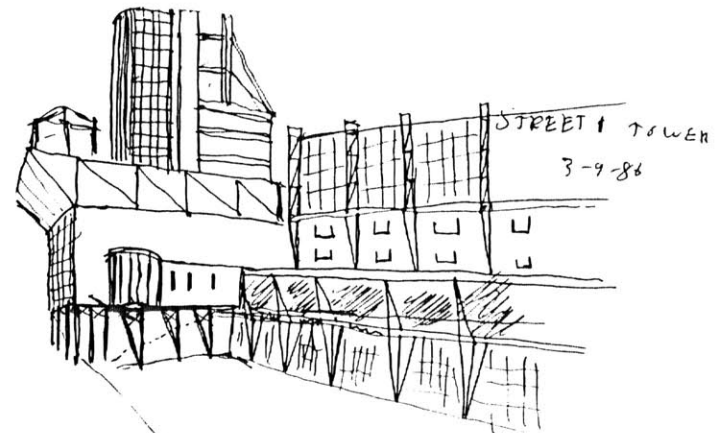


3.59
3.59
View of hotel tower
from the west.

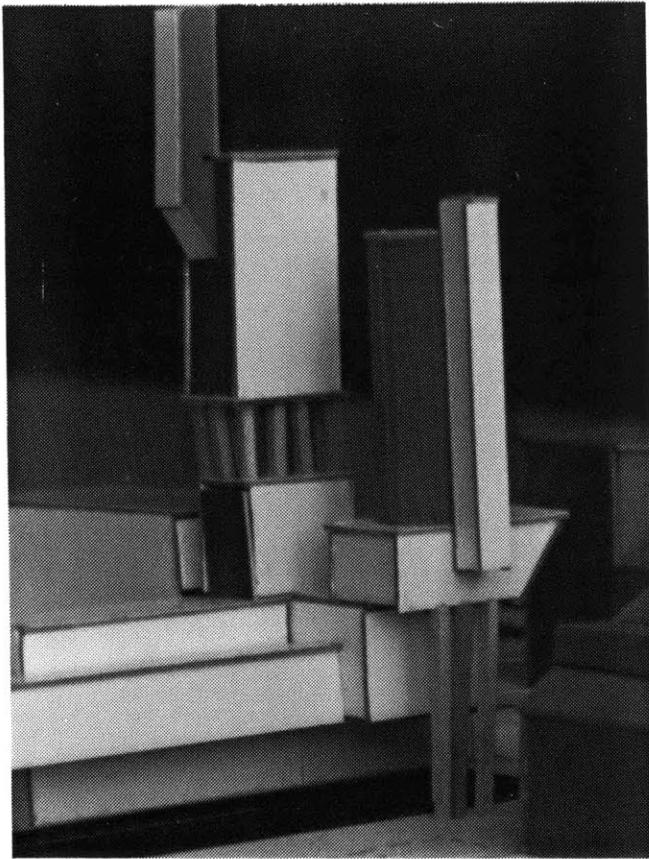
3.60
Sketches of the tower
and retail concerns
at the street level.



PLAN



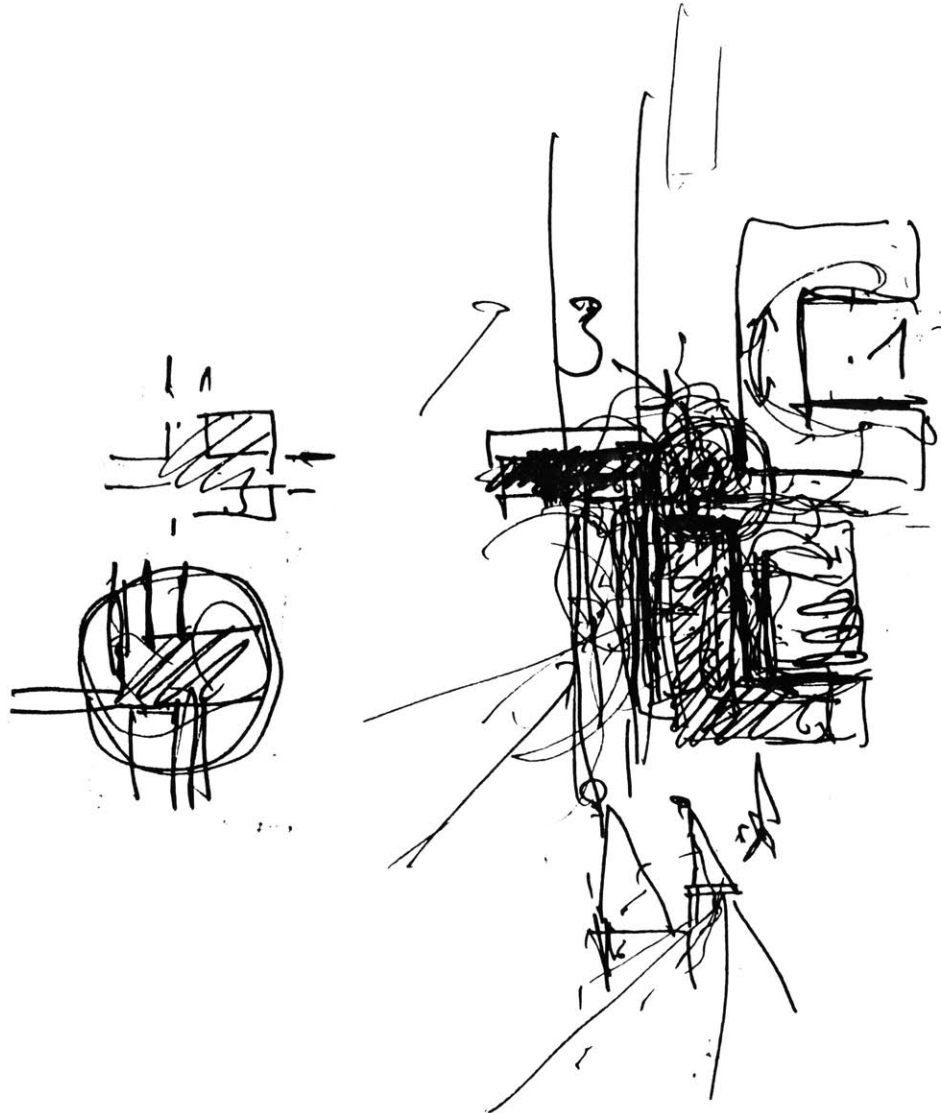
3.60



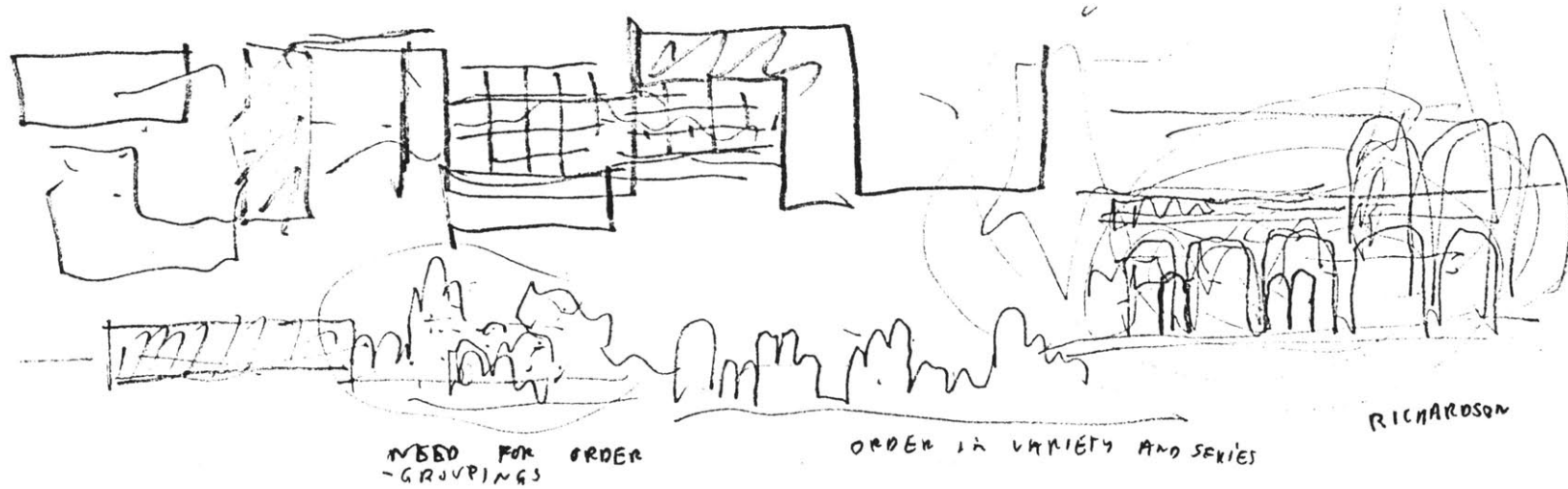
3.61

3.62
Diagrams of how to
connect public plazas
and courtyards.

3.61
Hotel tower connects
city to the pier.



3.62

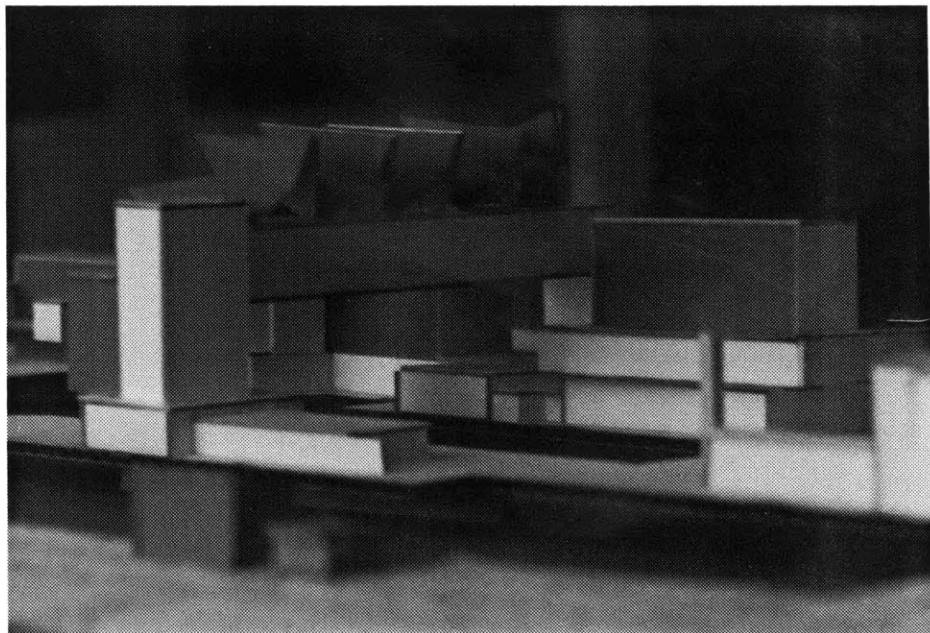


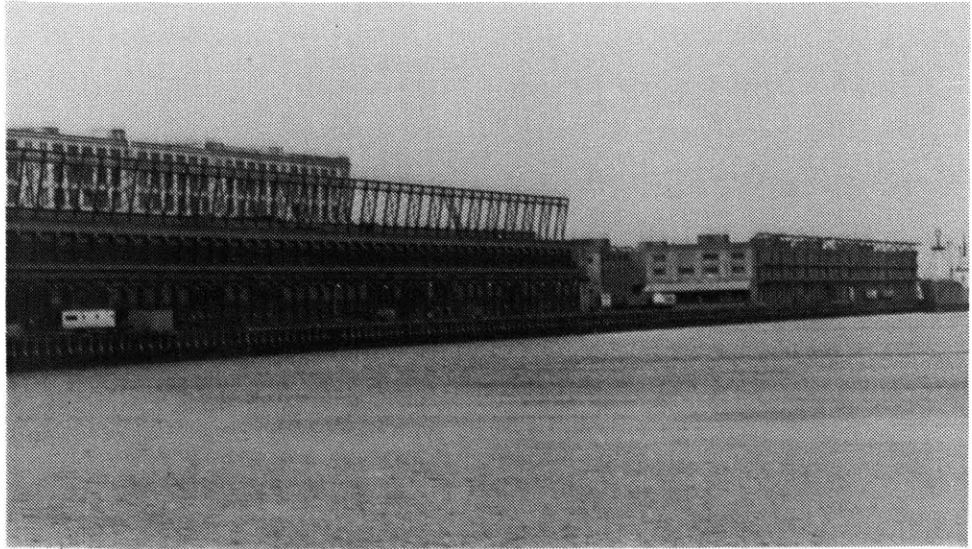
3.65

3.65
Diagrams illustrate
this sense of order.

3.66
The houses on the
bridge have become
too regulated.

3.66

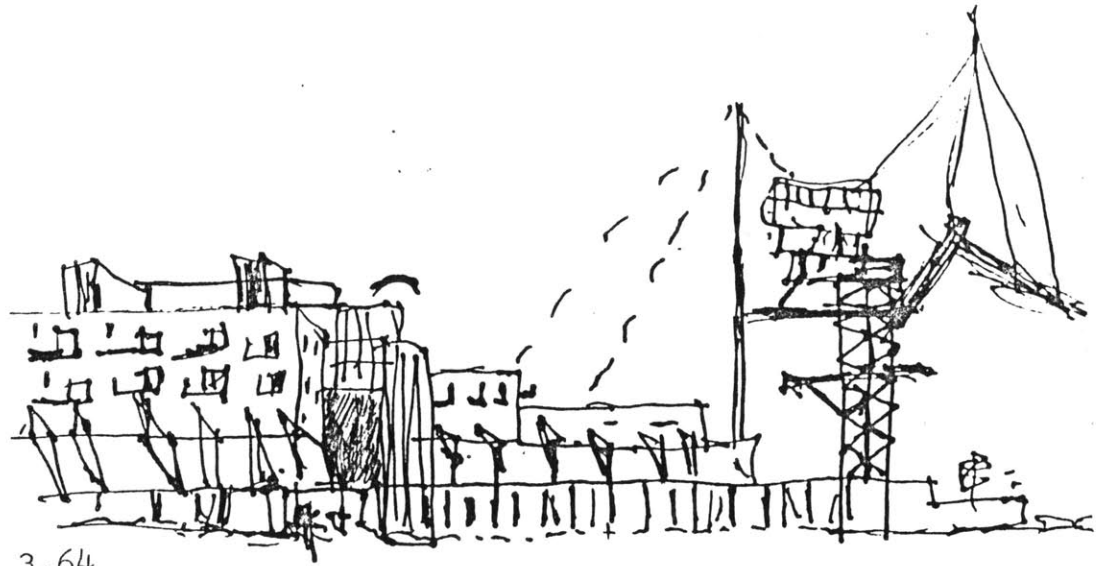




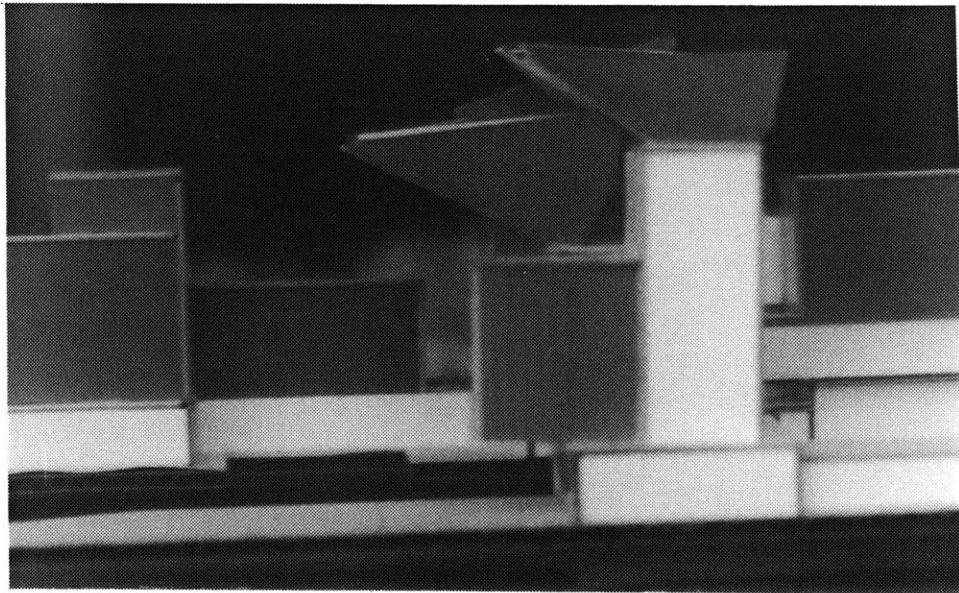
3.63

3.63
South Boston water-
front illustrates
an inherent sense of
order.

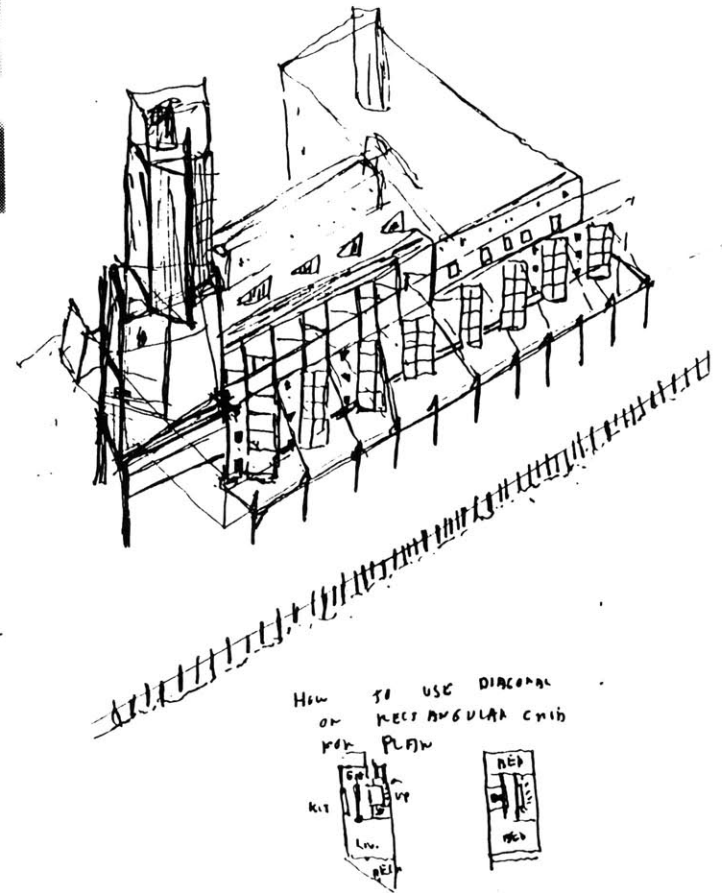
3.64
Sketch of how references
can be incorporated
into a design for houses.



