

REINHABITING THE FORT POINT CHANNEL:

*A proposal for Transforming and Extending
the Warehouse District in South Boston*

by

John Randall Dale

Bachelor of Architecture
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Signature of the author

John Dale
Department of Architecture May 16, 1986

Certified by

N. John Habraken
Professor of Architecture
Thesis Supervisor

Accepted by

Julian Beinart
Chairman
Departmental Committee for Graduate Students

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ABSTRACT

The focus of this design investigation is the warehouse fabric of the Fort Point Channel and its potentials as a model for further development. This extensive configuration of warehouses and access roads is the product of an intergrated process of planning, design and building. As such, it forms a useful model for creating a cohesive urban fabric. The warehouses reflect the rules of a concise architectural language. Thus, while each building was designed separately for different clients over the span of fifty years, all work together to form an urban environment which is intense, coherent and humane. Functionally, this fabric has undergone continuous change. Some of the warehouses now accommodate small printing houses and workshops; professional offices, shops, museums, studios and loft apartments. Thus, this tightly ordered 'family' of buildings has proven to be inherently inhabitable. The model represented by the warehouse fabric embodies my own goals and strategies for redeveloping and expanding the Fort Point Channel District as a living and working neighbourhood. My thesis proposes strategies for infrastructure and building typologies which will support high density, lowrise development as an extension to the existing fabric. The new development should be flexible, yet harmonious; specific enough to suggest a distinct, overall character but open-ended enough to allow innovation in individual buildings and changing uses over time. The method tested through this investigation is therefore a process of layering. Rather than develop highly particularized solutions for each property, strategies are applied to the site as a whole. Once such overall strategies are agreed upon, specific solutions can be developed incrementally, but 'thematically', adjusting to changing circumstances as the need arises but contributing to a coherent whole.

Thesis Supervisor: N. John Habraken
Title: Professor of Architecture

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Fig. 0.1 Summer Street crossing over 'A' Street, in the warehouse district of South Boston (photo by Chris Loizides)

INTRODUCTION - WAREHOUSES AS INSPIRATION

There are few architects who are not, at some point in their career, inspired by an existing built environment which, now neglected, awaits rediscovery. Such feelings seem especially near when the architect finds himself amidst the empty shells of abandoned farms or industrial complexes. Their powerful loft spaces invite transformation and inhabitation. Thus, it is not surprising that in the 1960's, when the first faltering attempts to reverse the tide of the 'flight to the suburbs' began, some of the first spaces to be appropriated as new kinds of inner city dwellings were the lofts of old factories and the piers of declining harbours. Those first 'urban pioneers', mainly the creative professionals –designers, artists, filmmakers, were able to live through an experience that has long been denied the typical urban dwellers in North America; that of building their own homes. To live in a loft meant to compete with on-going industrial uses; to fight and reinterpret established zoning bylaws; to creatively adapt raw space to make it habitable.

It is perhaps this creative process, (as John Habraken would term it, the Act of Dwelling,) combined with coexisting with the everyday functions of manufacturing, warehousing, etc. that makes the idea of living in such areas of the city so powerful. Inevitably, one is led to investigate their potential further. It is not only worth studying such areas for their intrinsic physical properties and potentials. One of the premises of the design investigation unfolded here is that, as models of complex environments, it is worth considering the possibility of adopting some of their physical characteristics for the creation of new urban developments in the city as well.

Thus the object of investigation is a warehouse district in South Boston along the Fort Point Channel and the vacant lands to its north, currently on the verge of redevelopment. This warehouse district is only at the beginning of a process of transformation more readily recognized in areas like Manhattan's Soho district. It has, in fact, been the testing ground for would-be artists and fledgling architects for several decades; one still comes across the occasional improvisational dwelling of the first permanent dwellers. Unfortunately, in our present day society, the notion of enterprising individuals staking claims amidst the austere beauty of such man-made wildernesses has become a cliché. The formula for creating loft apartments is now celebrated in coffee table books and has been appropriated by the upper middle class; Soho has come to epitomize the most fashionable image of what was once considered to be an extraordinarily adventurous act, if not defiance. In New York, planners and real estate agents soon realized the advantages of amended zoning bylaws and special incentives for encouraging residential uses in such districts. While one can celebrate the renewed confidence and interest of the middle and upper classes in the viability of living in the centre of cities again, it seems regrettable that the idea of conversion became a marketable consumer commodity so quickly. With the flight back to the central cities, such 'forgotten' areas of the city as the warehouse district in South Boston have become valuable real estate; too valuable, in fact, to permit the casual and independent intervention of pioneering homesteaders...

While it is easy to be cynical about romantic ideas of loft living, the more fundamental ideas of dwelling in urban centres in dense, complex physical environments remains to be considered. Writers like Jane Jacobs and Richard Sennett recognized qualities of life found in the urban villages of Manhattan

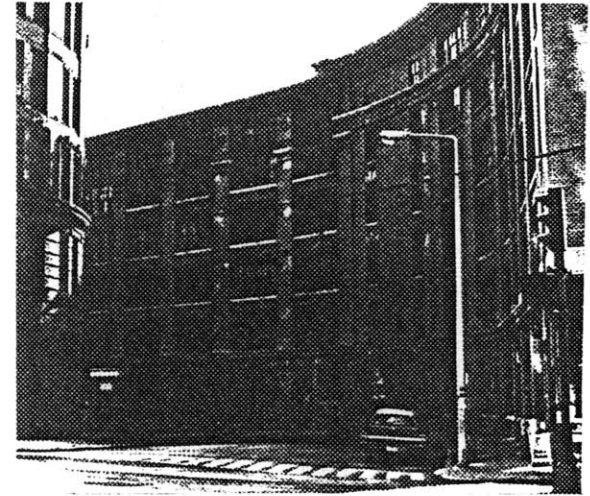


Fig. 0.2 The beginning of the ramp at Melcher and Summer Streets in the warehouse district.



Fig. 0.3 Summer Street crossing 'A' Street in the warehouse district.

and other large North American cities that could not be reproduced in suburbia. These qualities were to do with the complex juxtaposition of widely divergent activities and functions which somehow coexisted successfully in the inner city. They spoke of intensely used streets, where strongly defined territorial controls operated, sometimes in overlapping, but complementary configurations. Herbert Gans observed such vitality of urban living in an inner Boston neighbourhood that city officials and journalists had assumed were degraded slums. Sennett touched on the North American paranoia about self-identity and the need to conform, and suggested a healthier, more actively public life could be lived only in the intense confrontational environments of inner city streets. These writers have been highly influential among sociologists, planners and designers who continue to direct the changing face of American cities. Developers, too have been quick to take advantage of the new trend.

In spite of this new direction of thought, much of the new development in inner cities, in response to the growing desire of people to live in the heart of cities again, has perpetuated the suburban (not to say, middle class,) tendency towards strict zoning and compartmentalization. Living downtown has often meant moving into highrise apartments cut off from the life of the streets. Such housing is more readily accessible to cars and more conveniently serviced by indoor shopping malls. Thus, to a large extent, the image of new urban neighbourhoods has been based on a suburban formula and not on the messy, complex model described by Jacobs and others.

Hence, the interest of this study in the potentials of more complex and perhaps more compromised environments like the warehouse district of the Fort Point Channel. While the investigation is, in part, based on apprehension in the face of current development trends, it is also founded in a more optimistic faith in Boston's ability to support dense, complex neighbourhoods.

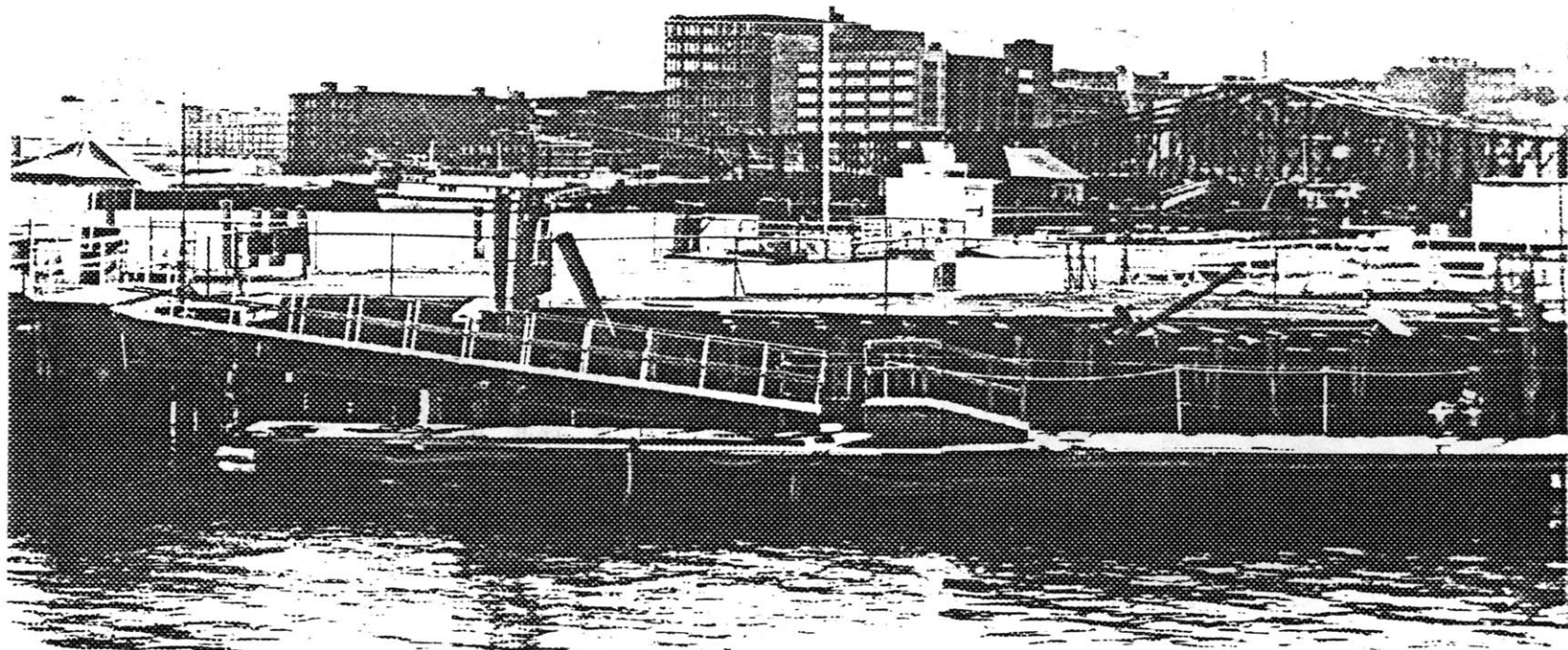


Fig. 0.4 The Northern Avenue Bridge and the warehouse district beyond.

PART 1 - URBAN NEIGHBOURHOODS IN DOWNTOWN BOSTON



Fig. 1.0.1 Downtown Boston (from *Architecture Boston*).

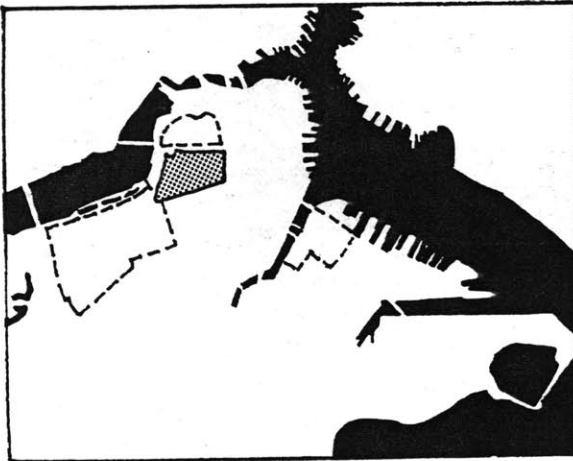


Fig. 1.1.1 Location of Beacon Hill in downtown Boston.

Having raised the now familiar observations of Jane Jacobs and the assertions of Richard Sennett about the ability of urban diversity to safeguard a meaningful, healthy city life, is it possible to uncover in Boston, itself, the precedents and potentials for the corresponding physical environment in the present context of growth and development? A brief survey of some of Boston's most dense inner city neighbourhoods reveals both the potential for such environments to thrive in the present context and the emerging circumstances which threaten their future vitality.

1.1 Beacon Hill: Frozen Continuity

Beacon Hill, as one of the oldest and most dense of the inner city neighbourhoods, provides a first case study. Today, it survives as an island of relative calm in the midst of major traffic arteries, expressways, shopping malls and state office complexes. It is simultaneously a landmark – a tourist attraction for the region as a whole, and a self-contained residential neighbourhood which traditionally has housed a very diverse range of people. (In the 19th century, it was described as having three distinct zones associated respectively with: the established families; a working and servant class population; and the 'less desirable' group of a red light district.)

While Beacon Hill displays considerable variation in physical structure and street organization, there is, at the same time, a powerful sense of completeness

and continuity. This continuity can be read in terms of scale, street profile, sectional details of doors and stoops, stylistic characteristics of window bays, etc., evolving over the course of two centuries. There are understood, if implicit, conventions which, although flexible, bind this area together as a single physical entity and help to ensure its preservation today.

Most of the conventions evident have been dictated by the common construction practices of the late 18th and 19th centuries. The predominance of masonry construction obviously reflects a fear of fire in a dense area. (When Beacon Hill was at the peak of its development, Boston was still an overcrowded peninsula with little room to grow; the process of landfilling did not begin in earnest until later in the century.) Sidewalks are extremely narrow; doorways and front steps tend to be inset behind the face of the building. Single rowhouses stand on narrow lots, flush to the street and adjacent buildings, with small courtyards or gardens behind. Since the Hill adjoins the Common, there has been little incentive until recently to create parks or squares. The one exception, Louisburg Square, was always a private garden held in common by the adjacent households.

As the population shifted and pressure for urban housing grew, the north slope of the hill was transformed. Smaller three to four storey houses were replaced by tenements within the same lot lines. The tenements nevertheless retain much of the scale and continuity of the original fabric. The recessed front doors have become glazed vestibules for the apartments; the windows maintain the rhythm of the older fabric. The grid of narrow streets, as virtually the only public space of the neighbourhood, has grown increasingly dense, with cul de sacs penetrating every corner of the site. Because lots are

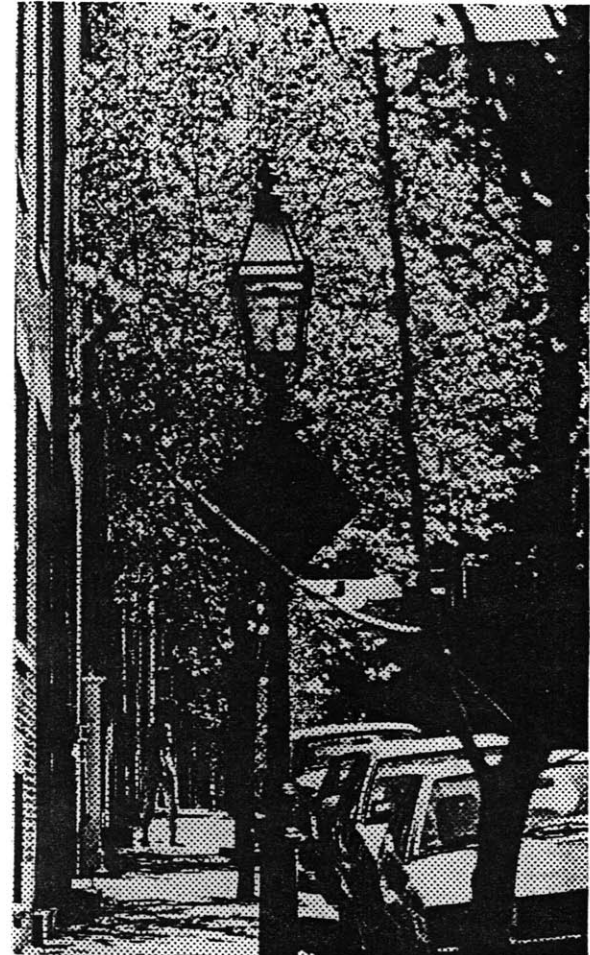
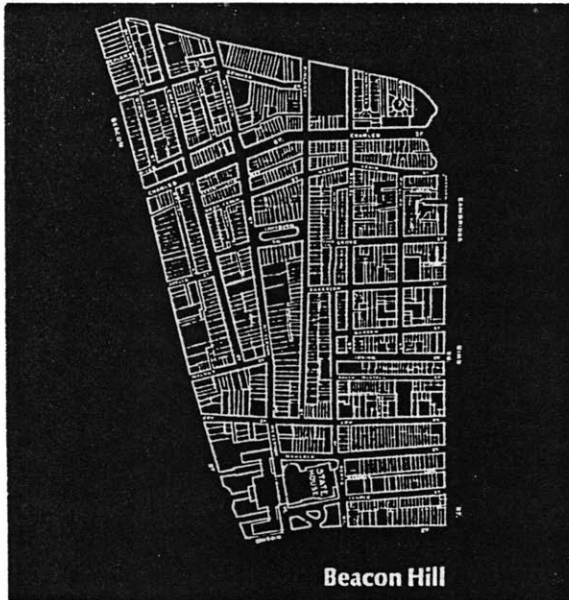
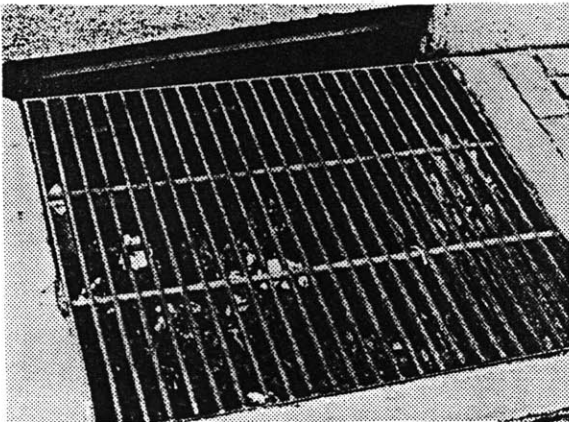


Fig. 1.1.2 Pinckney Street, Beacon Hill



Figs. 1.1.3, 1.1.4 Above: street map; below: plants in window well outside a basement apartment, Beacon Hill.



narrow and the blocks themselves small, almost all the access to houses and apartments is directly off the street. Most buildings have at least two entries, one to an apartment at grade or just below it; the other serving the apartments above. With the first floor of many of the buildings a half level above the street, and with the sloping topography of the Hill, many of the basements have full storey exposure in the backs of the buildings overlooking small courts; corner apartments, half a level below grade on one street, may be completely above grade at the intersection. At key intersections, such locations become ideal places to insert neighbourhood facilities like grocery stores, laundromats, offices or galleries.

In this densely built-up environment, there is little private outdoor space. The private territories of householders and tenants are nevertheless extended wherever possible. Fire escapes become balconies with plants and barbeques; the flat roofs of the tenements, accessible by stairs, are appropriated as terraces, often gaining fences and lawnchairs. Even the street itself is used for private purposes. Within the space of a four or five foot sidewalk, where trees have been planted, their bases are surrounded by bricks and earth and planted by the residents during the warmer months. So strong is the wish to occupy a piece of the Hill, that basement dwellers even plant the lightwells below the iron grates of the sidewalks to stake their claim of public space. As the spaces between the street lamps, doorsteps and planters are too narrow for effective city maintenance, these privately tended 'mini-gardens' are tolerated, if not encouraged. Such activities become, in effect, self-regulating functions within the neighbourhood community. As is inevitable in such crowded conditions, the street itself is well used by the locals and visitors alike. Doorsteps become picnic places; the roadway, a casual meeting place at all hours of the day and

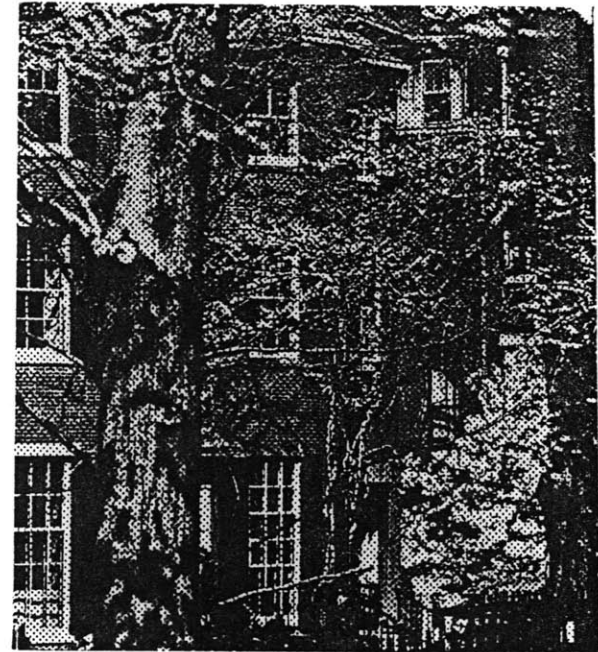
night. The rest of the available space is occupied by parked cars, forcing through traffic to crawl at low speeds through the narrow maze of streets.

Gone are the days when an ethnic and working class population occupied the tenements on the north slope of the hill and the local schools were filled with children. Tenements and schools alike are being steadily converted into condominiums aimed always at the luxury end of the market. But in spite of the trend towards exclusivity, the mixture of old people, 'bag' people, well-to-do families, single professionals and students constitutes a distinct viable neighbourhood. Because the streets and cul-de-sacs are so intensely occupied, there will always be a variety of spaces in which to dwell there.

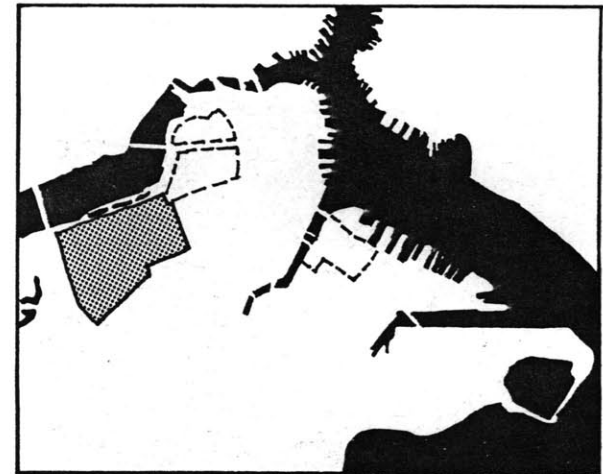
1.2 Back Bay: Continuity and Change

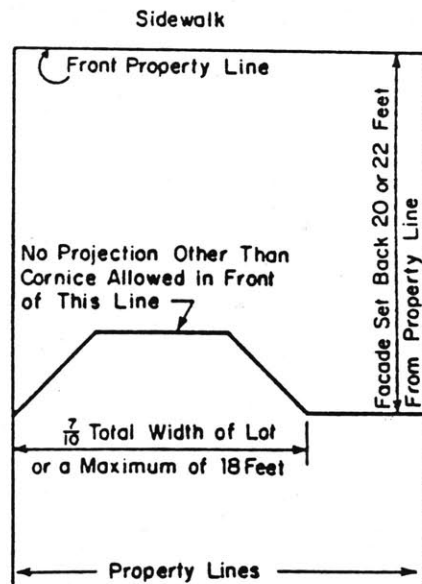
Back Bay, a much grander vision of urban living adjoining Beacon Hill, sprang up rapidly in the late 19th and early 20th centuries. A single company was able to take control of a vast tract of salt marshes, reclaim them, and lay down the basic network for an extensive speculative development. Such a process was not so different from that characterized by the Boston Wharf Company, in developing the warehouse district of the Fort Point Channel during approximately the same period of time.

Very simple basic gestures and understood building conventions spawned a cohesive environment which nevertheless shows much diversity and durability over time. Indeed, so strong and clear is the thematic nature of the development that Bainbridge Bunting could sum up the public/private interface



Figs. 1.1.5, 1.2.1 Above: Beacon Hill textures; below: location of Back Bay in downtown Boston.





Figs.1.2.2, 1.2.3 Above: diagram of typical street setbacks in Back Bay; below: doorsteps and front yards.



of the street in one simple diagram.⁽¹⁾ The basic difference between Beacon Hill and Back Bay is that the latter was conceived of as a total plan and not the casual result of incremental expansion as in the case of the former. A clear grid of enormous blocks was laid out along the water and divided evenly into townhouse lots; speculative builders took over from there. In reference to the power groups who were able to structure this development, Habraken has this to say.

The long straight lines of the spaces around Commonwealth Avenue, so distinct from the maze of Boston streets and alleys on the other side of the Common, never raised the spectre of monotony among those involved. They all knew the rich variety of individual buildings that would balance the vast dimensions of this plan. With a sure hand, they decided on a few simple rules concerning the setback of the facades and the distribution of the windows. So elementary indeed that they can be explained...on the back of an envelope, because nobody had to explain what a bay window was or why it should be utilized...⁽²⁾

The typical houses of Back Bay are five storey rowhouses, with the main floor a half to one storey above grade. Small fenced front yards accommodate great flights of stone steps and the projecting window bays. The resulting street profile is broader, and of a more consistent height, than the short narrow streets on the Hill. The streets of Back Bay are also much more public elements in the city as a whole. Commonwealth Avenue forms a long linear park extending through the neighbourhood from the Common and Public

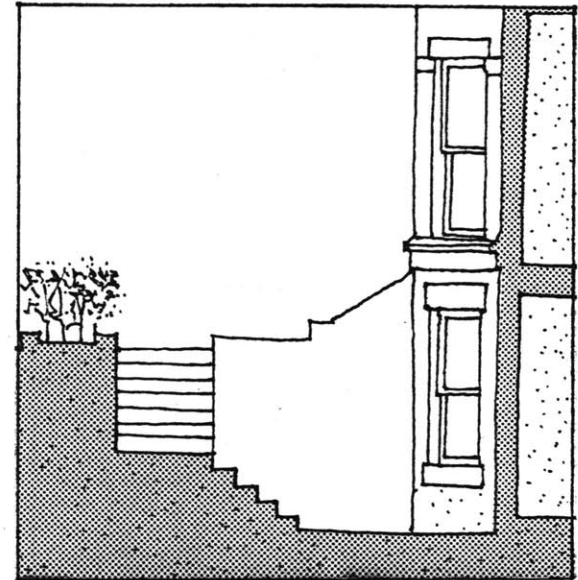
(1) see Bainbridge Bunting: "The Houses of Boston's Back Bay" p. 253.

(2) N. John Habraken: "Transformations of the Site" p. 207.

Gardens. Other streets form part of the main arterial network serving the downtown area. Thus, while the original social group being built for was a much narrower one than that served by Beacon Hill, the range of urban facilities which this neighbourhood has, of necessity, accommodated is much wider.

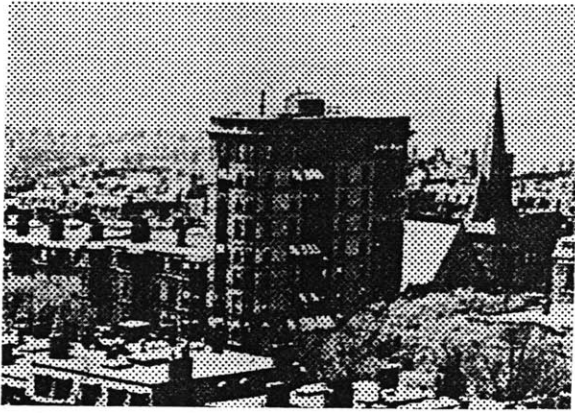
Back Bay is much less of an island and a more integral part of the living/working fabric of the central city. This is reflected in the transformations taking place over time which increasingly distinguish one parallel street from another. On Beacon Street and Commonwealth Avenue, institutions of higher learning, professional organizations and clubs have bought up adjacent townhouses and gradually expanded their territories over the decades. Emerson College, for example, has scattered holdings along two or three blocks of Beacon Street, all within converted mansions. In fact, the street literally becomes an outdoor corridor, connecting various facilities within the institution. Newbury Street, close to the major commercial edge of the neighbourhood (i.e., Boylston Street) has become a specialized shopping street. The small front yards have become the patios of outside cafes or the sunken courts of nightclubs, beauty salons, etc. The raised section of the house allows access to shops both half a level above and below the street. Other yards have sprouted greenhouse additions for restaurants and even grocery stores. Real estate agencies and professional offices are scattered through the lower floors of the buildings as well, the tall spaces and grand stairhalls readily adapted to multi-purpose use.

Above all, Back Bay is still a place to live. The large houses have accommodated generous apartments, multi-level condominiums, relatively inexpensive flats and 'loft' studios; conversions of all types continue to this day. Because

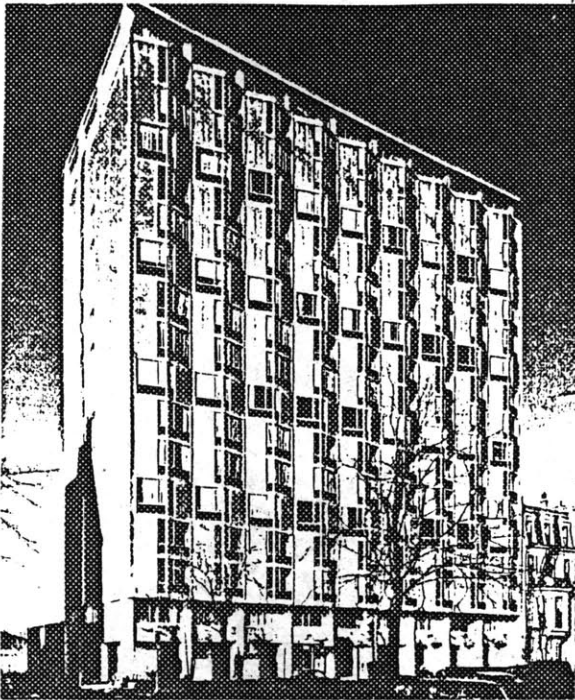


Figs.1.2.4, 1.2.5 Above: sectional modifications on Newbury Street; below: early view of Back Bay houses (from *Back Bay Residential District: Guidelines*).





Figs.1.2.6, 1.2.7 Above: apartment block on Commonwealth Ave. (from *Back Bay Residential District Guidelines*); below: apartment tower on Beacon St. (from *Architecture Boston*).



of the relatively small scale of the conversion projects and the close proximity of downtown work places, private parking has not become a serious issue; the long blocks allow ample on-street parking and back lanes and yards provide the rest.

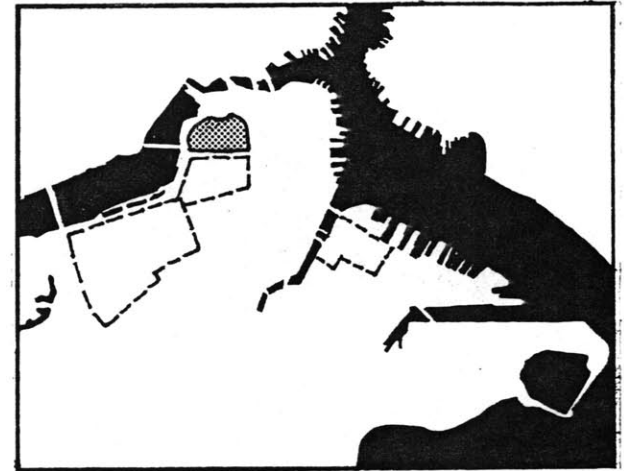
With the survival of small-scale land ownership; zoning flexible enough allow a range of compatible functions; a street grid well-integrated with the surrounding city; and an intensely used street profile with an abundance of independent, multiple access between private and public realms, this is a robust urban neighbourhood which has withstood the pressures of large scale redevelopment quite successfully over the last few decades. However, in spite of this robustness and capacity for change, it has, at some point, been necessary to draw a line between reasonable development and undesirable intrusions. An apartment tower built in the 1920's along Commonwealth Avenue towers above the neighbouring houses, but because it occupies a similar lot, it also maintains certain conventions about meeting the street. It has a narrow front with formal entrance stair and projecting bay windows; it is constructed with compatible material and details. It is not yet in competition with the older fabric. On the other hand, a 17 floor apartment block, built in 1959 (by Hugh Stubbins, Associates) on Beacon Street, while augmenting the residential population of the neighbourhood, is an alienating intrusion which disrupts conventions about how public and private worlds meet and interact. Occupying several lots, its broad side is to the street and its entrance at grade. The ground terrain is no longer a lived-in edge. Rather it is a guarded lobby with an anonymously landscaped forecourt. Further along the street, another, more recent apartment tower has a similar lobby arrangement, this time walled off from view and shared with driveways and entry ramps for parking. The

inhabitants have been isolated from the ground, leaving this part of the street somehow neutralized. The public realm of a neighbourhood can obviously absorb a certain number of such intrusions without losing its basic vitality, but without the voice of the preservationists and ratepayer groups who have battled to save this area, such intrusions, ignoring the basic conventions by which the neighbourhood has gained its physical identity, would eventually destroy the continuity of the everyday working and living environment.

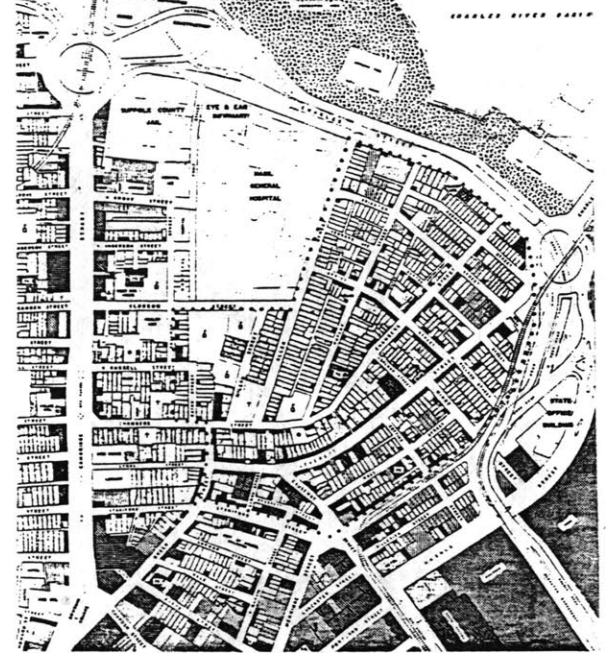
1.3 The West End: Cataclysmic Change

With multiple land ownership on a relatively small scale, development is piecemeal, incremental and subject to many levels of control. A single householder will theoretically have an equal voice to the corporate entity which wishes to erect a tower next door. But with large-scale redevelopment, where public and private corporate interests have worked together to assemble land and plan large-scale renewal, decision-making operates on a much more complex level. In such situations, it becomes possible to change the face of the city dramatically, sometimes breaking all continuity with the past and imposing a new socio-economic order on the city. While these developments are usually cataclysmic events in the history of the city, they are nevertheless usually viewed as signs of progress and prosperity for the city.

The last of the three inner city neighbourhoods to be examined here as a physical entity is the West End. The object of massive urban renewal at the beginning of the 1960's, it is perhaps symbolic of all the major cataclysmic events which have drastically altered and reshaped the face of Boston. Needless to say, the neighbourhood to be replaced was ethnic and poor; to the city, it



Figs. 1.3.1, 1.3.2 Above: location of the West End in downtown Boston; below: the West End before urban renewal (Boston Redevelopment Authority).



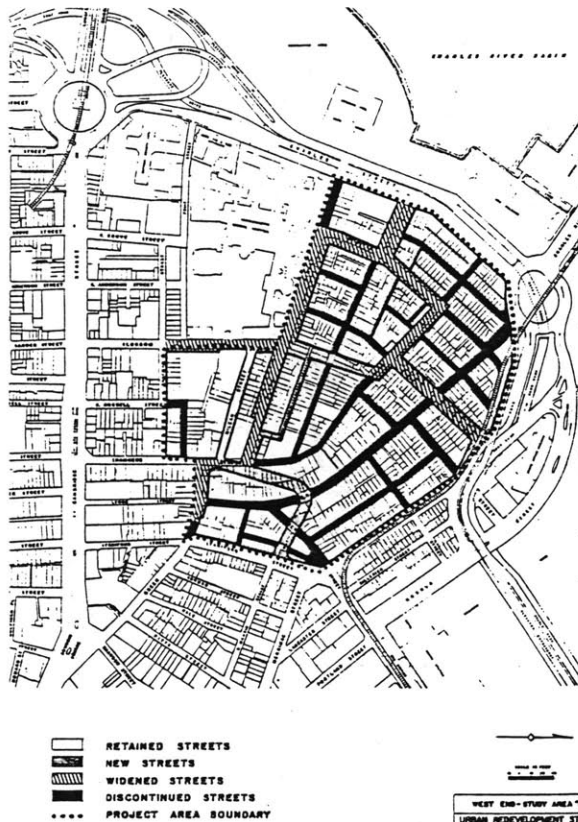


Fig. 1.3.3 Street changes in the West End proposed in the 1950's (Boston Redevelopment Authority).

was considered an unhealthy, degraded environment (a 'cesspool', as one writer put it,⁽¹⁾) symptomatic of an eroding tax base in a dying downtown core. For others, like Herbert Gans, it was a vital neighbourhood which supported a complex network of formal and informal institutions, and provided for the most part, cheap effective housing for a lower income group. Physically, it resembled the north slope of Beacon Hill, to which it was an extension. It had a similar maze of six storey tenements and narrow alleys, a network of corner stores, churches and schools. In spite of the run-down character of some of the blocks, many of the buildings were considered to be in reasonable condition and could have been retained. But for the speculative, private developers who were financing the project, the presence of such buildings would have been out of place in a development geared to moderate and luxury rental accommodation.

The plans and images of the new development present a radical change. Traces of the past community are all but erased from the map. One revealing plan even shows how the dense street grid is completely removed and replaced with a giant superblock accessed cul-de-sacs and a single public footpath, completely removed from the surrounding city blocks. Through comprehensive land assembly, the Boston Redevelopment Authority (BRA) was able to achieve total control of the streets, lots and buildings. Forty-eight acres of densely built up neighbourhood were wiped clean of occupation and put at the disposal of private developers.

(1) for a more extensive history of the controversy, see Herbert Gans: "The Urban Villagers"

The new physical fabric follows a pattern which was a universal formula for urban renewal in the 50's and 60's. The new 'neighbourhood' consists of blocks of flats, 15 to 21 stories high. A contemporary BRA report proudly states:

Residential buildings will cover only 18% of the land, leaving 82% of the project for parking, open space and landscaping. Extensive areas of lawns, trees and shrubs will make the development one of the most *aesthetically pleasing* in the country.⁽¹⁾

Rigid zoning keeps all but convenience shopping out of the site and walkways provide access to various community facilities without crossing any roads. The new West End has, in fact, become a place where you don't go unless you live there. Its pattern of roads and self-contained facilities have completely isolated it from the neighbouring context. It is a piece of city which has been set straight, radically transformed, in effect, 'silenced' and made over as a mere dormitory to the working heart of Boston.

Such a thoroughly planned environment will, of necessity, remain fixed in time, locked into a configuration which has little potential for change or adaptation. It is a facility which must be managed by a central power and maintained by an extensive professional staff. It is emphatically not a neighbourhood which can be appropriated and interpreted by its individual inhabitants.

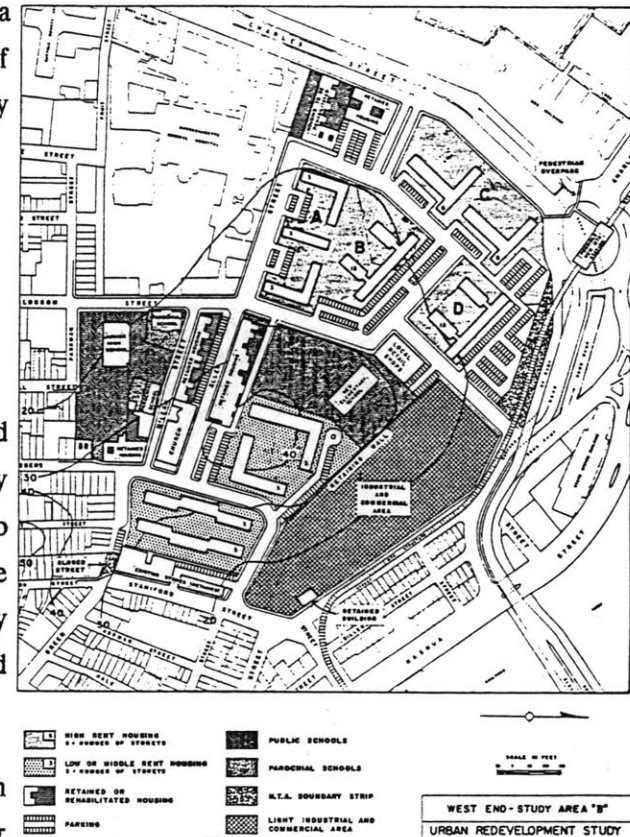
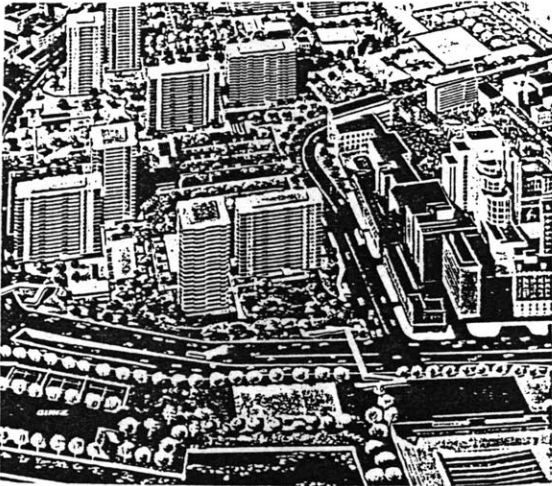
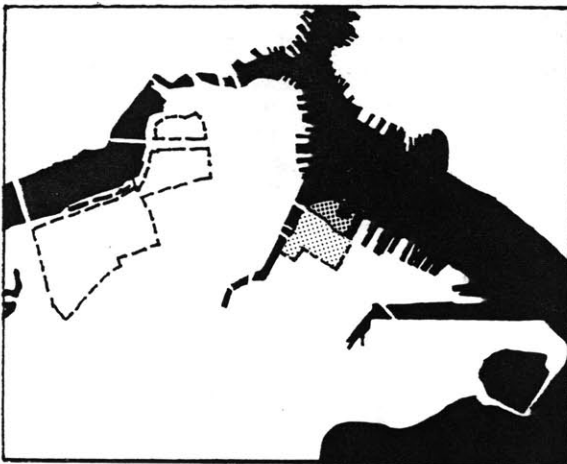


Fig. 1.3.4 Urban Renewal plan for the West End (Boston Redevelopment Authority).

(1) The Boston Redevelopment Authority: "Looking Forward with Pride...To a Better Boston...Through Urban Renewal", p. 4.



Figs. 1.3.4, 1.4.1 Above: the new West End (Boston Redevelopment Authority); below: location of proposed Fan Pier development and adjacent warehouse district.



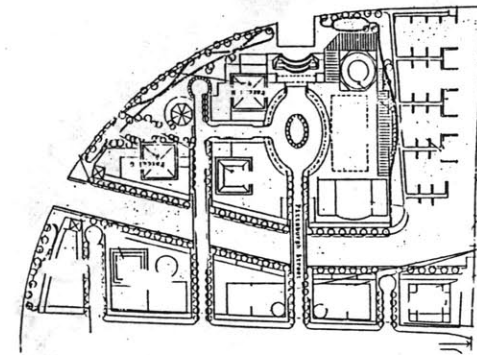
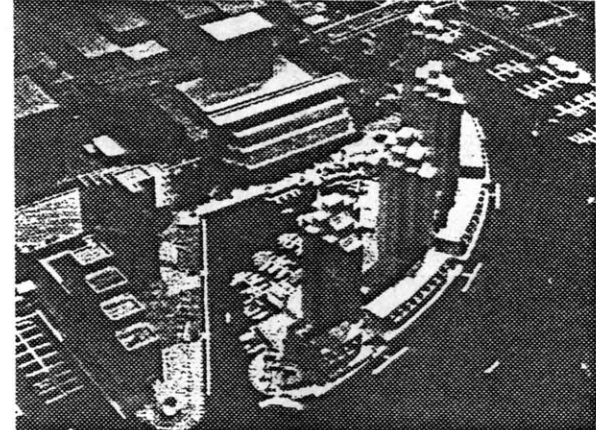
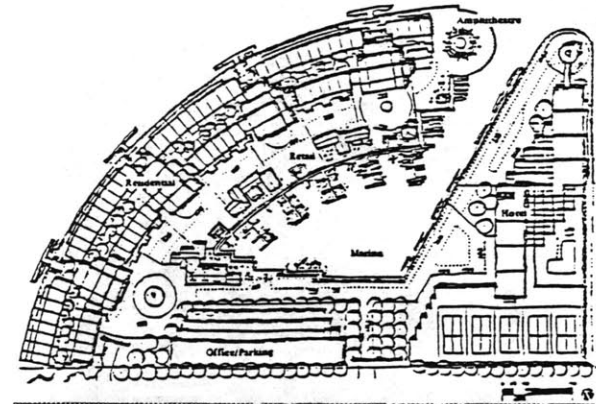
The West End is simply one of many instances where large-scale development has resulted in a drastic change to the structure of the built environment. It reflects a desire to build a completely new image which is self-contained, self-referential, and attempts to solve all problems within its own boundaries. This seems equally true, whether one is talking of luxury towers in the Prudential Center or the superblocks of a public housing scheme like West Broadway. Because the normal conventions of how public streets should operate and how private spaces should be inhabited are put into question within these vast centrally controlled domains, the public realm is now left to be created by the private sector artificially. To paraphrase Richard Sennett, built form is now obliged to be a creative force in forming crowd life; in the face of what he perceives as a general 'social withering', large scale urban environments being built today have become overly deterministic and rigidly defined in their attempt to deal with the heavy burden of establishing the setting for everyday public life.

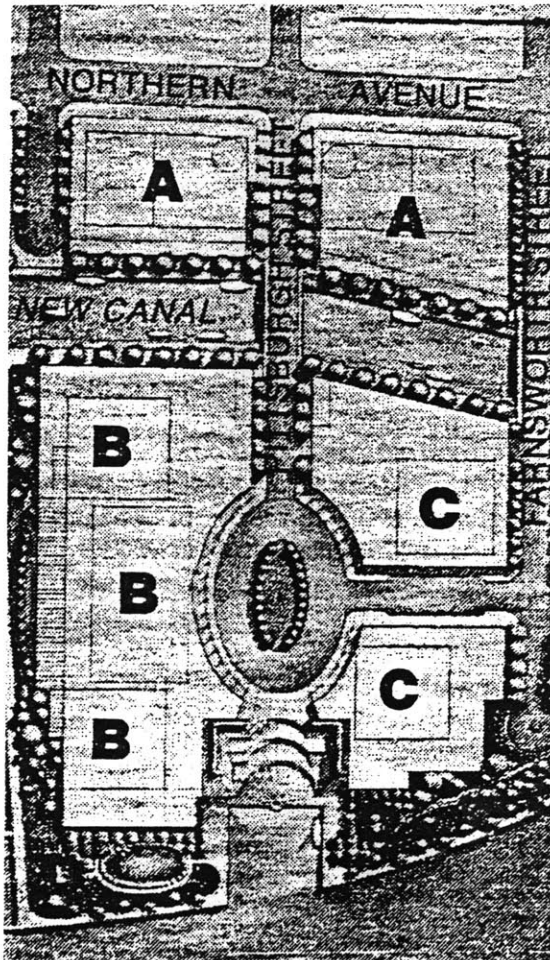
1.4 The Fort Point Channel: Proposals and Alternatives to Isolationism

Three downtown Boston neighbourhoods have been reviewed; Beacon Hill, a historical jewel, if anything, in danger of becoming a museum; Back Bay, an integrated neighbourhood which is managing to survive and adapt to the pressures of growth and change; and the West End, a self-contained and somewhat alien imposition on the central city. Reflecting on these alternative precedents for living/working environments in central Boston, it is perhaps now appropriate to turn to one of the proposals for future development in the Fort Point Channel district and to reflect on the implications.

The Fort Point Channel seems to be one of the new focuses for ambitious redevelopment proposals that promise to bring sweeping changes to the area in the near future. This investigation focuses on two distinct, adjacent areas within the district, currently associated with very divergent kinds of development: the warehouse district on one hand and the Fan Pier on the other. In fact, the lands to the north of the warehouses include four major development parcels: the Hyatt proposal, being designed by architects Cesar Pelli and Associates covers the 18 acres of the Fan Pier itself and is just one of the parcels. In addition, Pier Four is being developed by the owner of Anthony's Pier Four Restaurant; the land paralleling Northern Avenue between the piers and the warehouses is being developed by Cabot, Cabot and Forbes; and the city, itself, is realigning Northern Avenue and developing some adjacent public parks. However, the implications for the future of the whole area are well represented by the Fan Pier.

The Fan Pier has been in the planning stages for many years and numerous proposals have been made for its development. It is Pelli's latest scheme for the site that will be examined here in some detail because, as the project most likely to get underway in the near future, it will set the trend for development in the rest of the area. A development of major proportions, its program includes a 1000 room hotel; three residential blocks with a total of 600 units; and five commercial blocks with a total of 1,636,000 square feet of office and retail space. A similar program with various mixes of residential, hotel and office space have been proposed before. Two other schemes illustrated here are shown without analysis. they simply represent a tendency to treat the site as a very separate, self-contained world. In each case, the land becomes a totally privatized zone with housing, hotel and offices all turning





Figs. 1.4.2 - 1.4.6 Left top and middle: early scheme for Fan Pier by HOK (from BRA and *Boston Globe*); left bottom: early version of the proposed Fan Pier scheme by Cesar Pelli (from BRA); above: detail, Pelli scheme (*Boston Globe*).

their backs to the rest of South Boston in order to take full advantage of the waterfront location.

Cesar Pelli's scheme is, in fact, the first of the series to make more significant gestures to the rest of the city. Having reviewed many possible alternatives with the BRA, it was considered best to extend the existing street grid into the site to tie it into the Fort Point Channel District. The key plan shows how Pittsburgh and Farnsworth streets, two of the older north-south streets serving the warehouses, have been extended into the Fan Pier. Two other north-south streets appear as short cul-de-sacs accessible from the old Northern Avenue alignment.

From here on, the scheme takes a curious twist which seems to negate the initial intentions of building a more integrated piece of the city. While the offices line the old Northern Avenue alignment, the hotel and residential blocks are set off in their own precinct on a separate island. A canal has been cut parallel to Northern Avenue and Farnsworth and Pittsburgh Streets are connected across from the mainland by bridges. The canal is cleverly aligned with the old Custom's Tower in downtown Boston and its banks are lined with retail in low profile blocks (actually, the podiums of office and residential towers). The architect compares this configuration with the canal streets of Amsterdam.⁽¹⁾ As the parking requirements consume some 780,000 square feet (the total site, including the canal is 807,000 square feet), the entire ground plane of the island is raised about 10 feet above grade. Thus the bridges slope

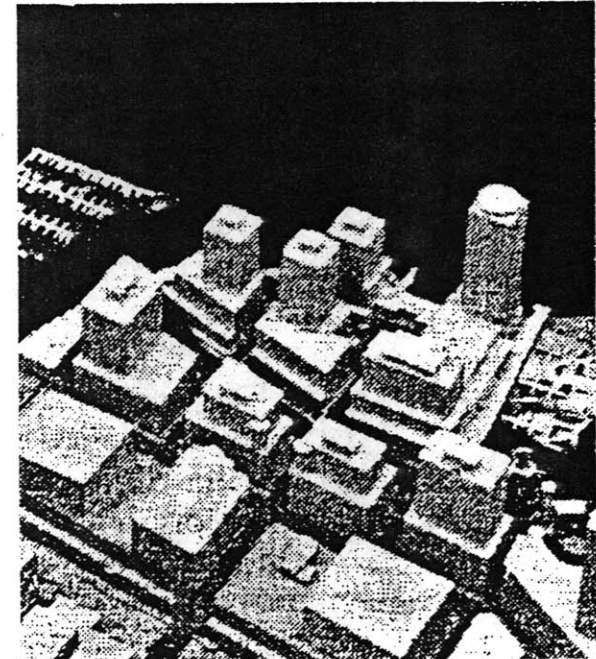
(1) Pelli made this reference in a lecture he gave at the Harvard Graduate School of Design, in the Fall of 1985.

up across the canal to reach the new site datum and the retail passes through at a lower level along the water. Pittsburgh Street ends in a large water stair leading down to the harbour's edge and is joined across the island to the top of Farnsworth by a monumental plaza which is, if anything, decidedly Baroque in character.

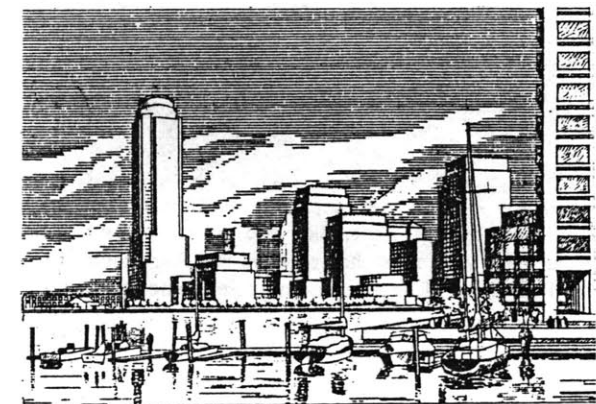
While some of these elements seem to conjure up European images, the buildings themselves, however, are more reminiscent of Pelli's massive commercial development for lower Manhattan, Battery Park City. The hotel tower reaches a height of 50 stories while the residential blocks range from 20 to 26 stories. These, in turn, sit on massive podiums which serve to address the more particularized edge conditions around the site. On the other side of the canal, the office blocks again rise to heights of up to 20 stories, forming a massive wall along the edge of the development.

Subsequent reviews with the BRA have led to the introduction of two more bridges, this time for pedestrians, to link the Harborwalk system around the perimeter of the island with the mainland. Presumably, a good proportion of the public will be attracted by the retail along the inner canal and leave the park-like outer edge to the more exclusive uses of the hotel and residential towers.

As a scheme in itself, the project seems to have the potential to be an exciting place, with its variety of parks and walks, plazas and monumental buildings. But the elements which reinforce its special, almost exclusive quality as an urban place also firmly set it apart from the rest of the city. The two streets which are carried across on bridges end in cul-de-sacs. The baroque



Figs. 1.4.7, 1.4.8 Above: model photo of the Pelli scheme (*Boston Globe*); below: perspective of Pelli's Fan Pier proposal viewed from downtown Boston (*Boston Globe*).



space which connects them acts as a monumental drop-off for the hotel rather than as a street-like extension to the city grid. The residential components of the project clearly remove themselves from the public ground plane and dispose themselves on the site more or less as towers in a park, according to the old urban renewal formula. The remaining fragments of city-like spaces again recall Sennett's idea about the artificial use of built form to generate a public street life. Their monumental proportions, combined with their conspicuous isolation on a raised island, suggest that they will be more symbols that settings for a vital street life. As if to confirm this, one of the 'connective' north-south streets, Farnsworth, actually stops at the old Northern Avenue, leaving a massive superblock for future development between it and the continuation of the street in the old warehouse fabric to the south.

1.5 A Case for an Alternative Approach

It would perhaps be too extreme to compare Pelli's masterful Fan Pier proposal with the brutal transformation of the West End. But it does seem unlikely that it will be anything more than an isolated, self-contained world within the city core. As this scheme is realized, the warehouse district will become increasingly isolated as well. Its brightest prospect might be that it becomes another preserve like Beacon Hill, carefully and rigidly preserved, once more an island without context. Unlike Beacon Hill, though, it will not enjoy the adjacency of a robust neighbour like Back Bay to help keep it active. Collectively, the proposed developments for Fort Point Channel are unlikely to produce anything like a neighbourhood in which a diverse population can live, work and develop community institutions. One therefore cannot help but feel

apprehensive about the quality of public life and private security in an inner city, increasingly becoming compartmentalized into discrete zones of specialized function.

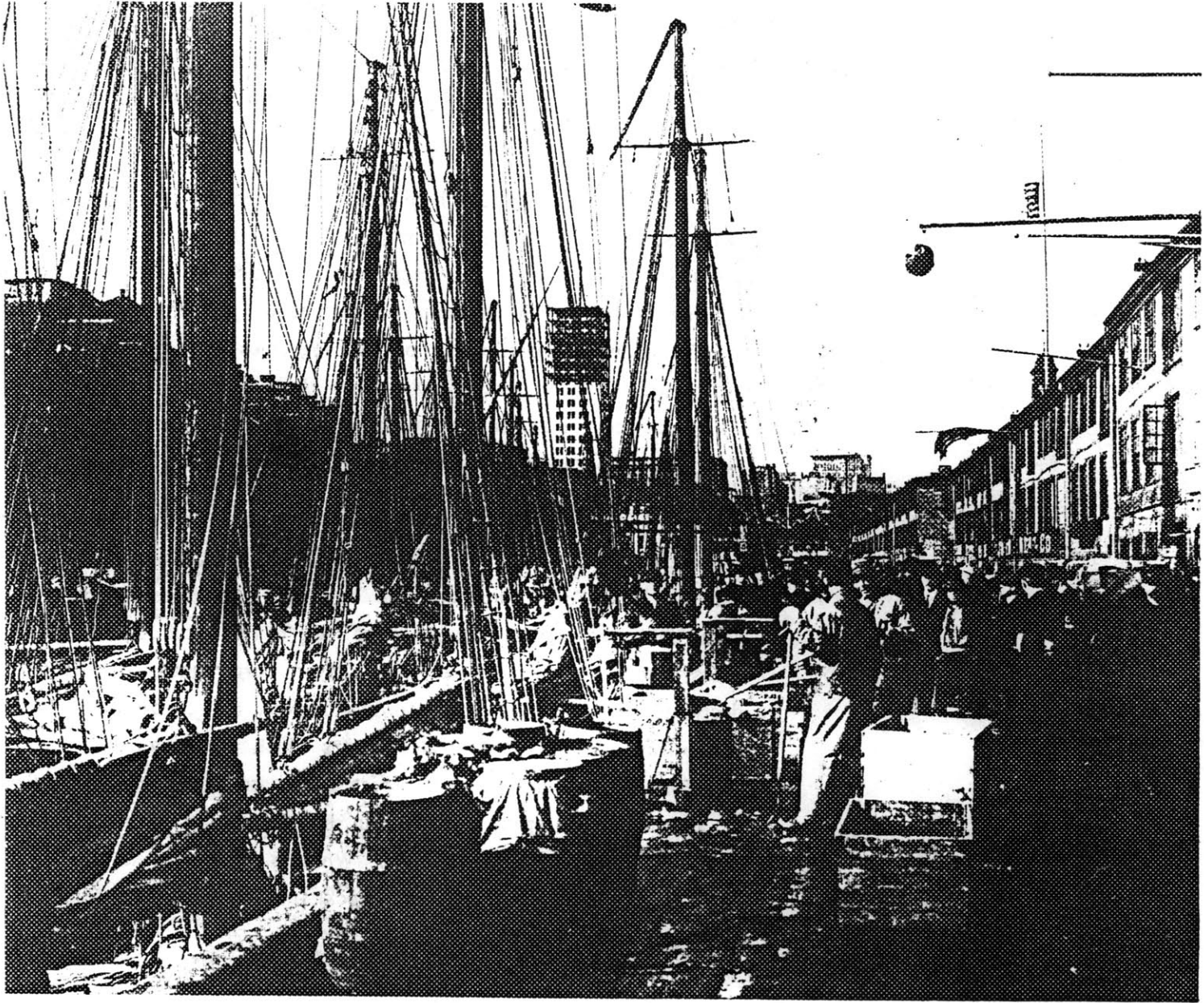
The project that follows attempts to take a very different tack in redefining and developing the lands of the Fort Point Channel. It assumes that the built fabric of a city cannot be totally fixed in terms of use over time. Neither does it support the idea that change in a city must take place as a series of cataclysmic events which wipe away all that exists before. The method applied accepts the proposition put forward by John Habraken, that cities can be built by recognizing different levels of agreement which permit many actors to develop and change their environments incrementally, and within limits, independently.

This means that pre-existing patterns of building and dwelling in the city, particularly as they effect the immediate context, must seriously be taken into account. A single developer, whether public or private, cannot effectively determine the entire range of accommodation and scenarios of occupation that will make a vibrant quarter in the city. However, by establishing clear guidelines, and by setting up opportunities for collaboration between different power and interest groups connected with development of the site, a richer, more responsive and open-ended sequence of development might occur. By establishing conventions for the making of buildings and streets in a given area (i.e., by identifying the 'thematic' potentials of a physical urban environment), planners and urban designers can safeguard pre-existing patterns of settlement worth preserving and ensure continuity through a long and unpredictable process of growth and change. And by encouraging developers and planners to consider

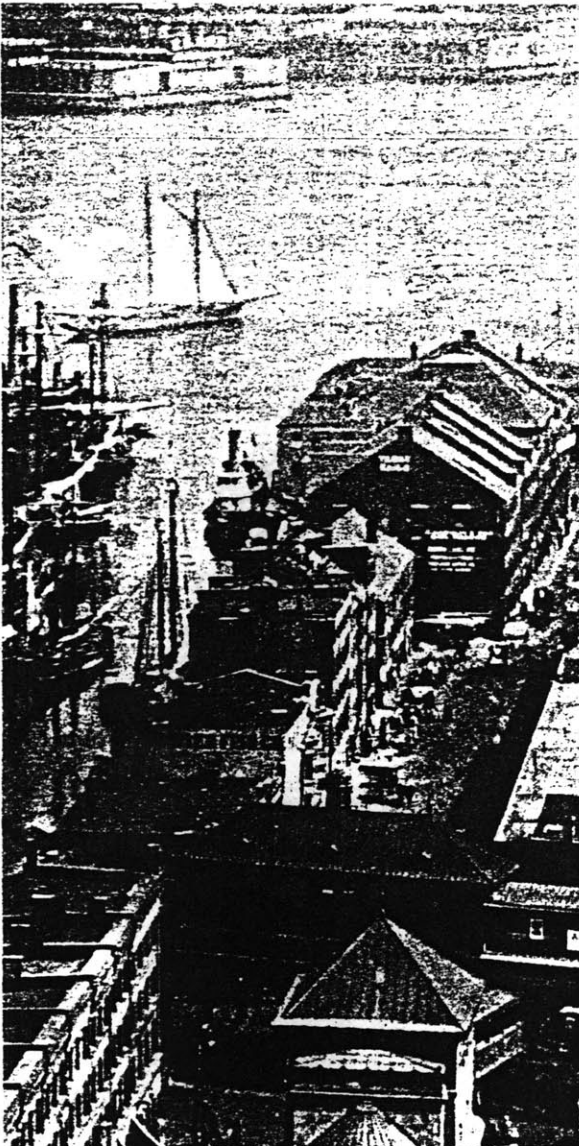
the larger, physical context within which they are operating, it might be possible to establish a critical mass for the establishment of a real living and working neighbourhood, robust enough to adapt to future pressures, in the very heart of the city.

The project presented here does not assume a rigidly defined program or gear itself to any particular social, cultural or income group. Nor does it presume to determine the exact way in which all streets, open spaces and housing blocks should be appropriately used. Rather, the intention is to be specific about the possibilities of defining rules and conventions for a physical environment which can *afford*, rather than determine, a reasonable range of use and occupation subject over time to the more specific demands of politicians, developers, builders, designers and residents.

The diagrams, drawings and commentary in the following pages characterize an alternative approach to redevelopment rather than a hard and fast scheme for the Fort Point Channel. The approach establishes layers of intervention, each consisting of a comprehensive set of physical considerations operating across the site as a whole. Each layer corresponds to different levels of decision-making requiring, to varying degrees, the co-operation of both public and private sectors. The actual solutions which are depicted in Parts 3 to 6 are therefore not its most critical aspect. Uses are not fixed; road alignments can be adjusted; open space patterns can be shifted; and the provision of parking can be intensified or diminished. What is important is that each of these patterns is viewed as a building block for the projected neighbourhood as a whole.



PART 2 -THE WAREHOUSE DISTRICT OBSERVED -THE IDENTIFICATION OF A THEMATIC FIELD



Figs. 2.0.1, 2.0.2 Opposite: Boston's T Wharf at the turn of the century (*Lost Boston*); above: Boston Harbor, c. 1910 (*Boston Globe*).

The idea that the Fort Point Channel District can be read as a 'thematic field' will be taken as a major premise for this part of the investigation. What is remarkable about this place is the integration of many physical, man-made elements on many different scales. First of all, there is the site, itself a man-made creation, the product of a continuous process of digging and filling since the early 19th century. An extensive, marshy cove has been transformed into a rigidly delineated canal cutting between downtown and South Boston. The harbour edge is deeply grooved with piers and slips -long fingers of rubble fill and water interpenetrating each other in endlessly varied, parallel configurations. The next layer of this fabric consists of the infrastructure which services the area. It can be identified as the dominating network of railway lines woven together with the major traffic arteries crossing the site. In the particular case of the warehouse district, this system actually has a vertical dimension to it, since it operates, on two levels. The transportation network includes ramps connecting lower and upper worlds and bridges which allow for their separation when their routes come in conflict. The next level of the hierarchy can be identified as a system of blocks, dividing the land between water, rail and artery into highly accessible plots. Running predominantly north and south in a wide strip paralleling the channel, these long blocks determine, to a large extent, the scale and massing of the buildings on the site. The final layer of this thematic configuration is that of the buildings themselves. The warehouses, varying from two to ten stories, fill in the blocks from street line

to street line. While varied in height, volume and detailing, their basic structural system, organization and street orientation are remarkably consistent and can, in many ways, be thought of as a continuous thematic fabric.

2.1 The Site: A Man-Made Landscape and its Origins

Boston's extensive history of land reclamation is key to understanding the highly ordered consistency of built fabric in many parts of Boston. Like Back Bay, the entire northern half of the South Boston Peninsula, known as Commonwealth Flats at the turn of the century, consisted of salt marshes and tidal flats. While formed incrementally over a number of years, the present configuration of the shoreline has taken shape under a very basic set of ordinances and has followed implicit rules necessitated by harbour operations and the nature of the landfilling process.

Incentive for land reclamation in Boston dates back to its origins in the 17th century. A colonial ordinance from that time states that "...in all creeks, coves, and other places about and upon salt water where the sea ebbs and flows, the proprietor of the land adjoining shall have propriety to the low water mark."⁽¹⁾ This meant that settlers and landowners could constantly extend their land into the water as, through reclamation, the low water mark receded.

It offered incentive in the shape of property rights to constant extension of the low water mark, and as early as July 26, 1641, Robert Wing was paid twenty bushels of corn by the town for

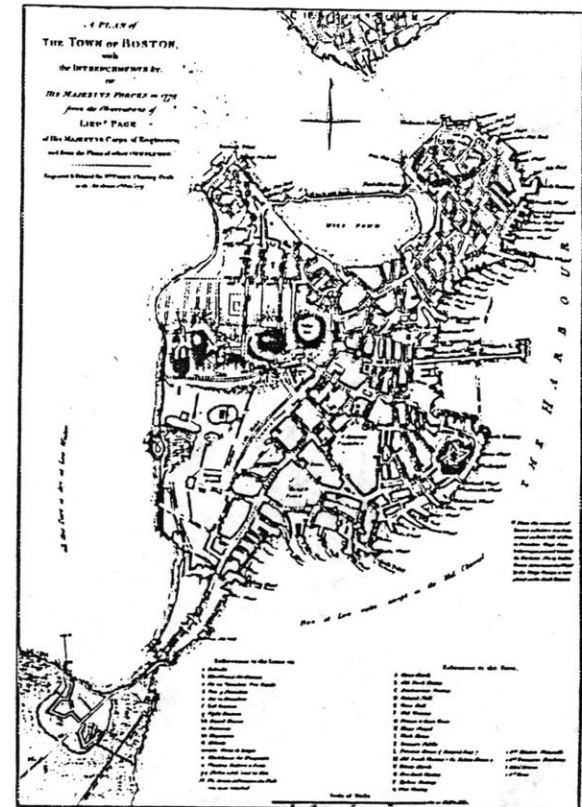


Fig. 2.1.0 1775 Map of Boston showing narrow peninsula preceding massive land reclamation (*Architecture Boston*)

(1) from "Boston's Growth", p. 18.

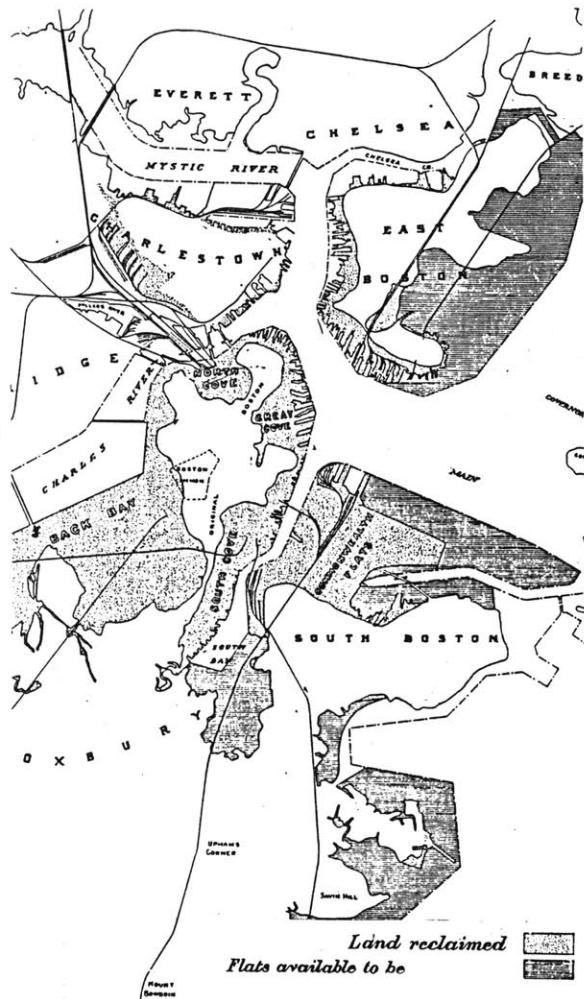


Fig. 2.1.1 Map showing extent of Boston's reclaimed land (from *Boston's Growth*).

looking to the low water mark on Century Hill. To this old ordinance go back the titles of many of the land corporations of Boston.⁽¹⁾

The reason for most of the early land reclamation schemes in Boston was to establish effective exchange between land and sea for the transportation of goods. Long Wharf, built 1709–10, was the first major effort to extend State Street out into Great Cove to reach deeper navigable water for the easy unloading of the largest ships arriving in Boston Harbour. About 2,000 feet long, Boston Pier, as it was first known, was lined on its north side by warehouses, the southern edge being open to pedestrian and vehicular access. The end of the pier was reserved for a battery in the event of future defensive needs. The pier was an extension to the city streets and had the same public access and character. When Great Cove was gradually filled in between 1823 and 1874, the existing grid of streets was basically 'wharfing out' bit by bit until it eventually reached the present line of Atlantic Avenue. What is significant about this process is that, at every step of the way, a basic continuity was maintained between the city and the waterfront. Streets lined with buildings carried right out to the water in a linear fashion. Thus Boston, through its thematic approach to reclamation, maintained a publicly accessible waterfront at every step of its extension into the sea.

An early nineteenth century drawing illustrates this approach. It shows a projection of the new Quincy Market over the fabric of the old heart of Boston prior to 1823. The drawing is particularly revealing because it shows the

(1) Ibid.

exact relationship between old and new patterns. While a major act of urban renewal at an unprecedented scale for the time, this scheme, promoted by Mayor Josiah Quincy, nevertheless maintains certain essential relationships with surrounding streets and buildings; it provides a continuous, connective tissue from land to water, insuring public access and use of the harbour. Thus North and South Market Streets connect the spaces of market Square around Faneuil Hall directly to a new City wharf and its storehouses on the water. The whole development runs parallel to the Long Wharf and the general direction of extensions into Great Cove. What is happening, in spite of the scale and extent of demolition, is a process of conformation to a general idea rather than the obliteration or negation of it.

The creation of the site for the Warehouse District and the piers of Commonwealth Flats began shortly after this major adjustment to Boston's downtown and continued for almost half a century, paralleling, to some extent, the creation of Back bay. The west side of the Fort Point Channel was regularized with the widening of the neck connecting the peninsula of central Boston to the mainland to the south. Between 1806 and 1843, pressure for expansion of the city led to the filling in of South Cove. Once the west bank of the channel was established, the Boston Wharf Company proceeded to acquire the rights to the flats bordering on the eastern side. Around 1836, they bought up a 1,200 strip of land running all the way from present day Northern Avenue down to Dorchester Avenue. A 12 foot seawall was built

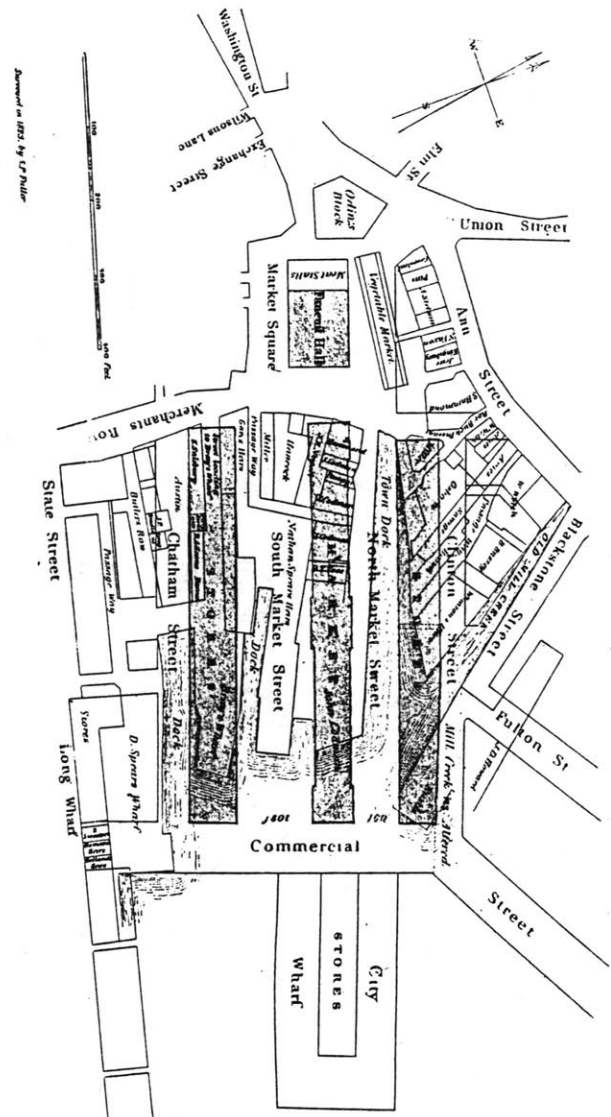


Fig. 2.1.2 Early 19th century drawing showing proposed Quincy Market (from *Boston's Growth*).

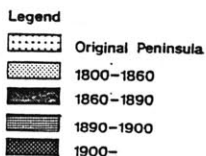
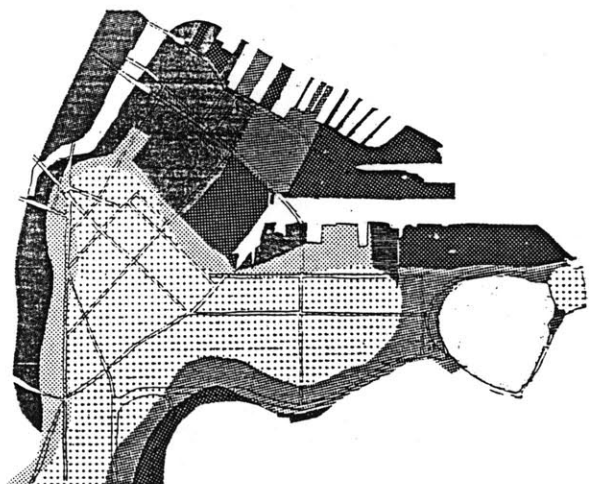


Fig. 2.1.3 Landfill History in South Boston (Boston Redevelopment Authority).

around this vast tract and filled with rubble from the Great Fire and earth from nearby Fort Hill.⁽¹⁾

Later, in the 1870's, filling operations were begun by the Commonwealth of Massachusetts to the east of the Boston Wharf Company lands, establishing sites for the Commonwealth Pier and Fish Pier. By 1894, a new seawall had enclosed an additional 262 acres of a total of 593 acres constituting Commonwealth Flats. What is interesting to note here is that the new shoreline can no longer be seen as the extended pattern of an outwardly growing downtown. This time, the sites being created were totally new and isolated from the rest of the city. The primary motivation was the same, though: to increase the capacity of Boston Harbour, facilitating the exchange of goods from land to water, and to create new land for development. The vast expanses of land being created in Commonwealth flats could be seen as a means for providing space for the back-up facilities; warehouses and new industries growing out of expanding trade and transport of raw materials in and out of Boston. However, the nature of the game had shifted somewhat. The scale of the operation was becoming simultaneously bigger and more specialized. The vision of the Fort Point Channel and the Commonwealth Flats of the turn of the century is one of an enormous industrial complex, the waterfront largely privatized and inaccessible to the public at large.

The new line of piers and slips runs in a straight line across the northern edge of the flats providing 800 to 1,200 foot docking edges with a 30

(1) one of the last hills to be levelled in downtown Boston.

to 40 foot clear draft. The head of each slip reaches the line of the Northern Avenue right-of-way. The new scale and consistency reflects the advent of the railway as the primary means of freight transport by the late 19th century. The long piers accommodate lines of freight cars, bringing them parallel to sheds and ships along the water. As more specialized facilities, these piers no longer reflect the microcosm of a mixed use city block.

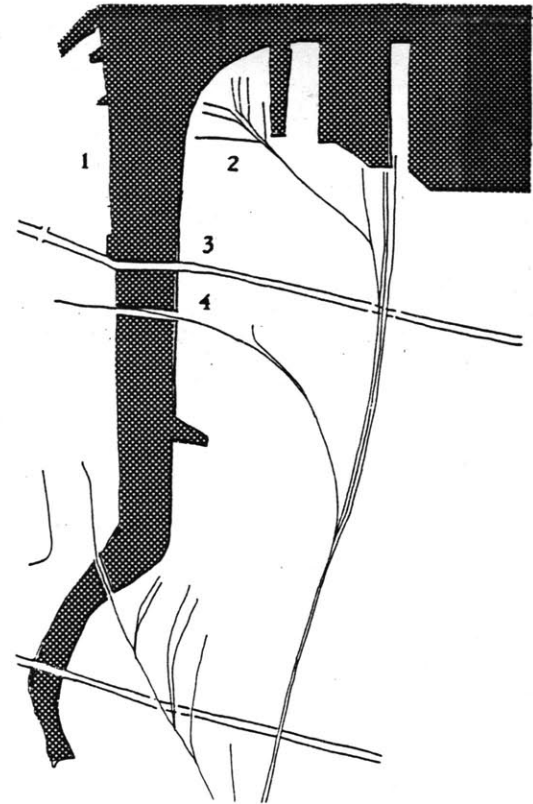
2.2 The Base Infrastructure

Usually, the site is the dominant and highest level order governing the creation of an urban built fabric. In this case, the situation has been complicated by the speed at which site, infrastructure and building forms have been created. At certain stages of development of the Fort Point Channel District, all levels were being created simultaneously. Hence, the thoroughness and consistency of its fabric. As the formation of the new piers and the very singular nature of the giant curve of the Fan Pier are inextricably linked with the advent of the railway, it is necessary to look more closely at the second layer of the field in question; that of the primary infrastructure.

While the site was basically the creation of two powers, the Boston Wharf Company and the Commonwealth of Massachusetts, two other interest groups came into the picture as the site began to be settled. Even before the Boston Wharf Company had completed its filling operations, it was beginning to develop a grid of blocks and warehouses. By 1894, 87 acres of the new State created lands had already been bought by the New York, New Haven and Hartford Railway. This marked the beginning of a vast network of sidings and freightyards which soon came to dominate much of the available land. The

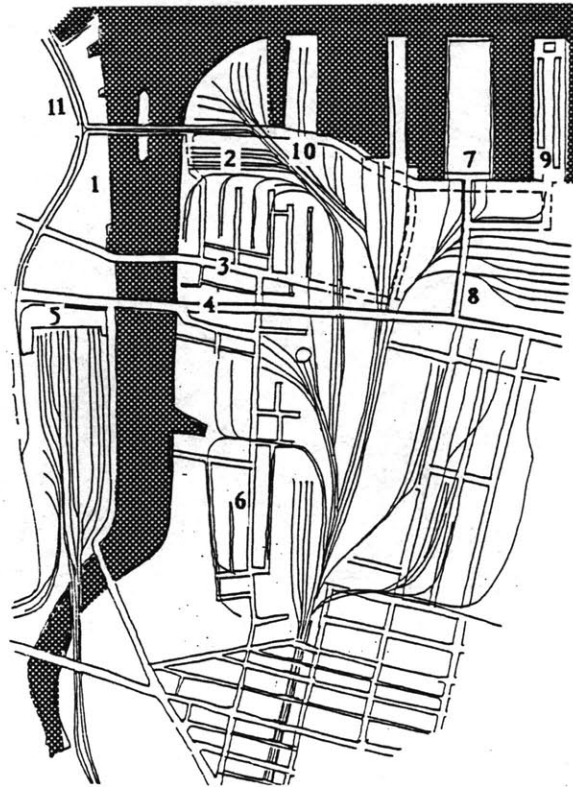
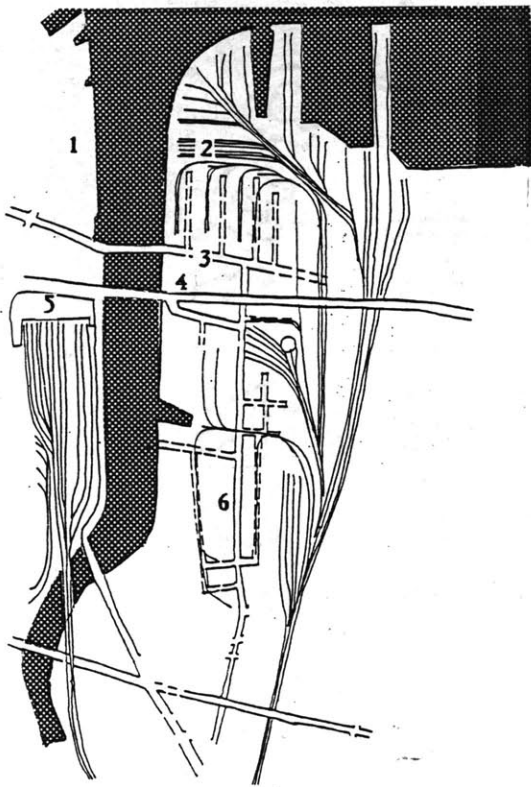
Fig. 2.2.1 - 2.2.3 Evolution of the Fort Point Channel and Commonwealth Flats in the 19th century.

1. Fort Point Channel
2. Fan Pier
3. Congress Street
4. Summer Street
5. South Station
6. A Street
7. Commonwealth Pier
8. Viaduct Street
9. Fish Pier
10. Northern Avenue
11. Atlantic Avenue



city, in its turn, was under pressure to provide improved access from downtown to the comfortable residential neighbourhoods of South Boston and to tie the new industrial complexes to the rest of the city.

The railways, in particular, have had a far reaching effect on the configuration of all other levels of the built fabric and, as has been suggested, even have influenced the final form of the site itself. It is perhaps the sometimes collaborative, sometimes conflicting efforts of the various power groups that have led to certain inherent contradictions in the urban tissue of the area as it exists today.