3.64

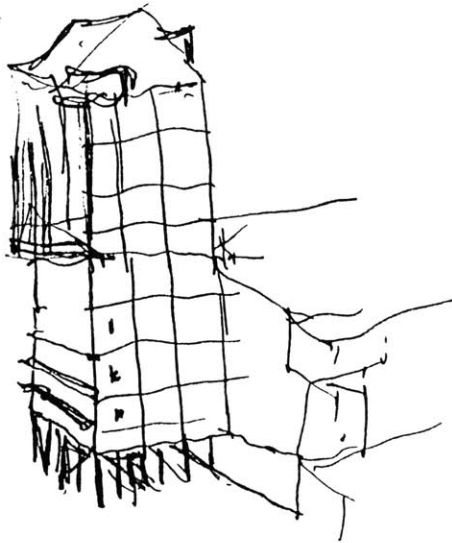


3.67



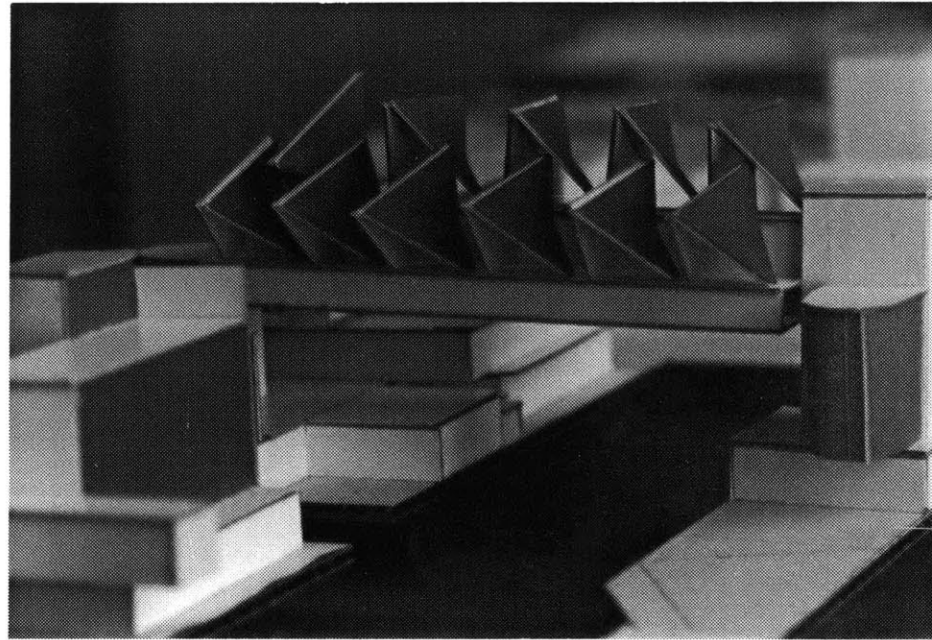
3.67
View of "sail houses"
from Portland Pier.

3.68
Sketches of houses
and tower at end of
the inner harbor.



3.68

The houses on the bridge will be modified so that there appears to be more of an extension of the roof and the lower houses. The form needs to appear elsewhere on the site besides just on the bridge. These house forms should evolve into forms that are inherently found along the water.

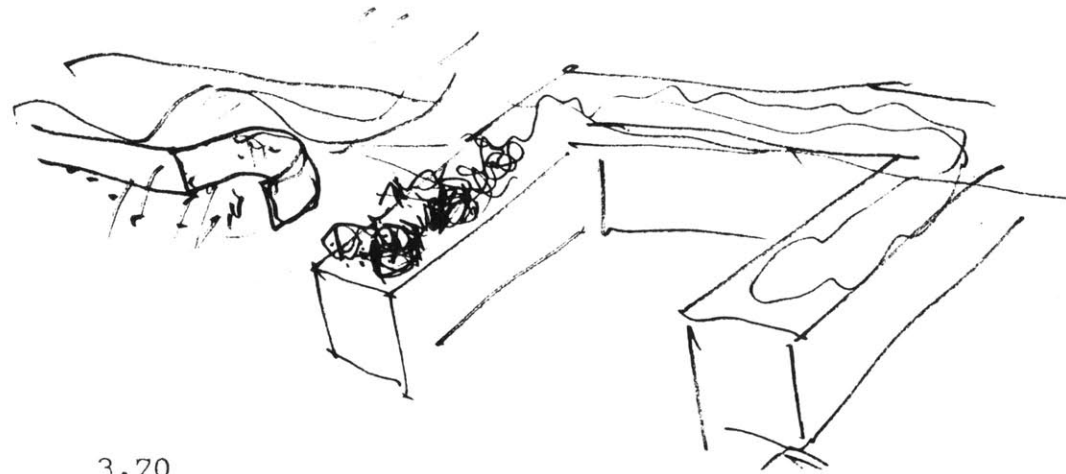


3.69



3.69
View of houses on
the bridge.

3.70
Digrams of how "sail
houses" should become
extensions of the
roof and appear elsewhere.



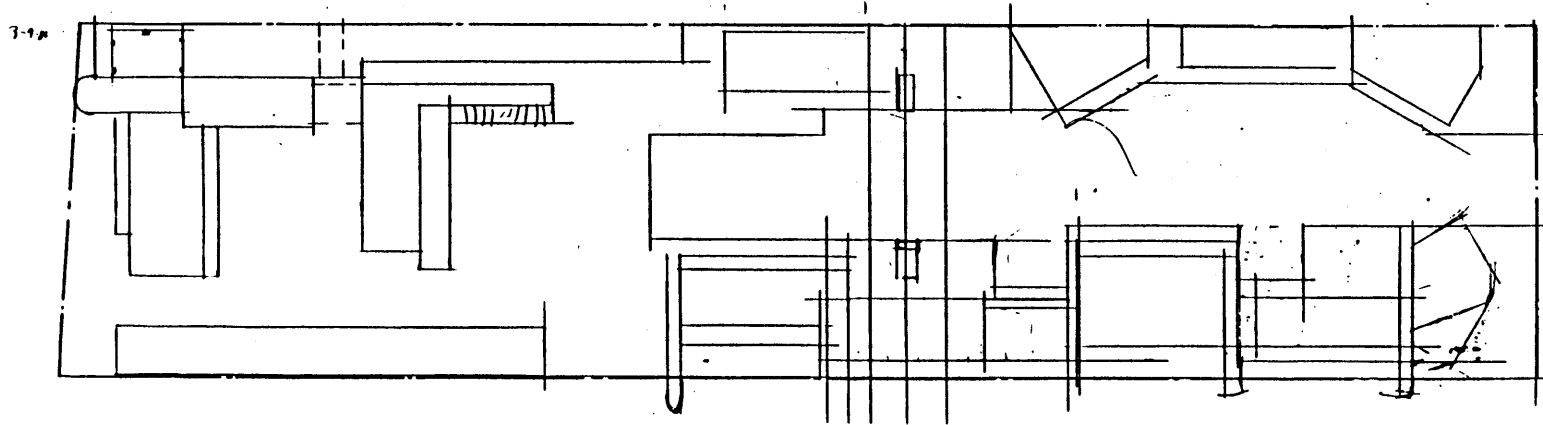
3.70

The emphasis in the sixth scheme was placed upon housing along the promenade and waterfront. There was a refinement to the size of the "city plaza", the tower along Commercial Street became more singular, and the scale and placement of the bridge was placed at the end of the pier. The major program uses have been defined and incorporated into the site plan.

I experimented with several different types of floor plans and sections for the houses. Most plans involve a long, narrow row house type plan with access to the upper levels attained by utilizing a skip stop floor section for the halls. Some houses toward the end of the pier were oriented so that there was direct access from the ground to the upper levels, and the houses would receive more light from each side. Space was limited so there was a concerted effort to provide as many amenities as possible in as little space as possible. The goal was to attain a medium density for the number of units provided, but these houses were built too high and thus cut off much of the available daylight to the small marinas of the inner harbor.

The bridge of houses was moved to the end of the pier. This was not a successful experiment, because the inner harbor became too large and undefined, and the superstructure became too dominant in Portland Harbor. The forms of the houses on the bridge have changed, but now they have become too literal.

The tower and plazas were simplified in this scheme. It is forty feet higher, has now become a singular entity and the base still accommodates the access to the site and entry functions. The "city plaza" is still too large and the plaza at the edge of the inner harbor is taking form, but doesn't have enough definition or size yet.



3.71



3.71

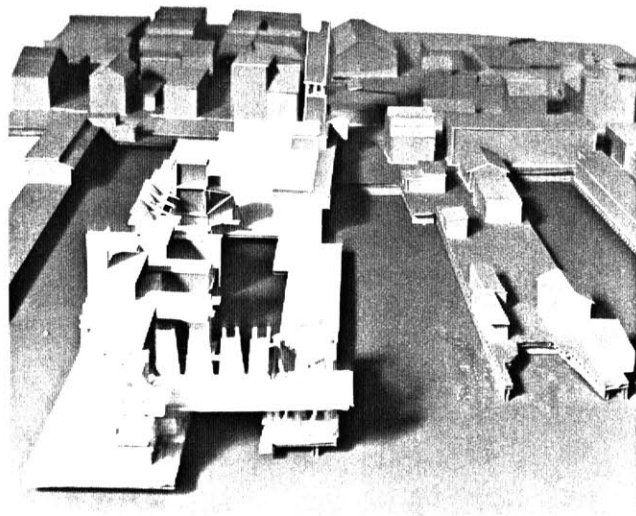
Site plan for scheme 6.

3.72

Diagram of how the "city plaza" should be altered.

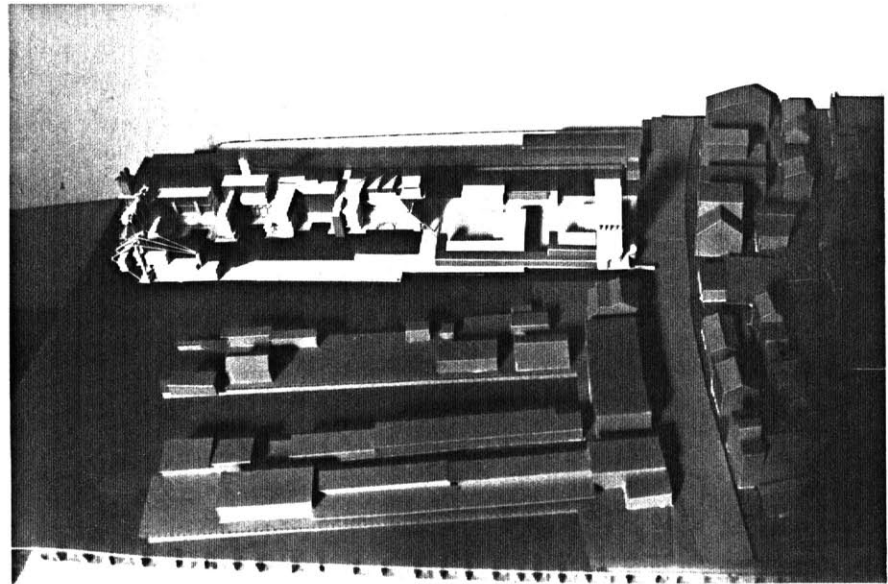
3.72

The plazas in the original site plan were too similar in size. The "city plaza" needs to be larger to serve as a continuity of activities from the city, and to allow for access across and along the pier. The bridge in this scheme was built at the end of the pier.



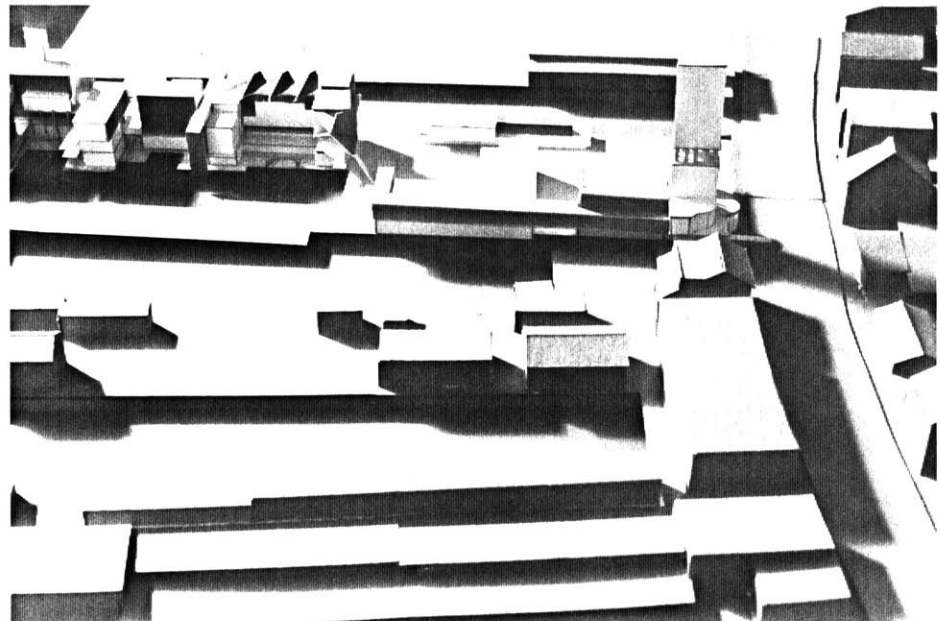
3.73

3.73
Aerial view of project
from harbor.



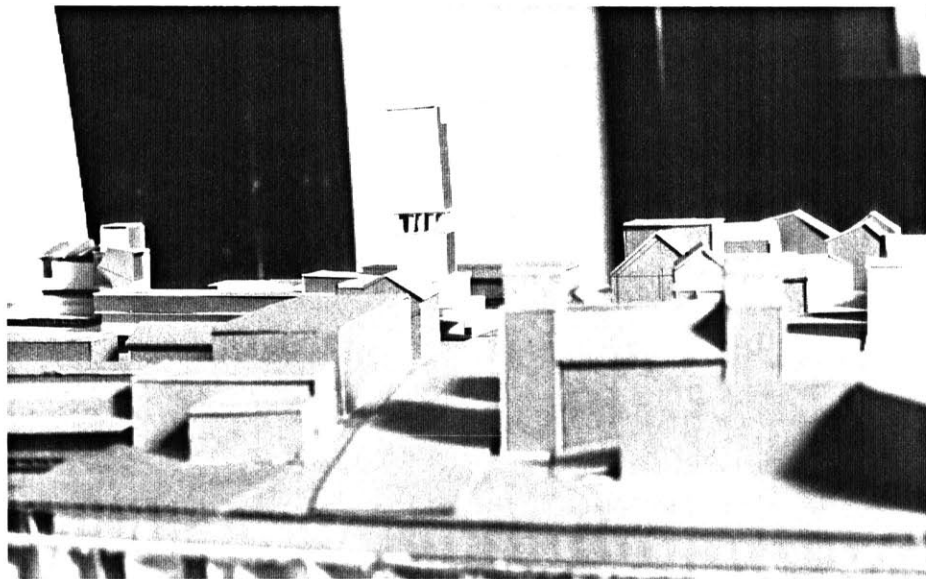
3.74

3.74
Aerial view of context.



3.75
Closer view of context
and proposed pedestrian
path.

3.75



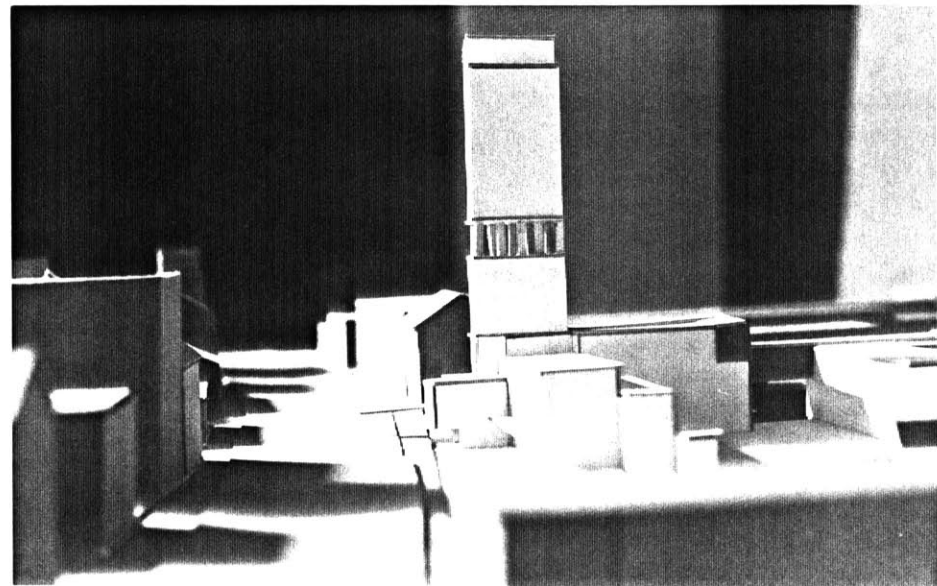
3.76

3.76

Tower and Commercial
St. from the east.