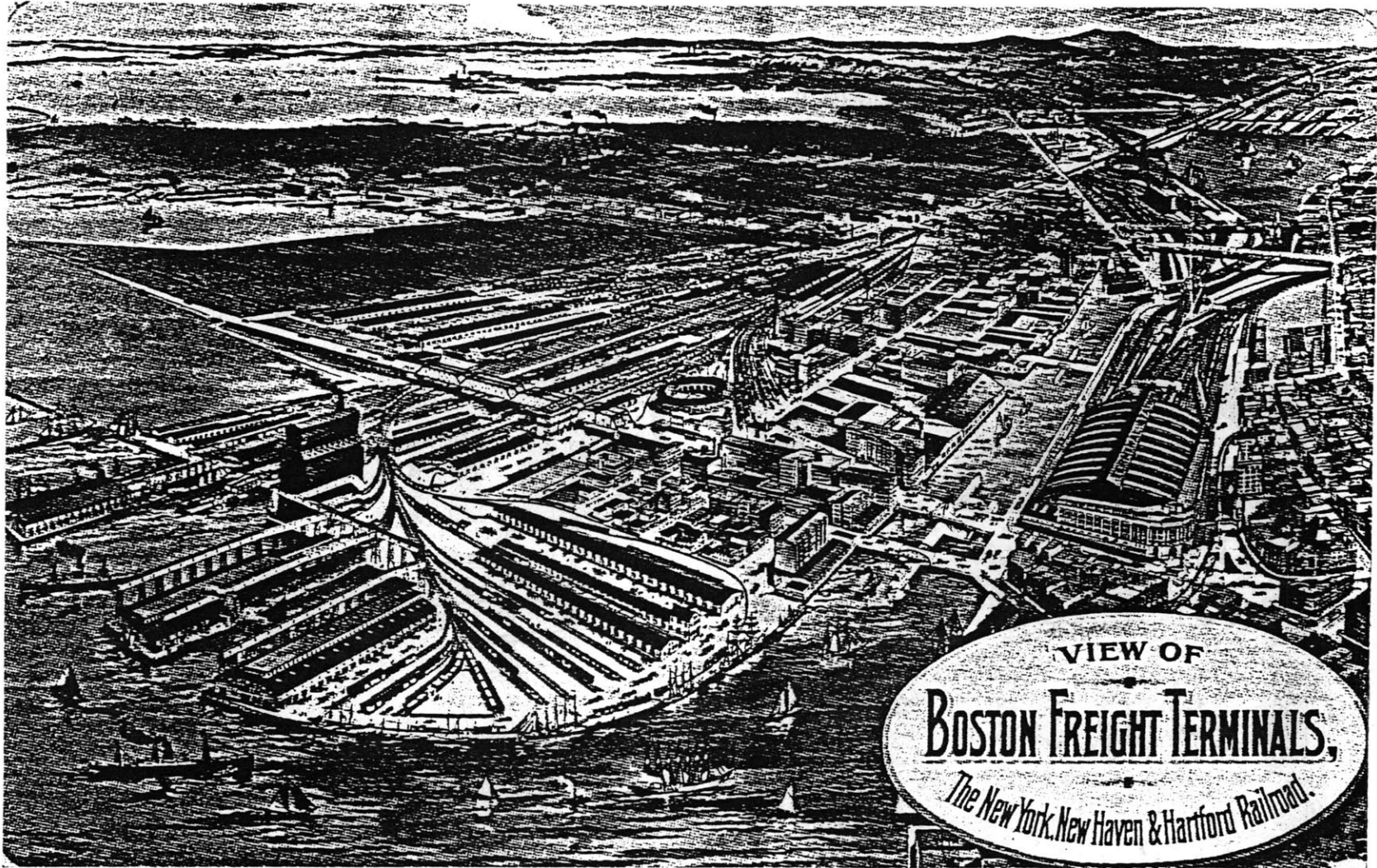


Fig. 2.2.4 The Fan Pier, c. 1900 (from the BRA.)

In a turn-of-the-century view of Boston Freight Terminals, produced for the New York, New Haven and Hartford Railway, it is interesting to note how much the railway yards and sheds dominate the whole area, but in particular, the harbour edge. The railway lines sweep in from the south and spread into the newly claimed land right to the tip of the piers. Long freight sheds and sidings literally fan out, in effect defining the curve of the Fan Pier. The two outer arms of these railway spurs are almost perpendicular to each other and align themselves to the generally orthogonal arrangement of the site defined by piers and channel. Of the three bridges indicated in the drawing, crossing the main length of the channel, none, in fact, correspond to the location of the present-day Northern Avenue bridge.

At the turn of the century, the Fan Pier and the lands south of it were dominated by railway yards. Northern Avenue was not yet in existence, and the first complete public crossing of the site was at Summer Street, several blocks to the south. The first bridge appearing along the channel was that of Congress Street, probably the earliest entry point for vehicular access to the developing area. Its development slightly precedes that of Summer Street; some of its buildings, notably the fire hall,⁽¹⁾ predate the reconstruction of the Summer Street bridge as a route for vehicular traffic in 1898. The Summer Street bridge began as a railway crossing carrying a spur line from the main line from the south across the channel to the South Terminal area. The former alignment of the spur line may, in fact, explain the diagonal alignment of Melcher Street as it connects 'A' Street to Summer.

Congress Street, as the first development corridor, became increasingly blocked to the east by the growing network serving the waterfront. It was imperative to provide an alternative east-west route bridging over the railyards. Congress Street can therefore be identified as the local street around which the warehouse district grew while Summer Street developed as a new artery for a much larger industrial area. Summer Street's rebuilding represented, in effect, a joint effort negotiated between the City of Boston and the Boston Wharf Company to solve the conflicting traffic needs of rail and road in a two level system.

(1) The fire hall was built by the Boston Wharf Co. and given to the city in 1891.

The two-level system is still in place today. Summer Street ramps gradually to reach a height of about 22 feet to clear 'A' Street, the north-south link to the southern edge of the warehouse zone at Dorchester Avenue. Summer Street continues east, crossing the site over a series of bridges above the railway yards, and gradually ramps to grade again as it approaches the Reserved Channel. Melcher Street becomes a long graceful ramp connecting Summer and 'A' Street. 'A' Street and Congress then meet at grade to provide all the needed access to the blocks of the warehouse district itself. Significantly, 'A' Street terminates at Congress Street and no major artery continues north through the site.

Later additions occurring in the first 15 years of this century have reinforced the function and intention of the two-level system. A new east-west route was opened up along the harbour with the completion of the Northern Avenue Bridge in 1908. The avenue ran along the edge of the piers to join the new developments further east. Shortly following Northern Avenue's completion, Commonwealth Pier, with its massive steamship shed and Beaux-Arts facade, was erected by the State. The Fish Pier was built four years later. However, Commonwealth Pier, while fronting on Northern Avenue, never really used it as its principal access. Instead, Viaduct Street was built as an elevated road running south from the upper level of the pier to Summer Street. A ramp connection was built off its east flank, arriving at grade directly opposite the entrance to the Fish Pier. This further emphasized the elevated Summer Street right-of-way as the principal vehicular spine across the site.

The intention behind Northern Avenue is less clear cut. It has been described as the last major link between Atlantic Avenue and a growing

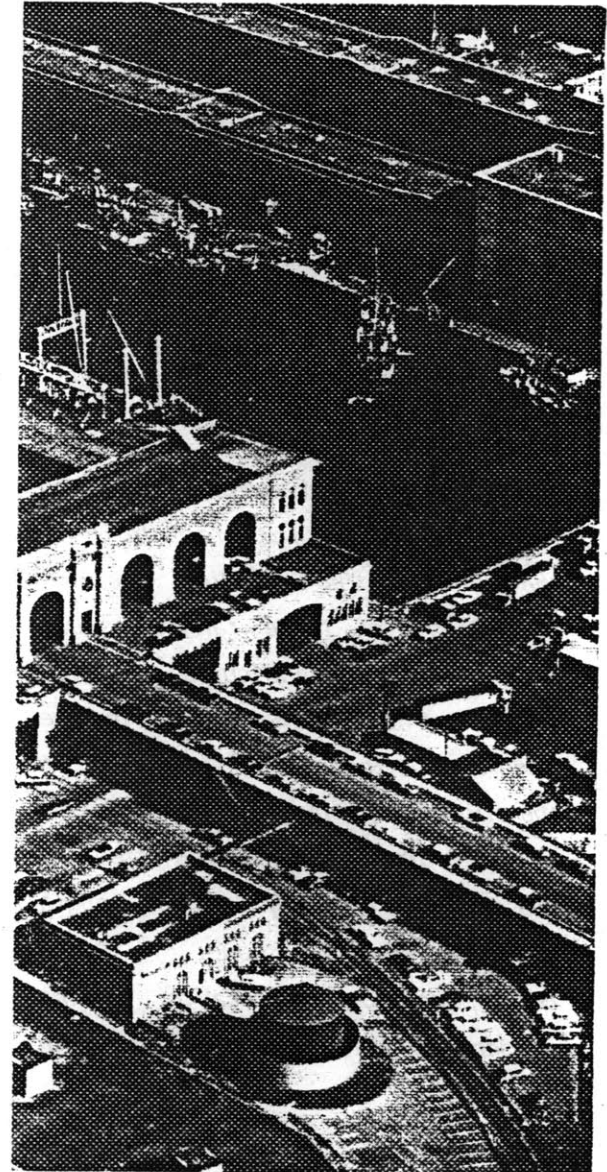
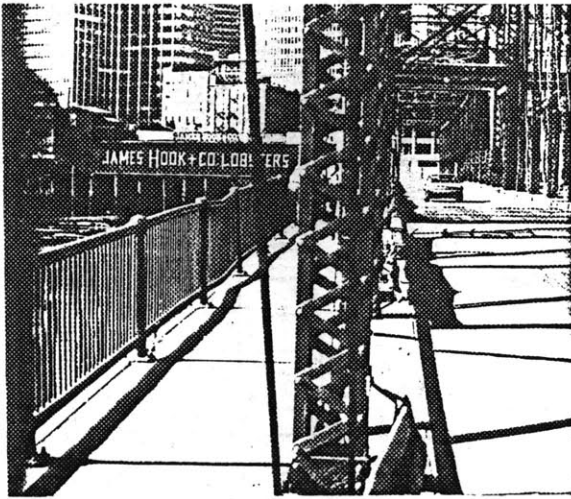


Fig. 2.2.5 Commonwealth Pier and Viaduct Street (from the Massachusetts Port Authority).



Figs. 2.2.6, 2.2.7 Northern Avenue Bridge



industrial complex spreading along the shores of Commonwealth flats. At one time, it served as a rail link as well. The bridge itself is carried on four giant trusses which divide the roadbed into three distinct zones. The middle one once carried railway lines across the channel to hook up with rail spurs along Atlantic Avenue. City maps clearly show numerous rail lines, both crossing the road to reach the Fan Pier and following the middle of the roadbed itself. This may explain why connections between Northern Avenue and the major arteries further south are so tenuous. In any case, its ambiguity as a major element in the layer of infrastructure serving the site has remained to this day.

2.3 The Block Organization

At this point, it seems worthwhile to focus in on one particular portion of the Fort Point Channel District where the built fabric is still largely intact in order to understand the relationship between block organization and the resulting building configurations. The secondary roads and service lanes defining the plots of land which have been developed can be considered the main defining elements at this level in the thematic field. This relationship becomes most clear and distinctive in the warehouse district of the Boston Wharf Co., especially in the 1,200 foot strip between Northern Avenue and Summer Street. Taking Congress as the east-west feeder, a series of short north-south streets run off it, forming blocks of between 180 and 250 feet wide and 650 to 700 feet long. Each of these blocks is, in turn, divided lengthwise by a series of back lanes. The streets are all between 44 and 56 feet wide while the lanes tend to be about 30 feet wide. The eastern-most block seems to have been turned inside out, perhaps because of the neighbouring railway yards. What

would have been expected to be a back lane in this pattern is actually another 44 foot wide street. What might be expected to be the final 'street' at the end of the block is actually more like a back lane to the first block of buildings.

Congress Street cuts along the south end of this configuration at a slight diagonal, paralleled for part of its length by back service lanes on either side. The so-called back lanes are just wide enough to accommodate two railroad spurs serving each half of the deep blocks. These rail spurs sweep across in arcs from the freight yards to the east and enter the blocks from their northern end. Since the second last street takes the place of a lane and is perhaps too close to the main railyards to allow sufficient radius for accessing a spur line, a rail spur is run through the next adjacent street to the west instead. The eastern side of the last block fronts directly on what would have been a railway siding fed from the south. The pattern established seems to parallel on land what the piers and slips do at the water's edge. Here, amidst the warehouse fabric, the exchange of goods is between road and rail and each buildable site is provided with direct road access on one side and direct rail access on the other. Roads push north from Congress Street as if they are piers pushing into the sea; they interlock with the railway spurs which, in turn, penetrate the warehouse district much as the slips reach into the land at the harbour's edge.

Given the integral relationship between this block formation and the railway yards filling out the Fan Pier to the north, it is clear that this layer of the field is not merely a fragment of an unrealized grid. It was not established in the manner of a continuous regularized grid such as the one carpeting the residential districts of South Boston. But as the railway function

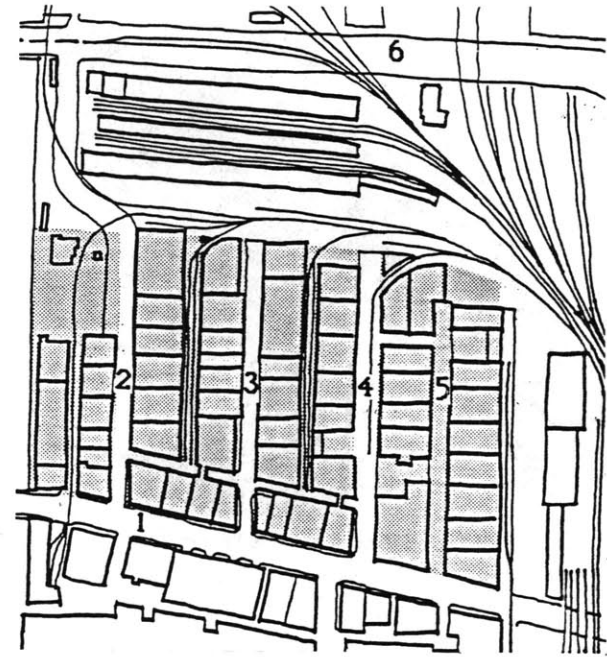
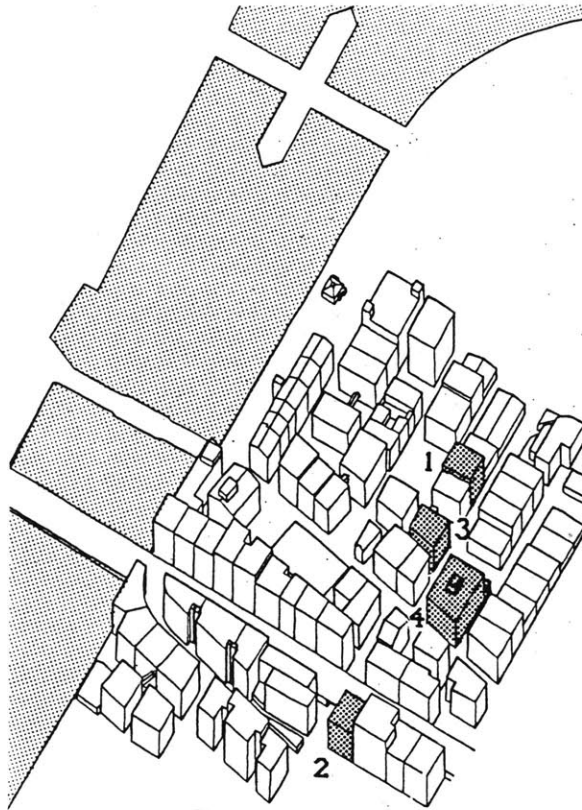


Fig. 2.3.1 The blocks north of Congress Street.

1. Congress Street.
2. Sleeper Street
3. Farnsworth Street
4. Pittsburgh Street
5. Stillings Street
6. Northern Avenue



Figs. 2.4.1 Boston Wharf Company Buildings.

1. 30-43 Pittsburgh Street
2. 311 Summer Street (Dwinell Wright Factory)
3. 12 Pittsburgh Street (Fitz Shoe Factory)
4. 368 Congress Street (Atrium Building)

has gradually been cut back and the rail network removed from the piers, the isolated state of the warehouse district has become somewhat of an anomaly. Lacking natural road connections to the rest of the site to the north, it risks becoming increasingly isolated from adjacent development areas.

There is another curious aspect to this fragmentary block organization. This concerns the question of the powers that control it. While Congress Street has clearly developed as a public, municipally owned right-of-way, the secondary streets which serve the warehouses have not. Perhaps over the years, they have been appropriated as city streets but they were not conceived of as such. They were built on land wholly privately owned and controlled and their primary use was intended to be the transport of goods. They therefore lack the normal setbacks, sidewalks and amenities of normal public thoroughfares. Even more difficult to define are the back lanes which bisect the north-south blocks. They are clearly private property, once appropriated by the railway companies, now left in a state of ambiguity.

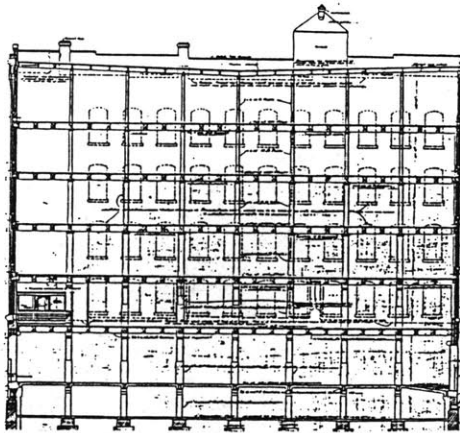
2.4 Buildings: The Warehouse Fabric

The family of buildings occupying the Boston Wharf Company lands possess a common sense of economy and unity in spite of considerable variation. It is important to keep in mind that all these buildings were designed by *one* office for a wide range of individual clients. Common construction details, evolving stylistic conventions and the dictates of the street organization, developed by the Boston Wharf Company's in-house architects, determined the overall consistency of the work while the demands of clients for factories and warehouses of varying size and configuration ensured diversity.

By examining a sampling of existing buildings in some detail, it is possible to get a good idea of how general rules and conventions are actually put into practice in specific circumstances. The 'reading' of this fabric always involves two important levels of distinction; the general and the particular. There are certain overriding conventions and characteristics, in part dictated by the basic function of the warehouses at the turn of the century, in part, by the block formation, and so on. These general characteristics are so basic and simple that they can be easily adapted to many different circumstances. The more particular characteristics of the buildings which these general systems so readily accommodate respond to varying programmatic needs, exceptional site conditions and, to some extent, vary according to changing architectural conventions over the fifty year period of construction. The four buildings described here do not represent the full range of variations found on the site but they are highly suggestive of how a relationship between a system and specific needs, between building and architecture, can be established to generate a dense urban fabric. These particular four are in the mid-range of buildings in terms of height and massing and have been chosen especially to test the response of a basic system to a simple range of different site conditions.

Fig. 2.4.2 Elevations of warehouses on Farnsworth Street.



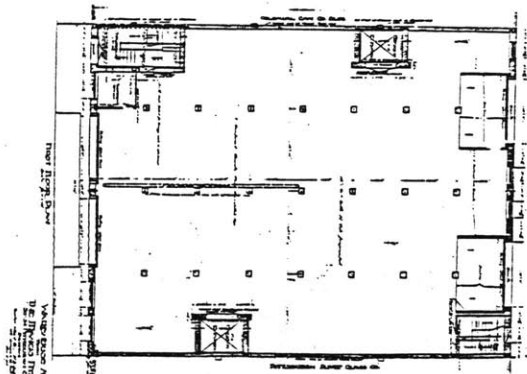


Figs. 2.4.3, 2.4.4 East-west section and ground floor plan, 30-34 Pittsburgh Street.

2.4.1 30-34 Pittsburgh Street

This warehouse, built about 1919, is virtually the archetype for warehouses in the northern half of the Boston Wharf company lands. It is located in one of the 230 foot wide blocks running north off Congress Street. The warehouse is part of a row of buildings tightly fronting Pittsburgh Street on one side and a railway siding at the back. Therefore, it can be described as a zero lot line development with a double party wall condition.

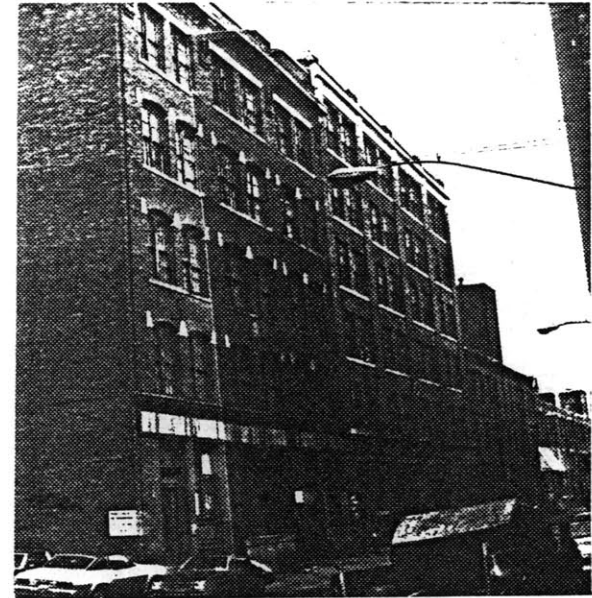
The entire structure is based on a simple orthogonal grid of approximately 20'x12' bays, forming an 80'x100' floor plate. There are six full floors over a basement providing a total square footage of 56,000 square feet. The structural system is primarily of heavy wooden beams and columns rigidly interconnected with iron joist hangers and capitals like a giant connector set. The connection system allows beams and joists to be flush, minimizing the ceiling depth and providing a minimum clearance of 11 feet on all floors except the basement. The square columns gradually decrease in thickness moving up through the section of the building as the loading requirements decrease, becoming almost a diagram of the loading forces working through the buildings. The heavy masonry walls of the building, at the front and back, are lined with tall, wooden sash windows to maximize natural light and ventilation.



The front facade, as perhaps the most architectonic element of the building, is actually the outcome and resolution of many internal systems working together. As the longer side of the structural bay is, in this case, oriented along the street, the facade is, correspondingly, organized into four 20' bays, demarcated by broad brick pilasters, running the full height of the

building. Vertically, the facade is organized into three parts; top, middle and base. The base combines the ground floor and basement (in this case, half below grade), as a unified 16' high element, capped with strong horizontal bands of brick and stone. Within this zone, sill heights of openings vary to accommodate the entry landing of the stairs, freight doors and loading platforms. The middle zone consists of four stories of evenly spaced windows. The top zone is a row of windows capped by a heavy cornice and parapet, in part responding to the extra ceiling height generated by the sloping roof.

The building has been designed with floors completely open except for stairwells and elevator shafts. These elements are located against the party walls. Elevators are placed on opposite walls, three bays back from one or other of the exterior walls. The stairwells are built right on the front and back facades to give direct access to the outside. With the very basic programmatic requirements of the warehouse, the entry condition is minimal, with the front door opening directly onto the landing of the front stairwell.



Figs. 2.4.5, 2.4.6 Street view and elevation of Pittsburgh Street warehouses.



2.4.2 311 Summer Street (Dwinell Wright Factory)

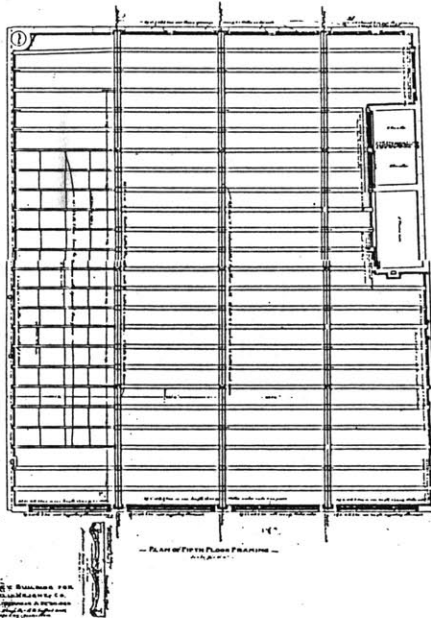
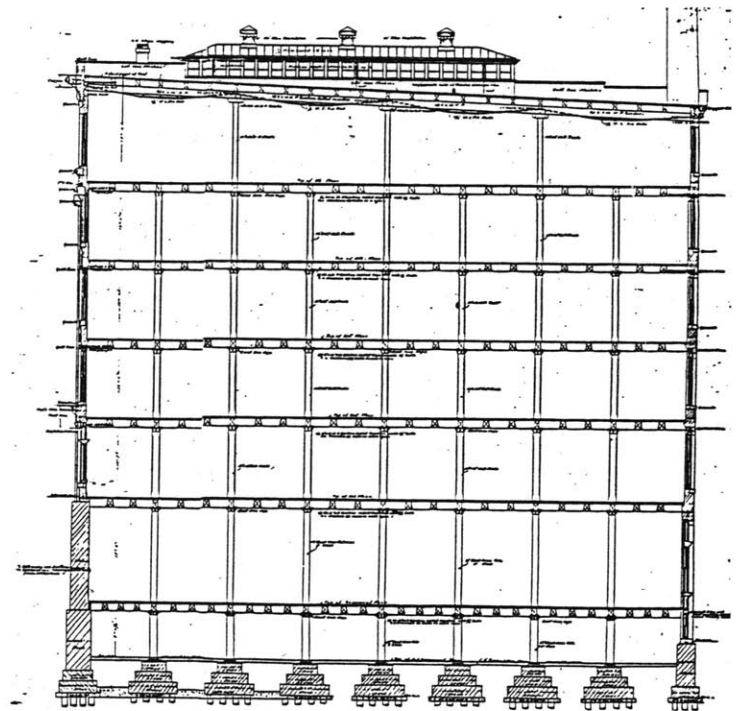
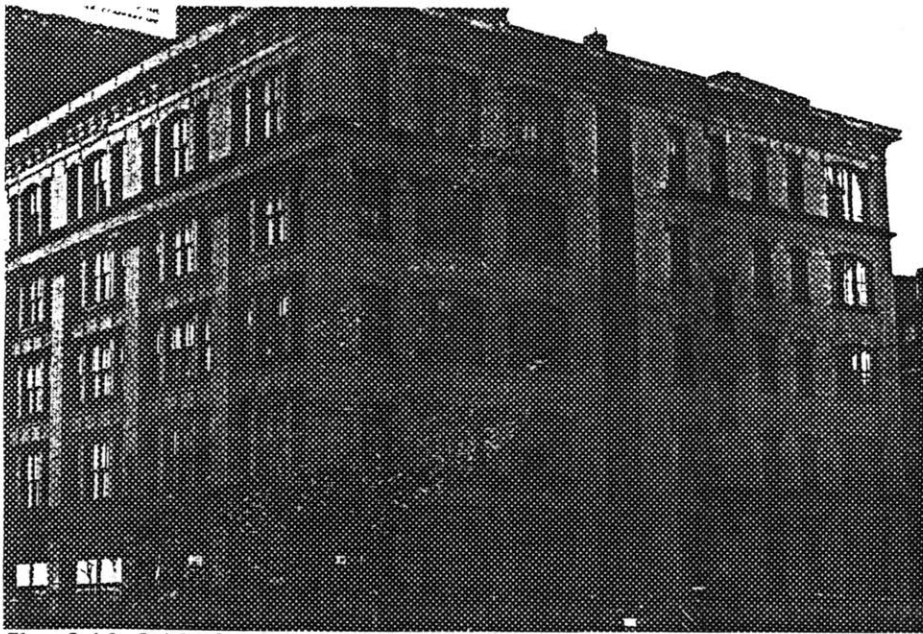


Fig. 2.4.7 Framing Plan for fifth floor, 311 Summer Street.

This factory building, erected in 1904, is a building of similar height and massing to the first example. The site location is considerably more complex, though. The building is at the corner of Summer and 'A' Streets at the end of a long row. The main entrance and front facade of the building are oriented to Summer Street, at an elevation 22' above the surrounding streets of the district. The side elevation is oriented to 'A' Street, two levels below. There is also frontage on a back lane to the rear, giving the building three walls of windows. The structural bay is similar to that of the Pittsburgh Street warehouse. Its typical bays are 21'x12', although one bay is 26' wide, and its overall dimensions are 89' by 100' deep. The depth once more relates to the width of the block and its access lane. With five floors above two basements, the building is about 61,6000 square feet in area.

In terms of structural framing and exterior wall treatment, the building follows much the same rules and conventions as exhibited in the first warehouse. The front facade is still a response to the internal structural system, organized into four broad bays. Most of the elements which operate differently from the first example respond to its different site characteristics. The front entrance is a more developed site feature with a recessed doorstep, angled towards the intersection. An ad hoc steel platform connects it to the adjacent bridge; it may originally have had an exterior stair connecting it to the street below. The elevators and stairway are all located on the side elevation, taking advantage of the street exposure. In this case, the freight elevators open directly onto loading platforms off 'A' Street to allow the efficient movement of goods. As the factory is located on a more public and

prominent site, access has been arranged to operate more independently, and in subsequent years, various floors have been partitioned off to create more independent territories (for studios, workshops, etc.). The three sided exposure of the building has enhanced this possibility of subdivision.



Figs. 2.4.8, 2.4.9 Summer Street view and section of 311 Summer Street.

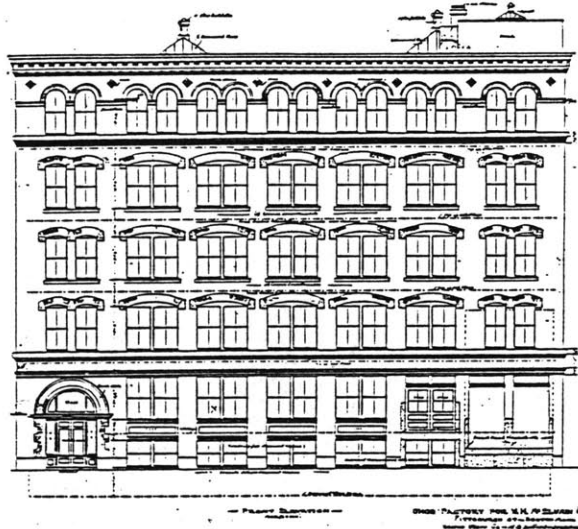


Fig. 2.4.10 Front elevation of 12 Pittsburgh Street.

2.4.3 12 Pittsburgh Street (Fitz Shoe Factory)

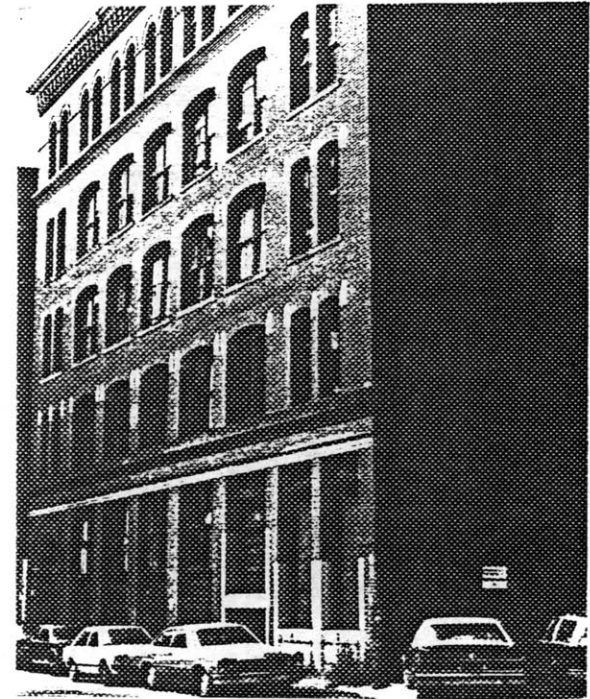
The shoe factory, built in 1906, again reveals interesting similarities and differences with the other examples investigated. This five and a half storey building was designed to be the end of a row (as in the Summer Street example) with service lanes on two sides, and, in effect, three window walls. Since the adjoining property contains only one-storey buildings, presumably drive sheds for freight handling vehicles, the 'party' wall contains windows as well, above the first level.

While the building generally follows an orthogonal grid (in this case, with a module of approximately 12'7"x 20'), the peculiarities of the site give its structural organization a particular twist. The laneway running along the south side of the building is oriented at an angle paralleling Congress Street, half a block over. The building site therefore has one angled side which the structure simply fills in. The building maintains an overall floor plate of 8,000 square feet and a depth of 100' while the front and back facades differ in length. The front is 90' across while the back is 70'. The total area of the building is 48,000 square feet.

The result of the angled site is that within, one odd structural bay tapers down in width toward the back of the site. Unlike most of the other buildings in the district, the wider dimensions of the structural bays are oriented perpendicular to the front facade rather than parallel to it, as if to minimize the odd structural bays. This move is, in turn, significant in terms of the resolution of the facade. The Pittsburgh elevation is very strong in terms of its visual organization. String courses of sandstone alternating with brick, cornices

of copper and brick, etc. form strong horizontal bands distinguishing the top floor and bottom storey and a half from three middle levels. But because of the odd number of 21'7" bays running across the facade, the windows are treated as a more or less evenly spaced row of single large windows in a flat, continuous wall. Only the end bays show some differentiation, with smaller, paired windows and double arches. The windows themselves are nevertheless a standard, repeated sash unit that is found in many of the other warehouses as well.

The single stair and a pair of elevators are all located directly on the Pittsburgh Street elevation, opening directly to the outside. As in other examples, access is minimized, leaving the floors as open, undefined space. Perhaps this limited access has made it difficult to adapt. The building currently stands empty and neglected.



Figs. 2.4.11, 2.4.12 Pittsburgh Street warehouses.



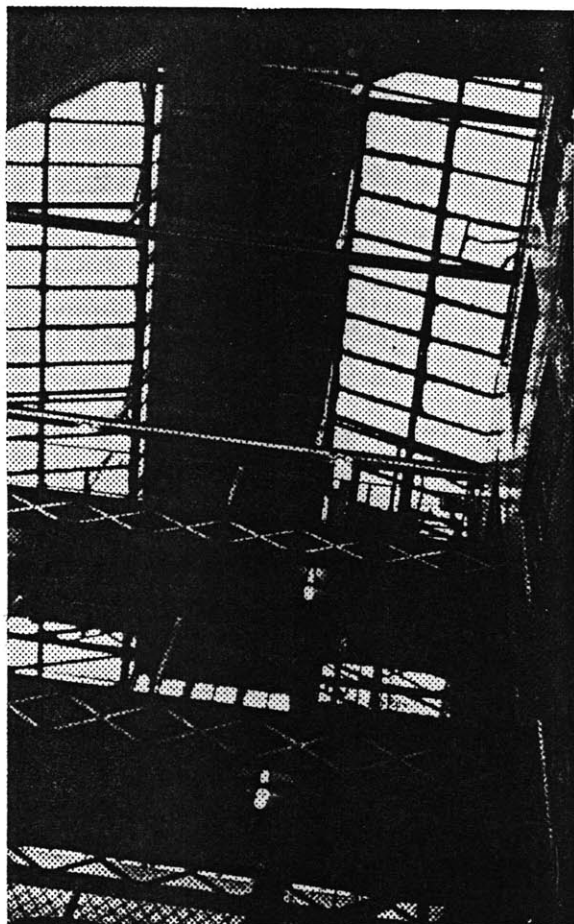


Fig. 2.4.13 Interior lightwell of 368 Congress Street.

2.4.4 368 Congress Street (Atrium Building)

The last example to be looked at is, by far, the largest of the buildings. With a footprint of around 20,678 square feet, on five floors and a basement, it has an area approximately double that of a typical warehouse. The building fronts Congress Street and occupies the full 120' width of the block between Farnsworth and Stillings Streets.

Built around 1900, this building does not seem to have been made for a specific client, as in the case of the later, smaller factories and warehouses. It is perhaps reasonable to assume this is one of the early speculative ventures of the Boston Wharf Company, intended to serve a variety of industrial and commercial purposes for clients unknown. Accordingly, the building has a much more elaborated semi-public realm of corridors, lobby, stairwell and central lightwell.

The structure follows the familiar modular grid of 20'x12'. As in the Pittsburgh Street Shoe Factory, the presence of Congress Street has resulted in one side being at an angle to the rest of the site. Once again, the structural module is oriented with the long dimension along Congress Street so as to minimize odd-sized bays. It is tempting to consider this building typologically as two smaller warehouse buildings sitting back to back, with service stairs, elevators and corridors running along a narrow slot in between them. (In fact, the structural bay corresponding to this slot is narrower than all the others.) In this case, the lightwell becomes a logical device, both for uniting the two halves and cutting a hole through the deep section to bring in natural light and air.

The presence of the lightwell fundamentally alters the basic warehouse typology and its relationship to the street. For the first time, there is a definite semi-public, in-between realm, to some extent separating pedestrian traffic from freight operations. From a prominent entrance off Front Street, a lobby leads up half a flight of steps and onto a bridge one floor above the base of the lightwell. A second bridge, perpendicular to the first, leads to freight elevators and stairs along a central corridor; a passenger elevator serving the entire building runs up through the lightwell itself. This elaborated system of access has continued to support multi-tenant use in the building and current operations include warehousing, printing presses, furniture making, and other light manufacturing.

It is worth noting some aspects of the architectural treatment of the facades. Given its size and more prominent location, this building is essentially treated as a building in the round, with fully developed and ornamented facades on all sides of the building. Once again, there are three distinct horizontal zones on the facade. There is a top zone of single windows in triplets capped by a cornice of copper or brick and separated from the next zone by a limestone coursing. The middle zone can be identified as three stories where the openings have been grouped into continuous bands of three or four windows, divided by broad brick pilasters and topped by iron lintels to define giant, three storey bays. The bottom zone consists of basement and first floor, separated from the upper floors by a course of limestone and given similar window treatment to the middle zone. There is a comfortably loose fit (or 'slack') between the various components making up the facade which help to bridge the contradictions between standardized industrial sash windows, a repetitive modular grid and the circumstantial factors of the immediate site



Fig. 2.4.14 Section through central lightwell, 368 Congress Street.

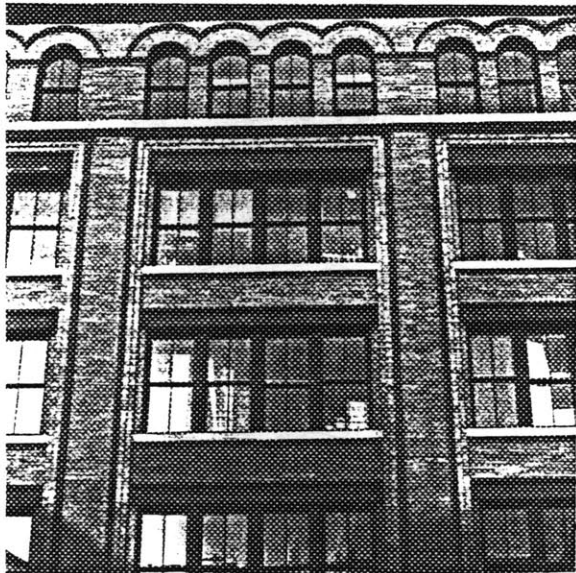


Fig. 2.4.15 Detail, Congress Street elevation, 366 Congress Street.

context. For example: the 'front' facade facing Congress Street, while part of a free-standing building, is nevertheless given elaborated architectural decoration which also wraps around the first bays of the side elevations. Because of the angle of Congress in relation to the side streets, two odd bays are created at the end of the side facades. The additional decorative surrounds and heavier cornices which are part of the elaborated treatment of this part of the building help to make the dimensional transition between regular and odd bays. While the front and back facades are divided into vertical bays by pilasters corresponding to the column interval behind, the rhythms of the bays on the side elevations works independently from the structural bay dimension. This loose fit between structure and facade allows a constant adjustment of window groupings, pilaster and spandrel width to achieve reasonable proportions within the overall dimensional constraints of the modular grid.

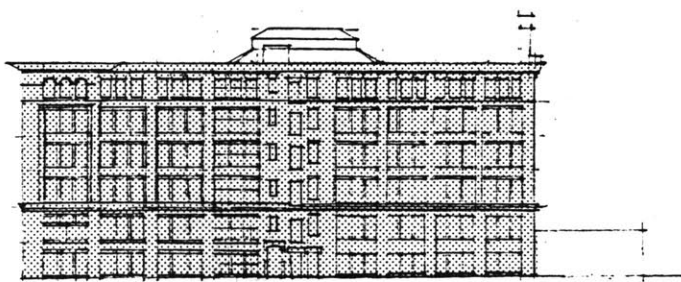


Fig. 2.4.16 Elevation of warehouses on Stillings Street.



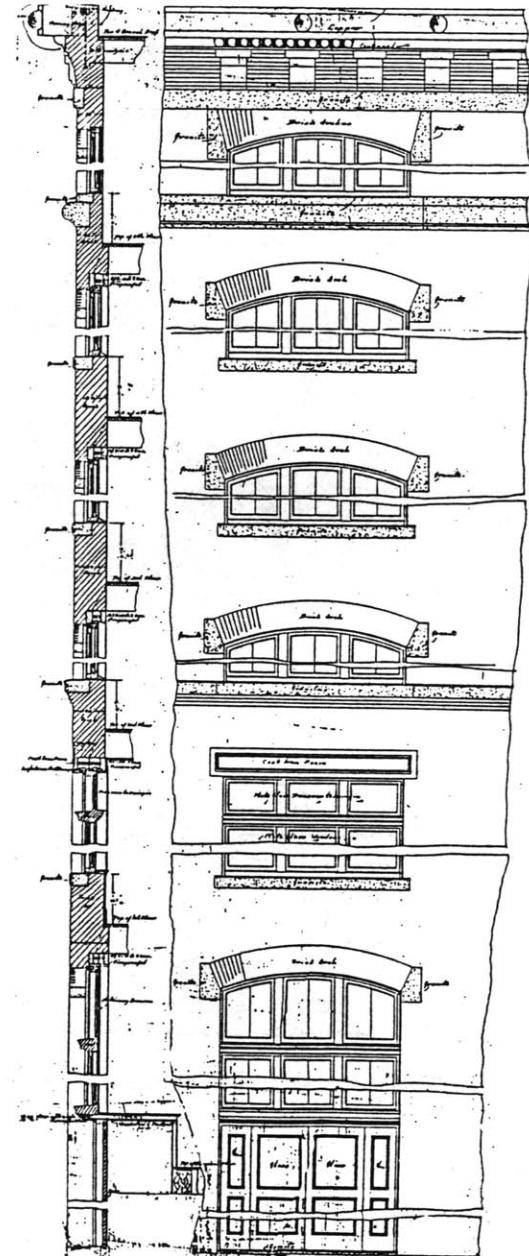
2.5 The Warehouses as a 'Thematic Field' in a Dynamic State of Change and Adjustment

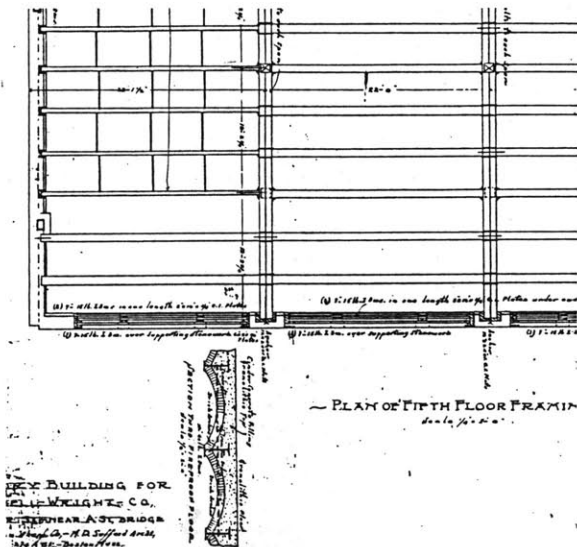
A close examination of the working drawings, originating in the architectural office of the Boston Wharf Company, provide clues of a rapidly changing and expanding industrial district. With clear cut structural systems and architectural conventions, the building techniques used seem to have been highly adaptable during the most active period of the company's development.