3.77

Tower and Commercial
St. from the west.

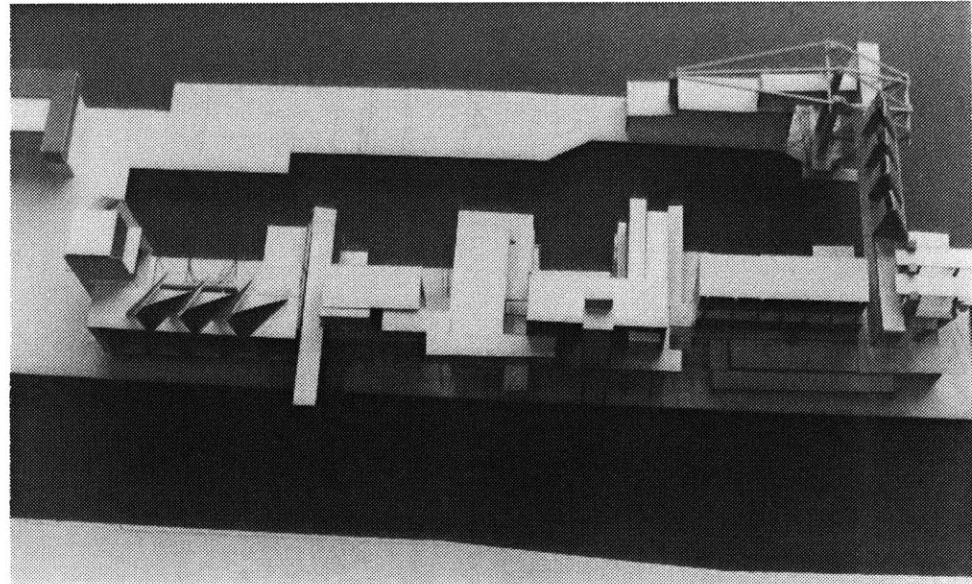


3.77

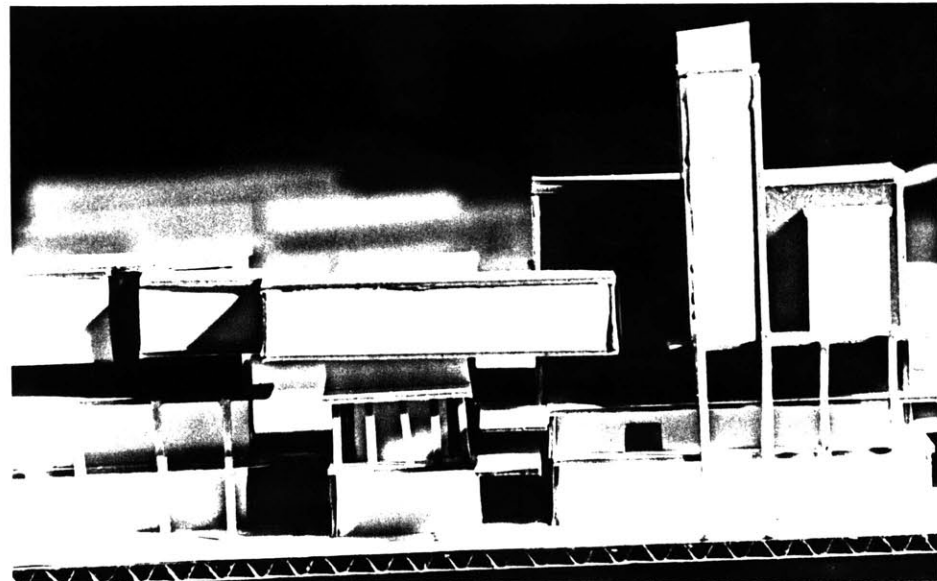
This aerial view shows two physical experiments that do not show on the site plan. The bridge has been moved to the end of the pier, which has created a much larger inner harbor. The houses have become too high and are crowding out the necessary sunlight and daylight needed for the small marinas in the inner harbor. The axis that cut across the houses are an effort to break the 600 foot length section of pier into comfortable lengths for the user. The tower that appears at the edge of the inner harbor will be moved to denote the bridge from the Pocahontas to the Chandler Pier.

3.78
Aerial view of the promenade, houses, and inner harbor.

3.79
View of a group of houses.



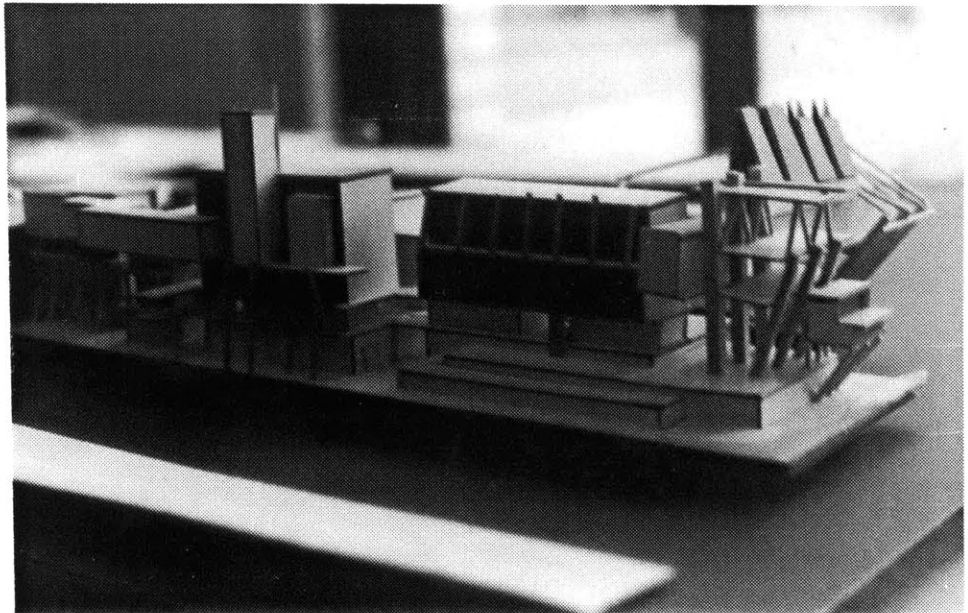
3.78



3.79

The dominant physical form of a tower acts as a landmark at the end of the pier. This scheme represents a series of experiments in house forms so there is no one consistent ideal. The structure of the pier with its heavy pilings was extended in an abstract manner throughout the different house schemes. This structural form helps define the interplay of light and shadow with the buildings along the water's edge.

3.80



3.80

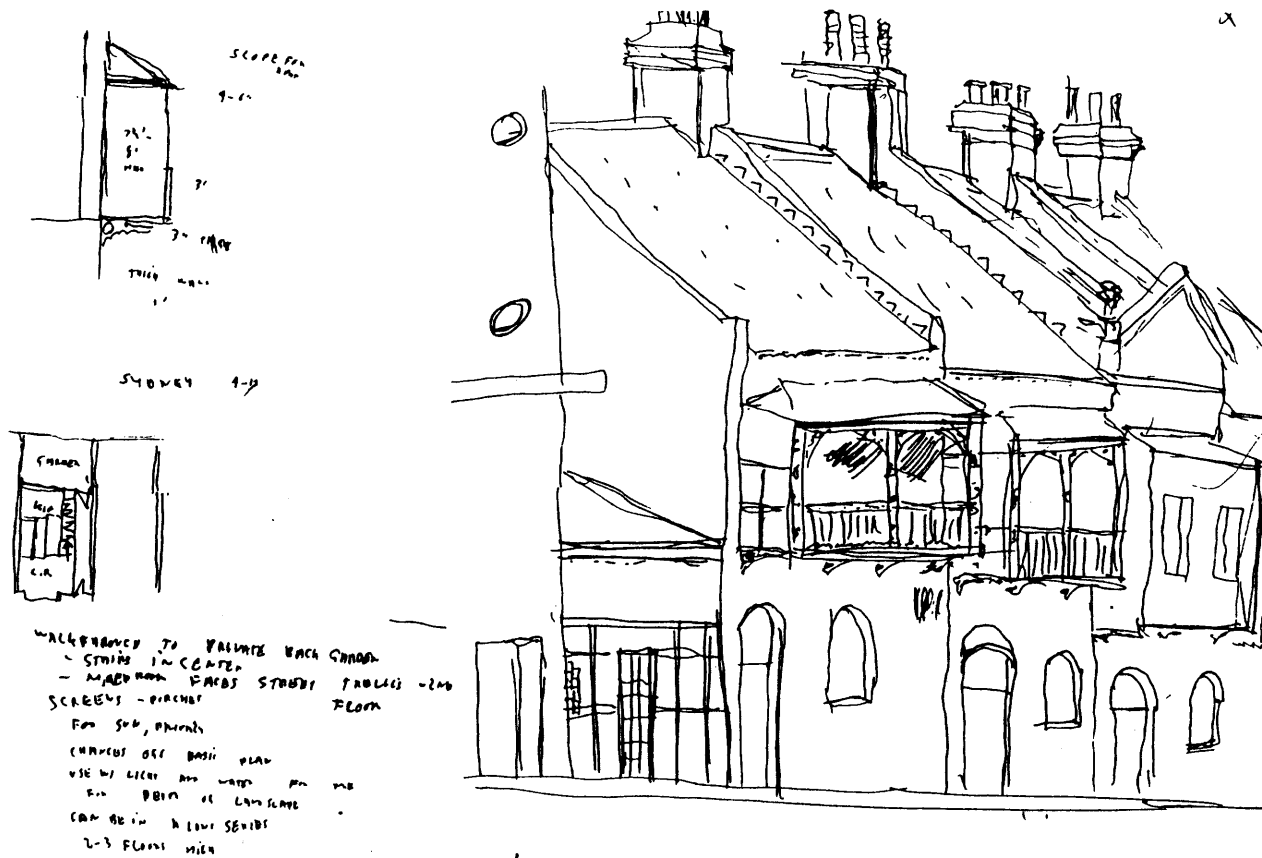
The bridge at the end of the pier.

3.81

The Mystic, Connecticut, waterfront was used as a reference.

3.81





3.82

Field studies of row houses in the Paddington District, Sydney, Australia.

The plans of these row houses are long and narrow with a private garden in back, and the stairs to the second floor right inside the front door. The master bedroom faces the street and has the ornamental grill balcony. The coziness of the dimensions lend a sense of domain for a house within a large, expansive landscape such as Australia, or along the waterfront.



3.83

Structures on pier at
Helsinki used as a
reference for access
to the water.

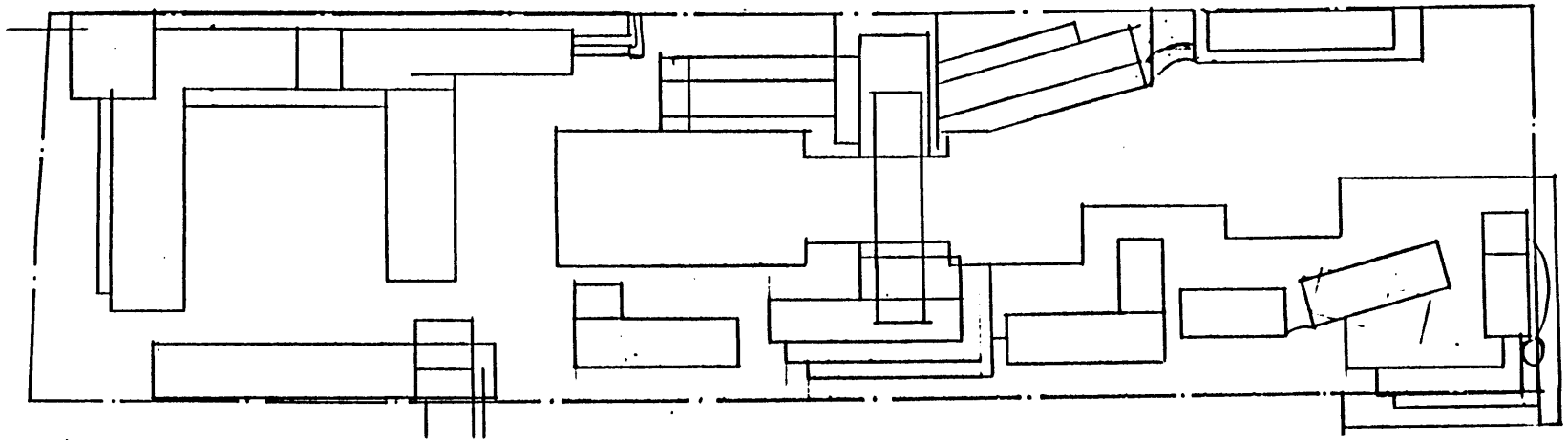
An overall theme was established in scheme number 7 that helped infuse the entire project with an overall cohesiveness. Throughout the observation and analysis of waterfront environments figure form reversals. The model was able to give a three dimensional clarity to this concept. This theme could be extended to the promenade along the western edge of the pier, and to the other aspects of the project such as the towers, marinas, and orientation of the houses. It could work in vertical space, on the smaller scale of individual houses as well as in the overall plan.

Throughout the project the eastern approach to the bridge has been private with the groups of houses to have the same characteristics of small islands. This scheme solidified the idea of building these houses on piloti over the water thus freeing the land and water for other forms of activities such as gardens. These sail type houses rise from the ground and become an abstract extension of the roofs on the houses below. This established a precedent so that they are not such an isolated form on the bridge. A high system of steel masts provide structural support as well as extending the structural theme and vocabulary established by the tower at Commercial Street.

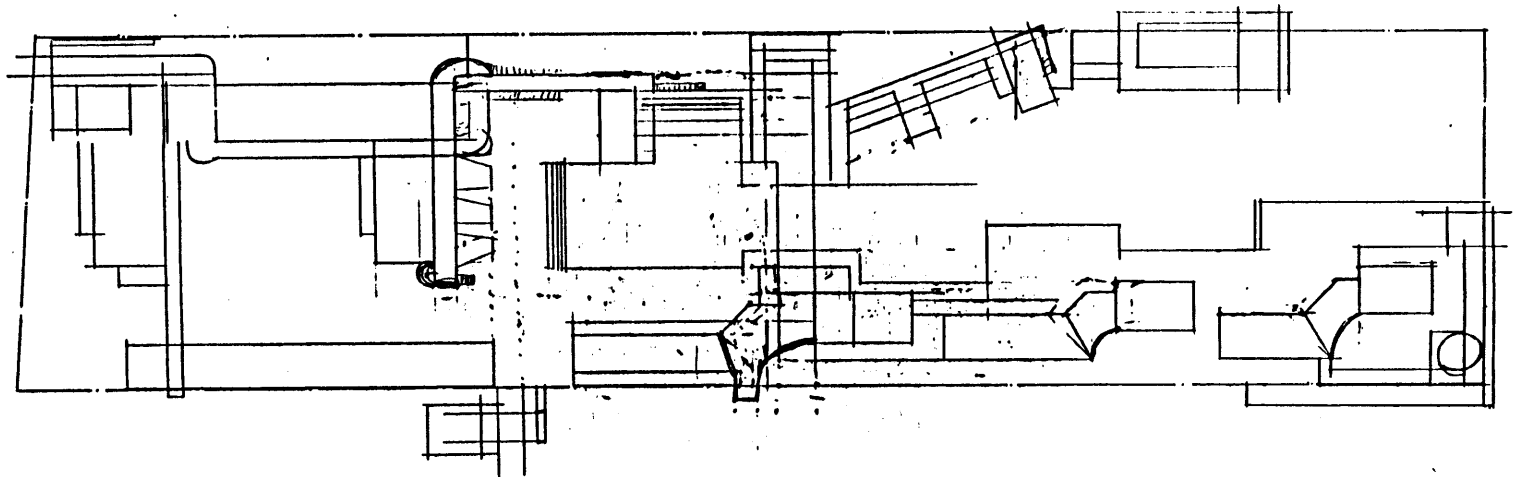
The plaza front inner harbor now has public activities occurring on each side of it until the houses begin on the east and the bridge abutments start on the western side of the pier. The city of Portland wants to develop an aquarium on the waterfront. I am proposing that the long building along the western edge of the inner harbor be programmed for this use. The inner harbor frontage would accommodate the public facilities, while there would be direct access from the water for the functional needs of the aquarium.

The residential uses and public activities at the end of the promenade would remain the same. A park and theatre have been developed at the end of the pier for public gatherings, concerts, and observations.

This scheme represents an effort to manipulate the built landscape in much the same manner as the natural landscape of the drumlins. The natural peninsulas that extend into the bay have a certain rhythm established. The development of Pocahontas pier represents how a natural vocabulary of piers and rocks on fill can be formed that does not hinder the necessary functions along the pier, and creates a language that connects and transcends the water and the built environments. These land forms root the pier in the natural world while responding to human needs and aspirations.



3.84

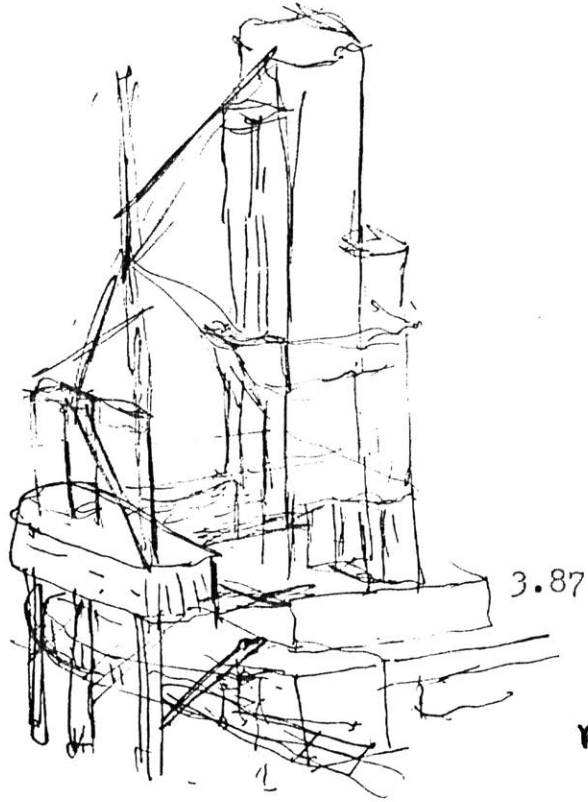


3.85
3.84

Original Site plan
for scheme.

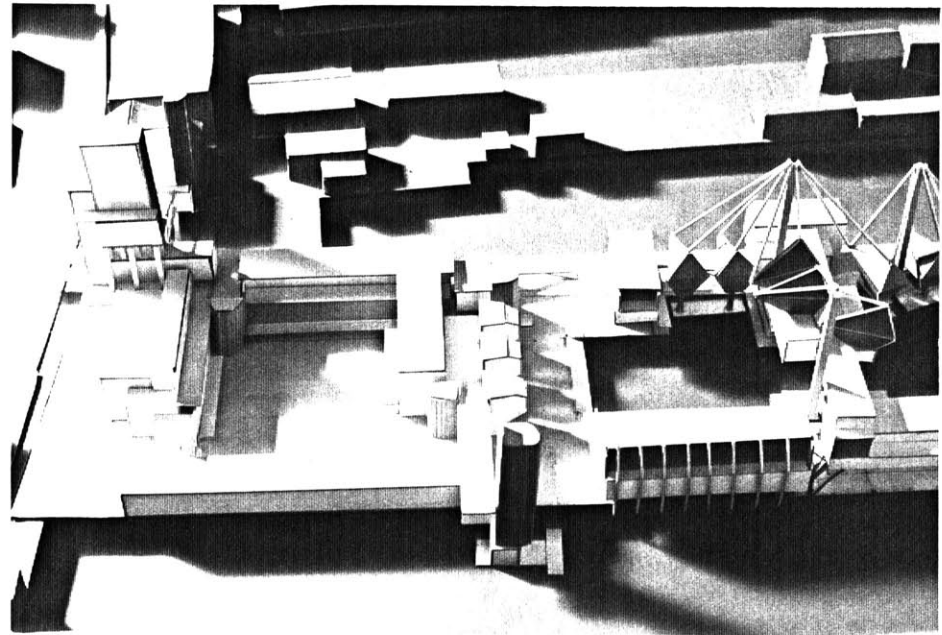
3.85
Revised site plan
that model was built
from.

The top drawing is the original site plan. Modifications to the site such as more open space and a theatre at the end of the pier, the houses on piloti, and the dimensional space of the plaza facing the water occurred during the construction of the model. The lower diagram shows the importance of the two plazas as a public gathering area, market place, shopping center and as coordination for the different access ways through the site.



3.86

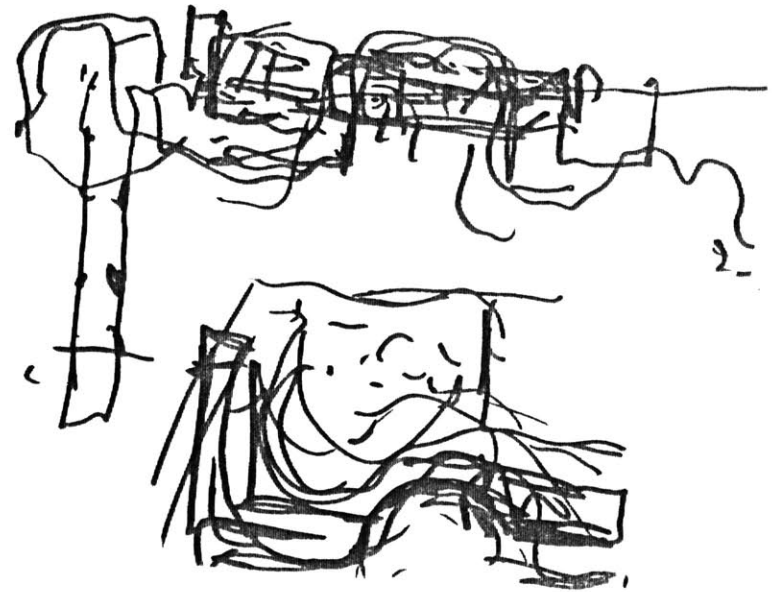
3.86
Tower diagram.



3.87

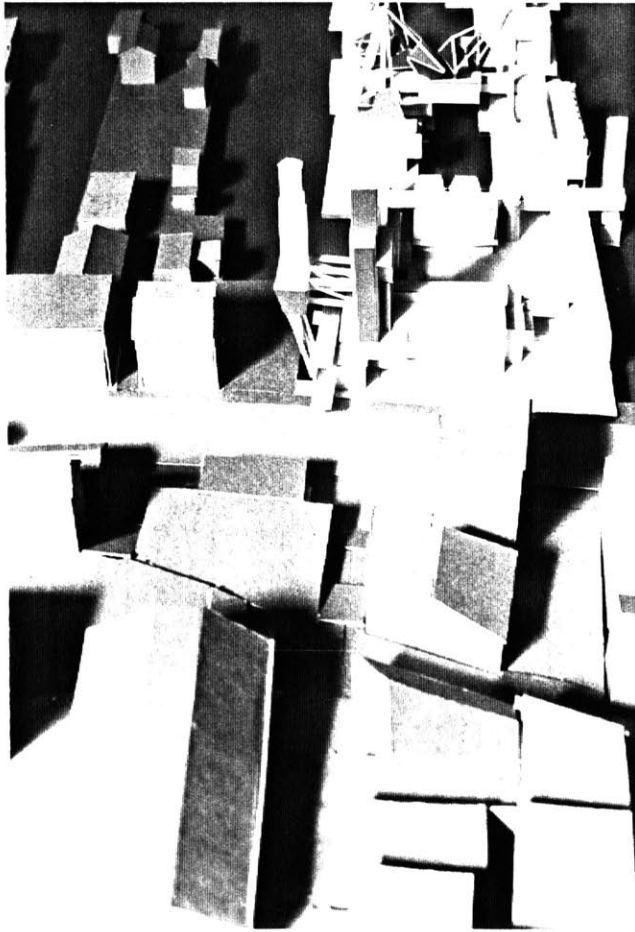
3.87
City and water
plazas.

REVERSALS
PUBLIC
PRIVATE



3.88

3.88
Figure-form re-
versals in site plan.



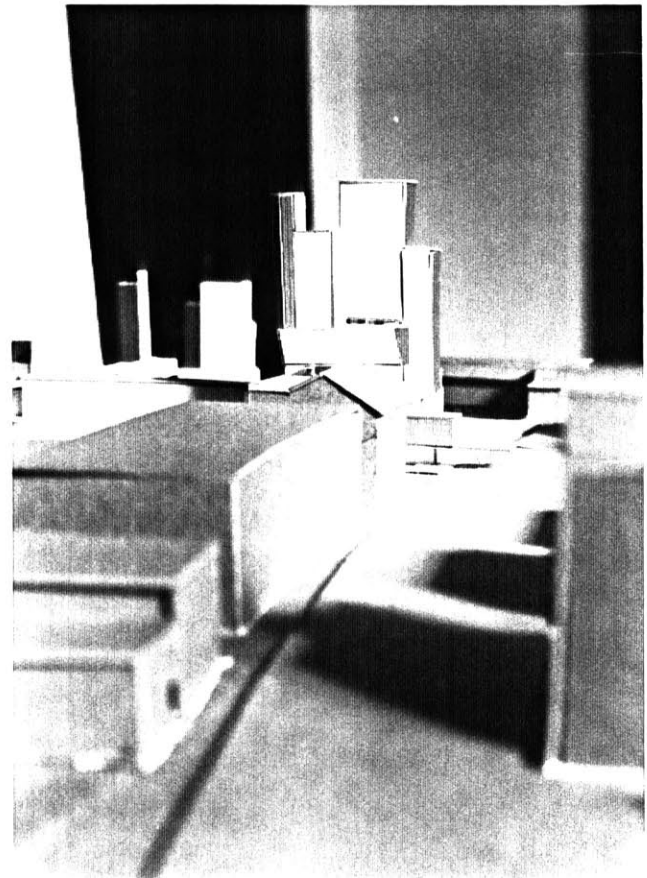
3.89

3.89

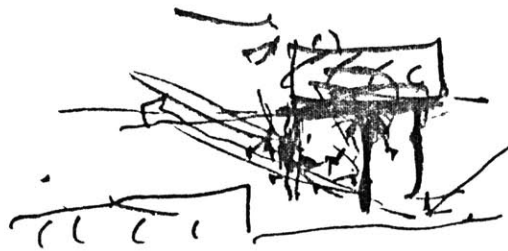
Project and adjacent
Old Port District.

3.90

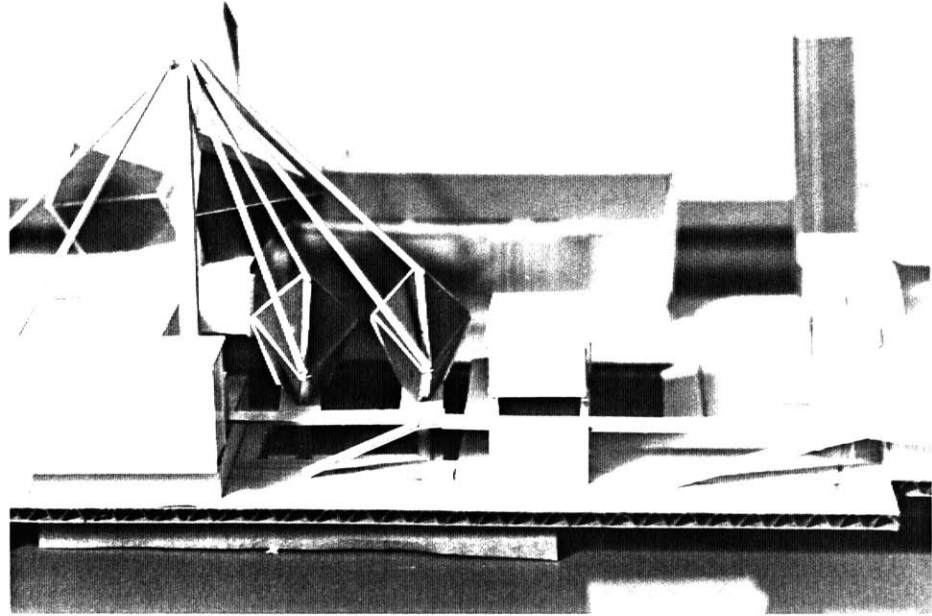
Tower and Commercial
St. from the east.



3.90



BUILD
OVER
WATER



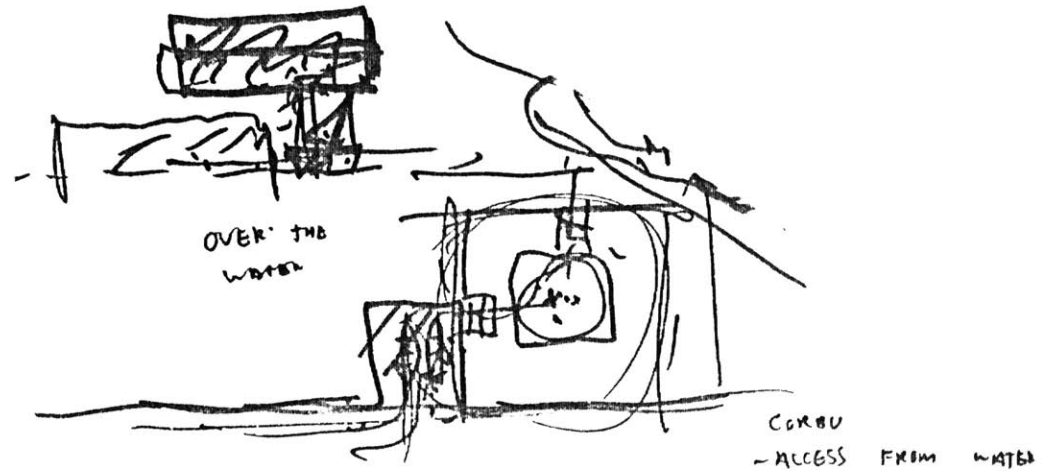
3.93

3.93

Access from the city
to houses on piloti.

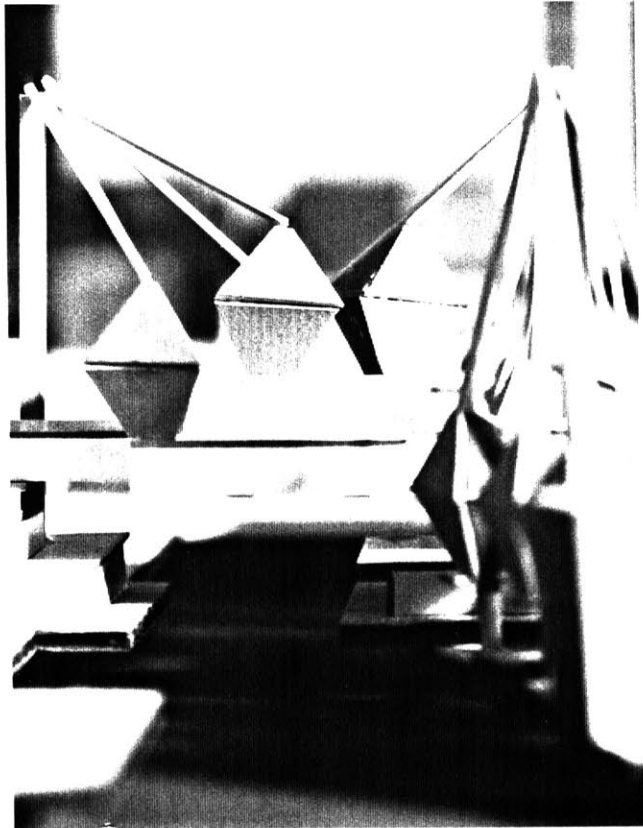
3.92

Diagrams of building
over the water.



OVER THE
WATER

CONCRETE
- ACCESS FROM WATER



3.91

3.91

Sailor's view of houses
and the inner harbor.