First, a look at one of the most detailed surviving drawings in the possession of the Boston Wharf Co. (now Town and City Properties), a wall section for the Dwinell Wright Factory on Summer Street provides a general indication of the working relationship between architect and builder in uniting specific architectural ideas with the general rules and conventions of making things. The section summarizes a host of conditions and commonly understood details. While the profile of the section, the placement of materials, and the ordering of decorative elements are precisely specified, most of the details of structural joints, flashing, etc. are not. There is an implied understanding about the way in which the load bearing wall is made and how the granite lintels are tied into it. Thus, while the spirit of the design is clear, the exact method by which it is achieved is left to the trusted conventions of the builder/craftsmen.

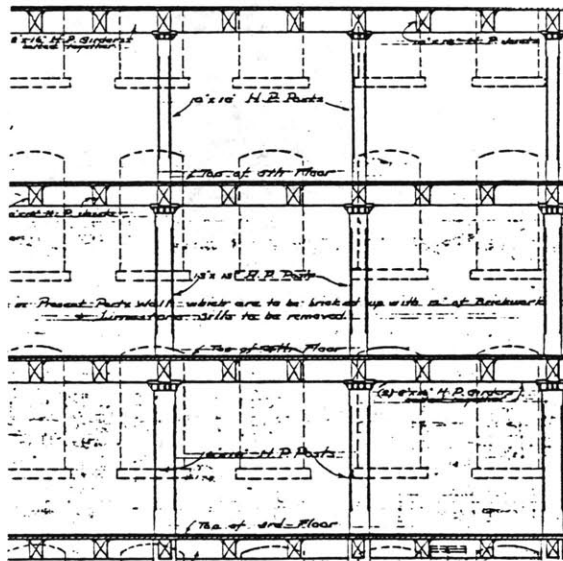
A fragment of a drawing of the fifth floor framing plan for the same building is an instance of the adjustment and adaptation of a system at a detailed level. It shows a clear, simple system of heavy timber framing with a regular grid of beams, joists, columns and their iron connectors. At the same time, a small sectional detail to one side provides a solution for much heavier

Fig. 2.5.1 Sectional detail, Dwinell Wright Factory





Figs. 2.5.2, 2.5.3 Above: Detail, framing plan, Dwinell Wright factory; below: detail, section, 30-34 Pittsburgh St.



loading and fire proofing within the overall structural system. Thus, a section of slender iron girders is readily inserted between joists over one section of the floor to support shallow brick vaults and a concrete floor where special needs require it.

On a broader level, the working section for the Pittsburgh Street warehouse reveals something of the continuous process of adjustment and expansion at the level of an individual site and context. The stone pilings to this proposed structure are labelled 'present foundations', suggesting they are already in place and are perhaps being reused from a previous lower structure on that site. Dotted in behind the section are rows of windows, indicated as being in the 'present party wall'. They begin above the first floor of the neighbouring building, confirming the idea that they were inserted in the wall, or erected when there was a lower building on the site of the new factory. The instructions on the drawing suggest they are simply to be filled in and their wall tied into and capped with the new one. That party walls can have windows is really only possible because, at the time of construction, there were really no property divisions between one building and the next. A single corporate power owns the property and designs the buildings so that, at any given stage of evolution, the fabric is treated as complete. Windows tend to get inserted into any wall open to light and air, regardless of party wall conditions, because this family of buildings operates, in effect, under a single controlling entity.

A final example of a working drawing, this time from the Fitz Shoe factory on Pittsburgh Street, reveals an interesting clue about the development of the warehouse district in relation to the block organization. The second

floor plan indicates a bridge, connecting 'the old building' across the lane to the south. The factory, then, is simultaneously a self-contained structure and an incremental element of expansion to the W.H. McElwain Company, whose initial headquarters are presumably located on Congress Street. Within a fairly rigidly defined matrix of railways, streets, lanes and blocks, corporate entities can expand, building by building, across narrow lanes with relative ease. At the same time, individualized street addresses and the corresponding density of public access are preserved from block to block.

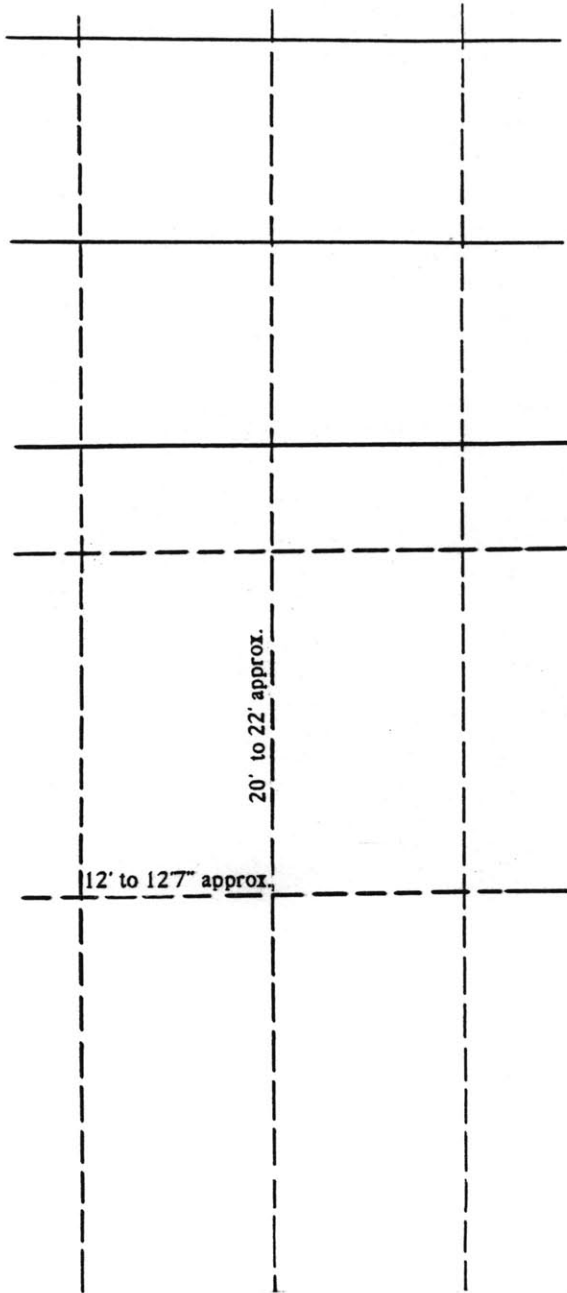
2.6 The Thematic Field Summarized

In order to understand the nature of the warehouse fabric, it has been necessary to go into some detail about its specific physical properties under varying conditions. Now it is possible to generate some general drawings which can describe it thematically. The summary observations yield a set of diagrams which will form the basis for the strategy for transforming this urban fabric.

In an earlier section, the fabric was described as a series of layers of interventions over time, building from the general to the specific. Now as a thematic structure, the fabric will be described from the opposite starting point, building up from a prototypical warehouse building to a block organization and then to the combination of blocks and streets which constitutes the physical fabric of the district.



Fig. 2.5.4 Bridge connecting Fitz Shoe Factory and W.H. McElwain Company on Congress Street.

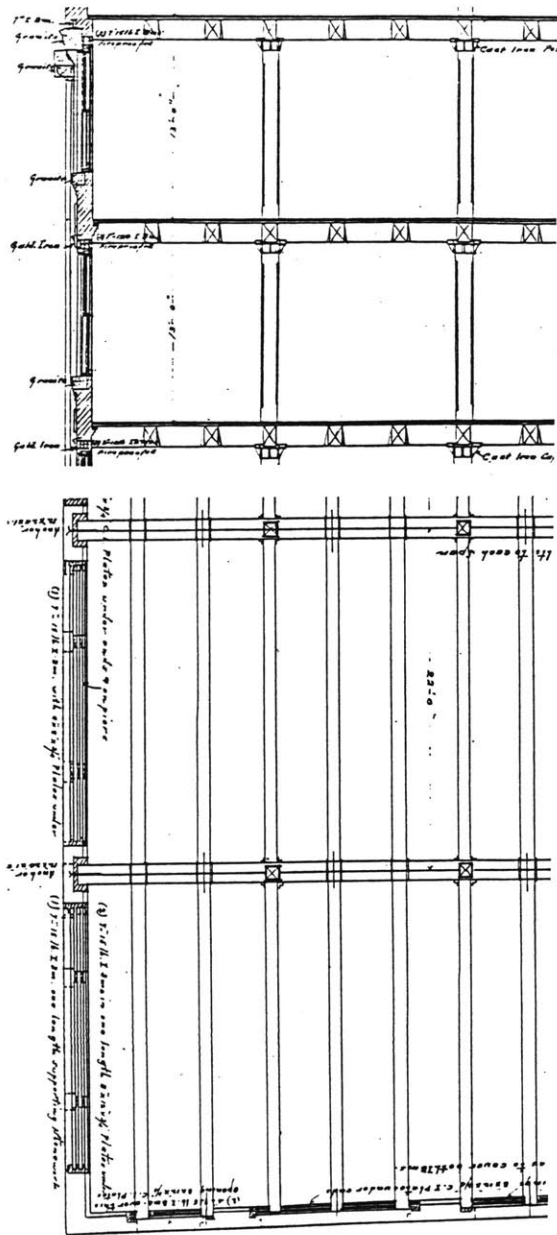




2.6.1 Structural Module

The first diagram summarizes the basic structural system used in most of the buildings on the site and gives an indication of the dimensional variations under which it operates. There is a basic rectangular module of 12'X20' (ranging from 12'X21' to 12'7"X20' in the examples examined in this study). The module can be described as four square columns, usually of wood, ranging from 8"X8" to 16"X16", depending on the level of loading of a particular floor. Primary beams run from column to column in the direction of the short side of the bay; heavy joists are hung from the main beam by iron hangers and span the longer dimension of the bay. The beam depth ranges from about 12 to 18" while the floor to floor height of a typical bay is about 12' (in fact, ranging from 11'3" to 13'0"). Odd shaped bays resulting from irregular site

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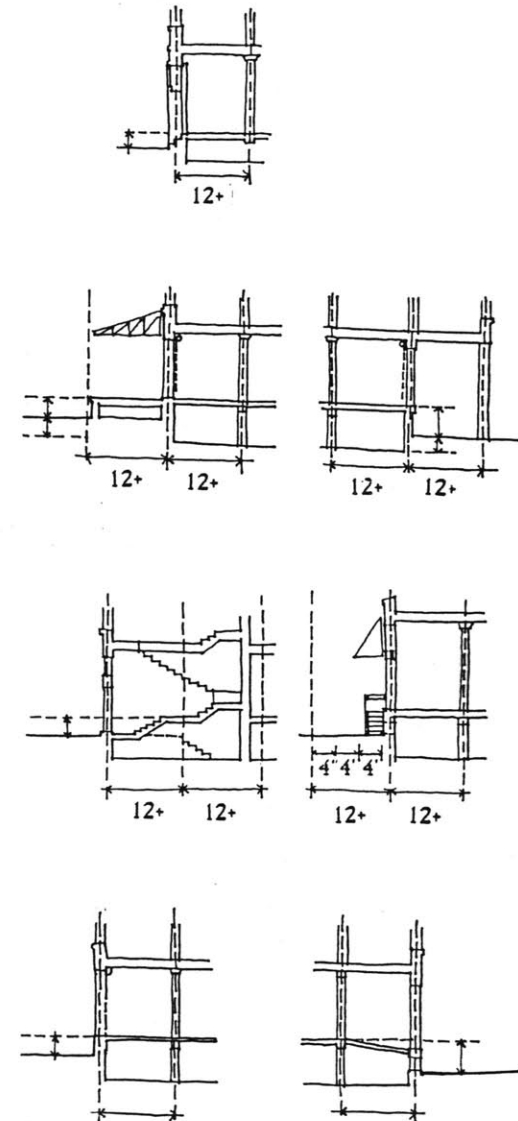
conditions occur only at the outer edges of the buildings. the perimeter masonry load bearing walls take up the slack between column grid and site configuration to deal with structural irregularities.

2.6.2 Schematic Sections (The Structural Module and Street Edge)

The sections show various interface conditions between the structural module and the street. There is usually some dimensional variation in the outer module due to the placement of the load bearing wall within, outside or centred on the structural grid line. The first floors of buildings with basements sit a half level above grade and usually have the greatest overall floor to floor height in the section. The roofs are generally flat, but sloped slightly for drainage, so that the maximum floor to floor height of the top storey may be as much as 14 or 16 feet. Ground floors of buildings without basements sit almost level with grade.

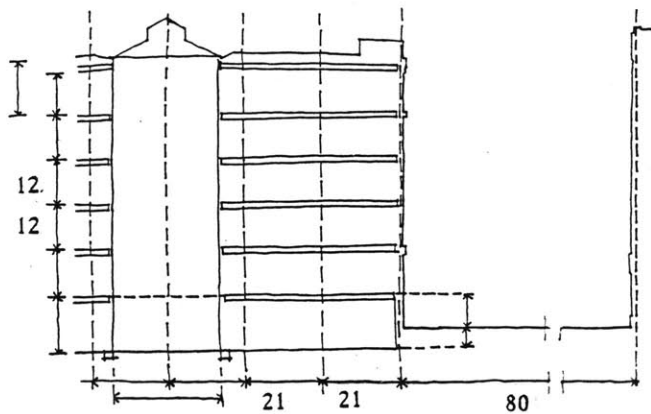
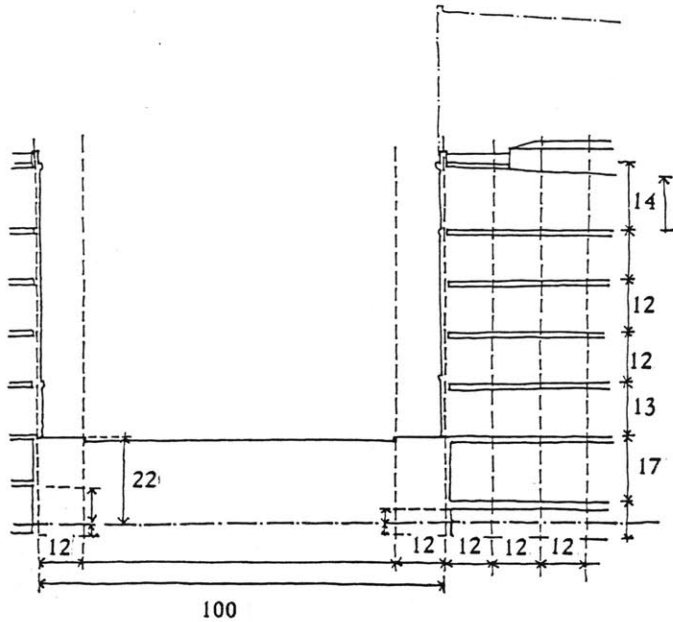
The main pedestrian entrances to the buildings usually open directly off the street at grade, a half flight of steps below the main level.

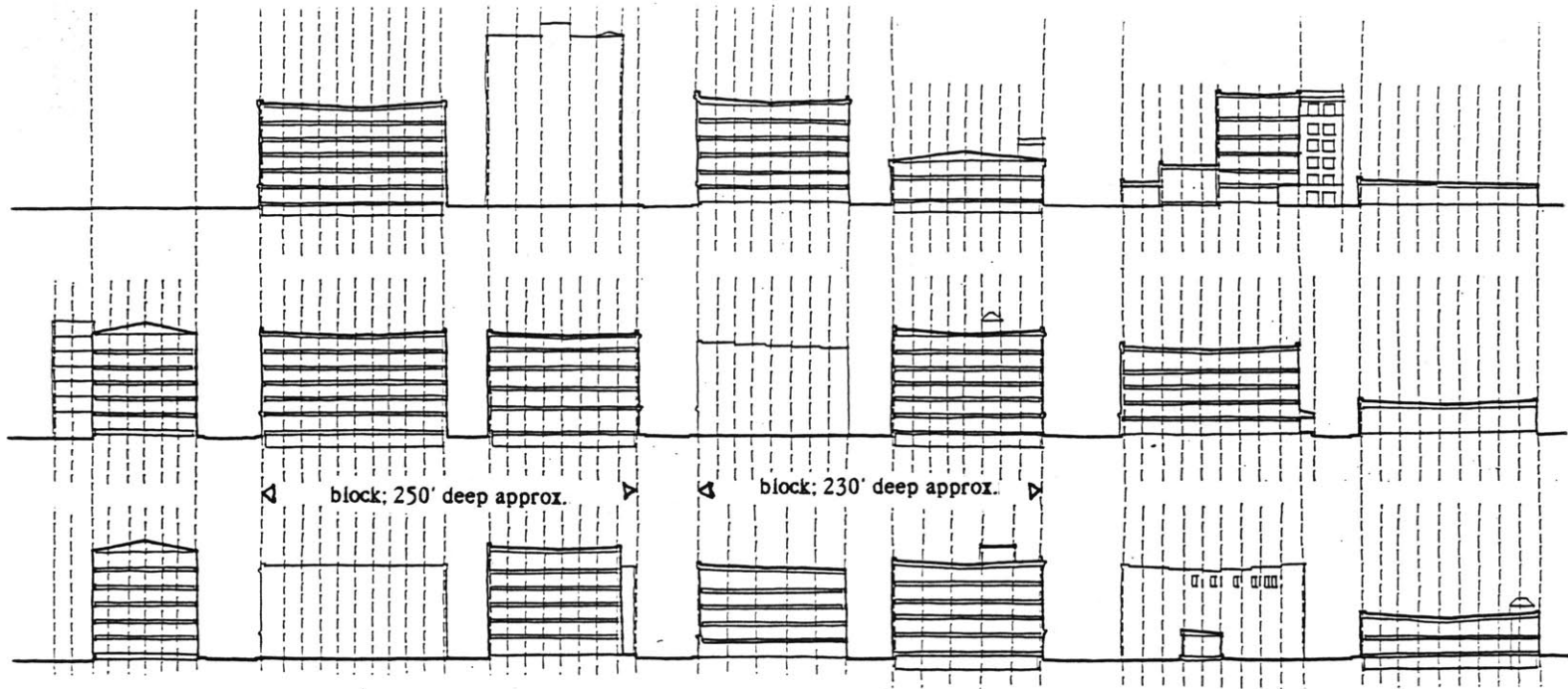
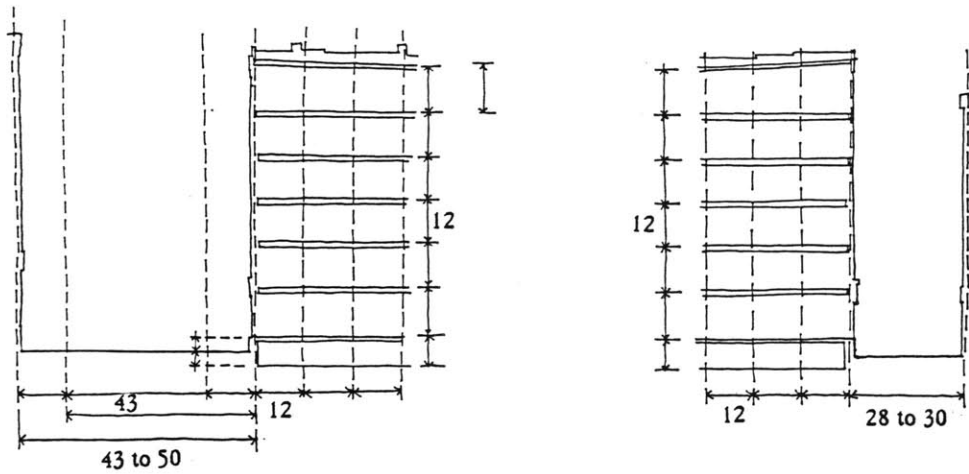
Loading bays are provided with openings at the height of the first level or slightly below it. Sometimes, they are extended beyond the exterior wall of the building as raised platforms. In certain instances, loading bays are treated as external spaces at grade within the overall building envelope. Most changes in level are accommodated behind the building face.

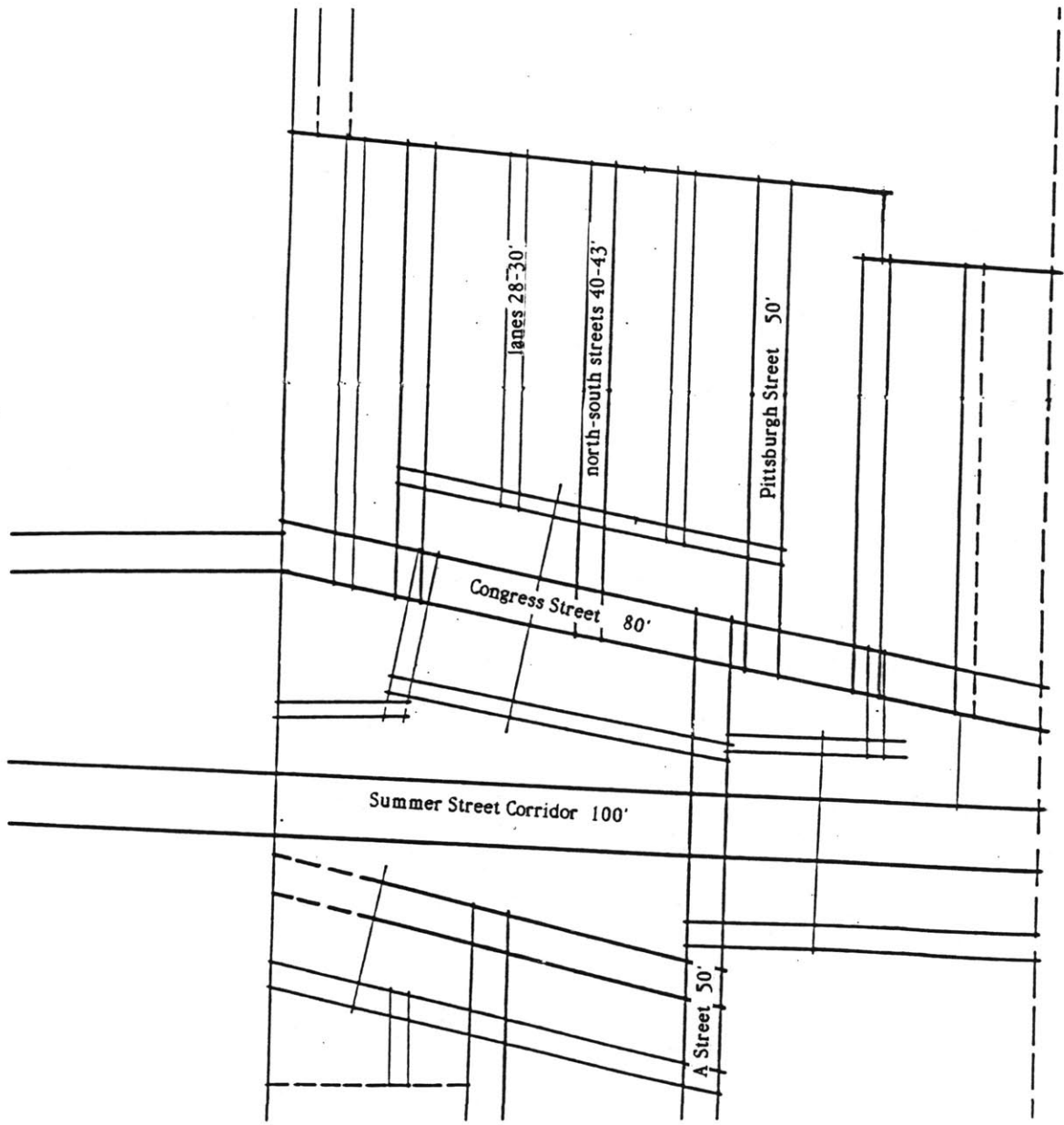


2.6.3 Schematic Sections (Block Organization)

The next set of diagrams are schematic sections at the level of the block. The sections show the tight building configuration in relation to streets and railway sidings and suggest the maximum range of heights and massing in typical blocks. The overall section cutting through the entire 1,200 foot width of the site shows the two alternative arrangements: one where the buildings span the full width from street to street; the other where a wider block is subdivided by railway sidings.



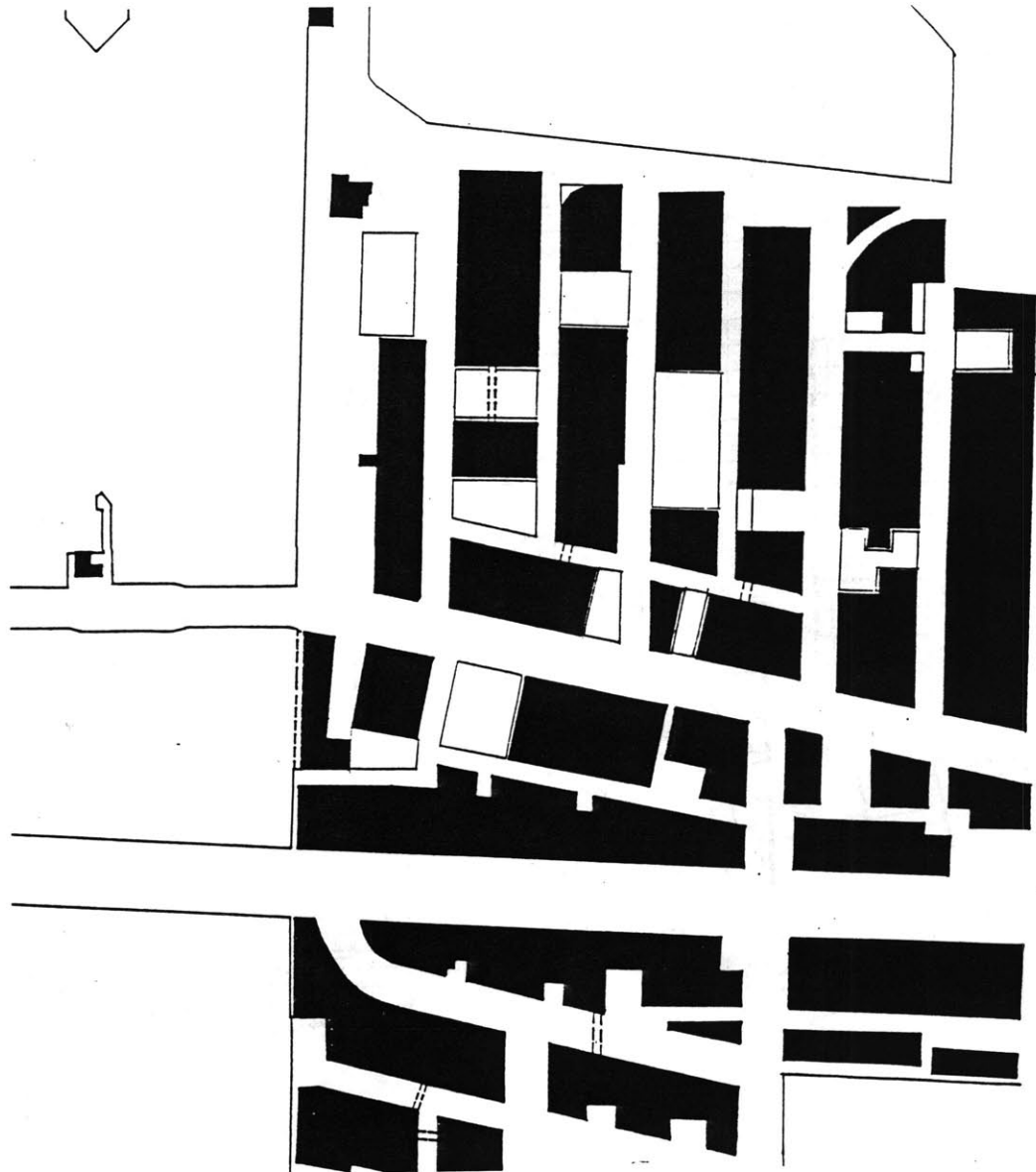






2.6.4 Overall Plans and Axonometric Projection

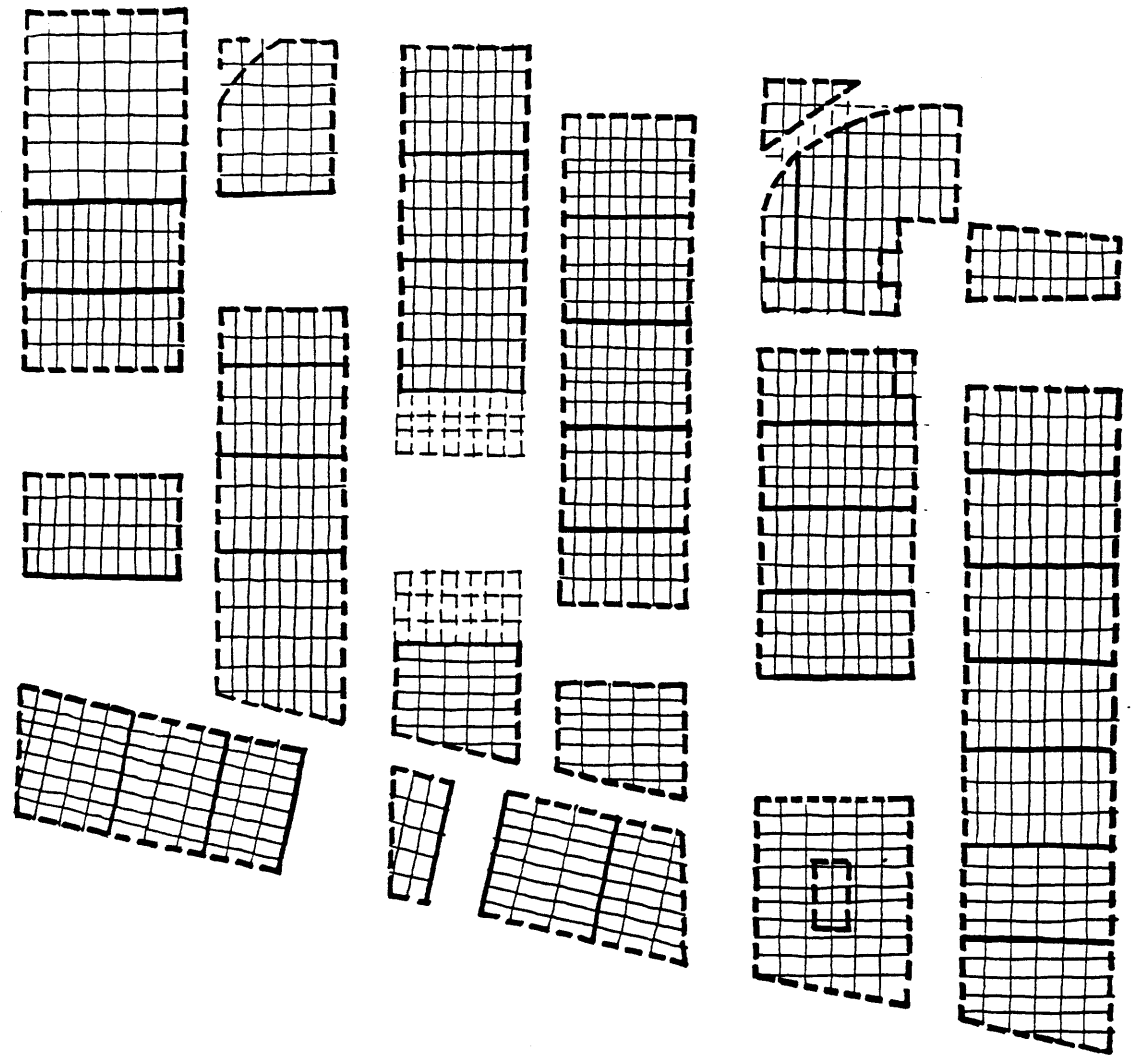
The final set of these drawings attempts to construct the overall pattern of buildings in the area north of Congress Street in a series of layers. The first plan diagram shows the organizing grid of the streets and blocks with their principle dimensions.

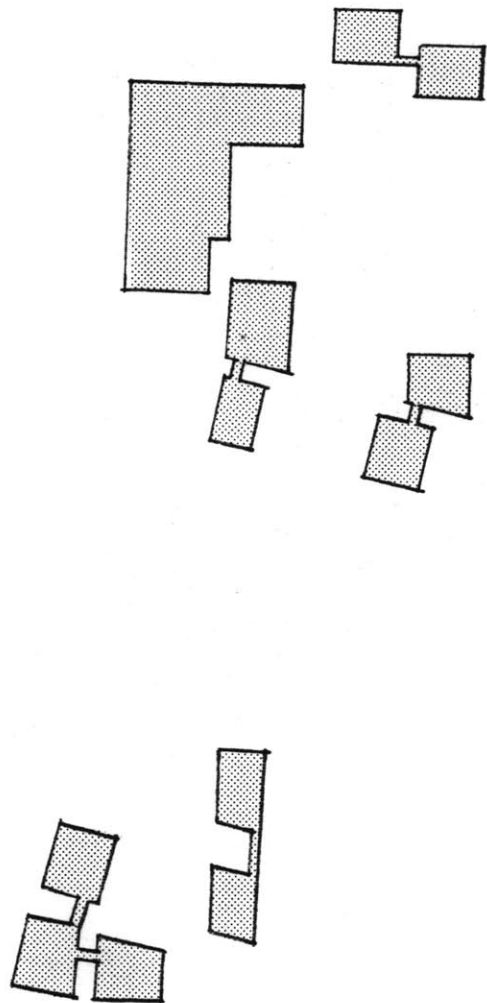


2.6.4 Overall Plans and Axonometric Projection

The final set of these drawings attempts to construct the overall pattern of buildings in the area north of Congress Street in a series of layers. The first plan diagram shows the organizing grid of the streets and blocks with their principle dimensions.

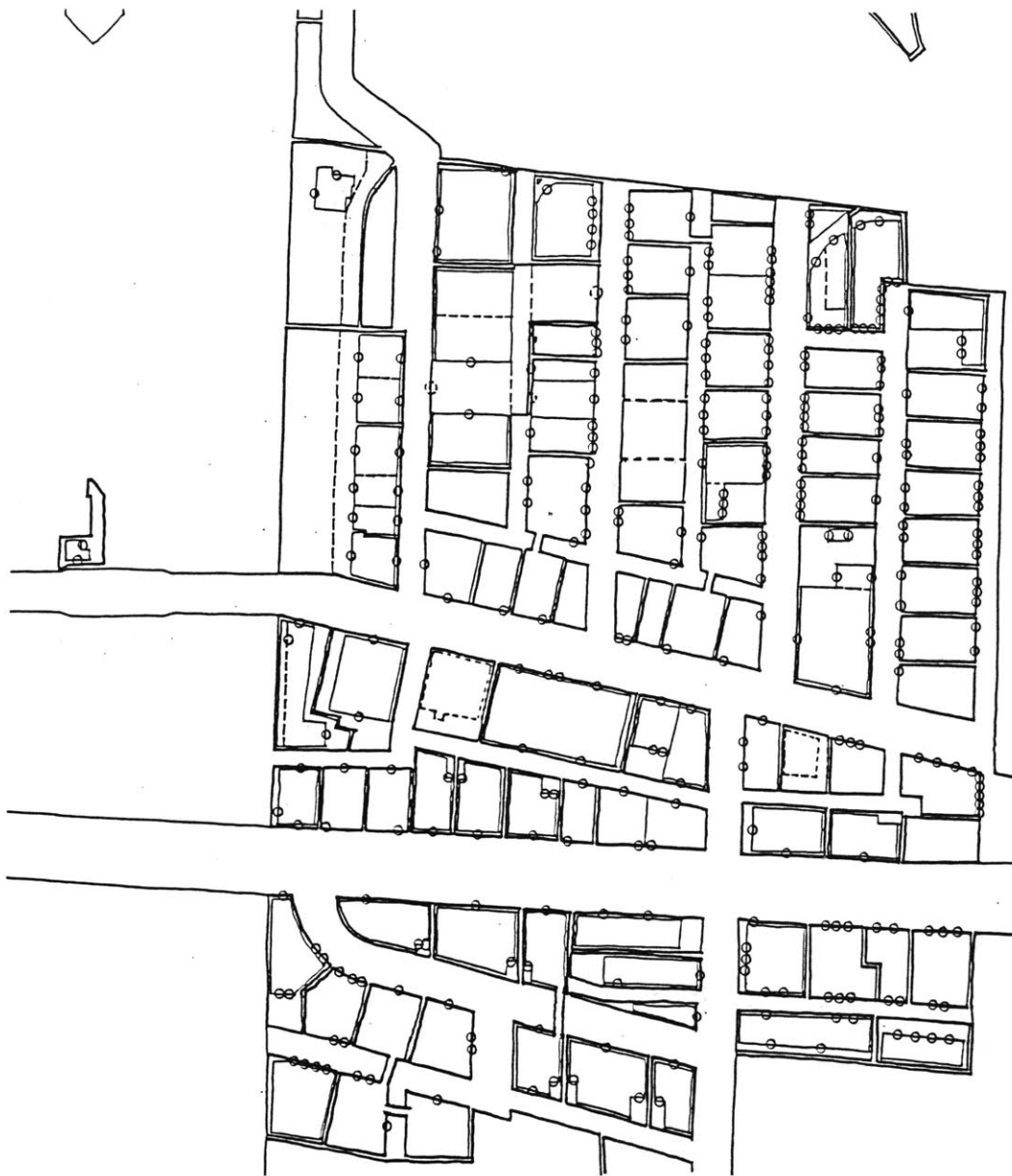
The second plan is a projection of the structural grids of most of the buildings north of Congress. Solid lines represent party walls while dotted walls contain windows.







The third plan is, in effect, a territorial diagram indicating the approximate location of loading bays and entrances to the buildings and any outdoor space controlled by adjacent buildings. An overlay shows two types of territorial expansion: one which consists of bridging from building to building, maintaining the lanes as open ways below, as in the case of factories early in the century; another which involves the actual demolition of adjacent buildings and the claiming of a portion of one of the back lanes, as in a recent condominium conversion by the Boston Wharf Company.



The third plan is, in effect, a territorial diagram indicating the approximate location of loading bays and entrances to the buildings and any outdoor space controlled by adjacent buildings. An overlay shows two types of territorial expansion: one which consists of bridging from building to building, maintaining the lanes as open ways below, as in the case of factories early in the century; another which involves the actual demolition of adjacent buildings and the claiming of a portion of one of the back lanes, as in a recent condominium conversion by the Boston Wharf Company.

The fourth drawing is an axonometric projection of the entire northern half of the warehouse district from Melcher street up, demonstrating the overall massing patterns of the site. A number of significant patterns become clear in this final drawing.

1. The building height variation is such that, in spite of the very tight block dimensions and build-to lines, most buildings have reasonable access to light and air. Invariably, tall buildings backing onto very narrow lanes are located opposite much lower buildings or adjacent to some kind of open space. Buildings range from one to ten stories but the typical height is four to six stories. This is particularly true for the buildings along Congress Street and in the north-south streets running off it. The buildings along Summer Street form a slightly taller band of seven to nine stories. In this case, the extra height includes one or two levels below the grade of Summer

Street due to its raised elevation. Two taller buildings are also located at the northern end of the site at the top of Sleeper and Farnsworth Streets. One of these, 10 stories in height, is set back slightly from the street line. It takes advantage of its location adjacent to the old railway yards.

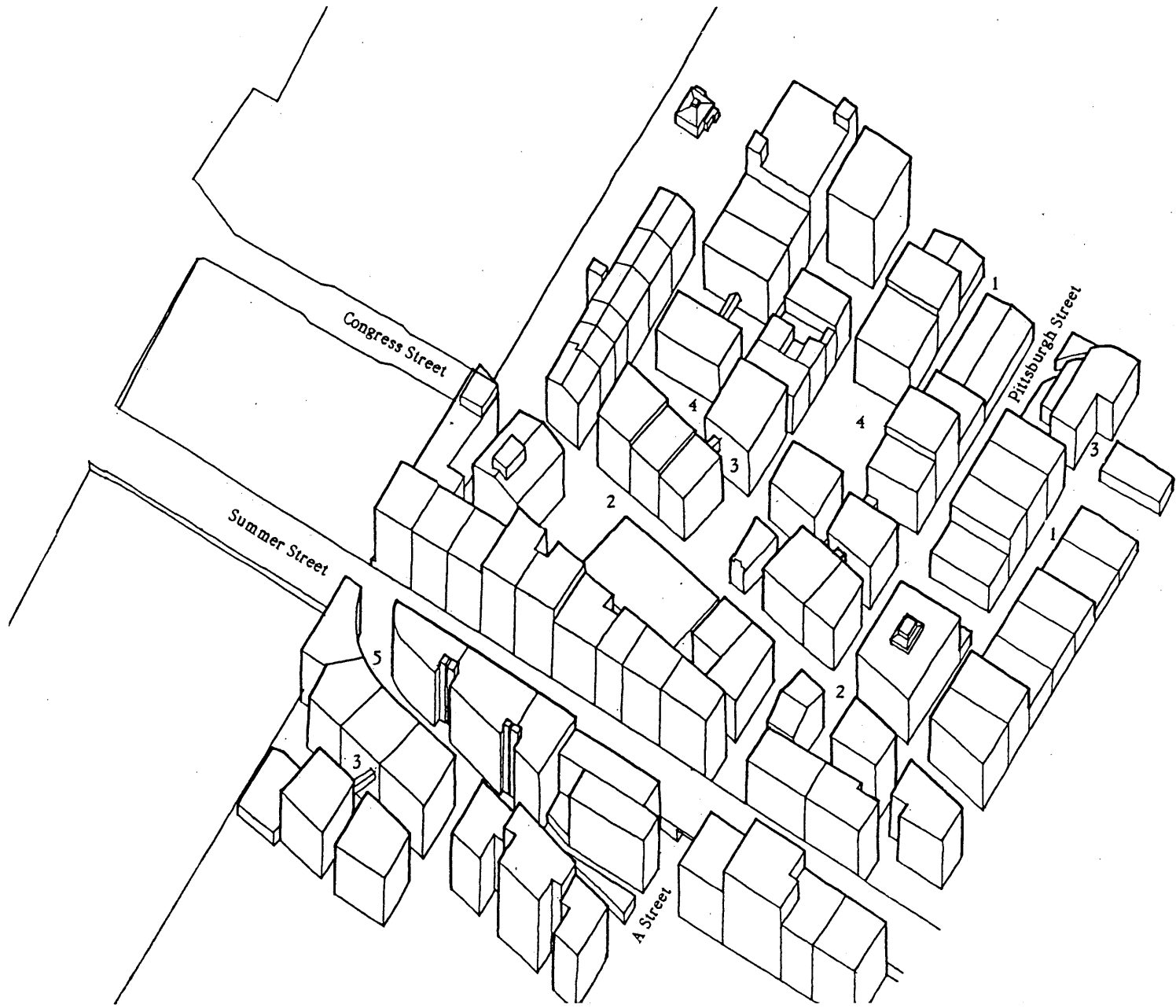
2. While most of the buildings in this district are all oriented north and south to conform with the overall orthogonal grid, the buildings along the western two thirds of Congress Street are oriented to be perpendicular with its special diagonal alignment. The two ordering systems are resolved by angled walls at intersections to maintain continuous street frontage.