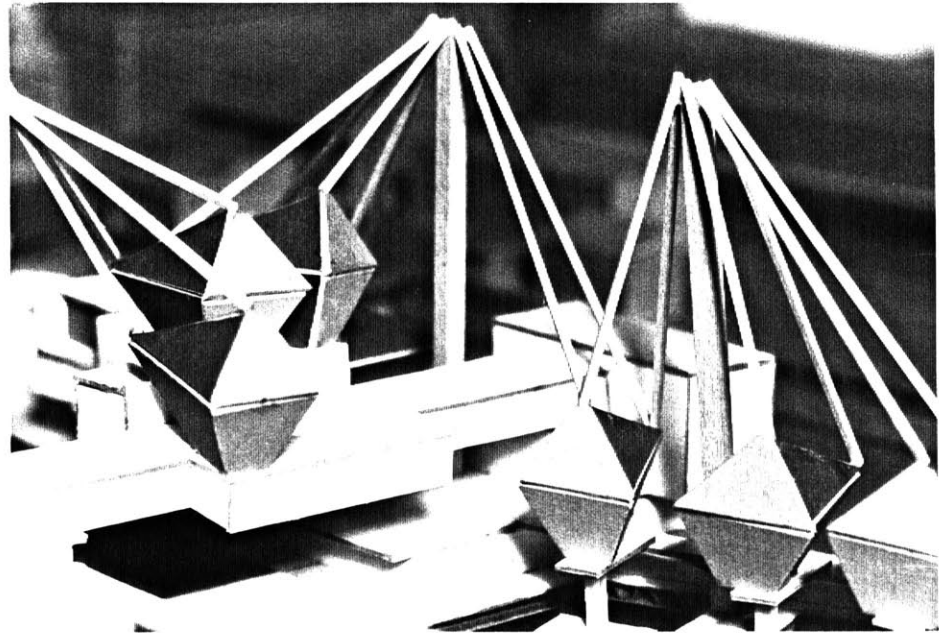
3.95

Plaza at water's edge,
aquarium, and "sail
houses" from the west.

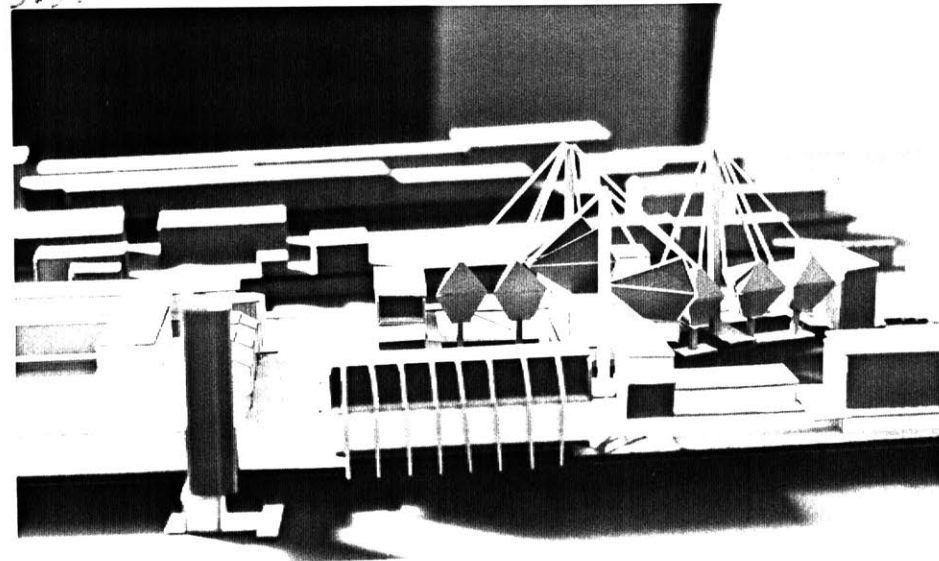
3.94

Bridge and "sail houses."

3.95



3.94



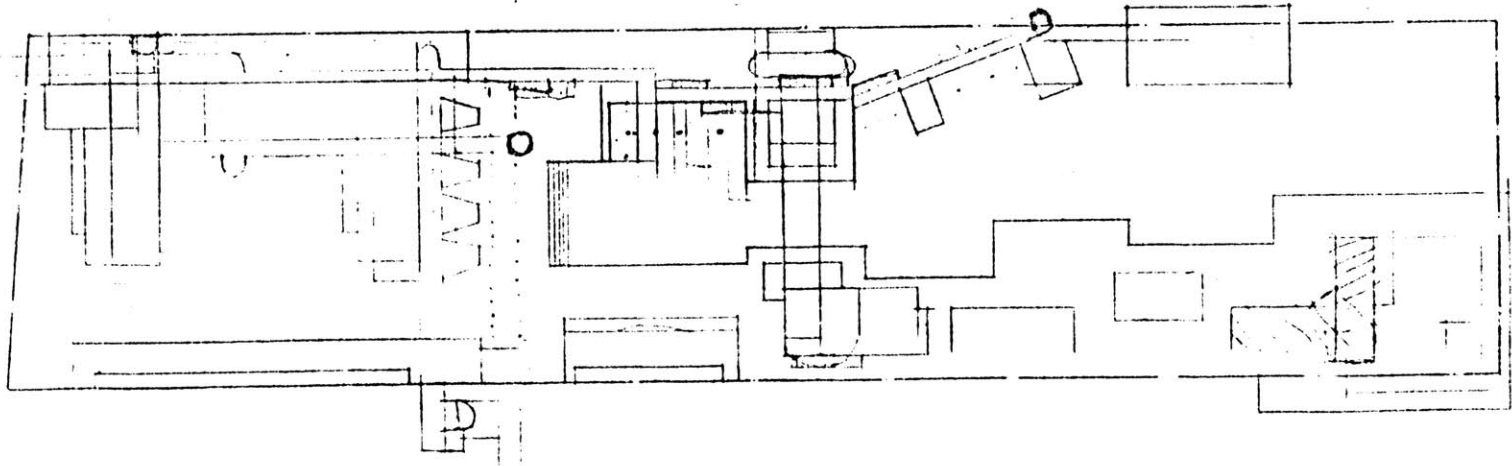
The eighth scheme is a final refinement of the concepts established in the previous schemes. The model is not fully representative of the refinements that occurred during the design solutions to follow in the next chapter.

The scale and formal language of the sail houses has been refined to a point where final design can take place. These houses are for single family occupancy, and they are now an extension of the houses that are below them. The tower in this manifestation has gone bezerk and grown to too large of a scale. It has become too dominant of a form for the street and for the pier, but it is useful in its overall experimentation of form.

The size dimensions for the two plazas have been refined so that they can accommodate their specific functions and identity, while being able to form transitions and connections between them. The plaza along the inner harbor is now large enough to contain a public marketplace, open space and retail space that is physically linked to these activities. The inner "city plaza: is now at a dimensional size to comfortably accommodate its intended uses.

The path that links this pier to the others is now clearly identifiable. The large street tower and smaller tower near Chandlers Wharf serve as landmarks for this path. This path incorporates a series of activities and experiences instead of just a visual connection of one destination to another.

The promenade along the western edge is delineated in its basic final form and massing. I decided to reduce the number of houses along this walkway so that it would become more open and public. This public promenade has been reinforced with retail activities along the ground level. The density of the houses along the eastern edge has increased to accommodate for lower density on the western edge. There is more open space at the terminus of the pier so that the public activities, theatre, and park wouldn't be as inhibited. The tower marks the edge of the built world, is a light tower for boats, a restaurant, and allows the public to see beyond the edge.

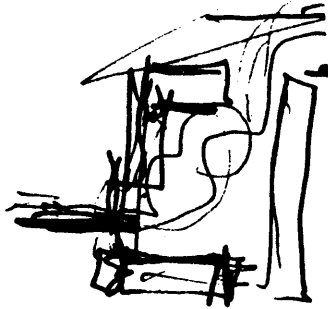


3.97



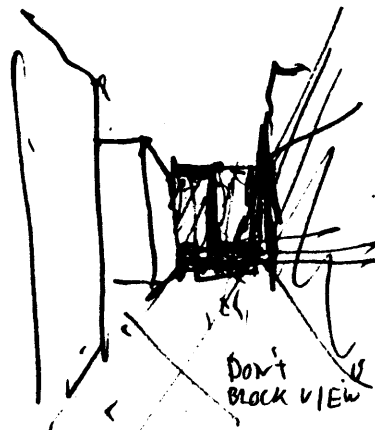
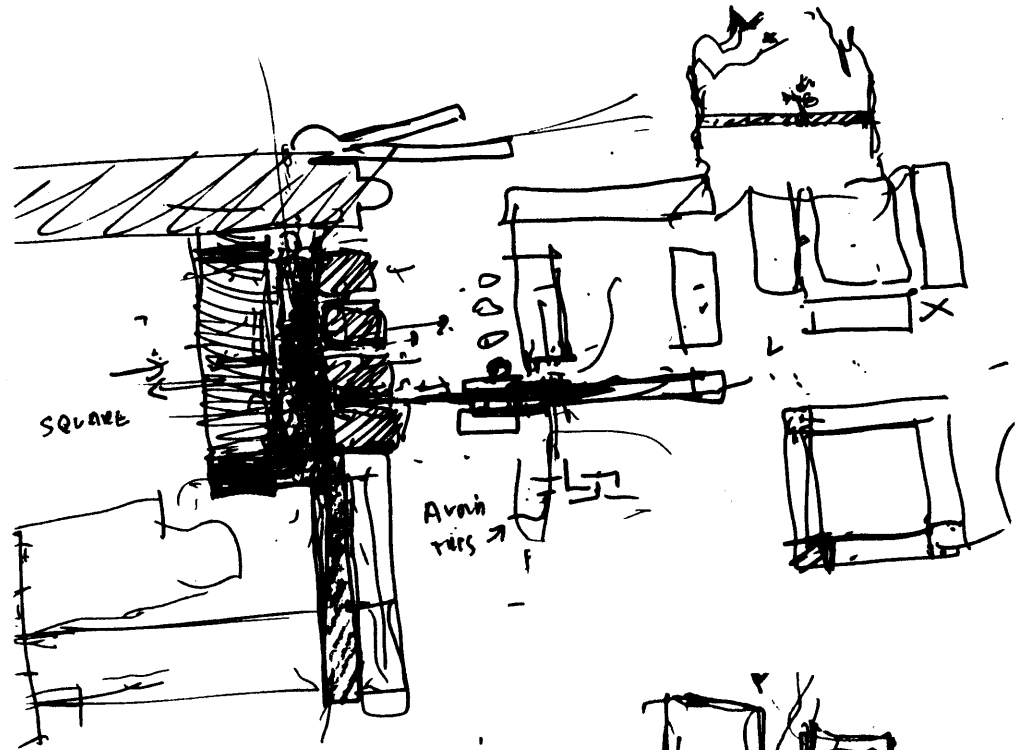
3.97
Site plan for scheme
eight.

3.98
Transformation of
plazas into public
orientated spaces.



3.99

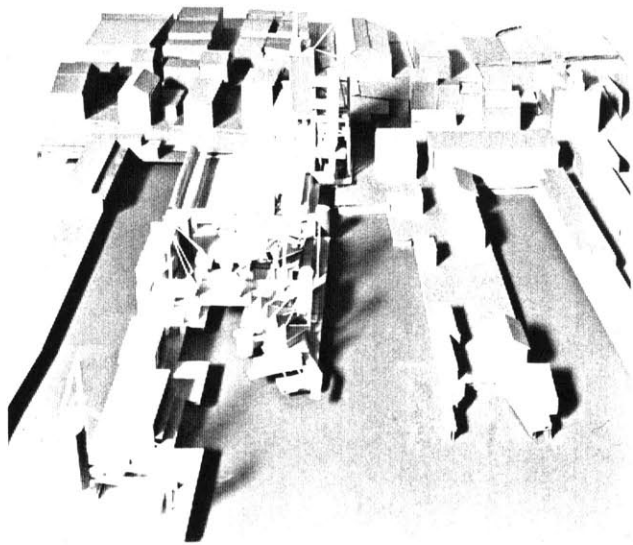
3.99
Diagram sketches of
access through a
courtyard.



3.100

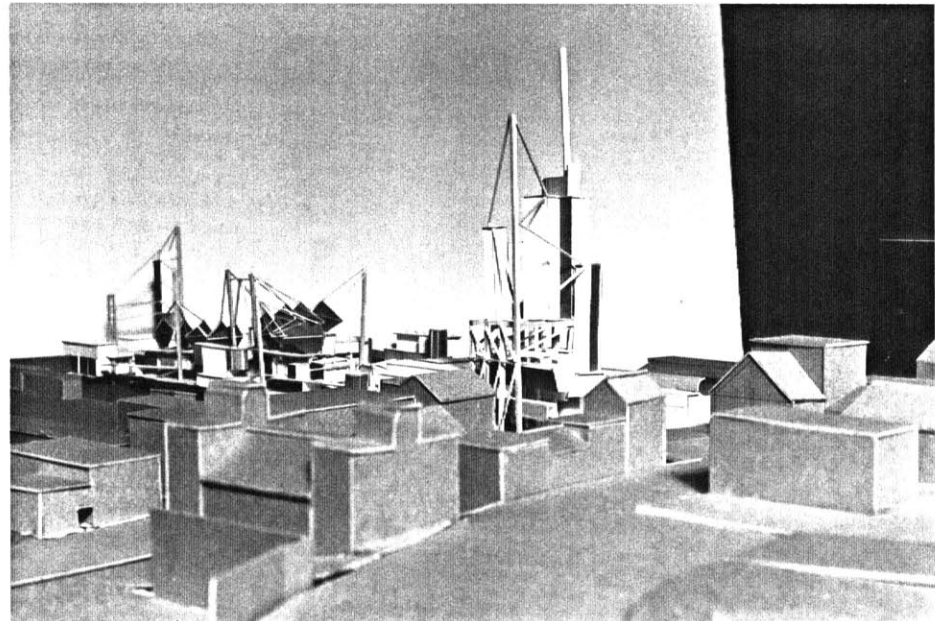
3.100
Studies of access and
views to courtyard
at the water's edge.