3. Here and there in the drawing are indications of bridges or covered links connecting smaller buildings together to form larger complexes without violating the street grid. In only one instance does a building

apparently encroach on the street system. At the top of Stillings Street, in the northeast corner of the district, one large complex which seems to combine two or three smaller buildings pushes out an extra 20 feet to cut off the end of the street.

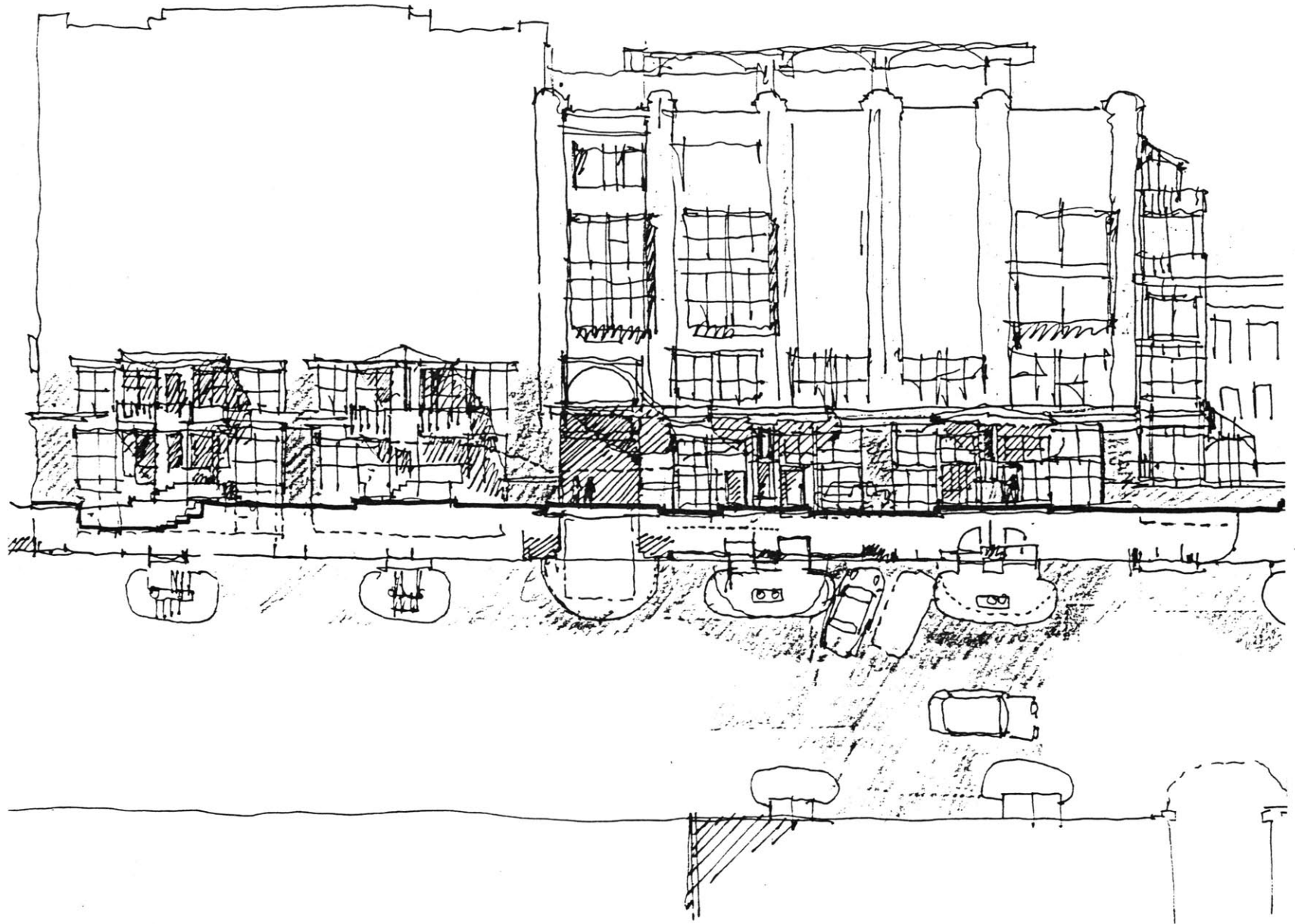
4. Running throughout the fabric are a series of open spaces, leaving gaps in an otherwise continuous fabric. Some of these spaces are the sites of drive sheds and one storey extensions to larger adjacent buildings. The open space around these smaller sheds seems to have been used for freight handling operations. In recent years (even within the past year), several smaller warehouses have been torn down to expand these open sites for parking.

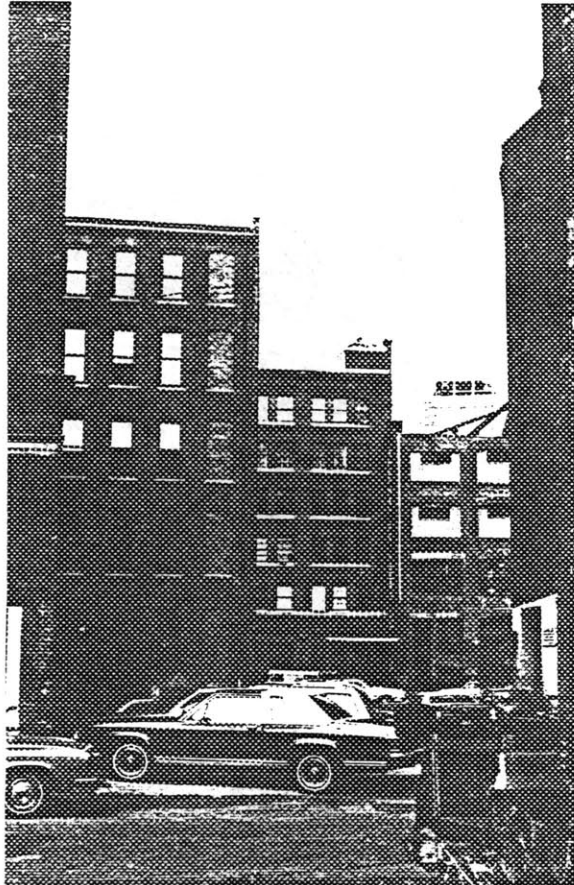
5. An exception to the block system, the curved ramp of Melcher Street, connecting the two level system of the site, nevertheless maintains continuity in terms of building-to-street relationships.



To the architect's eye, it seems obvious that this city of warehouses is inherently inhabitable: a place where one can imagine living in spite of the fact that the environment is relatively hard and never really intended for living in. While the inherent density of these buildings, at first glance, makes them seem difficult to adapt to other uses, the reality is quite different. Since the various buildings were built over the course of many years for a wide range of clients with different needs, they are not all built to the same coverage or land area; in other words, they are not built according to uniform, abstract land values. The physical characteristics of the place are not so much deterministic as architecturally and structurally rich enough to be suggestive of multiple interpretation. The resulting system is simultaneously coherent and remarkably flexible.

There are clearly some basic rules which make the buildings work together as an urban fabric, in effect, a fertile thematic field. The diagrams in this section have depicted them as a series of distinct, but interdependent levels of intervention and design controls. They become the basis for a proposed series of transformations and extensions, tested on a comprehensive scale in Parts 3 to 6.





Figs. 3.0.1, 3.0.2 Opposite: Sketch studies of warehouse transformations; above: gaps in the continuous warehouse fabric.

PART 3 -TRANSFORMING THE WAREHOUSE DISTRICT

The Warehouse District has now been analysed as an historic fabric designed for a particular purpose. It is already clear that, while this place has a potency as a man-made creation, its changing circumstances have left it in an anomalous position with regards to the rest of development in downtown Boston. The proposition being put forward here is that the warehouses can be transformed to be an integral part of a new living and working environment and that they can be an important generator of physical forms and relationships for future expansion. In this section, some of the existing physical patterns in the Warehouse District are modified on the basis of its evolving uses to establish the principal design guideline components for the area's overall redevelopment.

3.1 The Current State of the Warehouse District; the Problem at Hand

The Warehouse District, as it exists today, has a number of problems which must be addressed before it can be transformed into an inhabitable neighbourhood. These problems can be identified as follows:

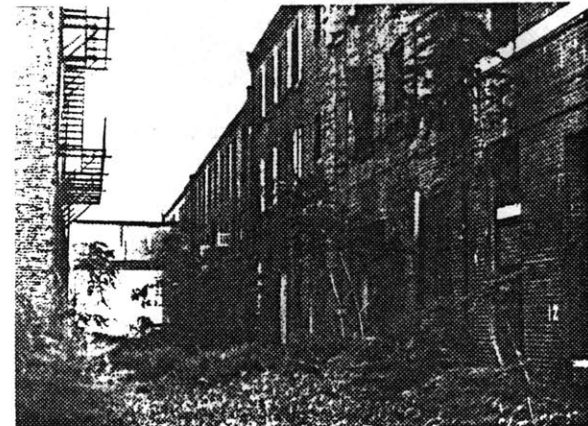
1. A significant proportion of the warehouses are in a state of neglect or abandonment.
2. There has been uncontrolled demolition of older warehouses in the area in recent years.
3. Former railway sidings have been left unused and form ill-defined holes in the built fabric.

4. Most of the existing open space, (some of it created by demolition) is used for surface parking lots which break the continuity of the streets.
5. There is a general lack of pedestrian amenities. Most of the side streets lack sidewalks altogether.
6. Except for loading operations, the private tenants make little use of the street and there is a generally weak public/private interface.
7. A small number of residential units have been created as isolated developments with a poor relationship to the surrounding streets and lanes.

Looking at the warehouse fabric today, it is clear that the carefully composed system for integrating rail, road and buildings has lost most of its intended uses. While many of the buildings are still at least partially occupied, three or more major warehouse structures in the area north of Congress Street are in a state of neglect or completely abandoned. New uses have made inroads on traditional industrial activities. A row of warehouses on the west side of Sleeper Street now serves as the Children's Museum and Computer Museum. Across the street, three warehouses have been linked together with an open air canopy to create fully modernized residential condominiums. One building on Melcher Street has been turned into artists' lofts under a special lease which will inhibit resale for profit. Many of the other buildings, especially those lining Congress Street, have been converted into professional offices and showrooms. Some of the buildings which have not yet undergone



Figs. 3.1.1, 3.1.2 Above: abandoned warehouses and parking lots at the north end of the warehouse district; below: abandoned rail right-of-way between Pittsburgh and Farnsworth Streets.



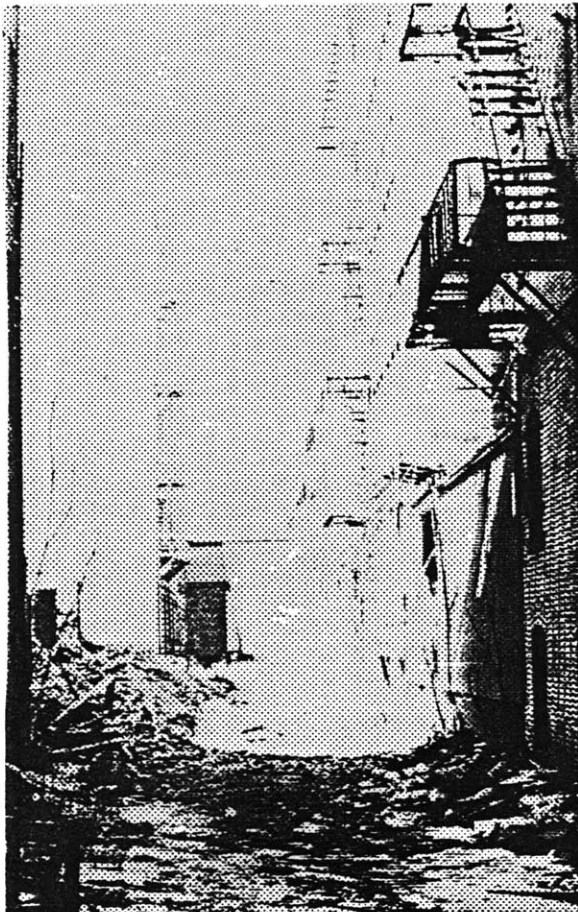


Fig. 3.1.3 Abandoned rail right-of-way with recent signs of demolition.

renovation house a mixture of informal studios and apartments, often sharing space with workshops and storage facilities.

The almost total removal of railway operations from the Fan Pier and adjacent areas has totally changed the nature of access to the warehouse fabric. The north-south streets no longer dead-end in the railway yards. Instead, a new, temporary east-west street connects them to Northern Avenue via the extension of Sleeper Street. The railway sidings serving the backs of the warehouses have long since been abandoned; the lanes remain as neglected passages through the site, like forgotten ravines through man-made canyons.

As rail traffic has dwindled, vehicular traffic has increased. The trucks now compete with private cars for on-street parking. The north-south streets, originally used as loading zones, and lacking sidewalks, are lined with reserved parking spaces and there is little room for the would-be pedestrian. Every square foot of remaining open space has been set aside for off-street parking as well. The buildings recently torn down on Farnsworth Street were demolished to provide more room for parking; the shoe factory on Pittsburgh street may face a similar fate.

3.2 Goals and Strategies for Transformation

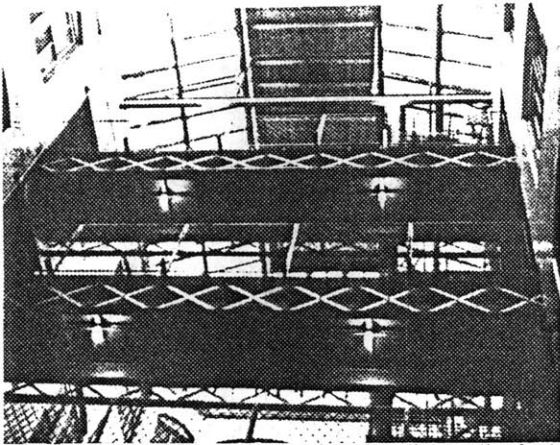
An approach to urban design which advocates the retention and re-use of the existing fabric for new living and working functions must take into account the inherent contradictions of the existing fabric and its use. The qualities that a healthy urban neighbourhood should have in order to contribute to an active

and inhabitable public realm have already been hinted at in the brief exploration of some of Boston's inner city neighbourhoods. It is now possible to state some explicit goals for the transformation of the warehouse district in order to create a new neighbourhood in the Fort Point Channel.

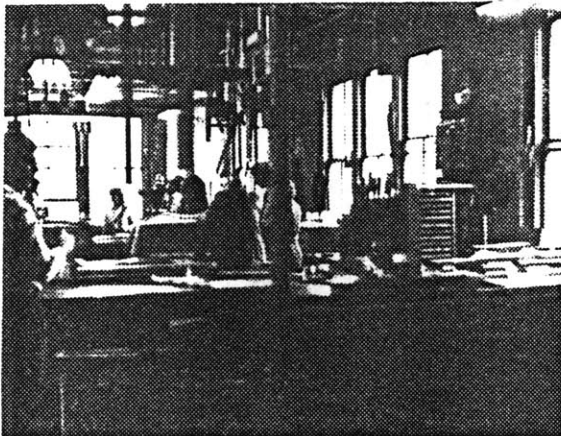
The following goals should be the basis for the redevelopment of the Warehouse District:

1. Create a comfortable everyday environment for living and working. Ensure a reasonably high density of population occupying the site 24 hours a day.
2. Establish a comprehensive circulation system to integrate cars and pedestrians and maintain a high degree of public accessibility to the site.
3. Preserve the scale and continuity of the existing blocks and buildings while creating a series of positive open spaces.
4. Provide a framework for diverse, changing uses and needs.

In setting these goals for the re-use of the warehouses fabric, a choice of emphasis must be made between approaches favouring preservation of existing uses and characteristics; current trends towards renovation and modernization of existing buildings, mainly for office and retail use; and intensifying a variety of residential and complementary uses throughout the area. A balanced approach to the redevelopment of the existing built fabric should ideally combine all three if it is to be successful in structuring a working and living fabric with the richness of an established downtown neighbourhood.



Figs. 3.2.1, 3.2.2 Above: interior lightwell of the 'Atrium' building on Congress Street; below: cabinet maker's workshop in the same building.



Since the proposition here is that the existing warehouse fabric can provide a lot of clues about the physical characteristics of new development in the area, preservation of all or most of it becomes essential. It is also important, for the sake of continuity and diversity, to maintain some of the current uses, as well. Thus it seems reasonable to expect buildings which still provide viable accommodation for certain manufacturing activities, artists' studios, loft apartments, museums, etc. to be maintained intact and allowed to change more gradually.

As an example, the 'atrium' building at the east end of Congress Street, a multi-tenant, multi-use building in a quite prominent location, could easily continue to serve a variety of needs, evolving slowly as current tenants leave and new ones move in. The monumental treatment of the facade belies an interior of raw, largely unfinished industrial space which can be readily adapted to many different uses.

By contrast, the Children's Museum is an instance of a highly specialized entertainment facility. The warehouses have been renovated simply and directly, with modern services added to the outside. This change in use is appropriate to the building's key location at the edge of downtown (and close to tourist attractions like the 'Boston Tea Party'). The museum has helped to generate the crowds of people which add a lively daily presence to the water's edge. It has also encouraged the advent of new restaurants which bring people to the area after normal working hours. An important goal for redevelopment in this area should be the intensification of activity over longer periods of the day by encouraging a variety of appropriate uses at street level.

On a certain level, the trend to modernize warehouses and factories for office use which has been spreading east along Congress and Summer Streets is also a welcome intervention making the retention of older buildings a viable proposition. If, however, the shift in use involves too direct an adaptation of the building fabric and if the street edge comes to be dominated by security controlled office lobbies, these east-west development corridors will result in streets largely empty and devoid of pedestrian activity. Somehow, overall strategies aiming to bring more variety of use and life to the streets must be brought to bear at a higher level of consideration. The physical character of the immediate street edge, frequency of pedestrian access, and interconnection of streets for pedestrian use all require a comprehensive, supporting framework.

While the two examples of housing in the area, already cited, can be considered as reasonable possibilities, they perhaps require better physical resolution. As available precedents in the area, they fall short of the goals for transformation being proposed here. Thee artists' condos on Melcher Street are a welcome addition if they help to ensure the survival of the artistic element in the neighbourhood, but the actual physical transformation has been carried out in such a way as to minimize any impact of permanent occupation. The redevelopment has been so unobtrusive that one would hardly guess that the buildings were inhabited at all. The treatment of the new residential condominiums on Sleeper Street is a direct reflection of the car dominated streetscape. One portion of the adjacent back lane has been paved and lit to provide access to an adjoining parking area. As none of the apartments facing the lane at grade have direct access to it, there seems little potential to occupy it or control its use. There is a similar lack of connection between dwelling and exterior space on the street side as well. With its closed edges, the



Fig. 3.2.3 The boardwalk along the Fort Point Channel in front of the Children's Museum.

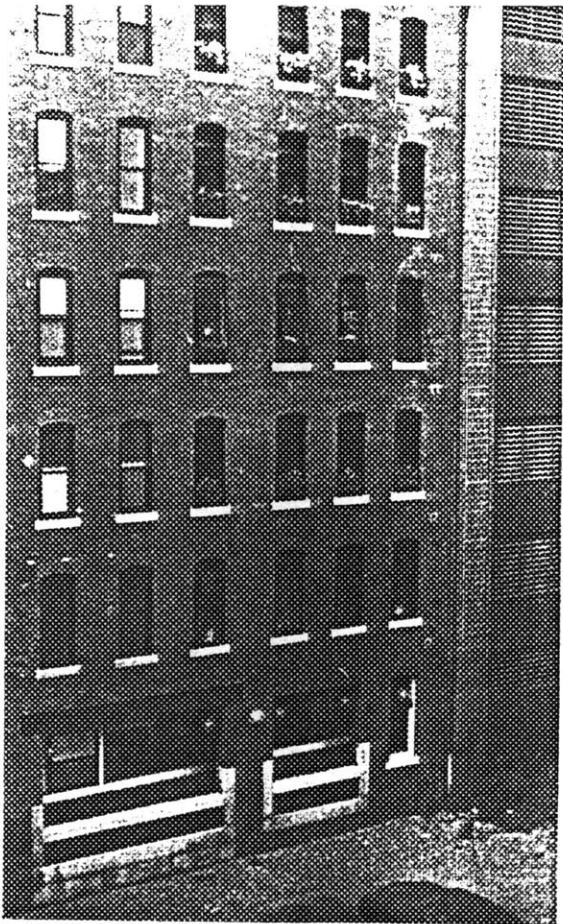


Fig. 3.2.4 A recent residential conversion on Stillings Street.

residential buildings deny the possibility of inhabiting the street in a positive way. The actual entrance to the apartments is to the side through one of the parking lots, further exemplifying the ambiguous relationship between dwellings and street. Furthermore, the parking serving the renovated buildings has required demolition of at least two other adjacent buildings.

These two developments might represent a reasonable, economical approaches, given the state of the market, but the net effect of many such developments in the same area will be to disrupt the continuity of the fabric and shortcircuit the potential life of the street. The projects underline two key concerns which must be dealt with as part of a comprehensive set of strategies for the area: parking and access. Without careful attention to these concerns, new interventions in this area will never be wholly successful.

An approach to the transformation of the Warehouse District has been characterized in terms of a general set of goals and observations about the site. The strategies which should be adopted to achieve these goals can be summarized as follows:

1. Retain and re-use all or most of the existing building fabric for a new living and working environment. Use the physical features as clues for characterizing new development in the area as well.
2. Employ a flexible and incremental approach to redevelopment so as to balance the inevitable effect of new residential and office functions stemming from rehabilitation and renovation wiping out compatible, existing uses.

3. Develop a comprehensive and flexible parking system allowing both on-street parking and underground parking relating to adjacent buildings throughout the district.
4. Intensify pedestrian-oriented activity on the street over longer periods of the day by intensifying access from buildings to street; encouraging a diversity of uses in spaces directly accessible to grade; and allowing a certain degree of encroachment of private spaces and activities onto existing rights-of-way.
5. Reinforce the relationship between new housing and the streets so that edges are controlled and occupied rather than forgotten and neglected.
6. Develop comprehensive pedestrian walkways across the site to increase the penetrability and inhabitation of the blocks.

With these strategies in mind, it is possible to construct a series of diagrams indicative of the physical operations of transformation required.

3.3 Rules and Conventions of Transformation

The drawings which follow make a proposition about 'zoning' through the physical characterization of the street section. They demonstrate typical responses to edge conditions and surface use of the street. They generate a new hierarchical order for the existing fabric which will later be abstracted to be the basis for further expansion. Generalizable features are identified and transformed on the basis of their potential for meeting stated goals.

The first set of drawings deals with the transformation of the street, addressing four basic situations: 1, Summer Street, as the main through street, which is elevated above the rest; 2, Congress Street, as a more local artery feeding the secondary streets; 3, the north-south secondary streets; and 4, the back lanes. The implied hierarchy of these streets also implies, to some extent, a hierarchy of uses dominating them. While the idea of a thematic fabric suggest that shifts in use can take place throughout the field, it is assumed that current trends of use and the inherent potentials of different locations within the site will mean that housing, office and retail functions will each work better in some locations than in others. Accordingly, Summer Street is projected as a street primarily dominated by office space, with some upper level housing in certain selected buildings and a small amount of retail and restaurant use at street level. Congress street is thought of in similar terms, but with a much greater intensity of retailing and dining facilities of a more local nature lining the street section. On the north-south streets, where the scale of external spaces is tighter and the buildings tend to be smaller, emphasis is put on housing, some of which will be directly accessible from grade. Provision will be made for the possibility of scattered local facilities -a convenience shop, laundromat, bar, etc., directly off the streets. The back lanes, as the least accessible elements in the street hierarchy will be exclusively residential and will be accessible only to pedestrian traffic, except in times of emergency.

The major issues dealt with here are provision for pedestrian movement; permissible encroachments into the street right-of way, e.g., porches, doorsteps, balconies and bay windows; and parking, both on the streets and off them,

below grade. For the purposes of this first set of transformations, parking is looked at only in terms of its relationship to the street, taking into account the general dimensional restrictions of the structural grid already in place.

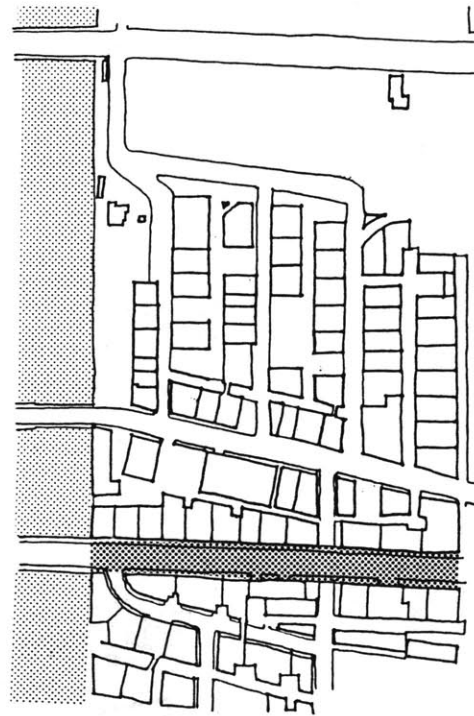
In each of the following sectional studies, the street is first assessed in terms of its key physical characteristics which have potential for transformation; secondly, an effort is made to characterize the potential quality of the transformed street; and thirdly, its capacity is tested by identifying new opportunities for spatial zoning and functional occupation.

3.3.1 Neighbourhood Arterial; Summer Street Section

Key Physical Features:

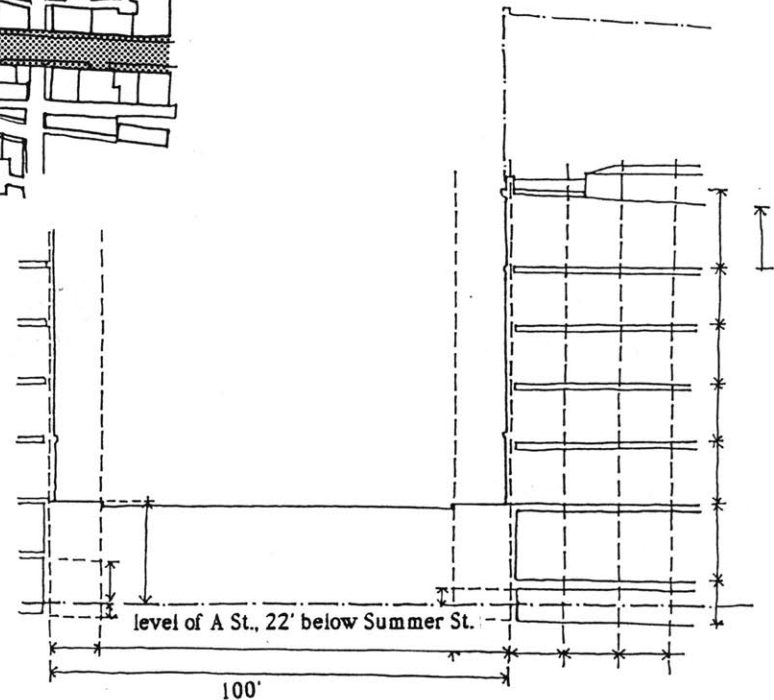
-Summer Street is a key element in the two-level system organizing the Warehouse District. It forms an elevated, densely built-up street, connected to grade by the gently curving ramp of Melcher Street. Thus functionally, it serves as a major artery for through traffic, but 'thematically', it is completely integrated with the rest of the built-up site. The street section itself gradually slopes up to bridge 'A' street at an elevation of about 22 feet.

-the warehouses and office blocks lining the street reach a height of up to 9 floors above grade and form a powerful, sharply-delineated street profile. This is the most generous section in the area, with a clear width of 100 feet.



-the roadway consists of 6 lanes; at present one on either side is used for parking and the four middle ones take high speed traffic.

-the building facades are punctuated by monumental entrances opening directly onto the sidewalks, but because of the sloping street section, the adjacent ground floors make minimal contact with the public street.



Transformation Potentials:

-the street can continue to serve as an arterial spine for the district and its usefulness enhanced by new parking facilities, increased pedestrian connections to Congress Street and new public transportation. The raised street section provides a potential location for underground parking.

-the existing roadbed can be left almost untouched. Short term parking can be retained while central bus lanes, as right-of-ways for certain hours of the day, might be introduced to control traffic flow.

-slight modifications to existing buildings can improve the relationship of ground floors to sidewalks without significantly altering the street profile. Folding or sliding doors and sometimes lowered floor sections can help modify existing spaces to support

street-oriented uses like cafes and restaurants. The introduction of awnings and trees could increase pedestrian amenity on a seasonal basis.

-development of access through the main floors of the buildings might provide useful links to office and retail buildings on Congress.

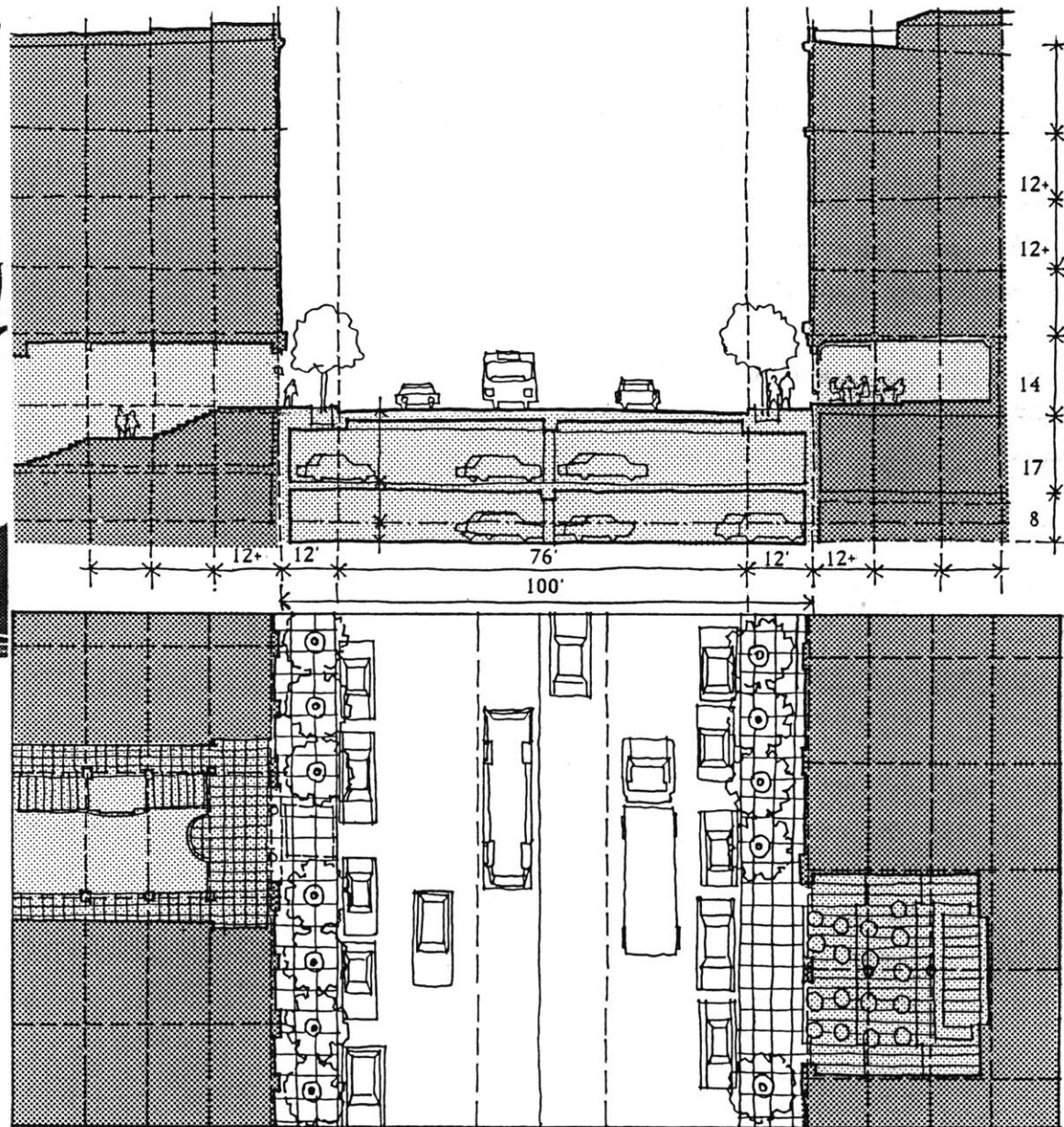
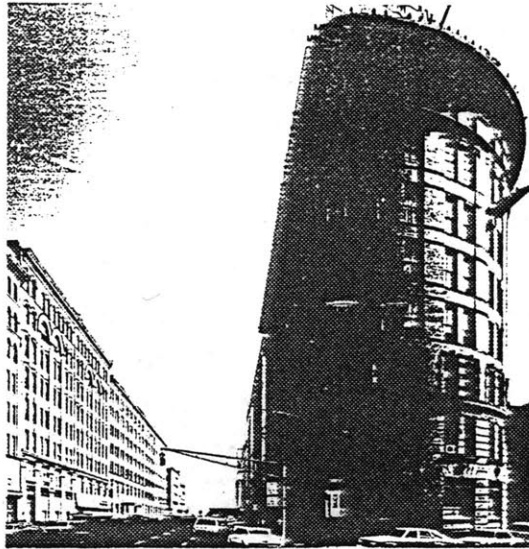


Strategies for Developing Sectional Capacity:

-using the dimensions and elevation of the raised street, define a zone in which to insert two levels of underground parking. Angled parking allows two aisles within the 100 foot right-of-way. Careful positioning of the lower parking level allows simple ramp access up and down a half level from grade.

-connect the ground floor and basement levels of the buildings adjacent to the proposed underground parking garages to define a zone for public lobbies. Larger volumes can be formed by opening voids between the ground floor (i.e., at the Summer Street elevation) and the lower levels for the first few structural bays of the buildings. Such spaces can be used as generous connections to underground parking and through block pedestrian routes. Office lobbies and underground

parking can be united to form a single comprehensive system along the arterial spine.



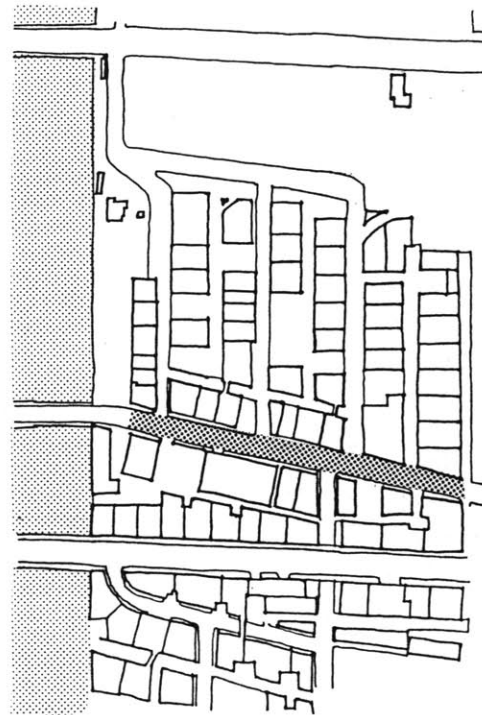
3.3.2 Local Shopping Street; Congress Street Section

Key Physical Features:

-Congress Street, as the key access to the local north-south streets in the Warehouse District has received the greatest concentration of renovations and conversions in recent years. As a broad, 80 foot wide street, it carries a heavy concentration of slow moving traffic. At present, most of the restaurant and retail functions of the area are either adjacent to it or directly connected along the Fort Point Channel by pedestrian walkways.

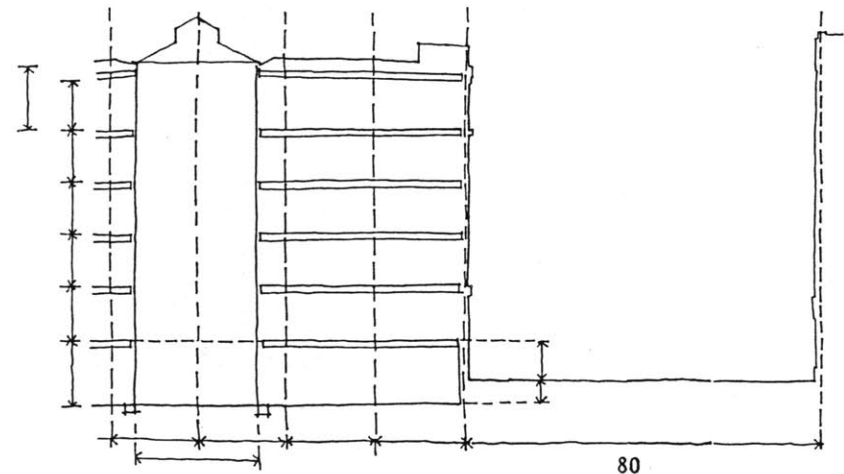
-buildings varying from about 100 to 50 feet in depth and ranging from two to six stories line the north and side of the streets. They are all provided with rear service lanes paralleling Congress Street.

-the roadway is broad enough for four lanes of traffic plus parking



but, at present, serves only one lane of traffic in either direction.

-while most of the building entrances are at grade, the ground floors tend to be located a half level above grade, with generous basements below.



Transformation Potentials:

-the potential for Congress as a local shopping street can be enhanced by improving its connections to Summer Street (with its newly created parking facilities); providing a local public transportation system; intensifying street-related activity and pedestrian amenities.

-the existing roadway can be modified to accommodate a local street car line; paved islands can be established in the middle of the street as waiting platforms to help slow traffic and promote pedestrian occupation of the street.

-sidewalks can be widened and planted with trees; limited parking can be allowed on the street on a short term basis.

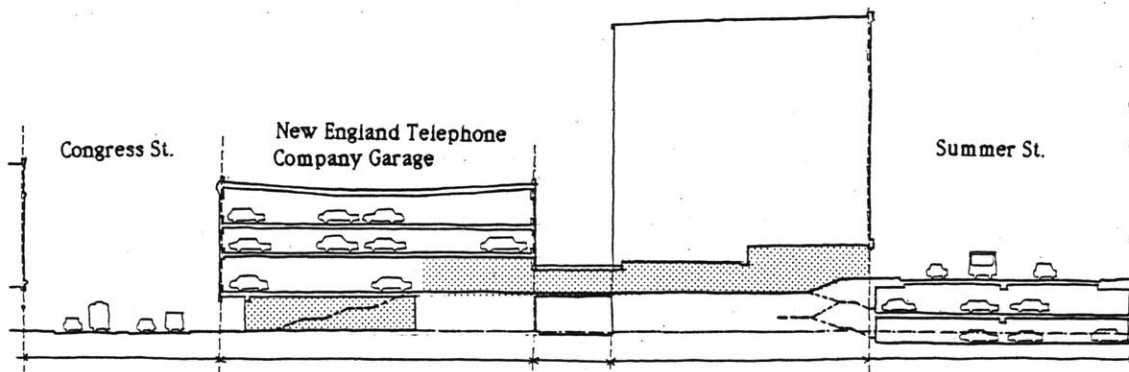
-as the buildings are accessible for service from behind, the front bays, at street level, can be modified by arcades, recesses and openings to accommodate stores, restaurants, showrooms and service facilities for the neighbourhood. Any modifications should be employed to increase pedestrian space and shelter along the street.

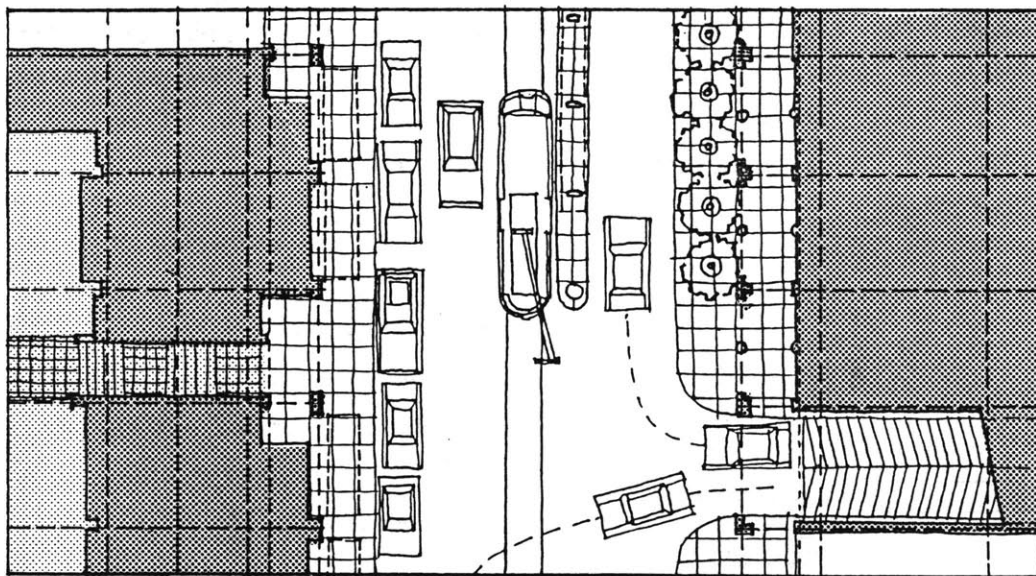
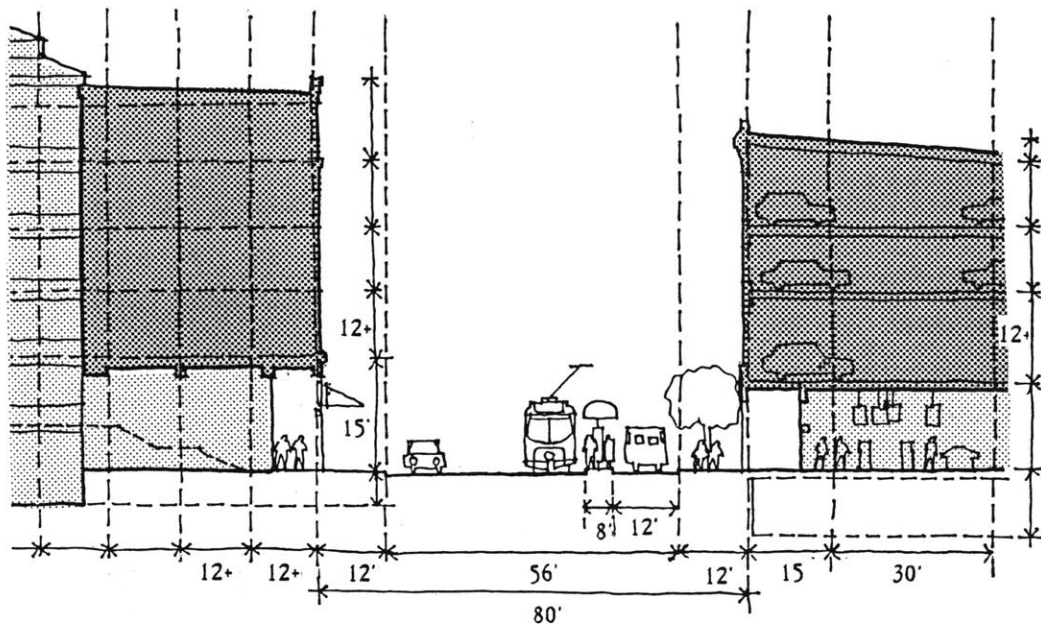
-access to off-street parking serving shopping and service activities along congress can be accommodated on selective sites.