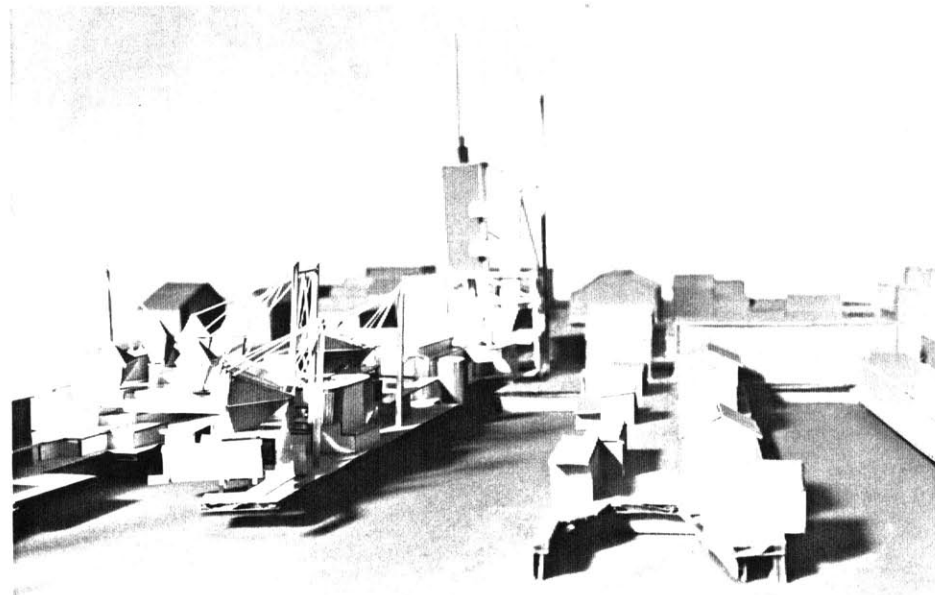
3.102

3.102
Aerial view of project
from harbor.



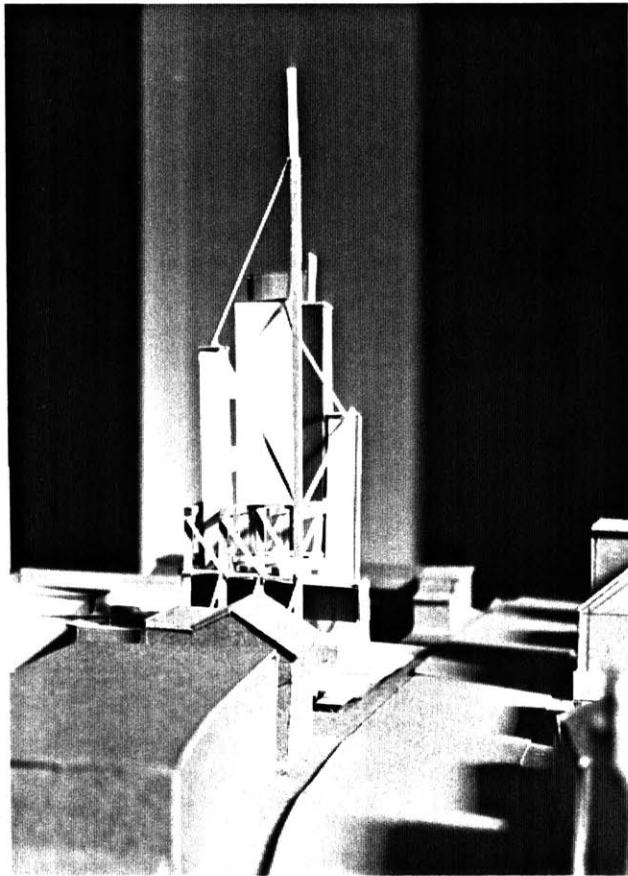
3.101

3.101
Tower and project
from the city.



3.103
Sailors view of project
and adjacent pier.

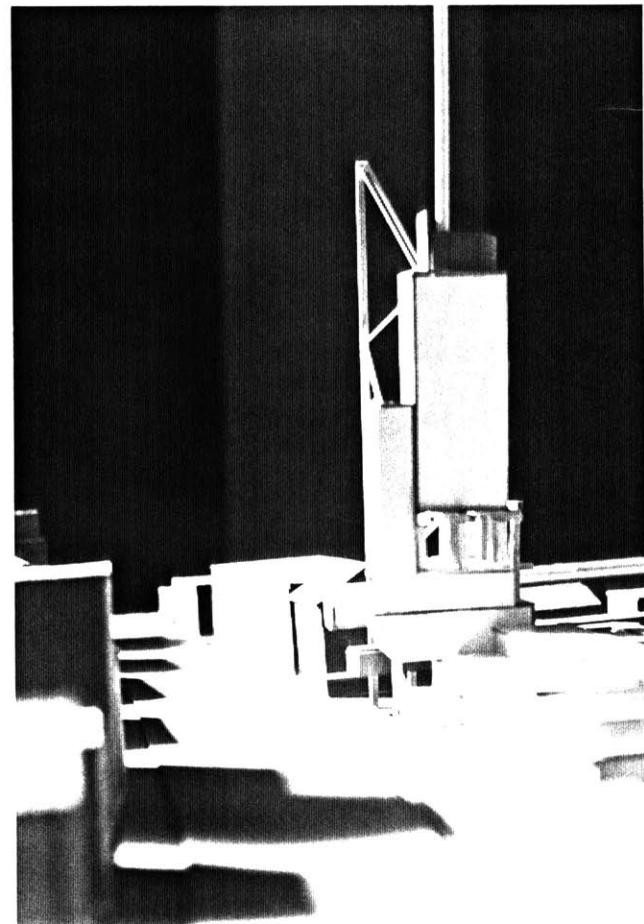
3.103



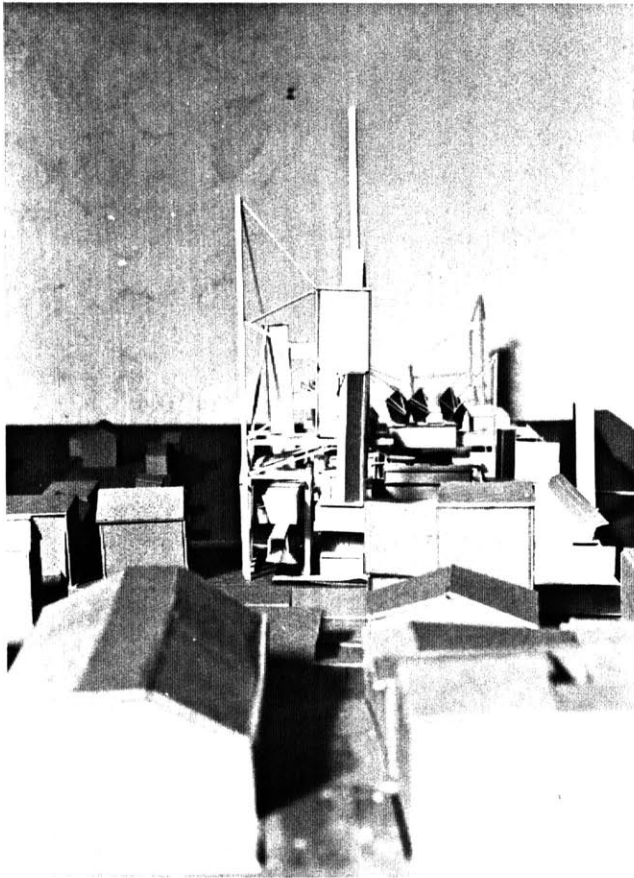
3.104

3.104
Tower and Commercial
St. from the east.

3.105
Tower and Commercial
St. from the west.



3.105



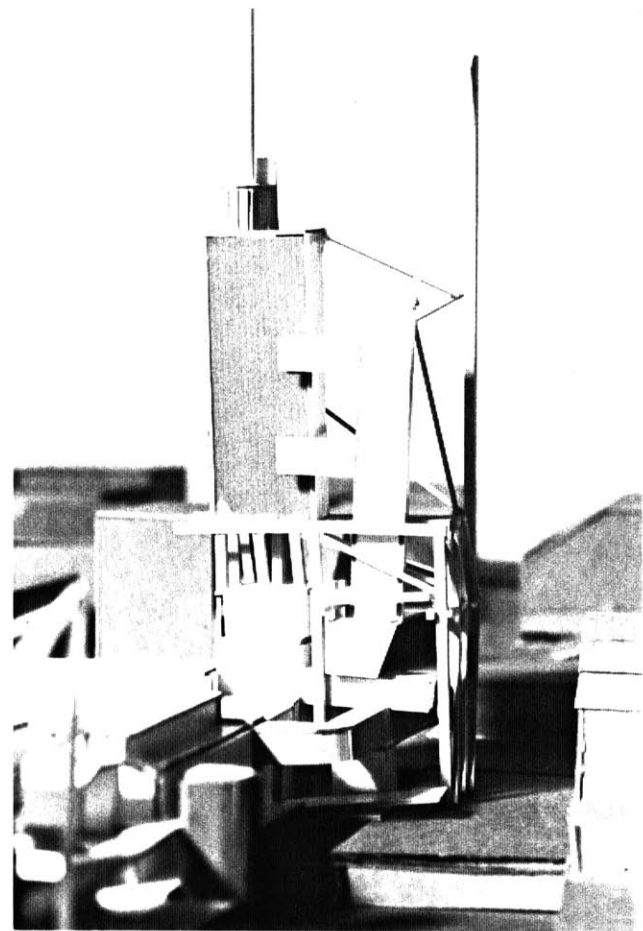
3.106

3.106

Tower from the Old
Port District.

3.107

Tower from the Port-
land Pier.

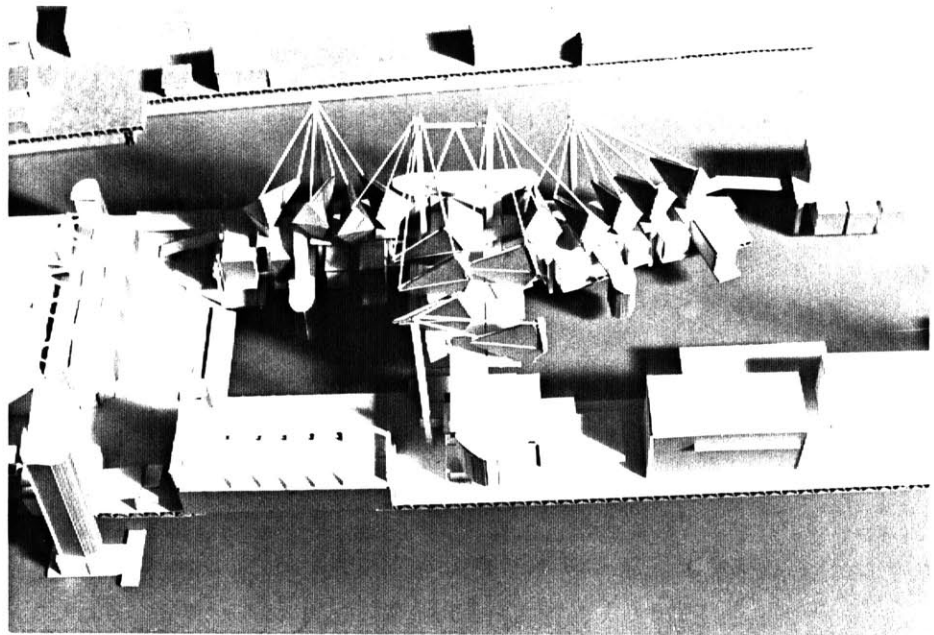


3.107



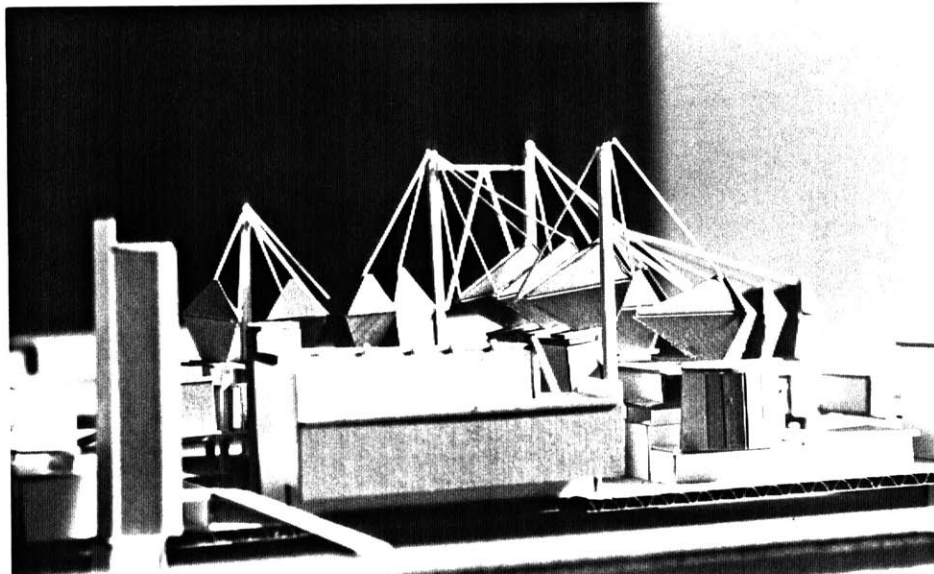
3.108

3.108
Diagram of houses on
piloti.



3.109

3.109
Aerial view of inner
harbor and houses.



3.110
Houses from Chandlers
Wharf.

3.110

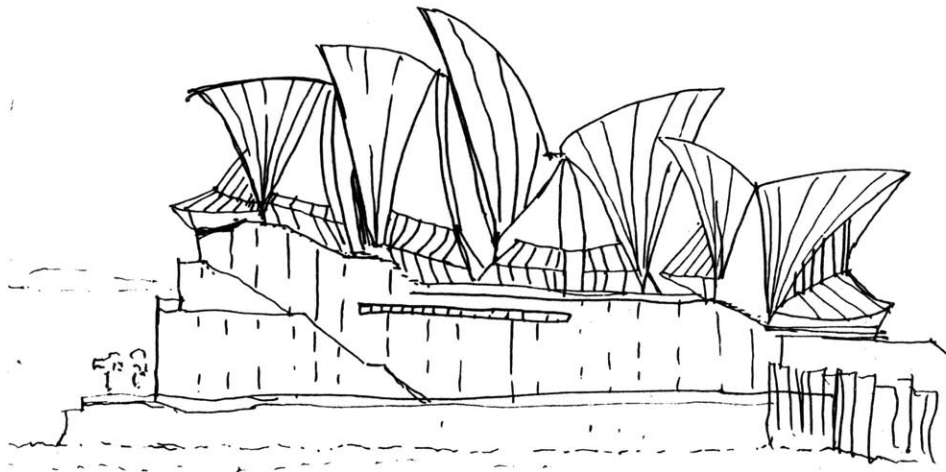


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3.113



3.114

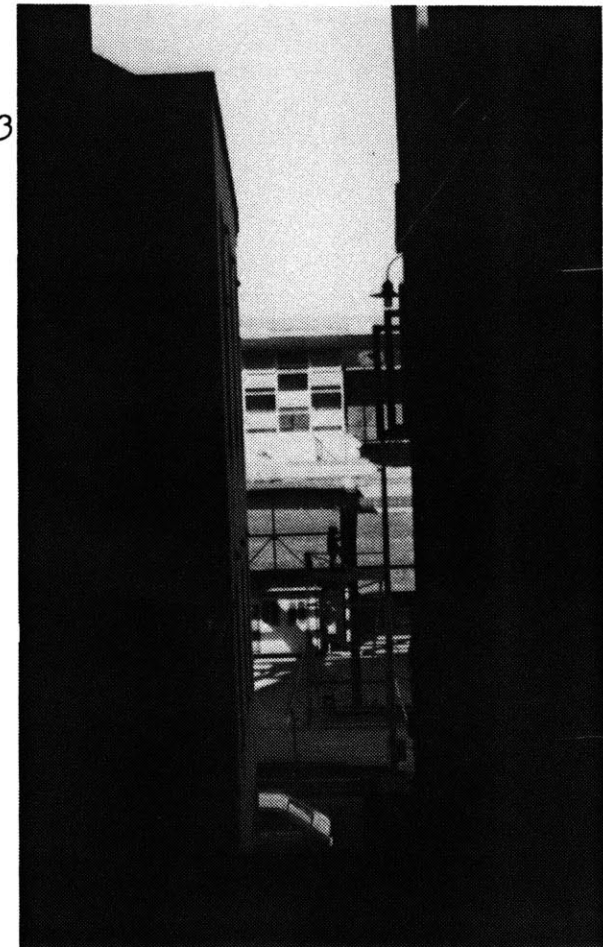
3.113, 3.114

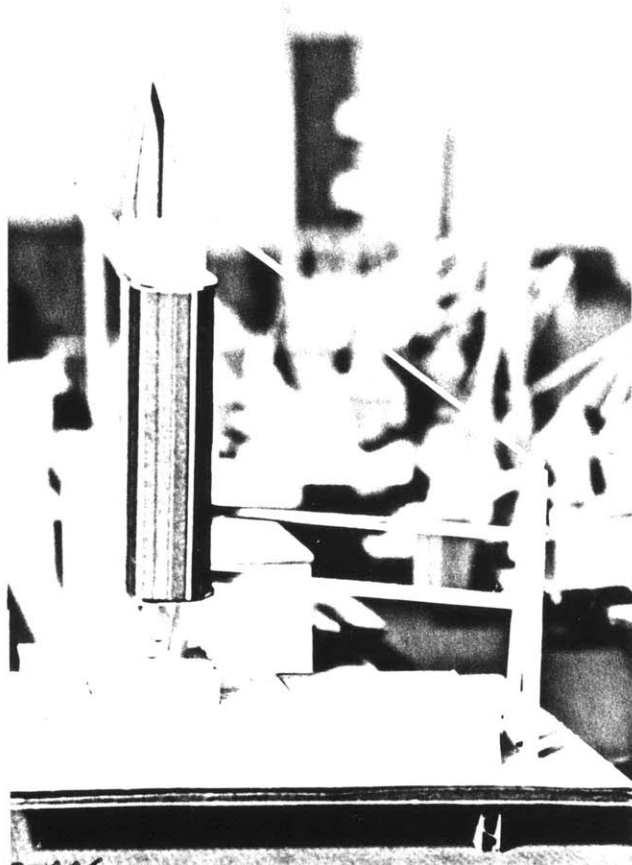
The Sydney Opera House was used as a form reference for the houses late in the process.

3.115

Screened view of Sydney Harbor as references for houses on piloti.

3.115





3.115

3.116

Proposed tower at end
of pier.

3.117

Pier at South Boston
as a design reference.

3.118

Portland Head light
house as a design
reference.