Strategies for Developing Sectional Capacity:

-reconfigure the front 1-3 structural bays at ground level of the buildings (approx. 12 to 36 feet back from the public right-of-way,) in relation to the sidewalk. In the zone adjacent to the street, drop the main floors of the building approx. 5 to 6 feet to the level of the sidewalk. Behind the masonry walls, define a zone in which arcades can be placed. Allow a minimum width of 2/3 of a structural bay, i.e., approx. 8 feet and a maximum width of approx. 12 feet, i.e., the full depth of a structural bay.

-allow 12 foot sidewalks on either side of the street. This zone can be used to define maximum private encroachment, in the form of temporary awnings and movable stalls which might occupy the sidewalk on a seasonable basis. As it is assumed most of the upper floors will be





office, gallery and workspace, the current facades should be preserved and no permanent encroachments allowed.

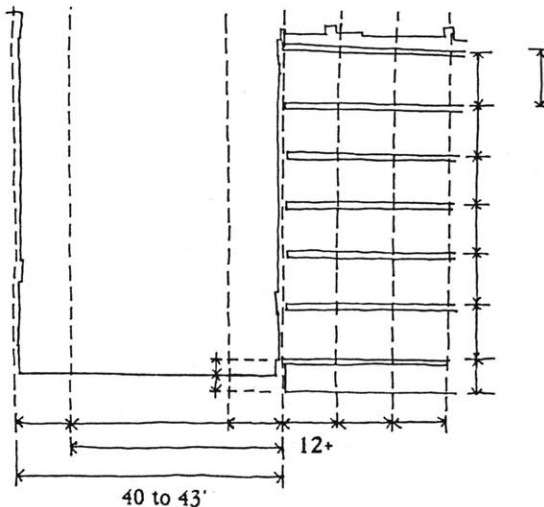
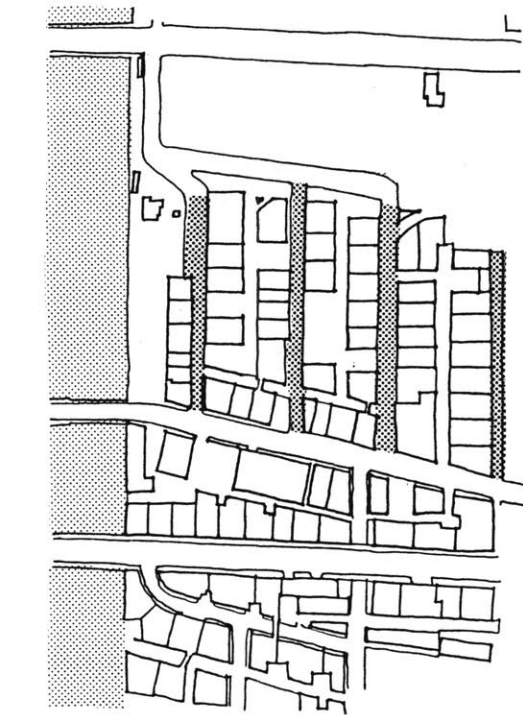
-redefine the roadway as four 12 foot lanes with an 8 foot 'island' drop-off zone for a streetcar line in the center. Designate the outer lanes for short term parking. Through traffic can share the center lanes with streetcars.

-provide limited off-street public parking in what is now a garage for the New England Telephone Company. In this case, a current use can be maintained but made a public resource. Designate the ground floor as a street-oriented facility, (i.e., a supermarket or large store.) No surface parking or indoor parking should be permitted at grade along the street.

3.3.3 The North-South Streets

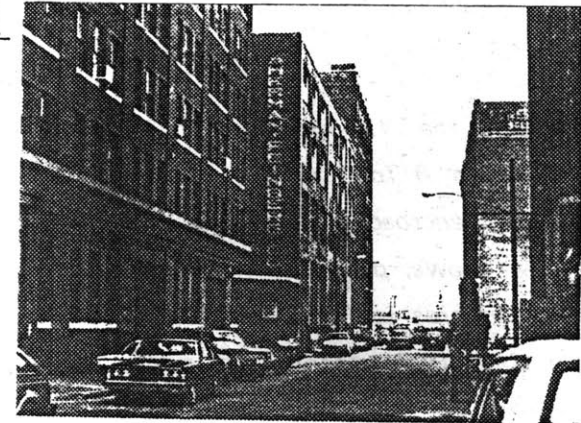
Key Physical Features:

- narrow streets, 44 to 56 feet wide, currently given over almost entirely to freight handling operations.
- minimal 2 foot sidewalks, or no sidewalks at all; little or no pedestrian amenity
- generally small scale buildings, 2 to 6 stories tightly lining the street; some isolated, taller buildings.
- street edges dominated by loading platforms, rolling doors; no occupied spaces open directly onto street.



Transformation Potentials:

- tightly configured street with its intimate scale is suggestive of more residentially oriented environments.
- constricted hard surface street profile is appropriate for pedestrian use, light vehicular traffic and service vehicles only.
- small scale buildings have potential for greater accessibility directly from grade; greater accessibility can be created through a more relaxed treatment of the facades. The edges of the street can be 'inhabited' and 'penetrable'.



Strategies for Developing Sectional Capacity:

-close streets to through traffic

-define minimum right-of-way for cars as 20 feet. This can accommodate a single lane of traffic with room enough to pass temporarily parked cars.

-define 'buffer' zones up to 12 feet wide each side to accommodate some parking, generous doorsteps and protected walking areas. With minimal traffic, the street and buffer zones can be treated more or less as one continuous surface, with certain areas protected by bollards and street lights.

-within the 12 foot buffer zones, define an 8 foot zone of maximum private encroachment. This allows bay windows, porches, exterior stairs and canopies to be projected beyond the existing masonry walls of the warehouses.

-define a zone of penetration behind the walls of the warehouse facades. This should be equivalent in depth to one structural bay but no more than approx. 12 feet. Within this zone, cut recessed balconies, entry porches and terraces. Most penetrations should range from 4 to 8 feet deep.

-define the location of indoor parking in relation to the street. Any indoor parking provided for each residential building should be within its structural envelop at the basement level, half a storey below grade. The level of the parking garage should therefore be between 3 and 5 feet below grade. Set parking back from the street edge a minimum depth of 24 ft. or the nearest equivalent to two structural bays. It is assumed that the typical 12 X 20 ft. grid can accommodate cars with a reasonable degree of efficiency provided that the central column

line of the building can be removed to make room for a driving aisle.

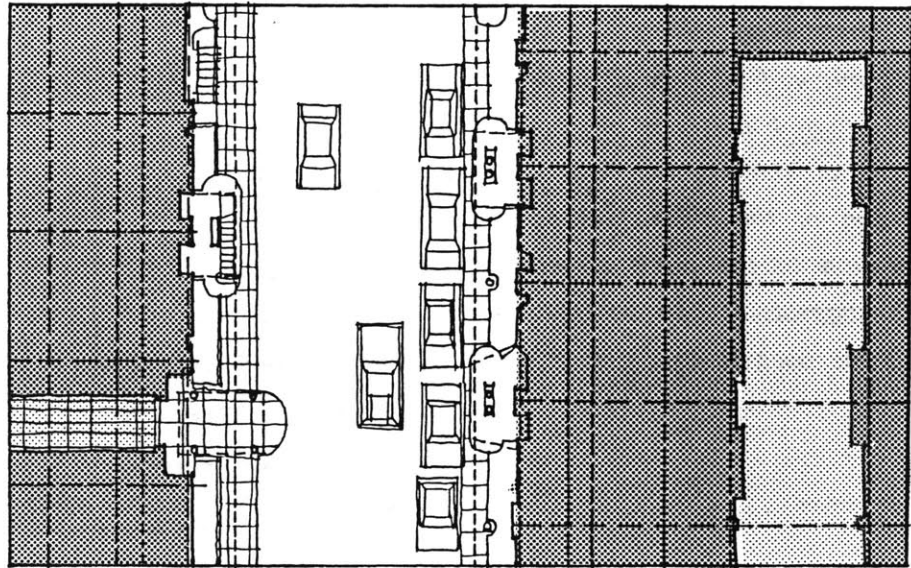
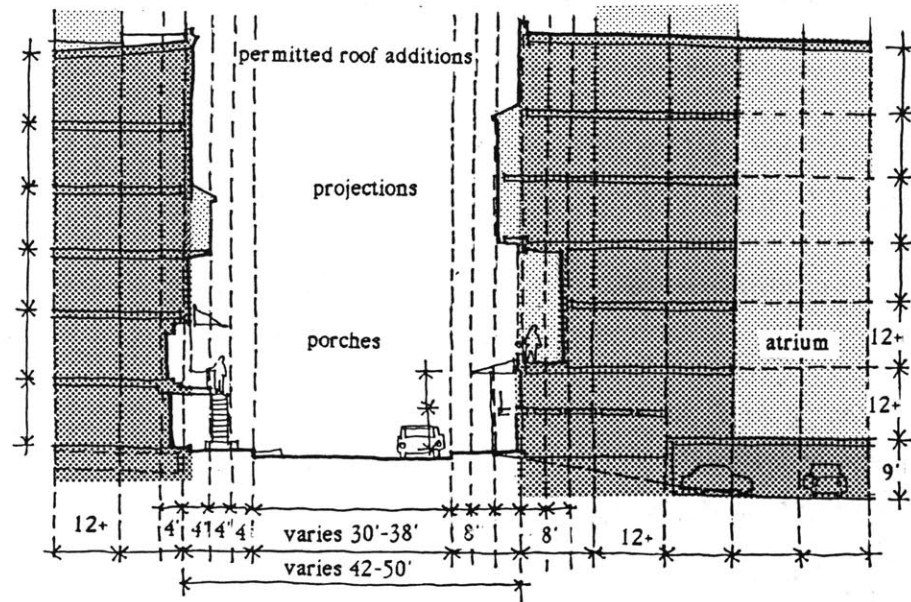
-make use of the 8 foot zone of encroachment to gain access to the street from the inhabitable zone within the two adjacent structural bays at grade or half a level below grade. Make all the space in this zone directly accessible to grade. Where possible, make the zone immediately above grade directly accessible from the street as well.

-as each building varies in character, avoid rigidly defining facade treatment (i.e., additions and penetrations of the existing masonry walls). In general, single openings for recessed terraces in existing facades should not exceed two stories in height or one full structural module in width. Bay windows and other projections should follow similar guidelines.

-maintain and preserve existing roof cornices but permit new construction so that dwelling spaces can exploit the roof of the buildings. Such additions should not exceed 1 1/2 stories for any buildings and a terrace zone of at least one structural bay (or approx. 12 feet, whichever is closest,) should be provided behind the parapet of the front facade.



Armed Studios - East side, Pittsburgh Street.



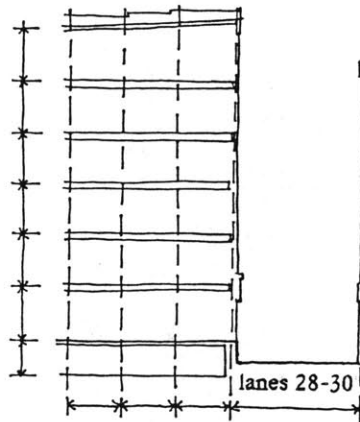
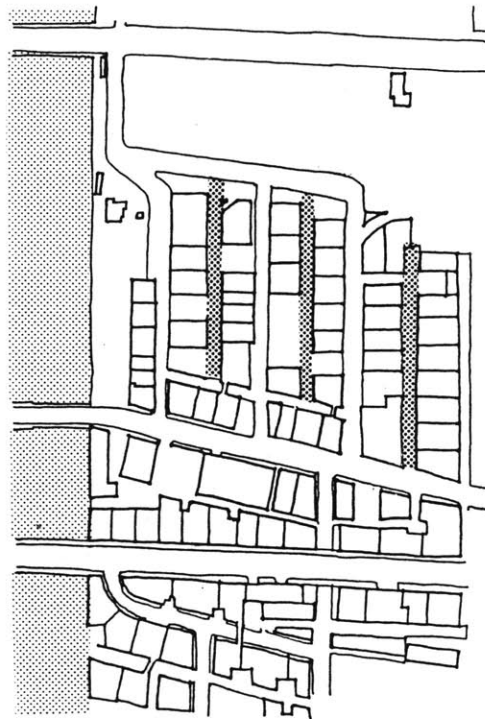
3.3.4 The Back Lanes

Key Physical Characteristics:

-two abandoned railway sidings, 28 to 32 feet wide form extremely tight spaces in the middle of the second and third north-south blocks.

-buildings along these lanes generally range from 2 to 6 stories in height; their facades are plain and unadorned and no longer used for access.

-Stillings Street is approx. 46 feet wide; its treatment is more like the other north-south streets, except that it is terminated by a major warehouse structure which partially projects into the line of the right-of-way at the north end of the block. Its position in relation to the other streets and blocks suggests it can be treated as one of the back lanes.



Transformation Potentials:

-these spaces should be seen in relation to the north-south streets which are to be residential in character.

-the tight configuration of the lane profile and the position of these rights-of-way within a larger block structure suggest they should be closed to traffic. Clearance should be maintained for semi-public pedestrian walkways and emergency vehicles only.

-as interior block spaces, they should be fully accessible to the adjacent dwelling spaces.

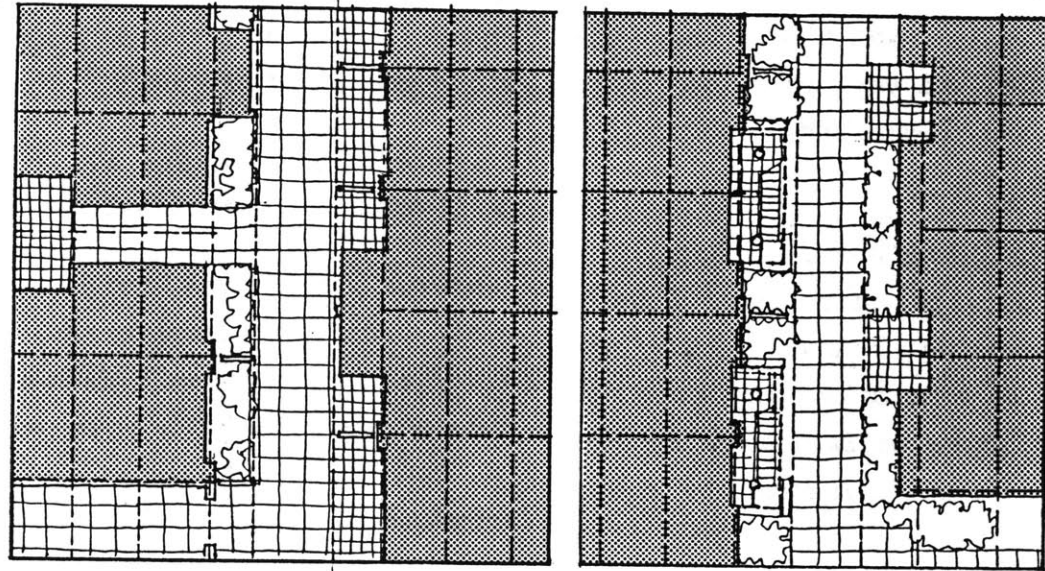
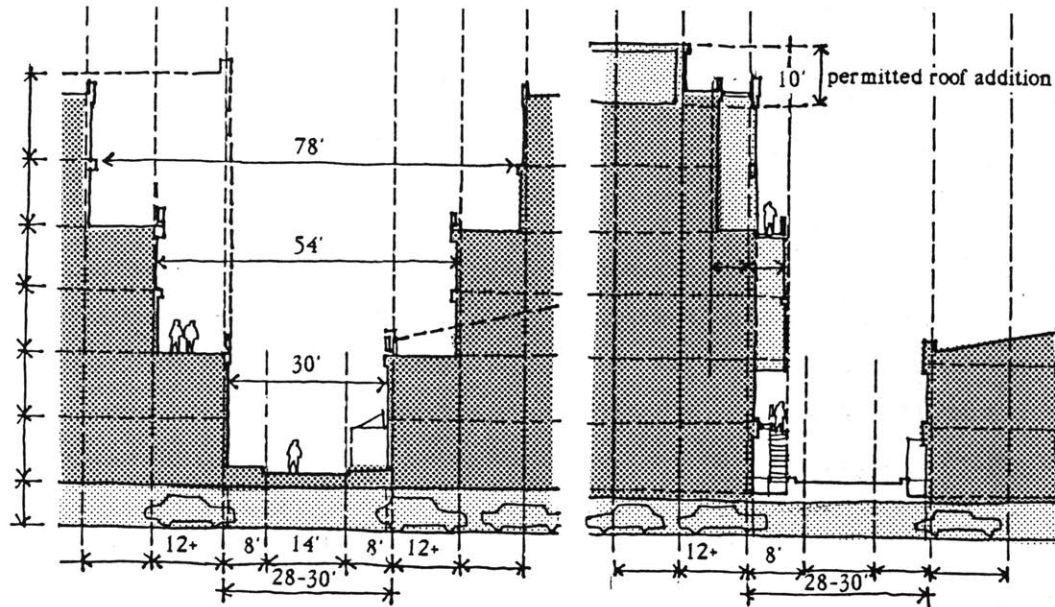
-modifications to the rear elevations of the buildings should open up the lane profile with recessed balconies, stepped back terraces, and patios at grade.

-semi public walkways using these rights-of-way have the potential to connect small parks, public lobbies, etc. into a comprehensive network.

Strategies for Developing Sectional Capacity:

-widen the existing section where possible to provide more light, air and green space for the residential blocks.

-establish acceptable limits for the street profile as an inhabited edge as follows: 1) for the first two floors, or approx. 24 vertical feet, the minimum clearance between the inhabited walls of opposite buildings should be 30 feet (Note: setback requirements may be met by stepping back the buildings behind the existing masonry walls); 2) for the third and fourth floors, or approximately from 24 to 48 vertical feet, the minimum width of the profile should be 54 feet; finally, above 48 feet, the profile could be set at a min. 78 feet wide. Since these requirements can be met by a combination of setbacks on one or both sides of the right-of-way, they



necessitate agreement between the developers and owners of opposite buildings within the same block.

-establish alternative approaches for modifying the rear elevations of buildings, making the lanes more inhabitable. Some basic alternatives are as follows: 1) demolish the rear structural bays of selective buildings to create a vertical setback of approx. 24 feet (or two typical structural bays); 2) selectively demolish structural bays to create a stepped profile corresponding to the requirements above; 3) preserve the existing masonry walls but create generous recesses and terraces behind them.

-raise ground level to approx. 6 feet or a half storey above grade to accommodate a driving lane for parking areas below. The supporting deck should be built above existing basement levels; it should be capable

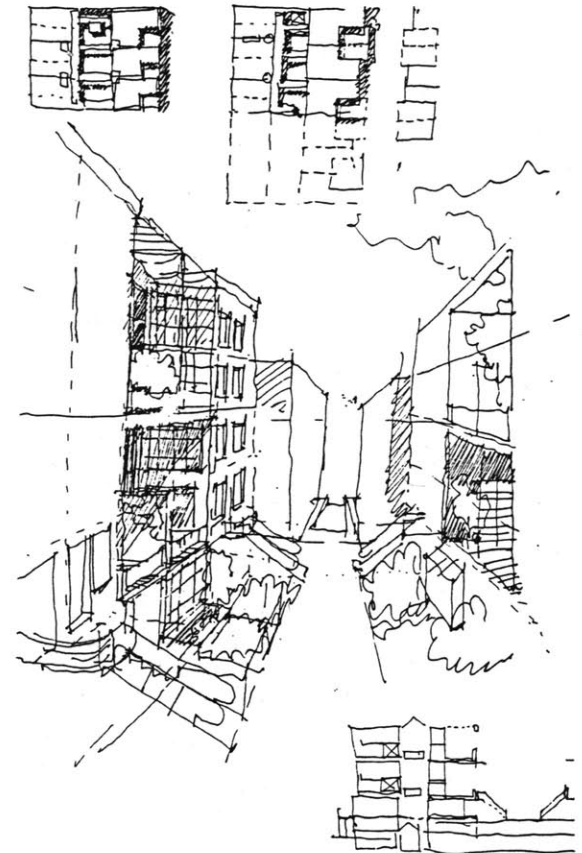
of supporting emergency vehicles and landscaping.

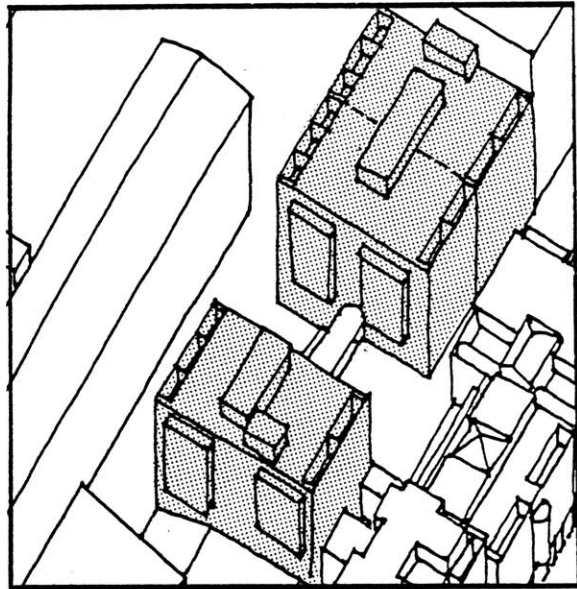
-define zones of encroachment on either side of the semi-public walkway. A maximum zone of 8 feet on either side can be allowed for patios, terraces, porches and bay windows. Provided the general requirements of the lane profile are met, bay windows should, subject to review, be allowed to project into the 30 foot zone up to a maximum of 8 feet. Bay windows and other encroachments, if placed immediately opposite each other should be placed a minimum of 20 feet apart.

-maintain minimum vertical clearance of 12 feet for emergency vehicles.

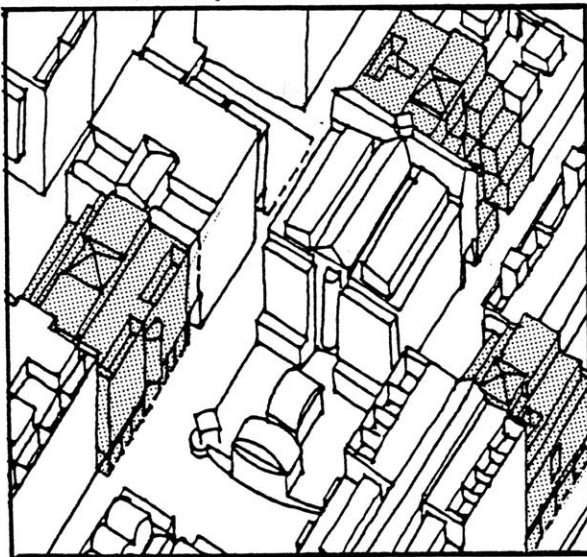
-Stillings Street, with its greater width, does not require major building modifications. Existing masonry facades should be preserved. In this case, the eight foot encroachment zones, and the

allowances for roof expansions, as defined for the other north-south streets, are applicable.





Figs. 3.4.1, 3.4.2 Above: potential locations of alternative 2; below: potential locations of alternative 3



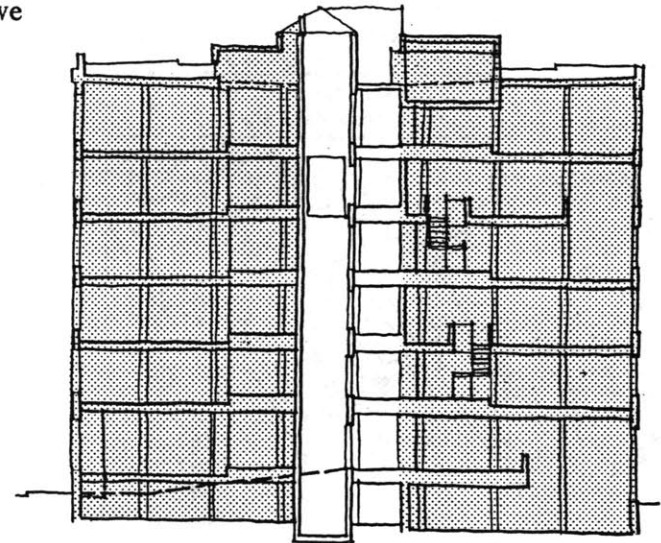
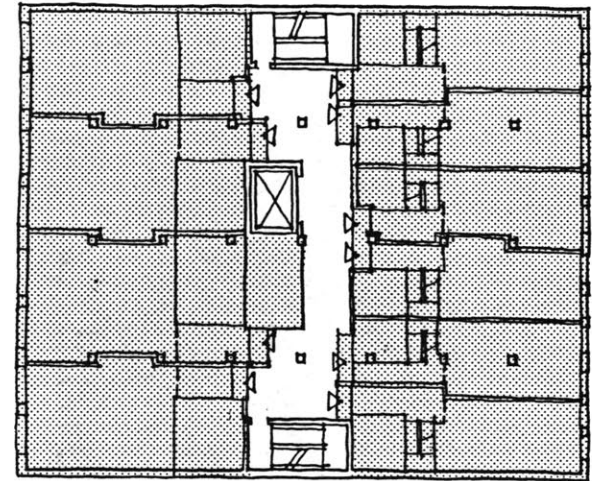
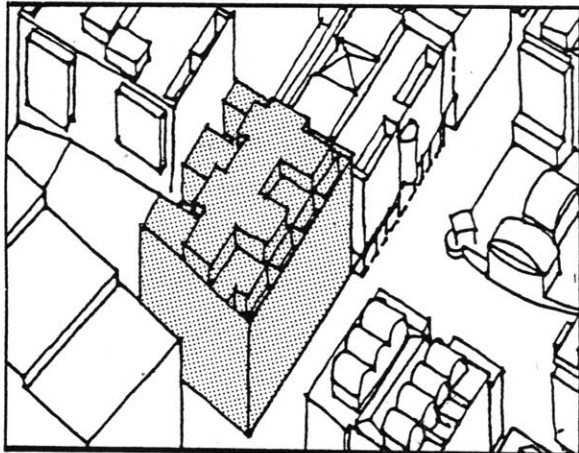
3.4 Building Types

The next series of drawings shift from street configuration to building typology. The studies focus specifically on the 100 foot section which is typical of the warehouses on the north-south streets. Of principal concern is to reach an understanding of the *capacity* of these buildings for transformation to accommodate new uses. While the deep floors are quite easily adapted to office functions, they are perhaps less easily converted to permanent residential use. Most of the studios and loft apartments currently scattered through the district are able to take advantage of corner exposure to bring in adequate light and ventilation. Those under the roofs can take advantage of skylights while others, with minimal exposure to the external envelope must depend on artificial light and are less desirable. The rule being established here is that, as much as possible, all inhabitable rooms should have direct access to natural light and at least indirect access to natural cross ventilation. This suggests that the deep building sections must somehow get cut back to make shallower dwelling spaces with double or corner exposure. Five basic thematic variations for dealing with this problem are suggested. Each is presented as a generic solution which takes into account the resources of the existing buildings and character of the streets. Since buildings with three or four exposed walls allow for much greater flexibility in the division of floor space, the model assumed here deals only with the more limited, but typical condition of a building in a row with two party walls.

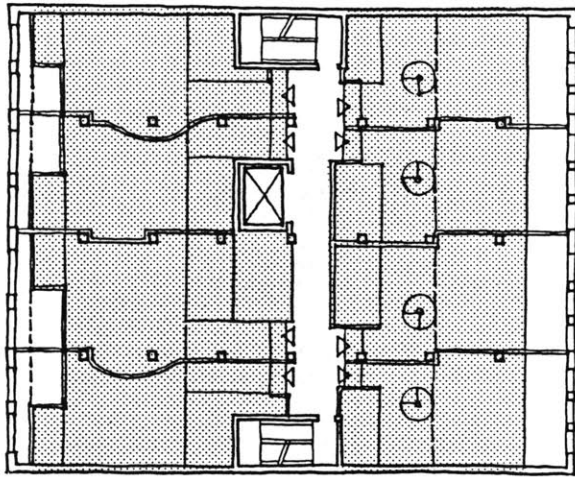
3.4.1 Alternative 1

Adapt the existing floor space to residential use with minimum changes to the building envelope.

A straight capacity test can be made of the existing volume by laying it out as a series of long, deep flats. The resulting configuration is a double layer of single aspect units. The inner spaces of these flats have little access to natural light and ventilation. It is difficult to create secondary enclosed spaces unless the apartments on one floor are combined with another, above or below, to create larger, two-storey dwellings. While the space is more than adequate in terms of area, much of it is not very useful other than as open 'loft' studio space. In such a configuration, each single storey apartment should have a minimum width of 20 feet.



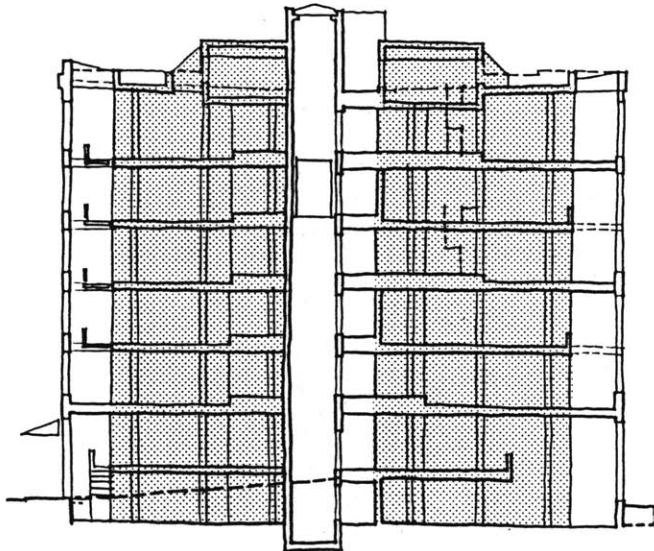
Figs. 3.4.3-3.4.5 Left: potential location of alternative 1; right: plan and section, alternative 1.



3.4.2 Alternative 2

Pull back the building envelop behind the masonry facade, creating an intermediate zone which can be used for outdoor terraces.

The more slender section generated by pulling back the exterior envelop from the facades can also accommodate a double layer of single aspect apartments. While this configuration can work with flats, each with a minimum frontage of 20 feet, the sectional alternative works best if the apartments are two-level units with double storey terraces. As a potential strategy, this provides interesting possibilities for playing with the facade to create a deeper transitional zone between private dwelling and street. It also creates badly needed private outdoor space. As an overall strategy, though, it might prove too drastic for many of the existing facades.



The Sleeper St. conversion provides an existing example of this approach. In this case, all the apartments are single-storey units. The resulting terraces with deep, low overhangs do not seem to improve the light conditions of the apartments significantly.

Figs. 3.4.6, 3.4.6 Plan and section of alternative 2.

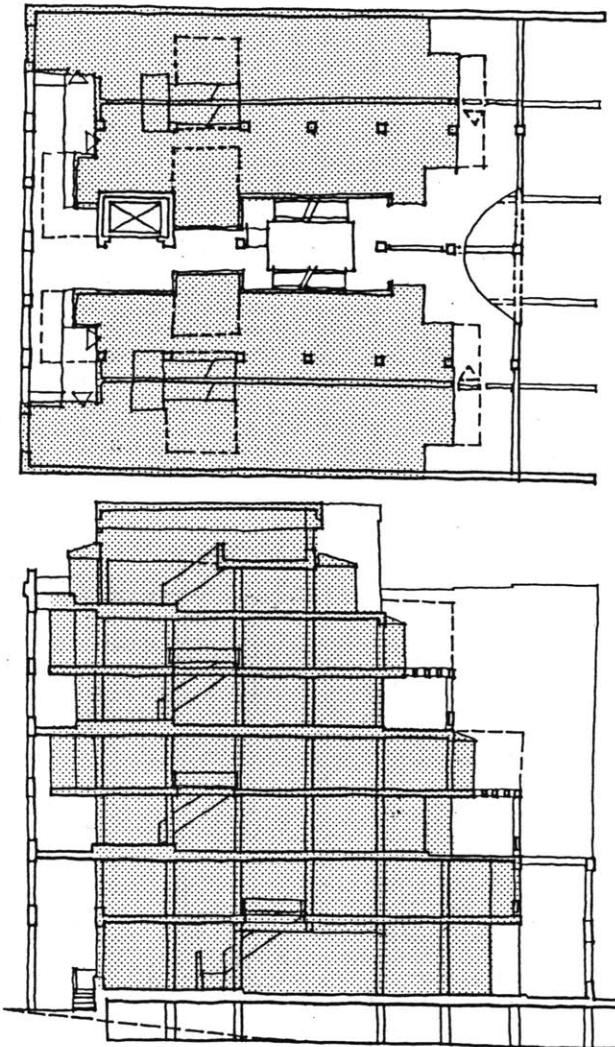
3.4.3 Alternative 3

Maintain the street elevation and cut back the section at the rear of the building, facing the laneway.

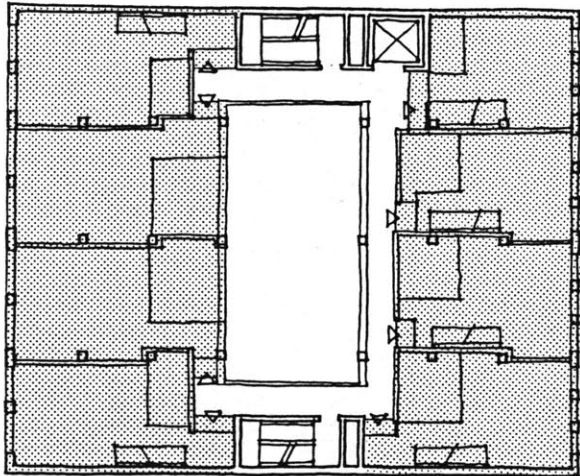
The result of cutting back the rear portion of the building is a section which best accommodates a single layer of double aspect dwellings. These apartments would all have generous outdoor terraces facing into the middle of the block. Pedestrian galleries are placed along the street facade, on alternate floors, providing access for two-storey maisonettes or pairs of stacked flats. The vertical or stepped section resulting from cutting back the rear elevation of the building can be employed to generate a variety of shapes and sizes of dwellings.

This sectional type corresponds to one of the alternative interventions proposed as a modification to the back lane profile, as discussed in 3.3.4. It allows natural cross-ventilation and the apartments themselves can be narrower, with a minimum width of about 15 feet.

Vertical sections should be no deeper than 60 feet, including recessed terraces and bay windows. Double aspect apartments deeper than 60 feet become too long and narrow to develop as effective living space. This guideline can be accommodated in stepped sections by providing arcades along the lower street elevation where the profile is deepest.



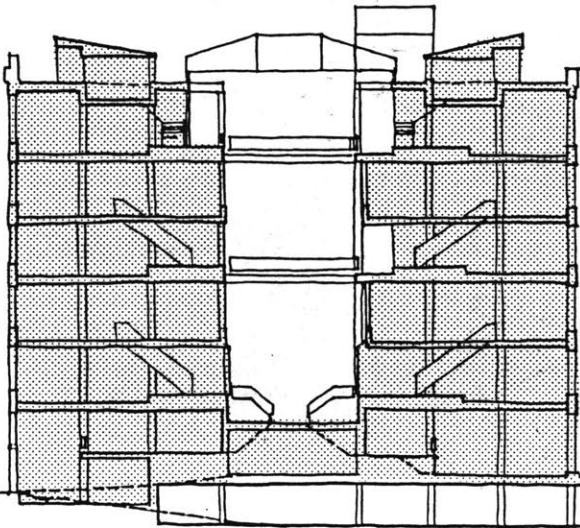
Figs. 3.4.7, 3.4.8 Plan and section of alternative 3.



3.4.4 Alternative 4

Substantially maintain the external building envelop and cut a vertical hole through the section to create an exterior courtyard or interior light court.

This sectional type is designed to accommodate two rows of double aspect units with natural or mechanically assisted cross ventilation. It is created by removing the central row or rows of columns and clearing out two to three structural bays. This allows a driving aisle for parking to be created in the basement below.



Exterior courtyards can be added to one or two storey buildings; where deeper sections permit wider courts, the same solution can be applied to buildings up to three storeys. It is important for these central spaces to have reasonable potential for natural light in order to become a viable amenity for the residents.

Glazed light courts can be introduced in taller sections. These covered courts, or 'atria' can serve as all-year-round gardens, gaining heat in the winter from adjacent dwelling spaces. Atria should be as long as the width of the buildings permit, i.e. typically, 60–80 feet and up to 100 feet, allowing for the deep penetration of midday sun. The width of the light courts must take into account the structural bay size and the dimensional requirements of the dwelling spaces. In a typical 100 foot deep section of 12 foot bays, the two middle ones can be made into a light court, leaving three bays on either side for residential space. A minimum dwelling depth of 3 X 12 foot bays, i.e., 36 to 40 feet, should be maintained.

Figs. 3.4.9, 3.4.10 Plan and section of alternative 4.

An immediate precedent for this approach is the Atrium Building on Congress Street, analysed and discussed in section 2.4.4.

In both courtyard buildings and atrium buildings, the interior court provides gallery access on alternate floors to adjacent units. Within a given width, the gallery serves either a single, two-storey apartment or two flats, one above the other. Thus, there is always the potential for conversion from one unit type to the other. In the zones adjacent to the courts are secondary rooms like studies, kitchens, breakfast rooms and internal staircases.

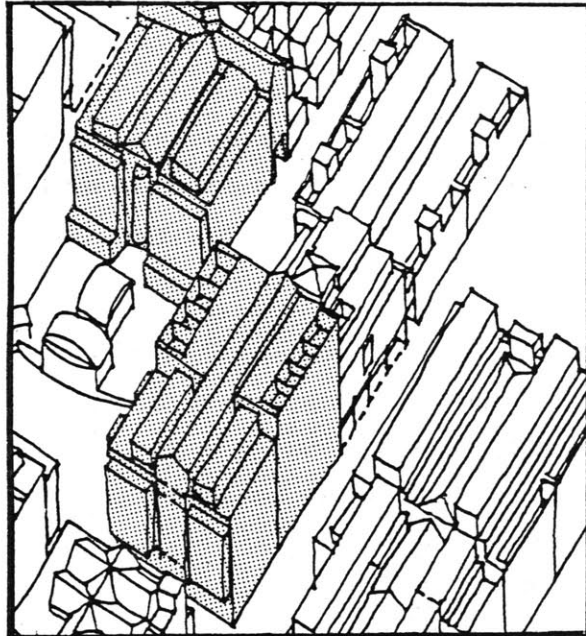


Fig. 3.4.11 Potential locations of alternative 4.

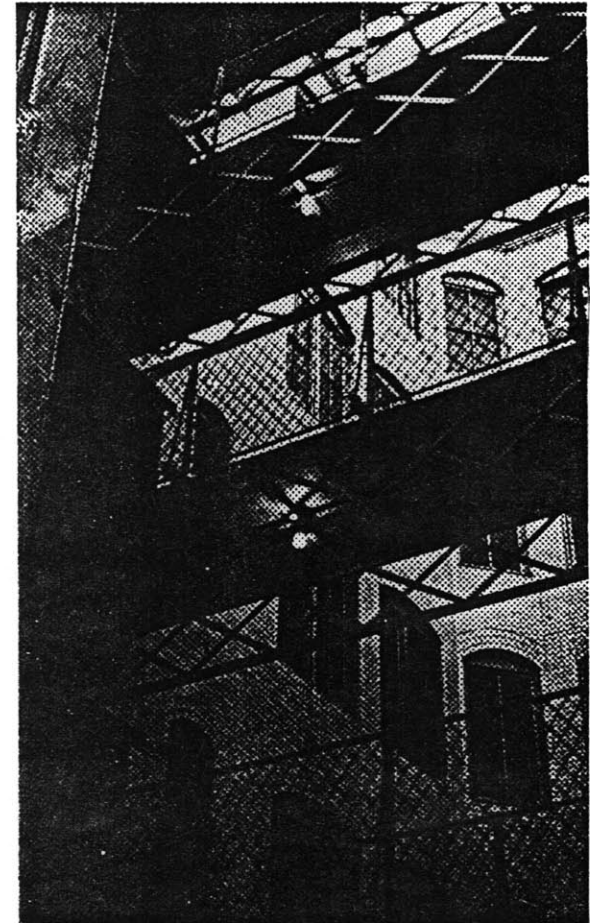
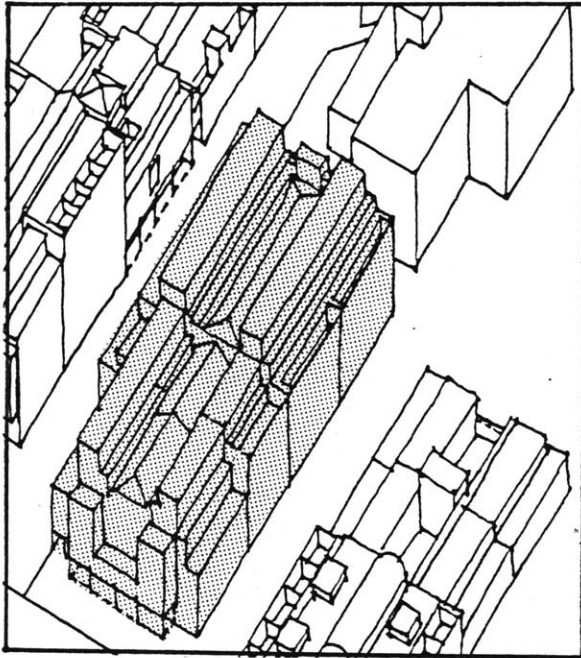


Fig. 3.4.12 Existing interior light court, warehouse district.