3.118



3.117



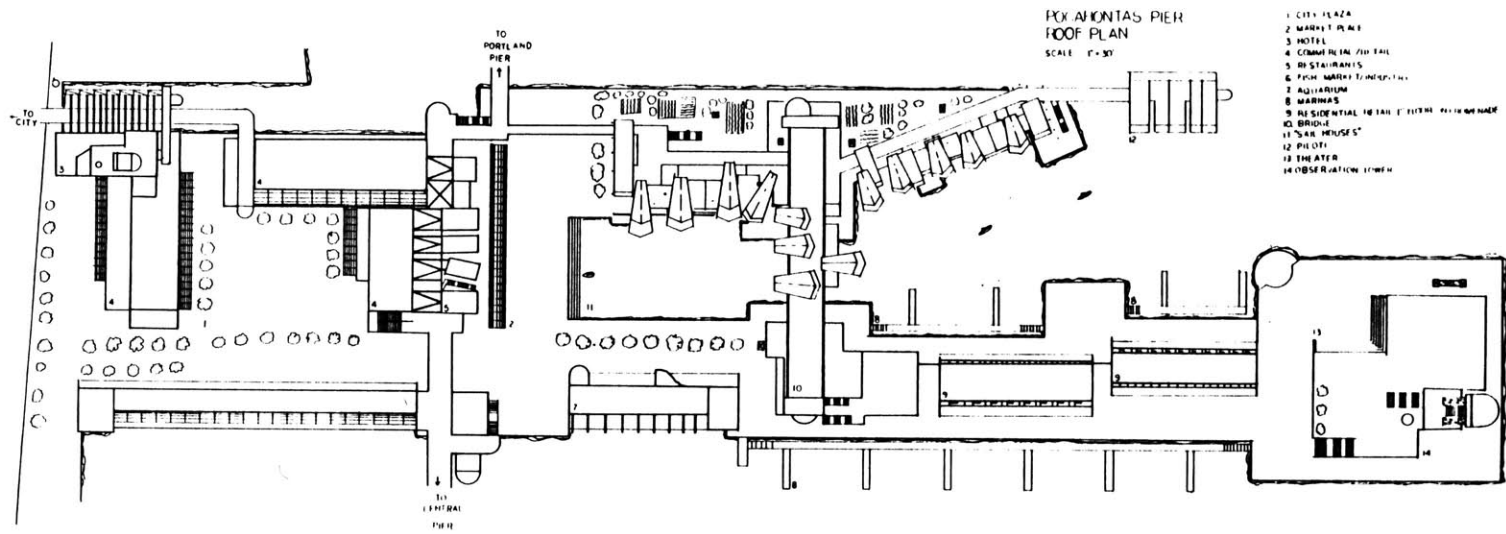


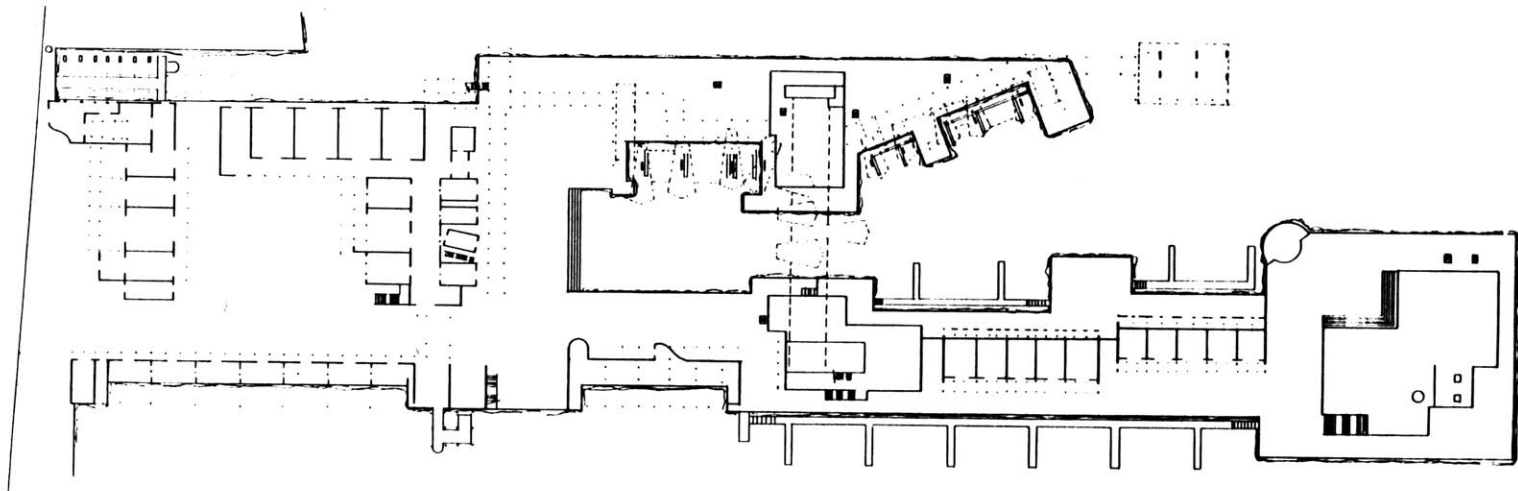
3.119

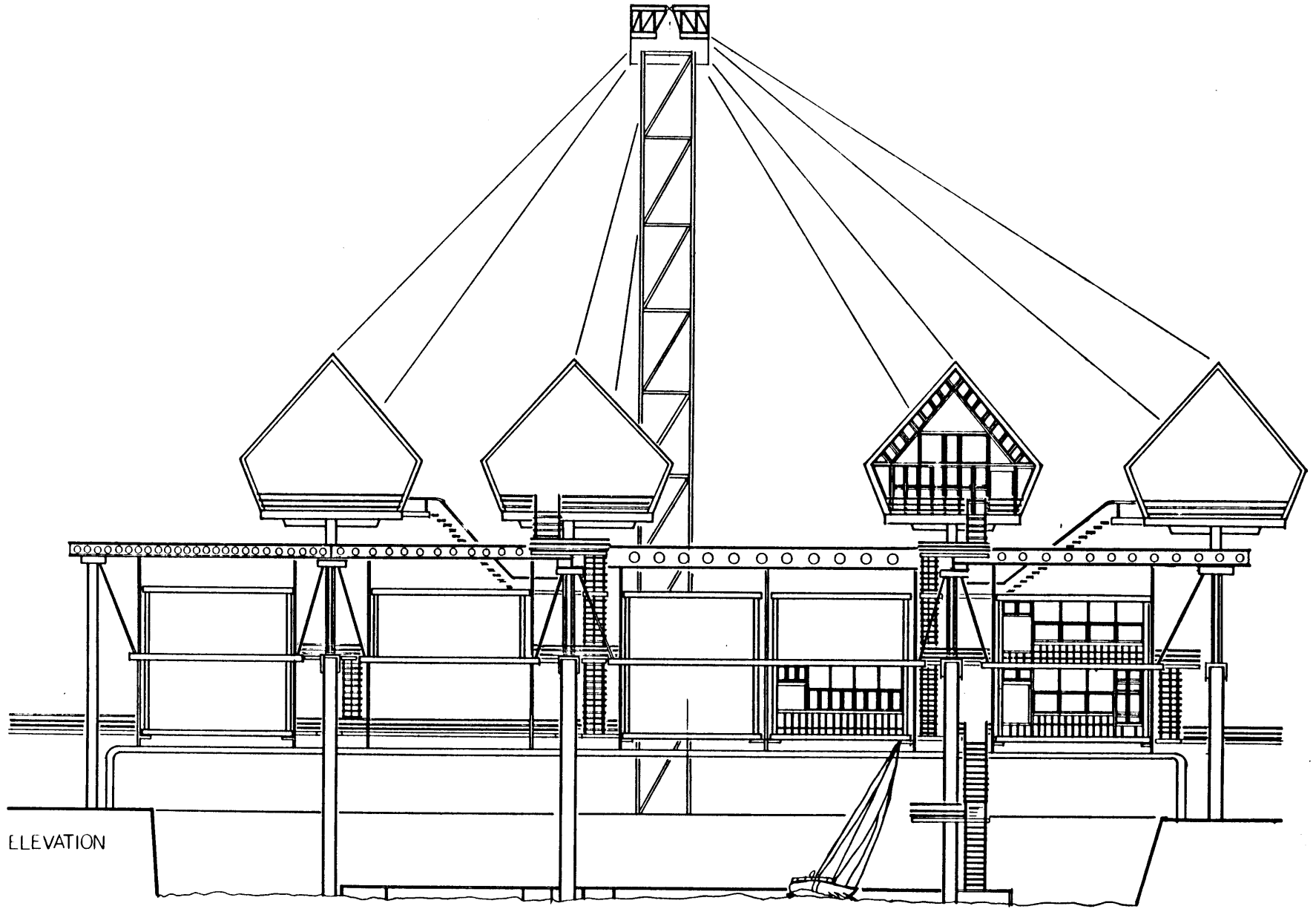
Sydney Opera house as
reference for screens
for houses, orientation
of houses, and views
to water.

Drawings

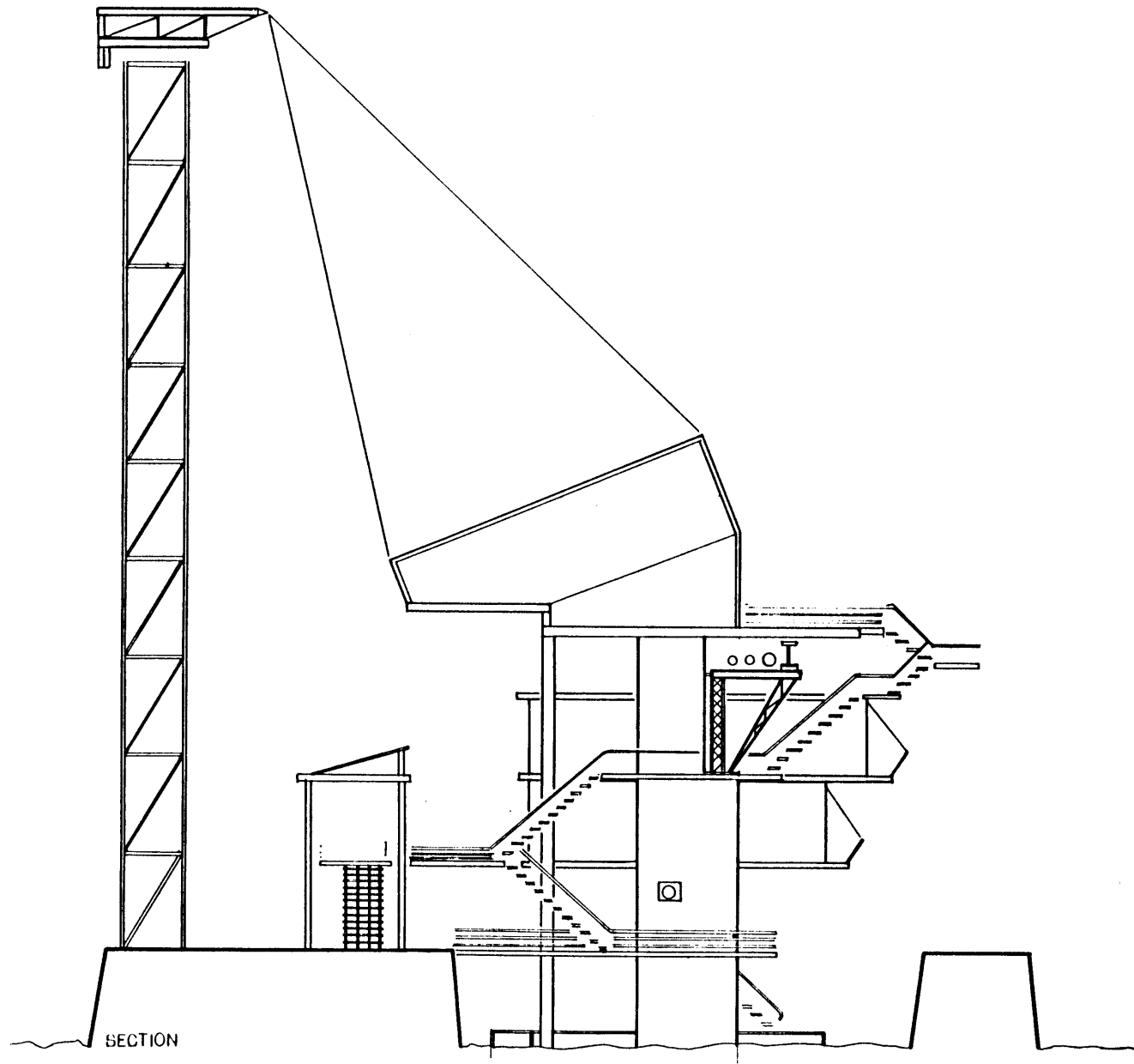
The following pages illustrate how the concept of the "sail houses" were developed into plausible entities of houses built on piloti. The development of part of the project demonstrates attitudes toward structure, human needs, and technology.

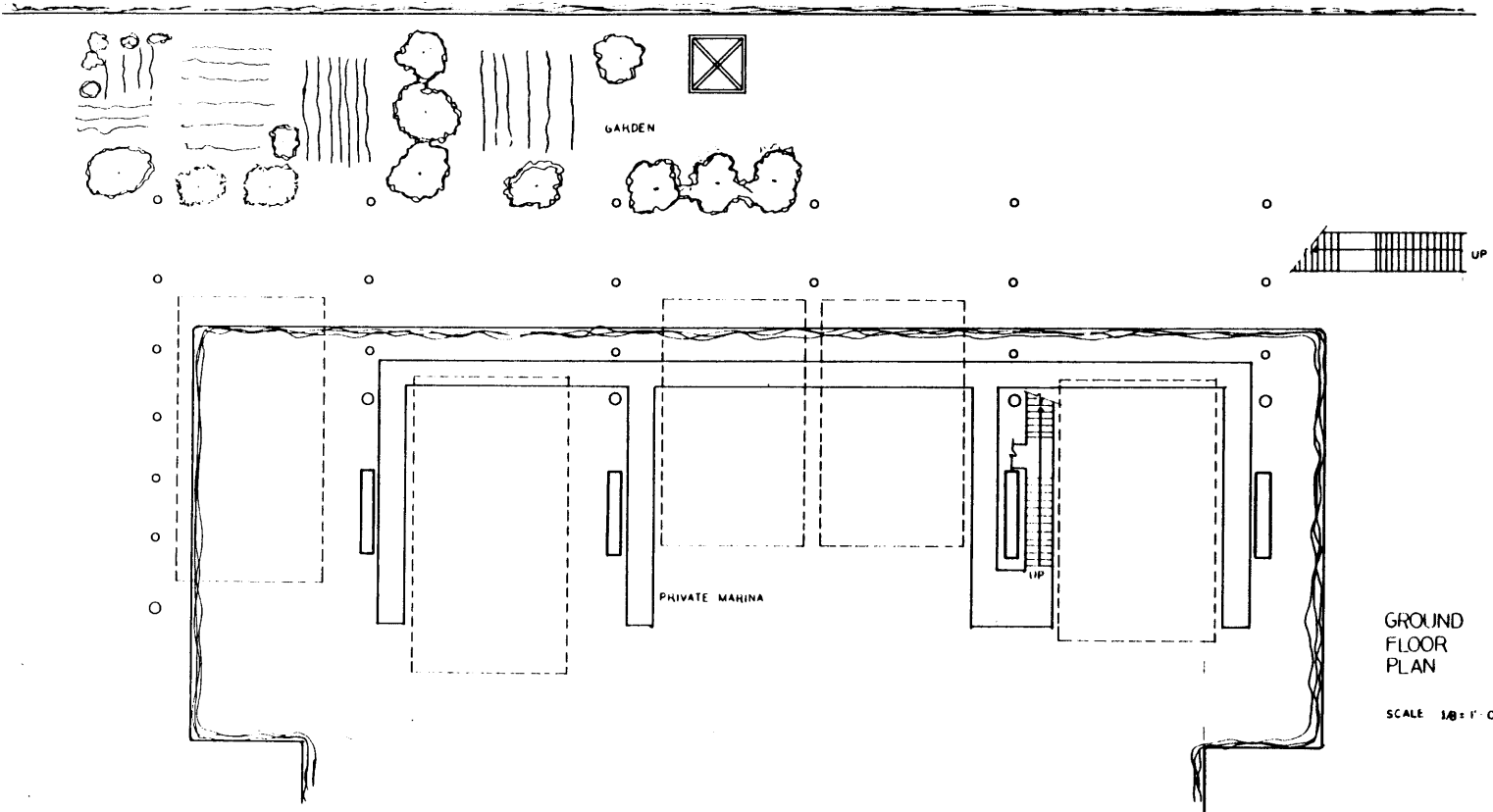






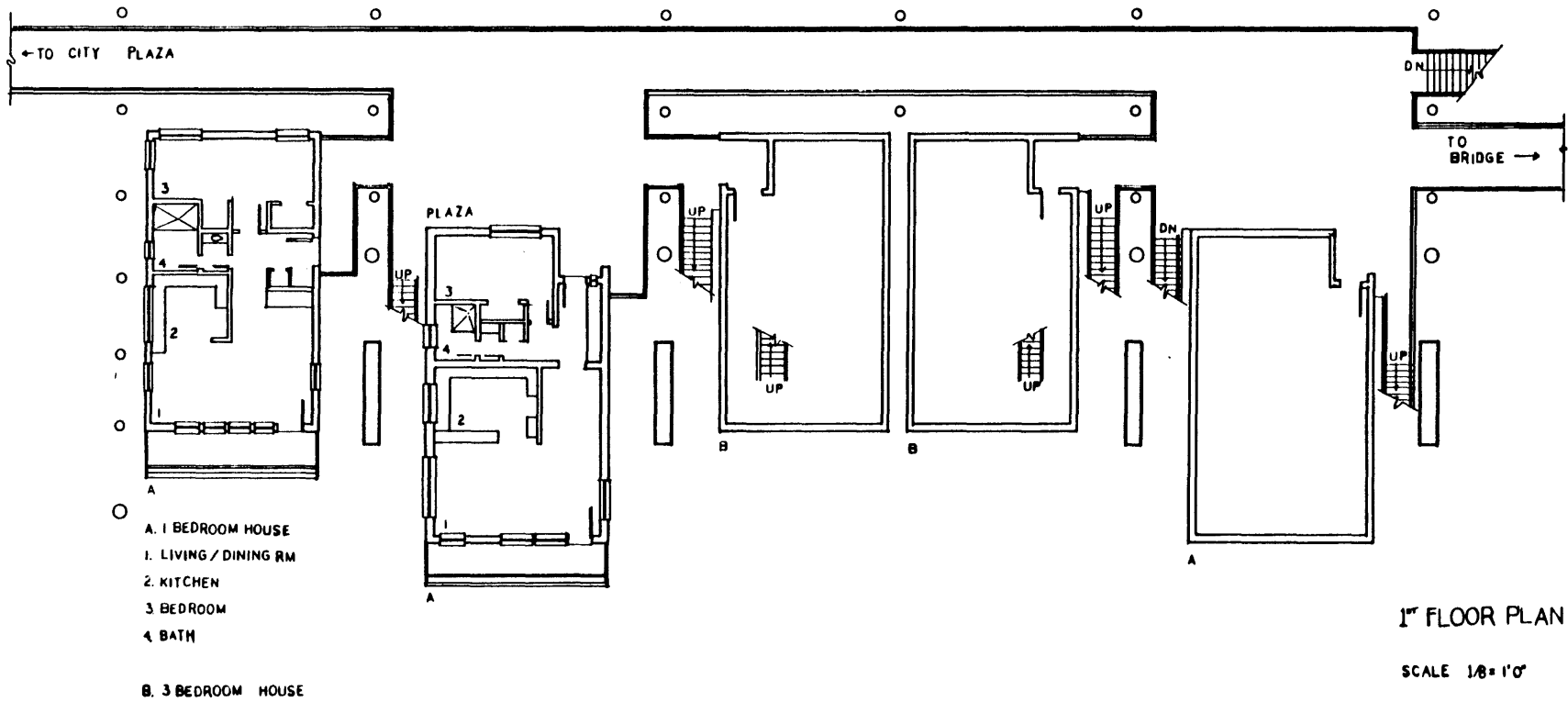
ELEVATION





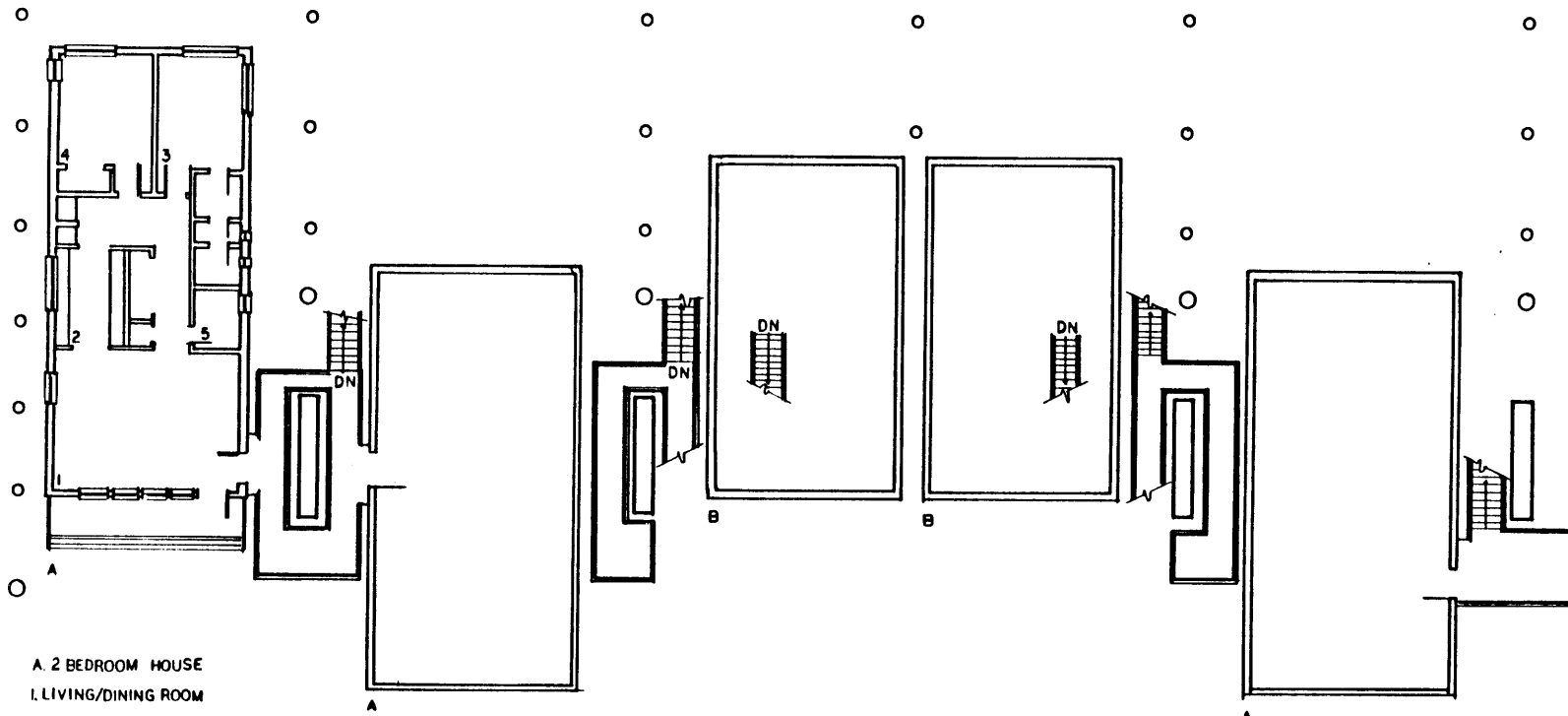
GROUND
FLOOR
PLAN

SCALE 1/8" = 1'-0"



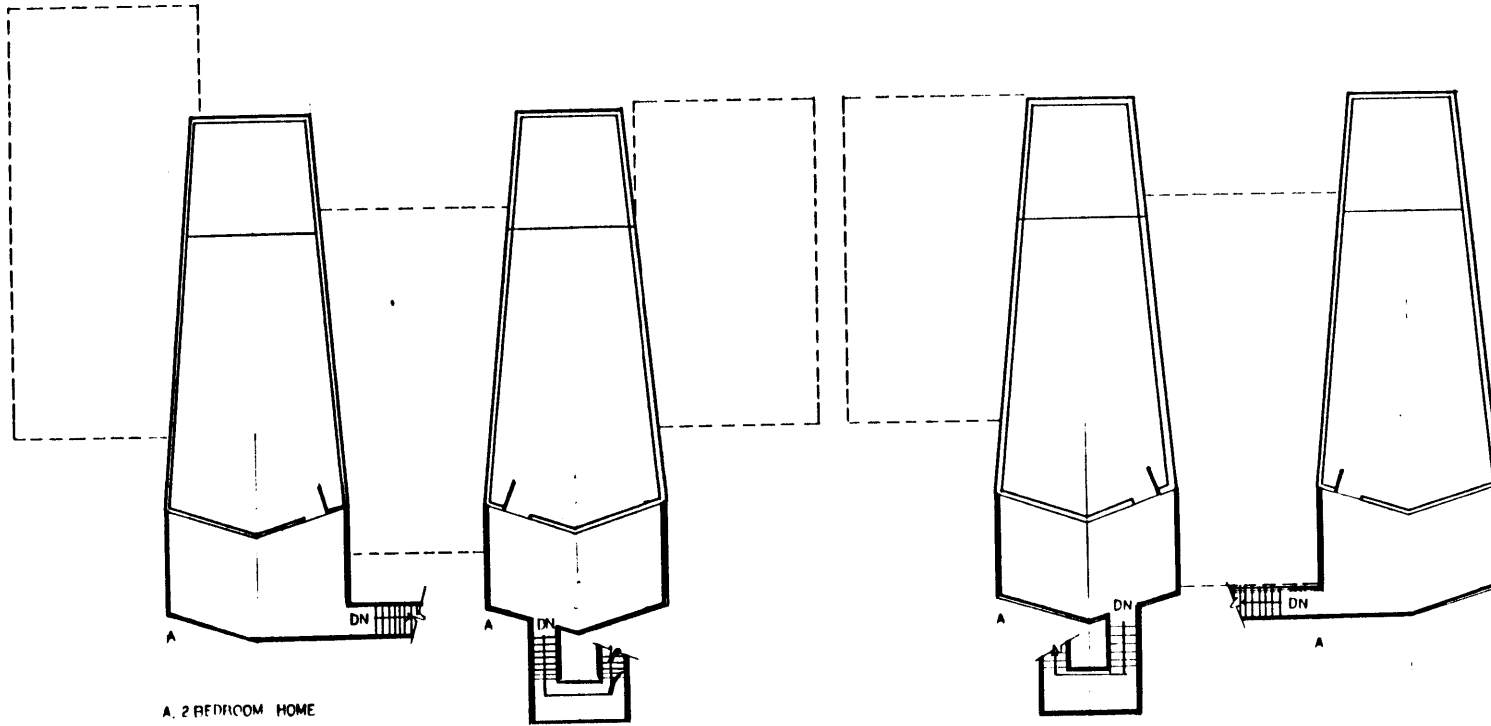
1ST FLOOR PLAN

SCALE 1/8" = 1'-0"



- A. 2 BEDROOM HOUSE
- 1. LIVING/DINING ROOM
- 2. KITCHEN
- 3. MASTER BDRM. SUITE
- 4. BEDROOM
- 5. BATHROOM
- B. 3 BEDROOM HOUSE

2nd FLOOR PLAN
SCALE 1/8" = 1'-0"



A. 2 BEDROOM HOME

ROOF PLAN
SCALE 1/8" = 1'-0"

Conclusion

This thesis was undertaken in an effort to develop a language for design based on associative references derived from observations of the environment and context. It was fueled by the desire and need to better delineate a design methodology based on the understanding of a place. There were three focal points of the effort that were interdependent. One was the need to establish the ability make associative references and connections from the context and apply them to a specific project. The second was to step back and realize what has happened before in history both along the waterfront and in the formal concepts of architecture. These tenets could then be used as tools for developing a language for design. The third ideal was to develop this personal language of architecture that responds to but transcends the associative references and historical ties to become a truly modern statement that stands on its own.

The different waterfront contexts and adjacent districts of the cities were examined and studied for how spaces were orientated to the water, the physical structures, open land and how it was utilized, and the physical and visual access to the water. There was an effort to maintain a certain level of spirituality within these observations and as a result the discussion too often centered upon the spirit of the place rather than the actual nuts and bolts decisions of the architecture. These basic form and dimensional studies had to be completed in order to build a valid argument for the spirit of the place. It is important to realize that a context or space cannot be simply analyzed and put into a set construction formula of uses or needs. An understanding of the spirit of the place is necessary in order to realize how

it is put together. The observational studies for the most part did not transcend this issue so they were not included in this copy of the thesis. The associative references were made on an intuitive level, but it wasn't possible to delineate them verbally.

Architecture is the creation of forms and three dimensional space based on human needs and aspirations. Forms, volumes, light, color, mass, and surfaces are combined in this activity of inhabitable art. To look at history is to better understand how these concepts are arranged in a formal manner with an implied sense of order and hierarchy. There is an underlying sense of order in architecture that leads to a harmonious arrangement of the spaces and functions. If this is not attained, the buildings become an additive mixture of built forms and spaces that are bland and based on the general instead of the specific even if the original intent was to design for the specific. Investigations into historical interventions on the waterfront were undertaken to better understand the meaning behind certain design moves that were based more on intuition in the beginning. At the end of the design process the site with its program needs and the attendant massing and volumes of the buildings had established a strength of hierarchy and order. There were themes such as the figure- form reversals that were incorporated throughout the project that charged it with a sense of order and life. These traditional views were incorporated throughout, but it was not until the end of the process that they became readily apparent.

This project definitely incorporated explorations of the "new space". These investigations and studies were based on the associative references developed from the observations, but they transcended the referenced forms. They were based on the context, they could be derived from historical references, they were scaled and formed from human use needs, but they went beyond these tenets, and this was the intent. Much of this formal language would work best in a waterfront environment, because that is what they are based from, but the attitude and ideals carry over into any project. There was a concerted effort to strive for an ideal of a "built" project. Specific forms and design moves are needed for each context, but the formal language developed here can be part of the basis for investigations and work done in other settings. It is the underlying attitude and order rather than the specific that is the most important aspect to be carried forth. These explorations were based on a specific program, and were not just objects of sculpture. This was a necessity in order to charge them with a validity that transcends the reality of this specific moment. I made an effort to swallow up this uncharted space, and in my viewpoint I fused it with a totality from within and without.

Architecture has degenerated itself into a game of styles borrowed from the past and the present, or it is frozen into abstract, lifeless types which do not relate to the given situation. The purpose of architecture is to help man find a foothold in space, that is, the earth under the sky. Buildings need to rise, extend, open, and close, because they are the embodiments of characters. Buildings express their world through these acts of standing, extending, opening, and closing. This is the basis for a timeless, essential modern architecture.

Appendix

PROGRAM

The program for the project was based on a combination of several sources. The city of Portland Planning Department has several requirements that were incorporated. S.O.M. developed a project named Pickering Wharf in Salem, Massachusetts that was referred to. There were personal refinements added to these established programs.

	Program
Residential	100 units mixed rental and condominium 1 and 2 bedroom units - 80 3 and 4 bedroom units - 20
Commercial	min. 6 floors @ 6500 sq. ft. locate near Commercial St
Retail	restaurants, shops, kiosks, some temporary, some permanent open marketplace
Parks, Open Space	2, one must be at end of pier smaller green spaces for residents
Theatre	open air theatre support facilities as necessary
Aquarium	as required by city meets city's requirements
Marina	100 slips private and public docking support facilities
Parking	as necessary
Support Facilities	as necessary
Hotel	125 rooms conference and meeting facilities banquet rooms, 2 restaurants parking
Overall Site Size	1.5 acres of exposed landfill 1.4 acres of decking

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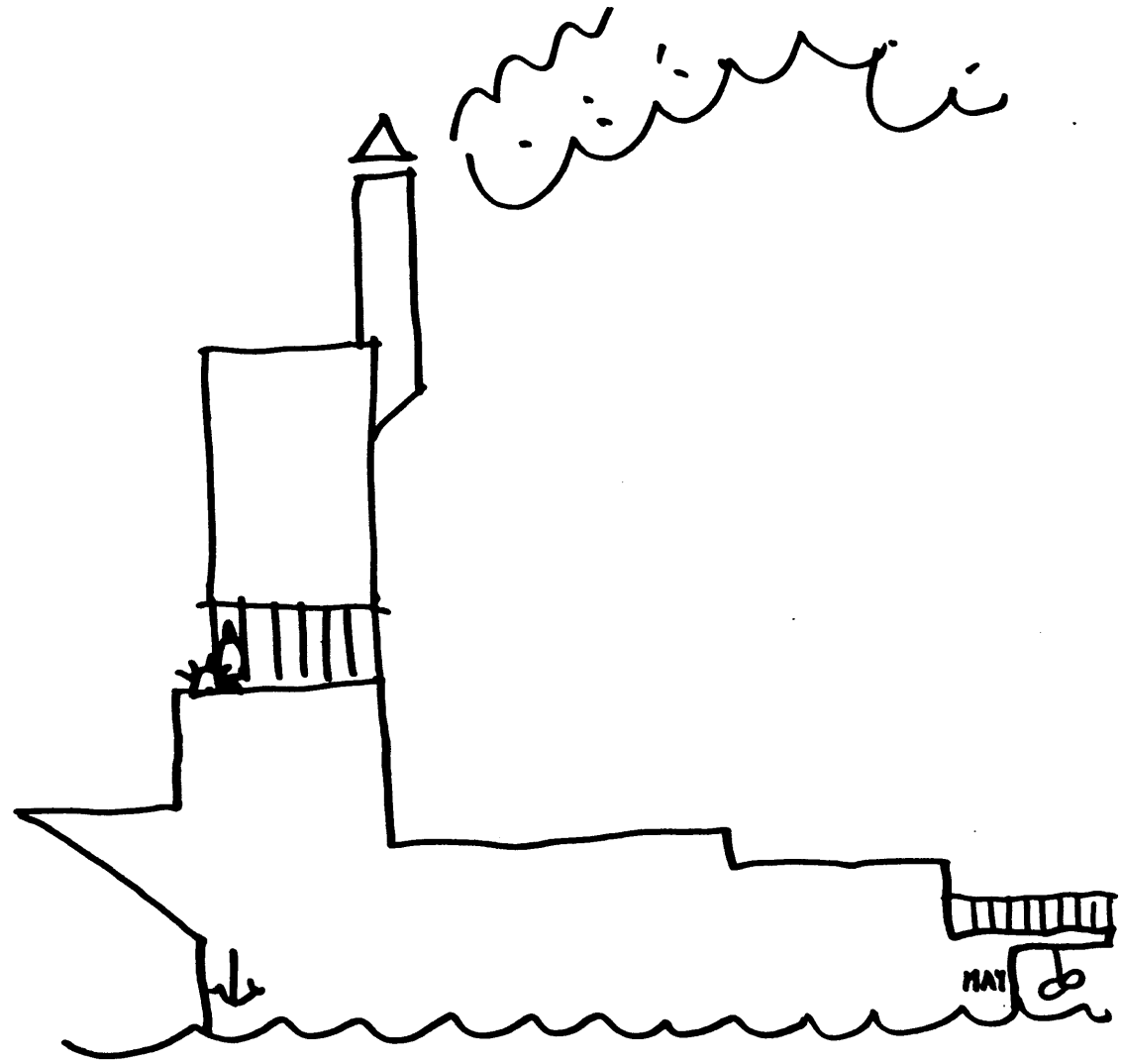
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Greater Portland Landmarks Inc., 1976.
- 2.13, 2.14, 2.15, 2.16, 2.21, 2.22 - City of Portland,
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Zoning Department.
- all others - author

Chapter 3 - Design Process

- 3.37 - Bunting, W. H., Portrait of a Port, Boston, 1852-1914, Cambridge, Mass. Harvard University Press, 1982, p. 195.
- 3.3, 3.4, 3.28, 3.39, 3.45, 3.62, 3.65, 3.70, 3.72, 3.88, 3.92, 3.98, 3.99, 3.100, 3.108, - Fernando Domeyko
- all others - author



Happy trails, Arto.