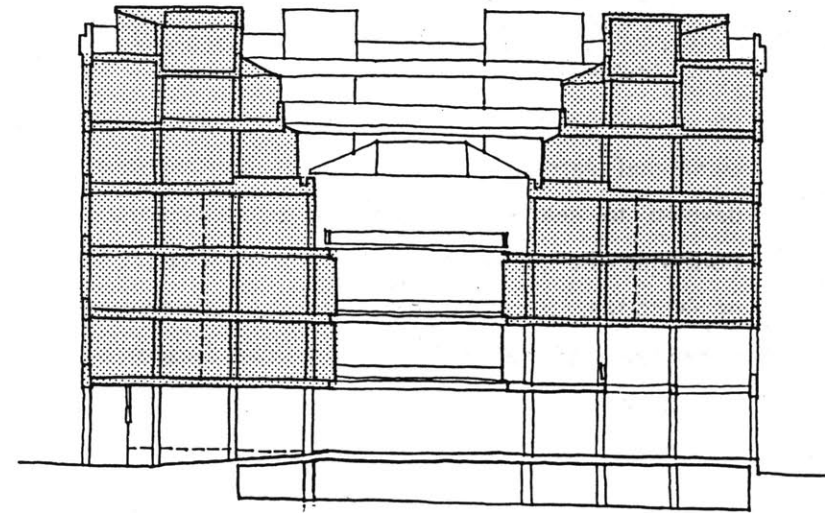
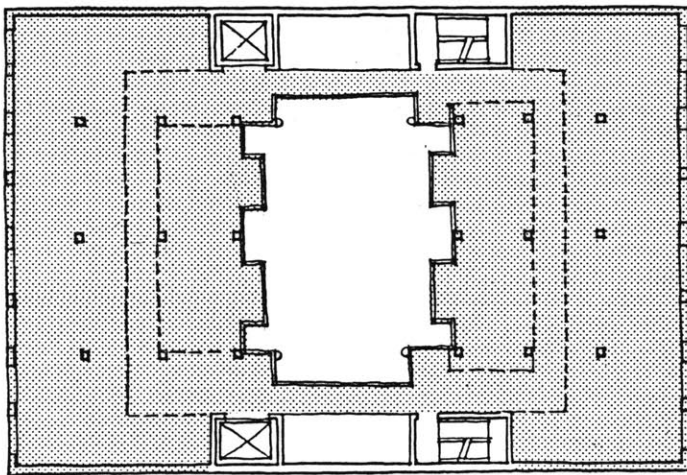


3.4.5 Alternative 5

Stack a residential courtyard above a commercial atrium.

The last typological section represents a variation on the basic lightwell theme. It is a deeper section, about 120 feet wide, and reflects the condition of the buildings spanning Pittsburgh and Stillings Streets. Because the buildings face two streets, a deep parking section, a half level below grade, is not possible, unless Stillings Street is raised and reconfigured as the back lanes. The 'deep' section allows a broader 'atrium' penetrating right to grade. The lower levels serve more public functions or office space oriented both to the outside and the interior of the block. Housing still fills the upper floors, but in this case, it faces an external courtyard above the roof of the atrium. The section therefore has a clear functional dividing line between residential and office uses.

Figs.3.4.13-15 Location, plan and section, alternative 5.



3.5 Block Form

The last set of drawings defines rules and conventions for the transformation of the existing block organization north of Congress Street. It is only at the scale of the city block that parking, open space, pedestrian walkways and interior galleries can be understood as an interrelated system. In this particular section, the north-south blocks, with their tightly packed warehouses and scattered vacant lots, are looked at in more detail.

An organizing framework is applied to the existing block as follows:

1. The block is defined as a continuous strip, approx. 650 feet long by 230 (to 270) feet wide, with a double row of warehouses, each row 100 feet deep, and a central 30 foot right-of-way.
2. All existing vacant lots are designated as shared, semi-public space, owned and controlled by the resident owners and tenants on the block. Each vacant lot is redesigned as a positive open space on an individual basis. Depending on the development control of each available space, the open space is treated as a neighbourhood park or a private, communal garden for the residents only. Portions of each site can be devoted to semi-public facilities like day-care centers and landromats. Following the precedent of the Boston Wharf Company in the placement of windows, it is assumed that the blank party walls resulting from demolition can be turned into positive facades with ample bays, porches and terraces opening onto the gardens and parks. Not only will this inhabit the edges of the public spaces more intensely, but it will also suggest ways of completing the rather linear typology of residential

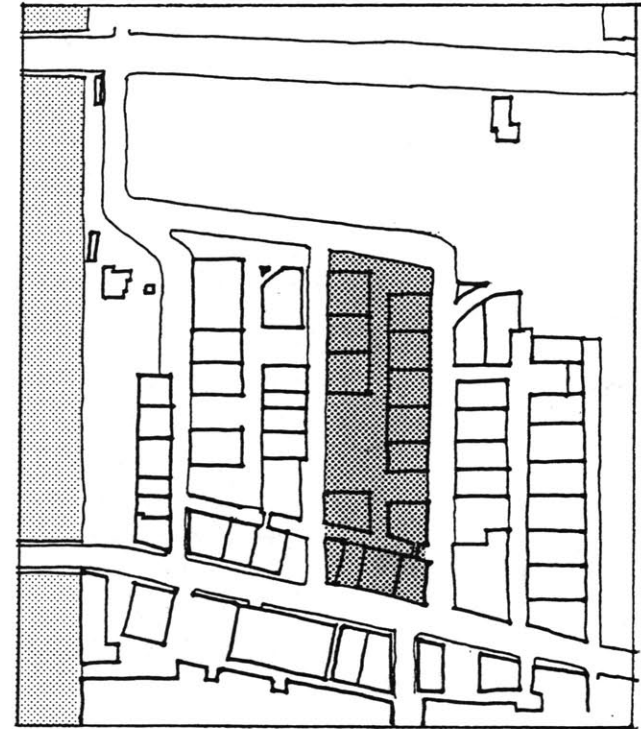
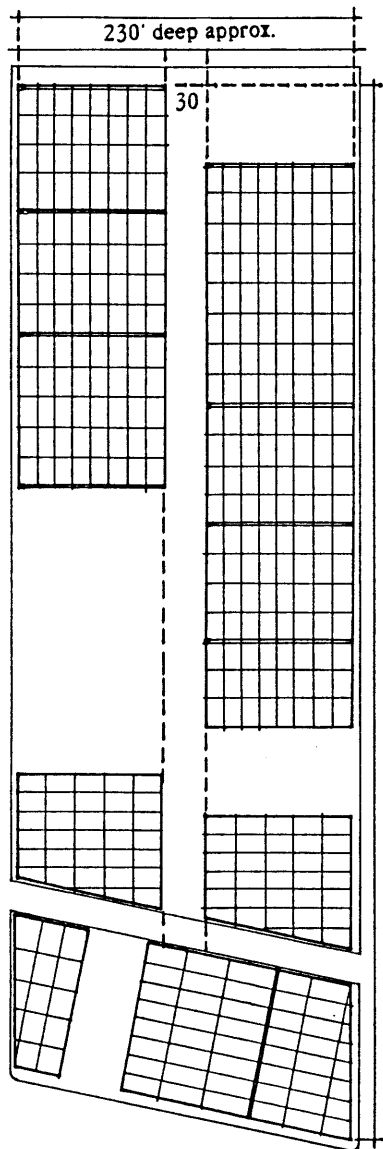


Fig. 3.5.1 Potential residential block, bounded by Congress, Farnsworth and Pittsburgh Streets.



blocks studies so far. A 12 foot strip (8 feet on sites less than 80 feet wide) extending from the center line of the wall is defined as a zone of 'encroachment' permitting private extensions. At the base of the buildings, these extensions might take on a more public use. Thus all the open spaces are given positively inhabited edges. Assuming each block operates according to a set of independent development agreements, the owners have the option to use the underground rights of the open space for additional private parking and to donate the ground space to the city, to be maintained as a public park.

3. The former railway sidings of the 30 foot right-of-way are converted into a semi-public walkway raised a half storey above grade. Ramped access is provided at each end so that it is accessible to emergency vehicles. While the strip is maintained as a public right-of-way, it remains under private ownership.

4. The pedestrian walkway and the open lots are landscaped to accommodate a continuous path across the site, open 24 hours a day. The route is interconnected from block to block, both through the newly constituted parks and gardens, and through occasional glazed passages, penetrating the buildings themselves. These protected passages are lobby-like extensions of the internal atrium system and are established as part of the public open space provision, by the private developers of the block.

Fig. 3.5.2 Schematic plan of block showing structural grids of existing buildings.

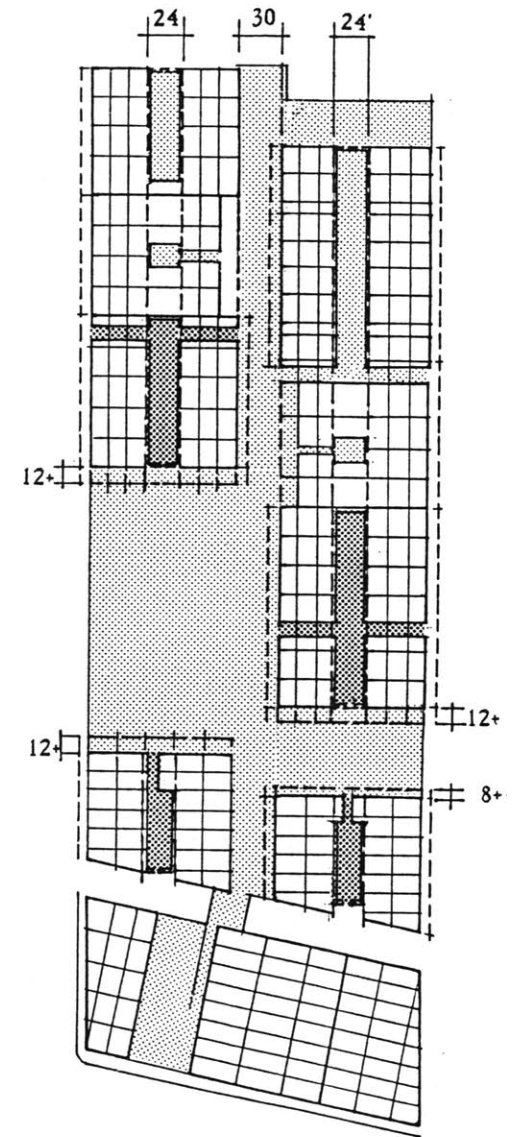
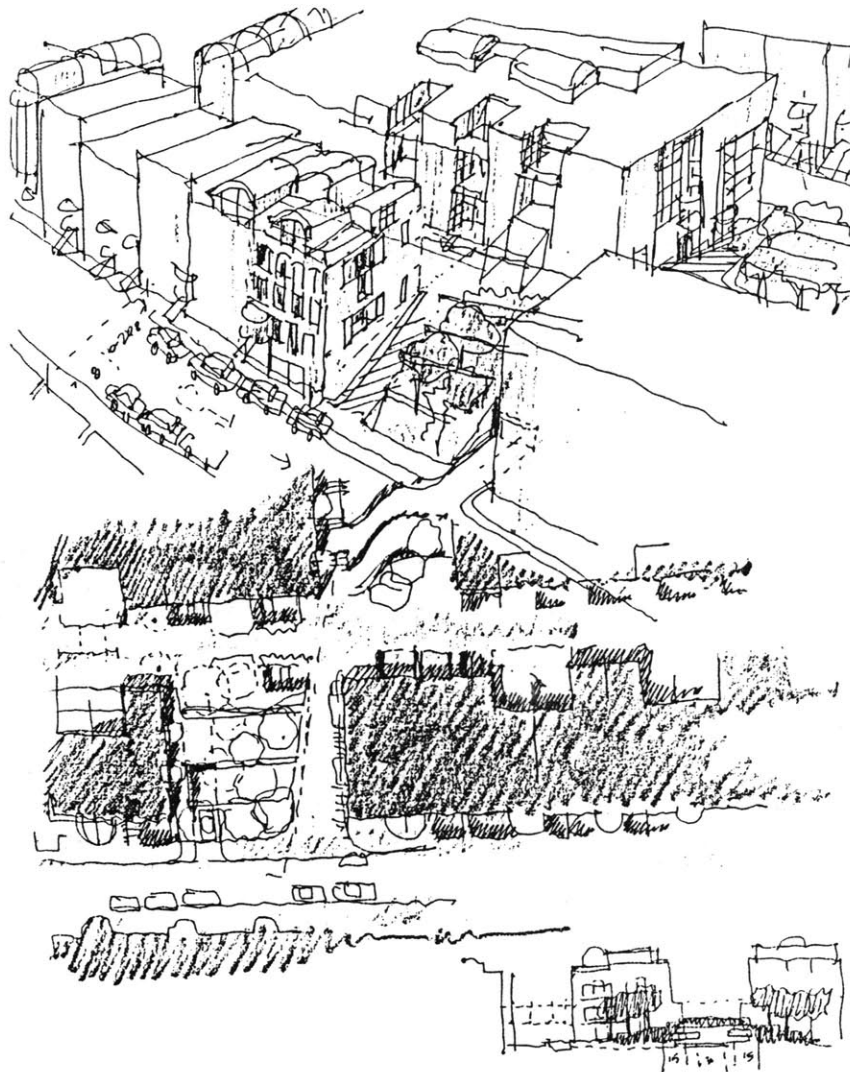
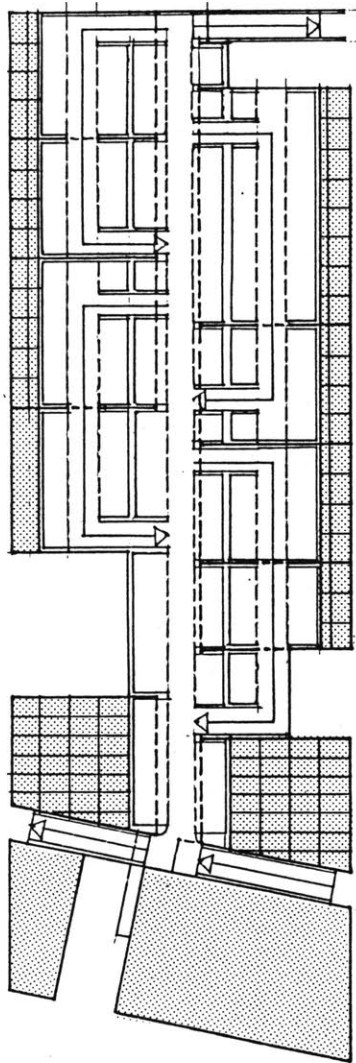


Fig. 14 '85

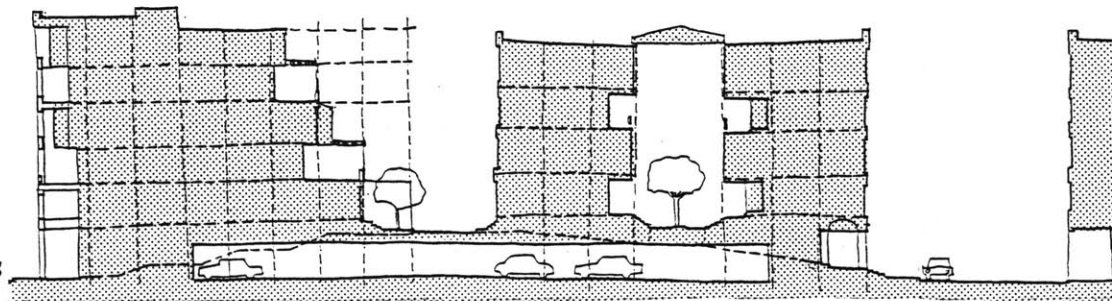
Figs. 3.5.3, 3.5.4 Above: study sketches of block transformations; Right: block plan with interior and exterior semi-public spaces.



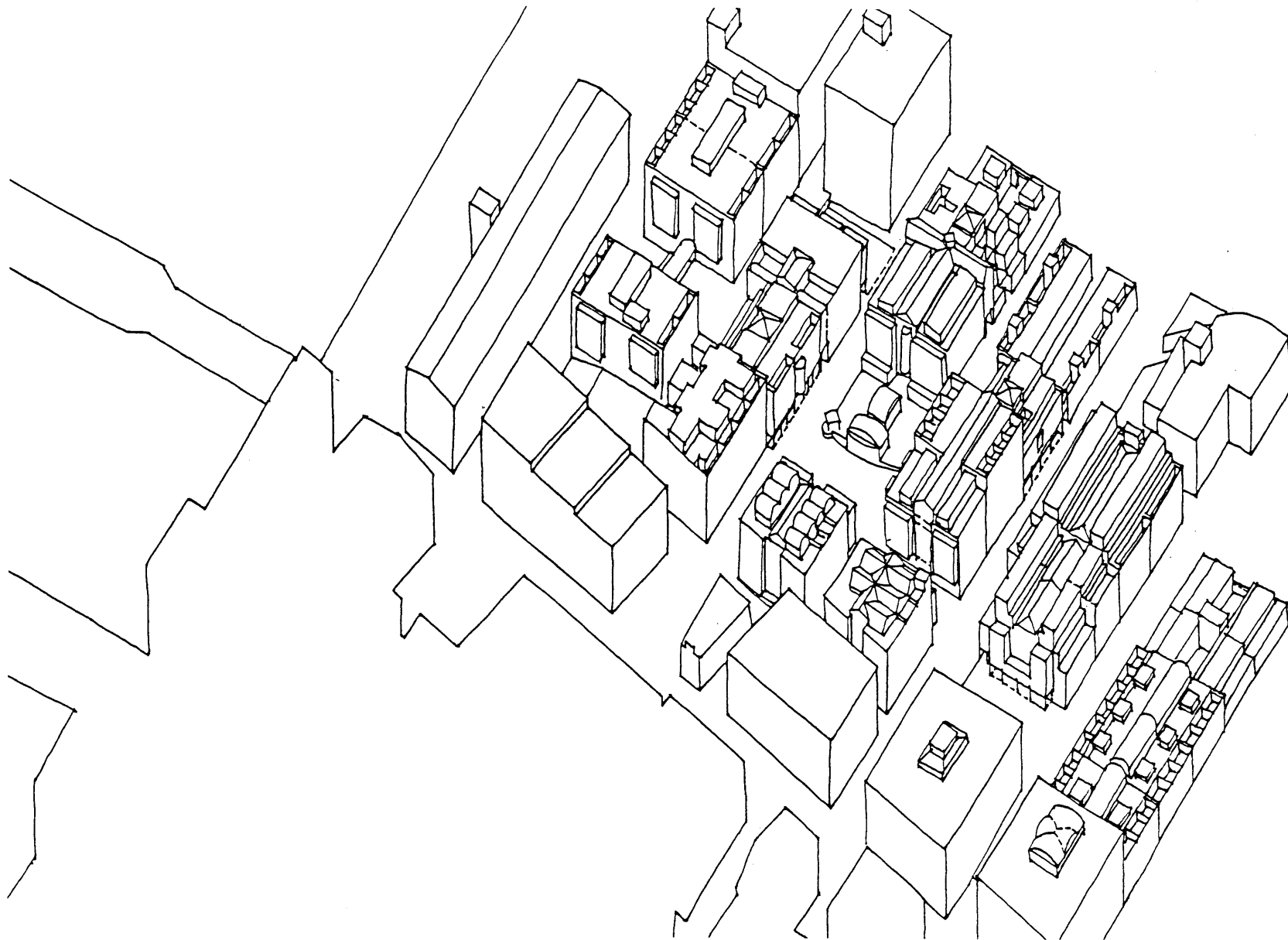
5. Underground parking is created within the block, utilizing the basement areas of existing buildings where ceiling clearances and column spacing permit. A central driveway serving all the individual basements is created under the 30 foot pedestrian deck. Ramped access is located to make use of the existing back lane behind Congress Street. Additional access can be provided at the north end of the block, at the other end of the underground driveway.

While parking is provided where possible, it is not assumed that there will be a space for every dwelling. On-street permit parking and public transit allow the ratio of private parking space per dwelling unit to be below 1:1.

As a block form, such a configuration is perhaps not unlike some parts of Beacon Hill, where in spite of tight dimensions at ground level and a general lack of public open space, there is nevertheless a dense network of pedestrian pathways, all inhabited and looked after. The essential point of this exercise is that the block is thought of as a comprehensive, but relatively small-scale development that carefully integrates essential facilities and amenities in a manner that can contribute to a larger overall system.



Figs. 3.5.5, 3.5.6 Above: block plan showing consolidated parking; right: section through block.



PART 4 -RECONSTRUCTING THE WAREHOUSE DISTRICT

4.1 Overall Ordering Systems

Having examined the existing built environment; analysed its potentials for physical intervention; and proposed patterns for its transformation, it is now possible to identify a series of layers for the comprehensive restructuring of the Warehouse District. The drawings which follow are, in effect, a capacity study of the patterns already introduced. While certain aspects of the interventions characterized take on the nature of concrete proposals, they are intended to be illustrations of the possibilities rather than specific solutions.

A series of plans layer basic spatial and organizational systems across the site, reflecting the alternatives for building and street configurations explored in Part 3. In this case, the prime focus is on the north-south streets and blocks where the greatest potential for transformation still exists, so the drawings deal only with the warehouse fabric north of Congress Street. The layers examined address basic building massing; potential for residential occupation; public and open space systems; and parking and access systems.

It is important to keep in mind that, as thematic studies of the potentials for transformation, these drawings push the possibilities of altering the existing fabric to extremes. These studies are first and foremost a measure of the possibilities and secondly, potential guidelines for controlling the direction of redevelopment so that each individual project has coherence on a larger scale.

Fig. 4.0.1 Opposite: transformation of the north-south blocks in the warehouse district.

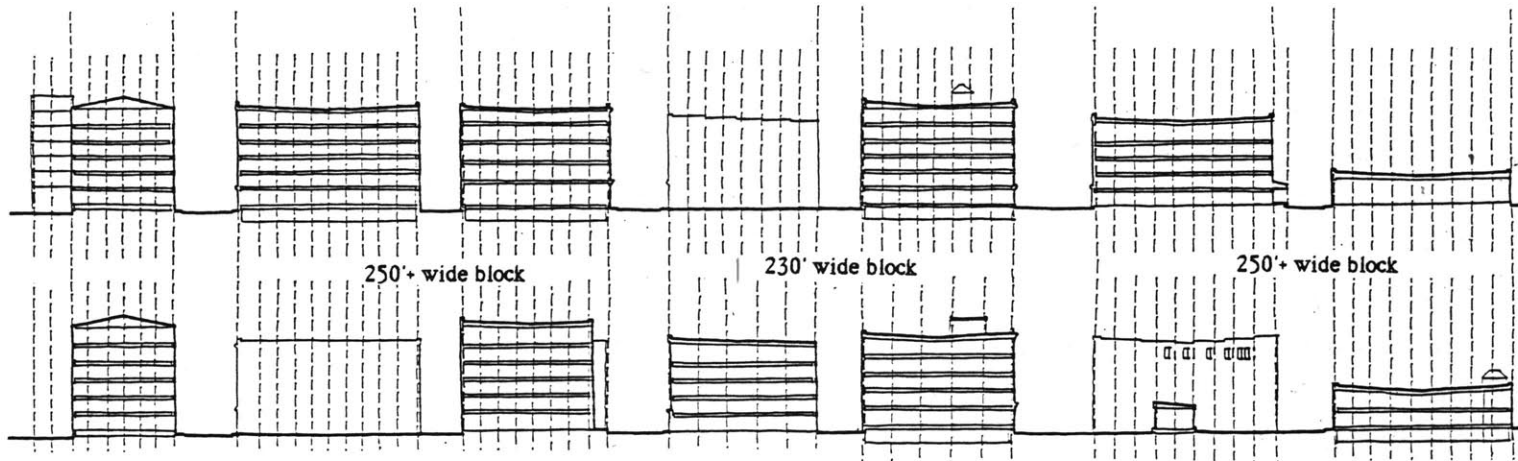
The drawings address the question of how incremental moves on the part of independent actors in the development process can add up to something greater than the sum of the parts; a set of qualities and conditions which enhance the experience and use of the environment on the neighbourhood scale.

The resulting urban tissue which is generated in this way is:

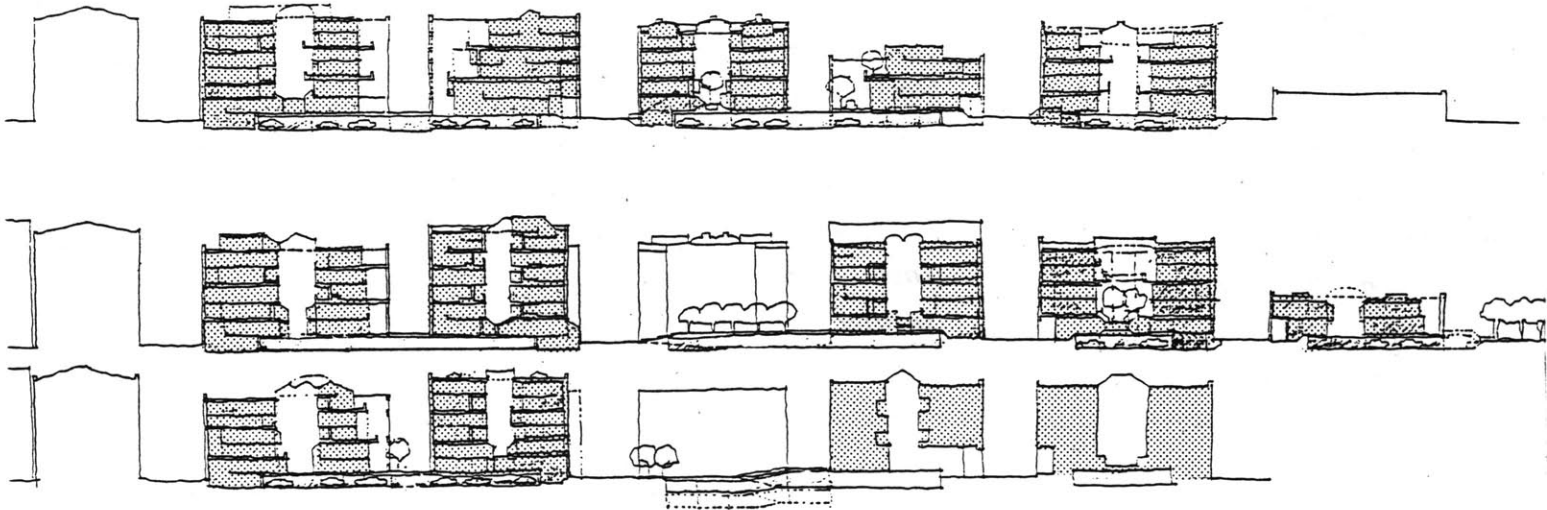
1. a densely packed living and working environment with at least 25 percent of the space directly accessible from streets or lanes.
2. a penetrable environment with an intricate network of paths, open spaces and semi-public courts, all interconnected.
3. an environment maximizing interface between streets and buildings with as many direct entrances from public to private as possible lining the streets.
4. a car accessible place, with most parking provided a half level below grade in each residential building.
5. comprehensively but incrementally developed. Buildings can be developed individually, in pairs, or in blocks, sharing open space. The incremental nature of building transformations suggests multiple ownership and at least the potential of serving a diverse range of families and individuals.

4.1.1 Building Massing; Applying Sectional Alternatives

The first drawings are used to test the basic alternatives for restructuring the sections of the warehouses: vertical set-back, stepped section and light court. The sections and plans are an exercise in measuring the capacity of the section of each building in relation to the configuration of open space adjacent to it.



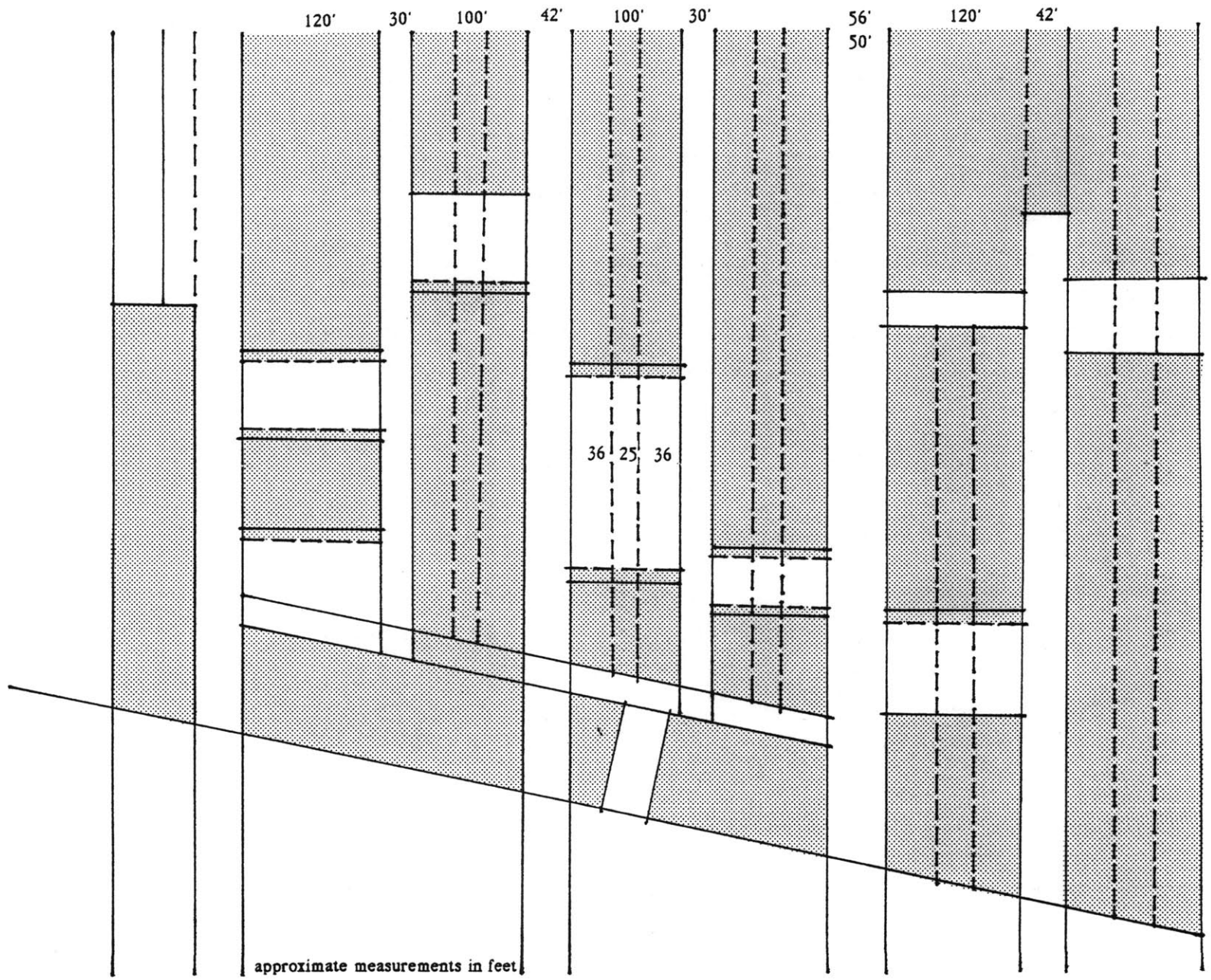
Above: Overall cross section of site showing existing warehouses north of Congress Street; Below: sketch cross section of the same part of the warehouse district exploring potential transformations.

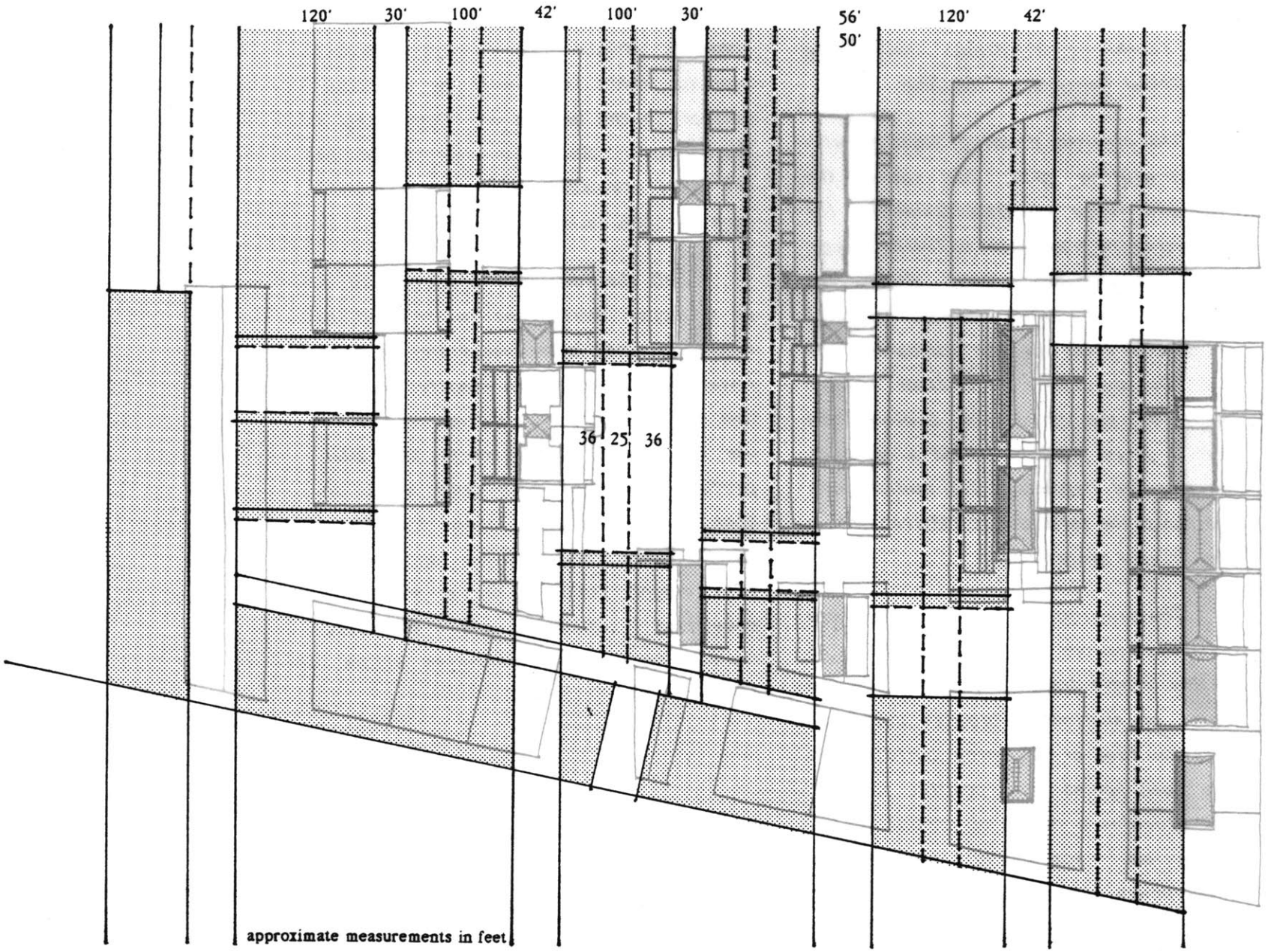


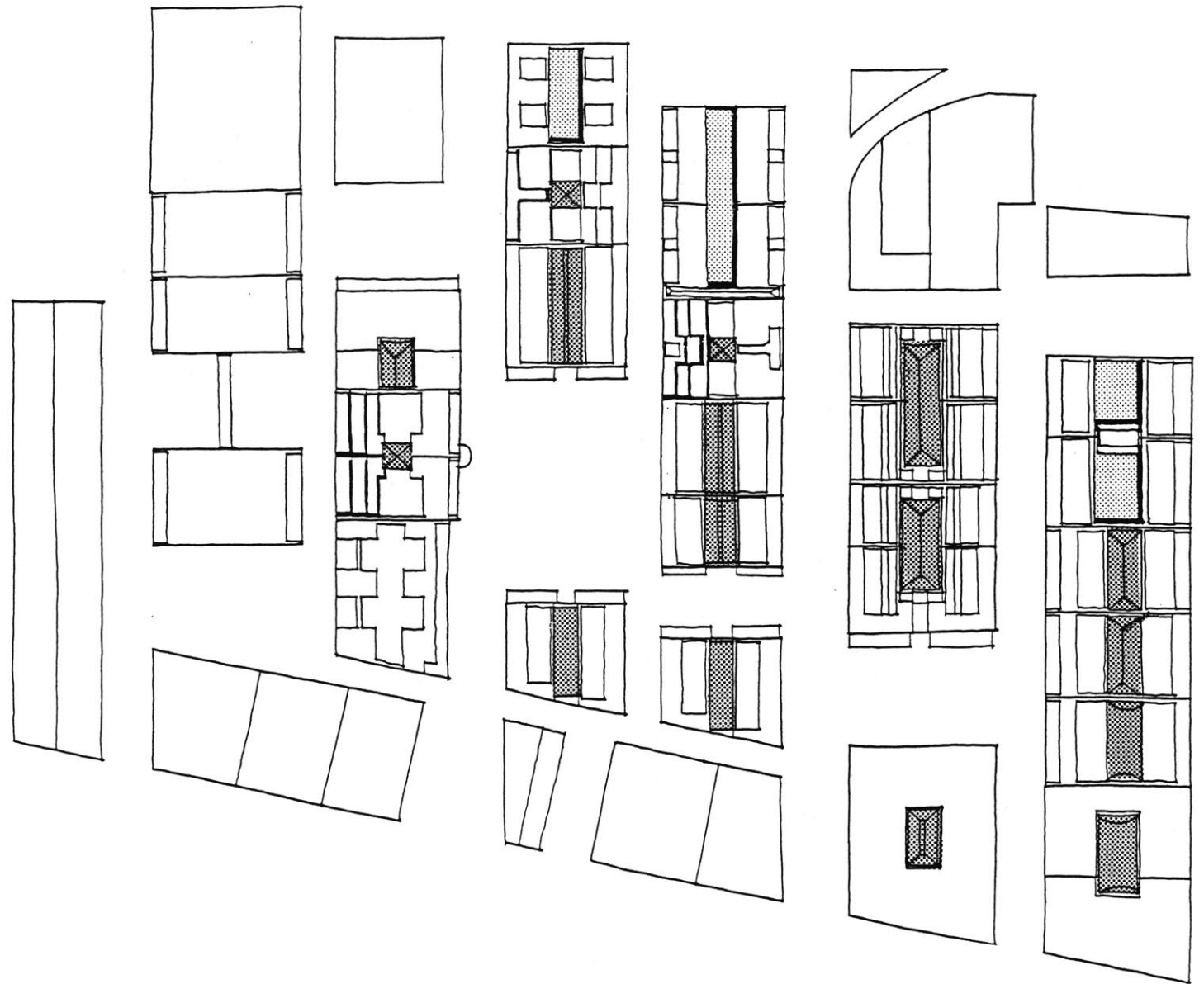
Each building can be drawn as a roof plan, reflecting set-back terraces and light courts. The sectional studies of the main north-south streets in Part 3 suggest there is sufficient width to allow residential units directly overlooking them. Therefore, it is assumed that the facades along these streets remain largely intact. Attention can be focused on the rear lanes where it has been shown that tight conditions require more substantial modification of the building profiles. Major setbacks are required only where buildings above two stories face each other with a clearance of 30 feet or less. Those buildings which are most effected by restricted access to view and light are identified first. Because of variable building heights and the presence of vacant lots, most buildings have adequate exposure both front and rear; they can therefore be modified internally by light courts instead. Buildings which have been recently renovated or which seem to provide adequate exposure for new residential uses are left intact.

The inside edges of vacant lots are identified as zones of expansion for adjacent buildings and used to further define and complete the open space. This encroachment zone is defined as a 12 foot band, allowing porches, sunrooms and other additions one room in depth to line the existing party walls. On vacant lots of less than 100 feet, this zone should be reduced to 8 feet, as in the case of the back lanes.

To get an overall sense of the scale of interventions contemplated, these interventions are scaled against a basic grid, really a series of banded zones running north and south through the blocks. This grid identifies the major street rights-of-way, the semi-public zone of the former railway sidings and the buildable zones. Additional minor grid lines identify the setback zones of buildings along the mid-block right-of-way and the general zone in which light courts occur. Open spaces within the blocks appear as gaps within this linear organizational system.







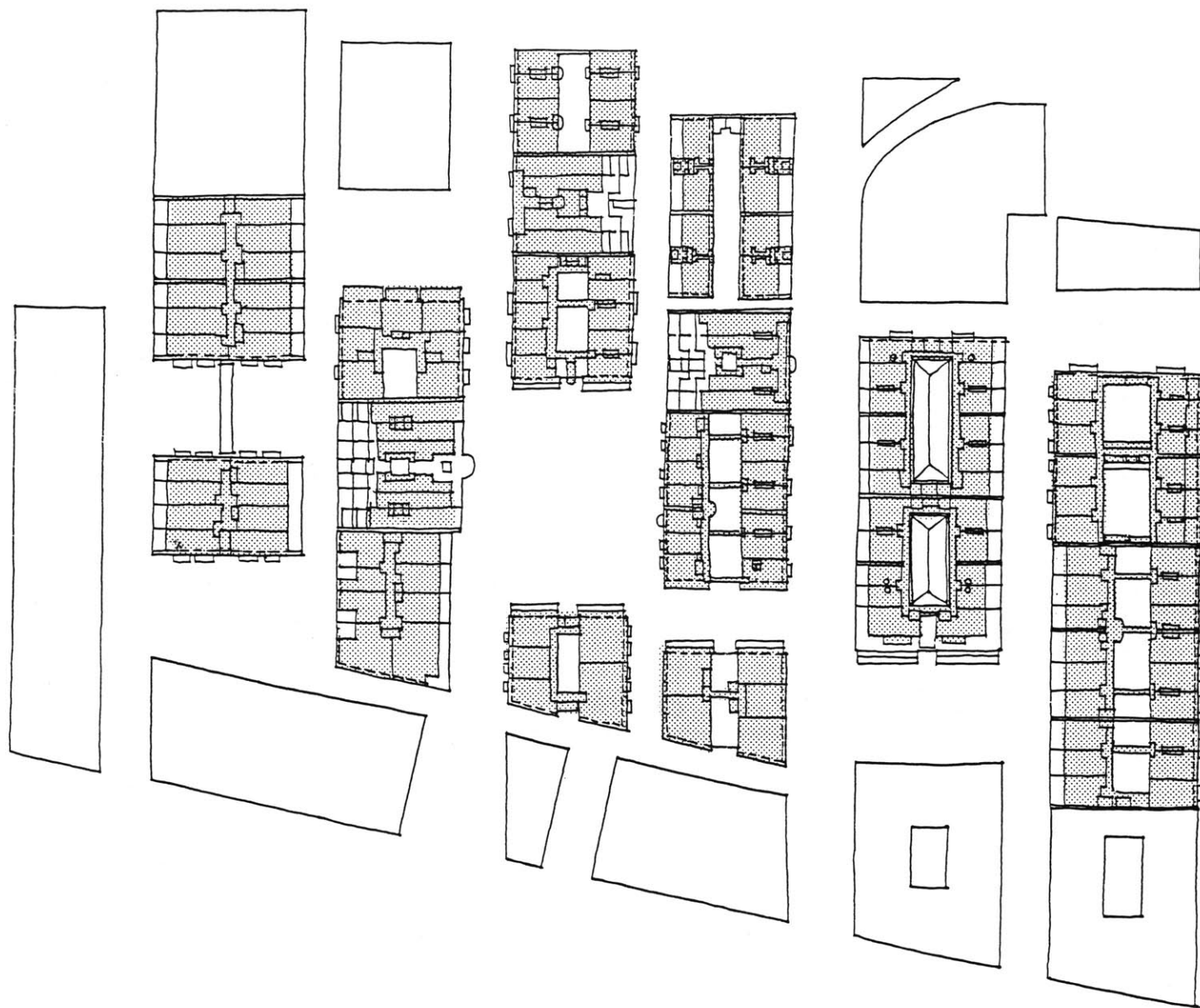
4.1.2 Inhabiting Buildings: Testing the Residential Capacity of the Site

The previous drawing, together with its structuring grid, has tested the available range of transformations for converting the warehouses to living spaces. This drawing tests these alternatives further by diagramming typical residential floor layouts throughout the site. By sketching rough floor layouts based on the typologies explored in Part 3, it is possible to get a sense of the potential density of residential units and assess the relationship between public and private spaces.

The drawing can be used to explore the ramifications of mixing blocks of narrow, single loaded units with double layers of shallower, broader units. It tests the idea of adjusting buildings to face open spaces in a positive way. It also provides a means of measuring the appropriate scale of incremental development. In this case, many of the buildings can be paired to share a

common atrium and grouped access systems. (This issue will be discussed further in the section of "Converting a Warehouse".) Buildings left blank in the plan are assumed to be primarily used for non-residential purposes.

With the fortuitous placement of 5 to 6 storey warehouses in relation to recently formed 'open spaces' and existing lower buildings, it can readily be seen that the majority of buildings can make use of internal light courts and still produce dwellings with good access to open space. Typically, these dwellings can be relatively shallow and wide, with major frontage on a street or pedestrian walkway and secondary frontage on a climate-controlled atrium.



4.1.3 Making Sense of Pedestrian Networks

This drawing investigates streets, vacant lots, yards, light courts and passages as components of a continuous pedestrian network. Having defined encroachments and setbacks in the previous drawing, the focus of attention is now reversed to test the potentials of the resulting semi-public spatial system outside the private realm. By drawing the open spaces and light courts as a comprehensive network, it is possible to assess, at least to some degree, the relationships generated between public and semi-public spaces and to propose connections between them across the site. Without pinning down specific needs or functions, the drawing can be used to locate potential communal facilities operating at the neighbourhood level as well.

Taking the block study in Section 3.5 as the basis, a system for the northern half of the Warehouse District

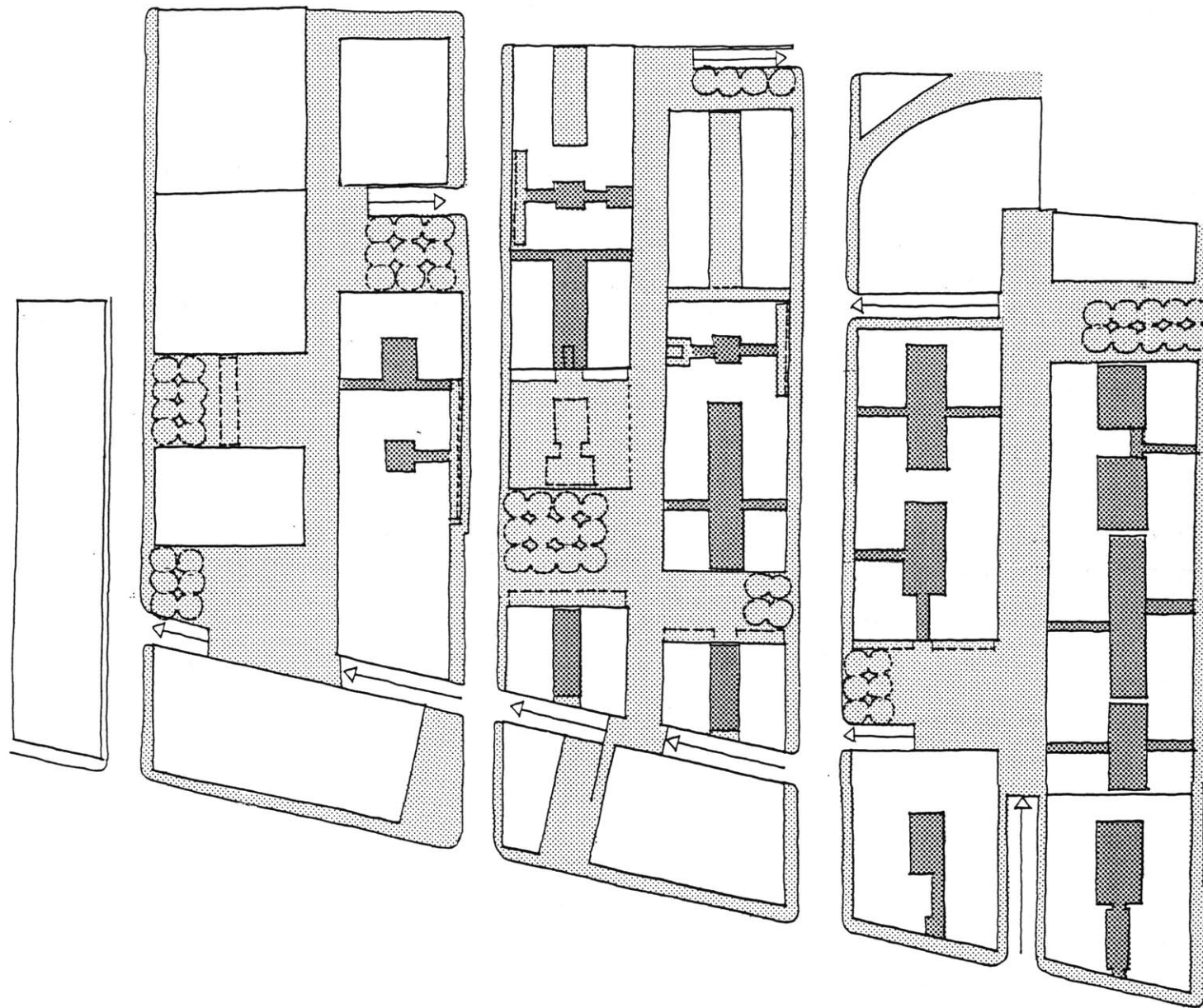
as a whole is defined by the following elements:

1. a continuous pedestrian network, complementing and extending the basic pattern of streets within the blocks.
2. a system of internal courts which can become occasional components in a through-block walkway system incorporating lobbies as protected passages. These internal links would be controlled by the residents and accessible only to the local initiated.
3. a series of local neighbourhood facilities and community centres in relation to the open space system. This is a critical element if the area is to be thought of as a working/living community. At this stage of planning and projecting, with the future population unknown, the primary concern is to build in a potential for such facilities, rather than establishing a rigid programme. More will be said about this in the section "Defining and

Inhabiting an Open Space".

The pattern emerging is a more casual series of linkages within the strongly ordered blocks of warehouses. Pedestrians are provided with a series of east-west connections through what are otherwise long, uninterrupted blocks. The north-south streets can be cut off to through vehicular traffic and treated as dead-ends. In the process, Stillings Street can be redefined as an internal walkway, with limited vehicular access to echo the block pattern to the west. The easternmost lane, on the periphery of the site, is then established as a through street connecting to the development sites north of the warehouses.

The cross-block routes can be applied to the site condition appearing between Congress and Summer Streets. One such route already exists along the Fort Point Channel. By adding several more of these walkways, comprehensive linkage between parking facilities, offices and streets will help bind upper and lower levels together.



4.1.4 Establishing a Coherent Parking Infrastructure

This drawing tests the idea of an incrementally generated parking system, primarily making use of the basements and ground rights of buildings and adjoining private spaces. By drawing a potential parking arrangement for each building at the same time, a more coherent system for dealing with cars can be established.

First of all, public parking is assigned to the small parcel along Congress Street corresponding to the three upper levels of the New England Telephone garage and a more extensive two-level increment below the Summer Street right-of-way. Public parking is thus confined to the southern edge of the site next to the major traffic arteries, leaving the north-south streets for private parking.

Within the north-south blocks, the potential for parking is established

separately for each building. The below-grade zone of the back lanes provides a common access system for cars leading to the periphery of the blocks. The presence of this common access is a critical factor in allowing otherwise inefficient retro-fitted parking to become a viable asset in redeveloping the buildings. The open spaces within the block provide sites for additional underground parking, also connected into the common access system. By locating a common driveway in the central right-of-way, the external edges of the blocks along the north-south streets are left free as a continuous inhabitable zone, undisturbed by entry and exit ramps. This zone can vary in width depending on whether or not a full parking level is contained within a given building envelop; it should maintain a minimum width of 20 to 24 feet, or the equivalent of two structural bays, as proposed in the sectional studies of part 3.

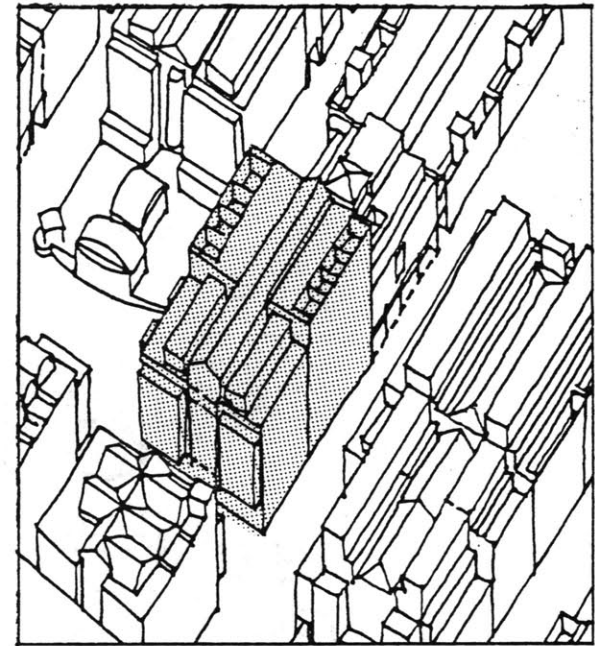


4.2 Converting a Warehouse

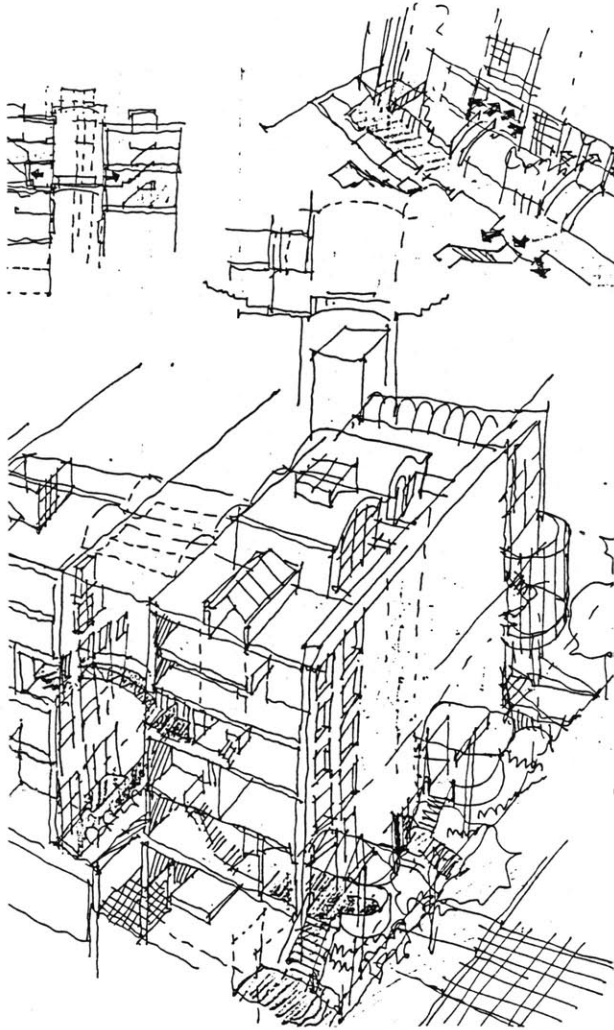
Having established thematic patterns and tested them at a comprehensive neighbourhood scale, it seems worthwhile to examine some specific aspects of the transformation process at a much more detailed building level. As the warehouse has provided the initial inspiration for this study, it has been chosen to illustrate a transformation process which tests its viability as a residential environment.

In Part 3, a number of alternatives for reconfiguring the warehouses as dwelling space were examined. One of these alternatives, that of creating a light court or atrium between two layers of flats and maisonettes, is now investigated further. For the purposes of this exercise, the actual drawings of the 6 storey warehouse at 30–34 Pittsburgh Street have been taken as the basis for the transformations proposed. As with the overall plans, it is possible to start with a piece of the existing built fabric and to propose a series of layered alternatives.

Each of the layers described in this section can be considered as an independent system. Bay windows and porches are components which can be added in a variety of ways to existing facades and adjusted to conform to many different types of dwelling configurations. Because of the flexibility of the column structure, the dwelling zones can be thought of as horizontal trays allowing varying widths of units as flats or 2-level maisonettes. The atrium, elevator and public stair system are basic interventions which can be adjusted to any particular volume within the range of existing warehouses. While each set of interventions accommodate each other within the structural environment



Figs. 4.2.1, 4.2.2 Above: location of the warehouses on Pittsburgh Street; right: study sketches of the warehouse conversion.



of the warehouse, they can each operate as effective systems on their own as well.

4.2.1 Choosing a Basic Increment For Development

While it is possible to conceive of a process whereby each warehouse is converted one by one, providing a minimum range of services and changes to the existing structure, the creation of an internal light court, involving a more dramatic change, suggests the possibility of expanding the scale of intervention somewhat. The four-bay wide warehouse at 30-34 Pittsburgh Street can be joined to its three-bay wide, five storey neighbour to create a larger block, about 140 feet long. The combined volume of the two buildings and the corresponding increase in dwelling units can support a more substantial light court, new elevators and stairs. Because the buildings maintain a consistent 100 foot depth and similar characteristics in terms of facade treatment and floor heights, it is not difficult to combine them. The emphasis given to the linear organization of the north-south blocks suggests a reasonable degree of choice can be exercised in establishing each increment of development. Provided ample access is made available for both internal courts and dwellings directly adjacent to the streets, the combination of several buildings in one development should not be detrimental to the life of the street.

4.2.2 Determining Dwelling Unit Configurations

The pair of Pittsburgh Street warehouses, with a length of just under 140 feet and a depth of 100 feet, forms a volume 7 bays across and 8 bays deep. The column and beam structural system allows a flexible division of space which is capable of generating a wide variety of flats and two-storey dwelling sizes. For this exercise, larger dwellings are contemplated in order to demonstrate the possibilities of multi-level dwelling spaces.

If the two central bays are taken up by the atrium, two strips 140 feet long by approximately 36 feet deep will be left as potential dwelling zones on each floor. In this example, the strips are divided into 20 foot wide increments, corresponding to the modular treatment of the facade and the structural grid within. This generates flats of about 800 square feet or two-level apartments of between 1,400 and 1,600 square feet. Within each apartment volume, the division of space need not be determined. It is sufficient to designate the inside bays adjacent to the light court as a service zone where washrooms, kitchens could be grouped for mechanical efficiency. This zone should also contain internal stairs so that they will be readily accessible to access galleries. In this position they can alternate as stairs providing upper level access to a separate flat or to the second level of a two-storey apartment.

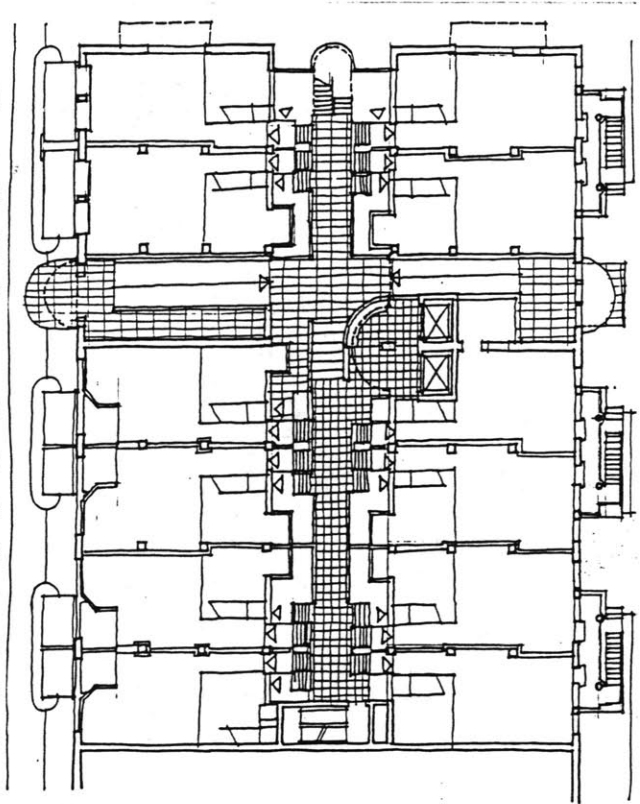


Fig. 4.2.3 Ground floor plan with entry lobby and atrium.

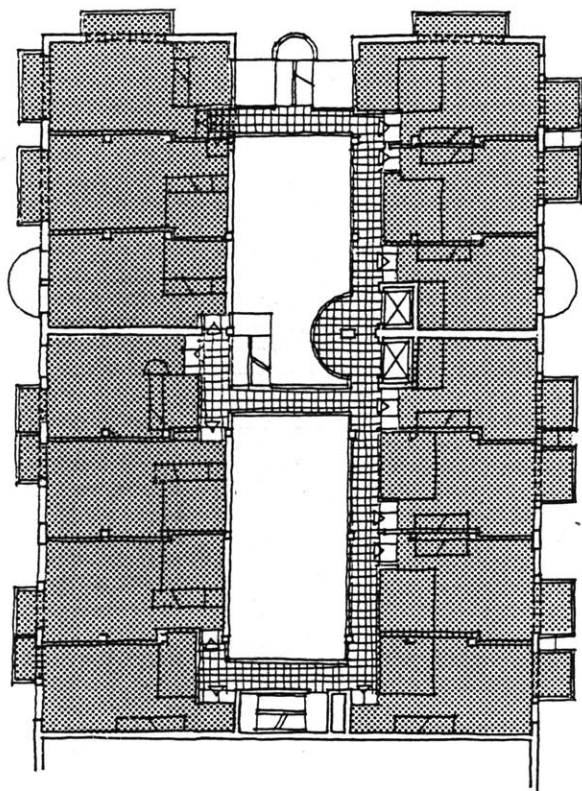


Fig. 4.2.4 Typical upper level plan with bridge access to two-storey dwellings.

4.2.3 Transforming the Building Section

The atrium can be cut through two structural bays to a base level one half to a full floor above grade. The section of this light court can be widened out towards the roof, taking advantage of the access gallery setbacks to allow greater light penetration.

A basic division can be made between the inhabitable floors of the building and the basement garage. First, the existing basement floor is reinforced and sealed (and lowered, where necessary,) to provide clearance for parking. The driving aisle is accommodated below the two central structural bays where one row of columns has been cleared out for the atrium. In the front two bays of the building facing the street, the existing ground floor is removed and the basement floor raised almost to grade to create a one-and-a-half-storey space with sufficient head room for a loft. At the rear of the building, the ground is raised half a level to accommodate the shared underground parking access. The second and third floors are combined to create two-storey dwellings with access to grade via the stepped platform of the atrium floor. The rear units in this layer have direct access to the pedestrian walkway running through the middle of the block. The fourth and fifth floors are also combined to create two-level units with access from open galleries and bridges overlooking the atrium. Finally, the sixth floor is combined with rooftop lofts to form one-and-a-half-storey penthouses at the top of the buildings. These, in turn, are served by open galleries and bridges within the volume of the atrium.

4.2.4 Transforming the Building Envelop

Each layer of dwellings is given its own character in relation to the street. The facade's modular treatment is preserved but larger recesses and projections are introduced within its overall organization to create generous terraces and bay windows. A series of interventions produce a variety of conditions on the front and back facades of the warehouses.

Two storey porches with wide doorsteps and balconies are introduced at grade on the front elevation, allowing the adjacent dwellings to claim a portion of the street. The projection of the porch corresponds to the eight foot zone of encroachment described for the north-south streets in Part 3. Above the porches, the possibility of large recesses is explored. This takes the form of an eight foot deep, two-storey terrace set back within the building envelop. A giant glass overhead door allows it to be 'winterized' for part of the year. The next horizontal layer of dwellings is marked by two storey bay windows projecting four feet into the street. In this case, the bays of adjoining units are grouped together to create larger elements on the facade. Finally, at the top of the facade, the flat section of the roof permits various monitors and clerestory sections to poke up, accommodating lofts for the uppermost units. Behind these projections, skylights and clerestories let light and air through the trusses of the glazed roof above the atrium.

Further variations are illustrated in the interventions proposed for the rear elevation. A double layered porch provides access to the units one floor above grade as well as those at grade. The porch and bay window above it project into the pedestrian walkway the full eight feet permitted to protect the

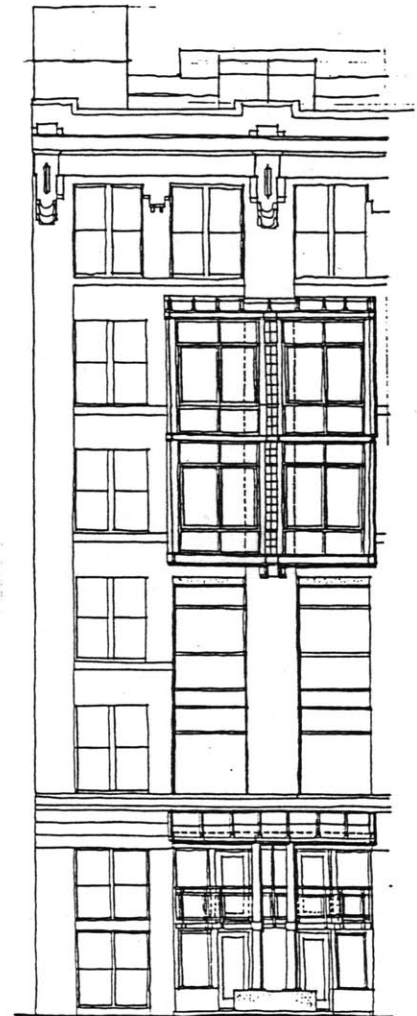
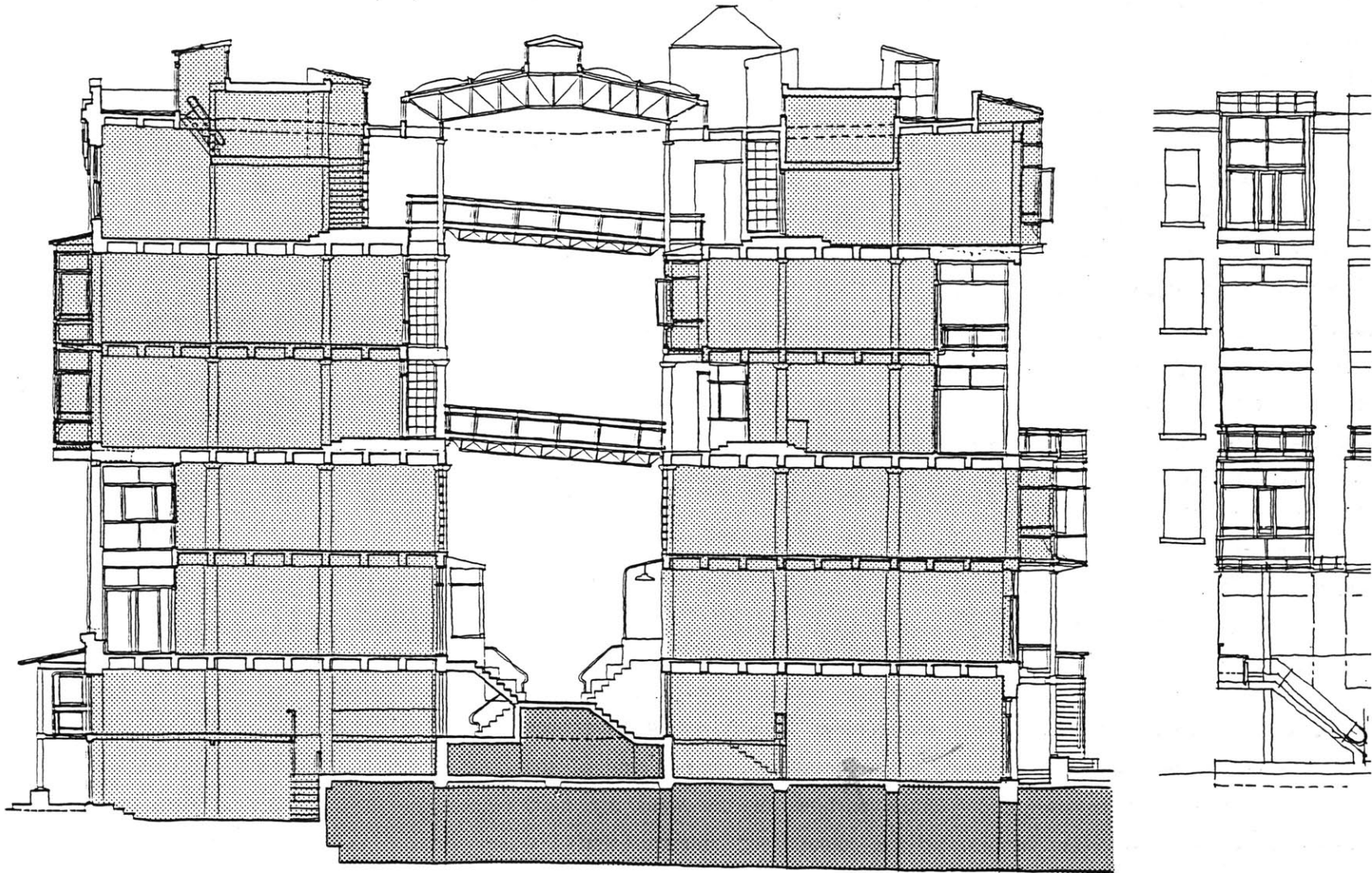


Fig. 4.2.5 Section and partial elevations of the converted warehouse.

open external stair below. On the top floor, a four foot bay window pushes through the sparsely detailed parapet of the rear elevation to create a partially glazed roof section.



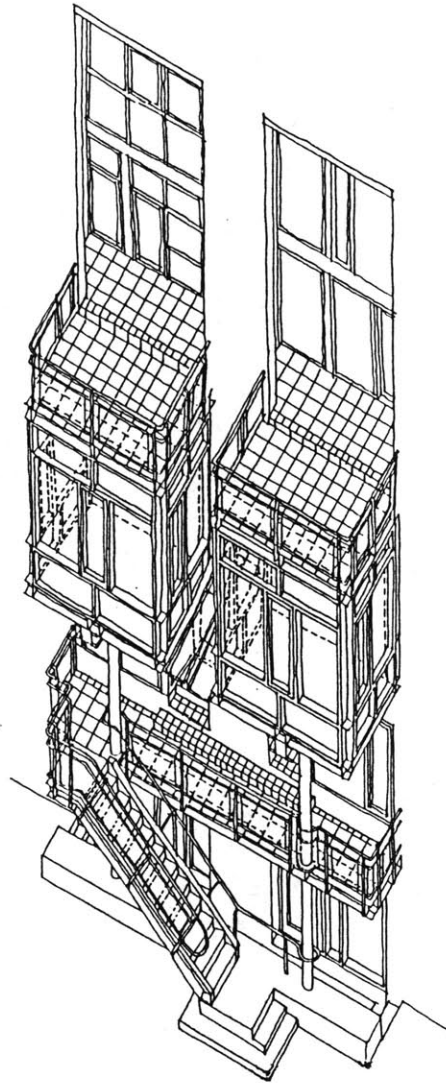
4.2.5 A Walk Through the Project

As a summary of the various intervention systems working within the renovated building, a description of the project is given as it might be when fully completed and inhabited. From the street, the building is experienced as follows:

Projecting out from the front facade are a series of low concrete platforms, benches, columns, and small balconies with glass canopies. These define the entrance porches for a series of tall shallow spaces with mezzanines beyond. Some of these spaces have been rented out as apartments, their ground floors serving as workrooms and display areas. Taller living spaces at the back open into the base of an interior court with bridges and balconies hanging above. One of these units has been converted into a small convenience store, with a storage mezzanine above. In another unit, the mezzanine has been cleared out altogether to create an open studio space.

A taller, more generous canopy shelters the entrance to a ramped lobby (kept open during the day) which gradually slopes up towards the base of the elevator. Before the elevator, the space opens up to the expanse of the light court, a tall, glass-roofed space stretching parallel to the street for about 120 feet. The ground plane steps up gradually toward either end of the building to give access to another series of doorsteps at the second floor. These are the entrances to a series of larger two storey dwellings. The doorsteps have been claimed as private spaces with plants, lights, an occasional chair. Some of the facades have projecting bay windows. Other portions of the walls are lined with glass block and screen various service rooms, and internal stairways.





Figs. 4.2.6, 4.2.7 Left: sketch perspective of atrium; right: axonometric of porches, bay windows and balconies on rear elevation.

Within the light court are other entrances, sometimes down half flights of steps, providing secondary access to ground level dwellings, service rooms and parking.

From the elevator, it is possible to reach two upper level galleries, one at the fourth floor and one at the sixth, again providing access to a series of private entrances and two-level dwellings beyond. Some of the dwellings are reached by light wood and steel bridges spanning the 24 foot wide light court. The upper level units are set back further from each other across the void of the court, allowing natural light slanting in from clerestories and skylights above to penetrate further into the spaces below. The slender wood columns of the original structure are exposed to view, providing an ordering element against the plane of receding galleries and projecting bays. The light truss of the roof is almost entirely glazed.

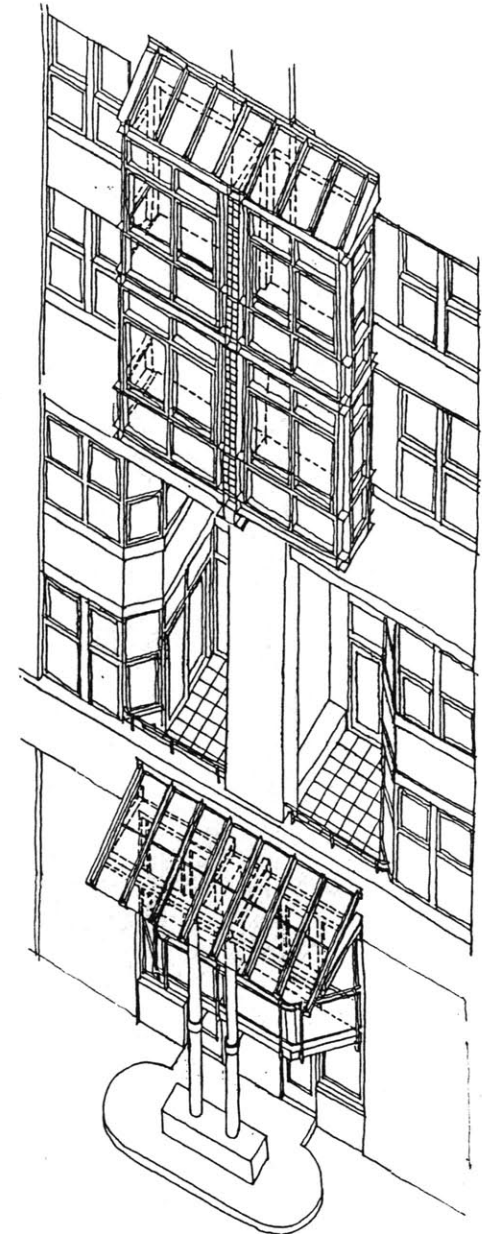
The upper penthouse dwellings have mezzanines which give access via ladders to a series of private roof decks, set back behind the line of the parapet. As services are generally operated individually by each of the residential units, there are relatively few mechanical intrusions on the roof and it is intensely used in the summer.

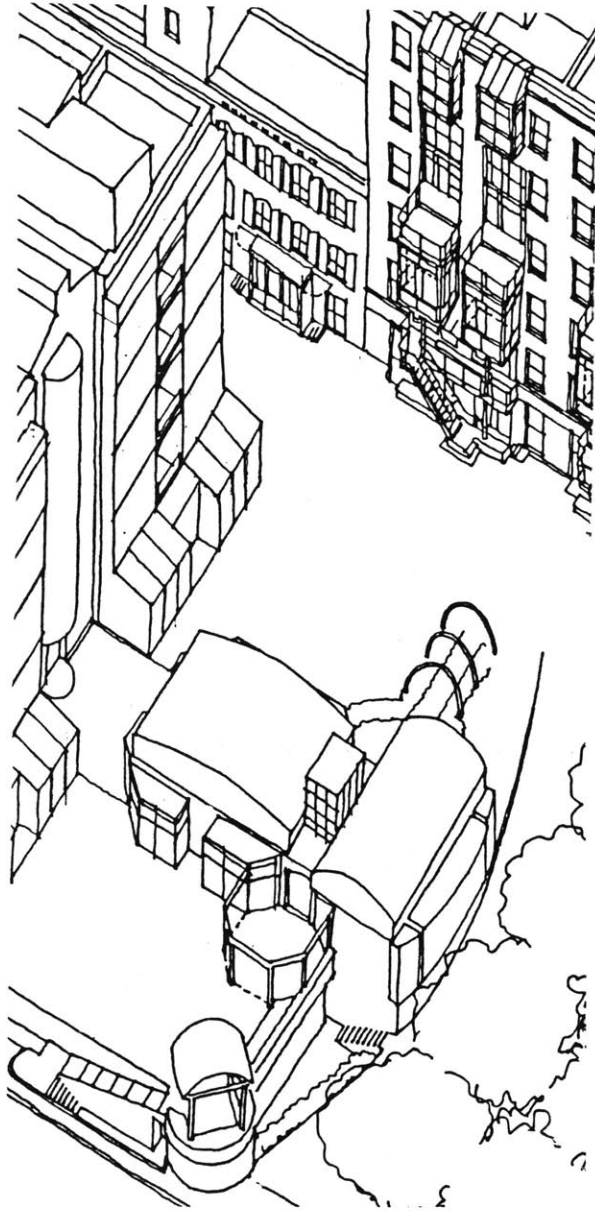
The apartments have been sold as relatively open shells. As the old warehouse was already sprinklered, all the wood decks and columns have been left exposed. Each dwelling has generous two-storey terraces, roof decks or bay windows. A slightly raised platform towards the courtyard side of each unit accommodates an ad hoc network of plumbing feeding vertical stacks within the party walls. These allow kitchens and bathrooms to be designed as the tenants

move in. With the inherent variety of access conditions generated by the section, the varied ways of adjusting the facade to create a more inhabitable edge, and tall ceilings, all these dwellings have become highly individualized homes within the shell of the warehouse.

The drawings exhibit very specific details for framing expanded openings, projecting light glass and steel balconies and window bays. While they attempt to work within the modular organization of the facades and the structural regularity of the interior spaces to maintain their powerful integrity, they nevertheless represent a dramatic change, in keeping with the new use.

Figs. 4.2.8, 4.2.9 Left: Pittsburgh St. elevation study;
right: axonometric of front facade elements.





4.3 Defining and Inhabiting an Open Space

Once certain conventions have been established for the treatment of edge conditions and a set of rules instituted to describe neighbourhood circulation systems, it becomes easy to define the basic parameters for establishing non-thematic elements like parks and playgrounds. The following example shows one possible approach to designing a link in the open space system running through the north-south blocks of the warehouse district.

The vacant lot on the east side of Farnsworth north of Congress is used as a test case. It is assumed that it will become a partly public, partly private open space. Through reference to conventions of encroachment already described in prototypical sections, it becomes easy to layer the facades of adjacent buildings with appropriate entrances, terraces, window bays, etc., suggestive of an intensely inhabited and controlled private edge. The end of the adjacent building is given a series of porch and bay-like projections facing the park. The built-in parking model must also be brought to bear on the site. In this case, it extends under half of the available space of the park, generating a garden terrace a half level above grade. The rest of the open space is public and slopes up gradually to cover the driveway of the underground parking garage and meet the level of the mid-block walkway. The garden terrace is accessible, both by ramps from the park and by stairs directly off the street. Entrances slightly below grade penetrate the terrace to give access to a 25 to 30 foot zone of space, optionally set aside for community purposes or extra parking and storage.

Figs. 4.3.1 Study of a new public open space in the warehouse district.

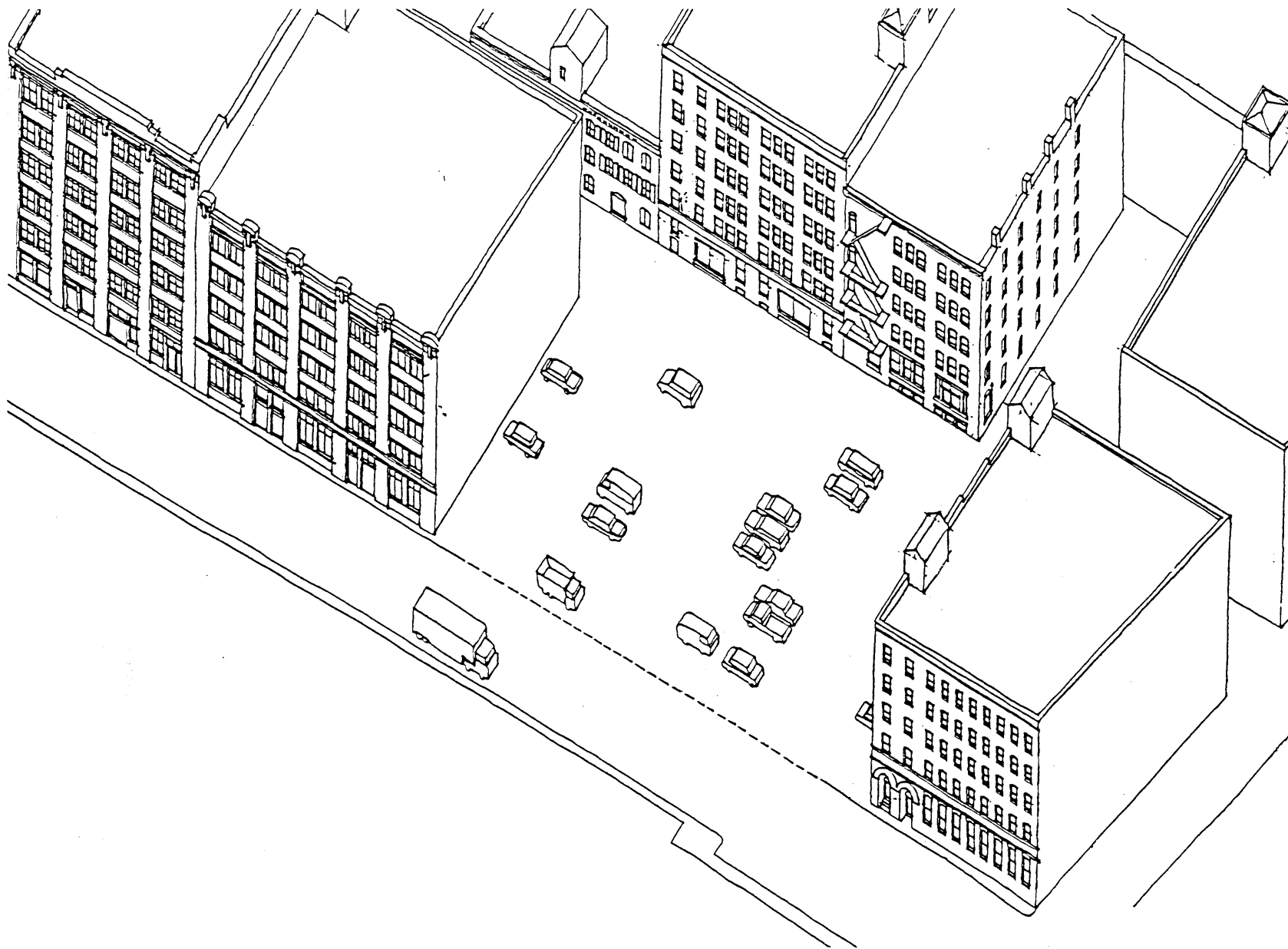
The initial sketch study explores ideas for structuring and occupying this terrain. The lower porches of the end building could claim the elevated terrace for use as a day care centre or small nursery school. The location of the terrace would maximize sunlight and provide some protection from street traffic. The space below the terrace might be appropriated for use as a public laundry facility or the offices of a community group. The rest of the site could, in this case, be left open and landscaped with trees as part of the open space network. The garden terrace stairs serve the day care centre as a street address in much the same way as the extended doorsteps of the grade level units. The laundry also gets a special entrance and bay window, specific to its corner condition between terrace and park.

As with all elements of the thematic tissue of the warehouses, the specific nature of the open space must evolve with the process of redevelopment. Provided the basic connections are in place, the precise nature of use and quality of landscaping might not be determined until a reasonable constituency has been established in a particular block. The nature of details and articulation of these open sites should be designed individually and vary from block to block.

These drawings indicate how an initial set of guidelines for defining and inhabiting open space can be developed by overlaying it with the various layers of intervention contemplated in previous sections of this study.

4.3.1 Existing Conditions

This first drawing shows the existing site on the east side of Farnsworth Street. The vacant lot is used for parking. The sides of the open space are defined by the blank party walls of the adjacent warehouses which were exposed by recent demolition. Hard surfaces, loading bays, trucks and cars dominate this tight building configuration.



4.3.2 Defining Inhabitable Edges

This drawing summarizes all the 'zones of encroachment' which can be brought to bear on the site to help define a series of interventions for transforming it. Prototypical elements which have been characterized in detail in the previous section are deliberately repeated here as a quick means of testing the capacity of these zones.

The following zones allowing expansion of and inhabitation of the built edges of the site are revealed in the drawing:

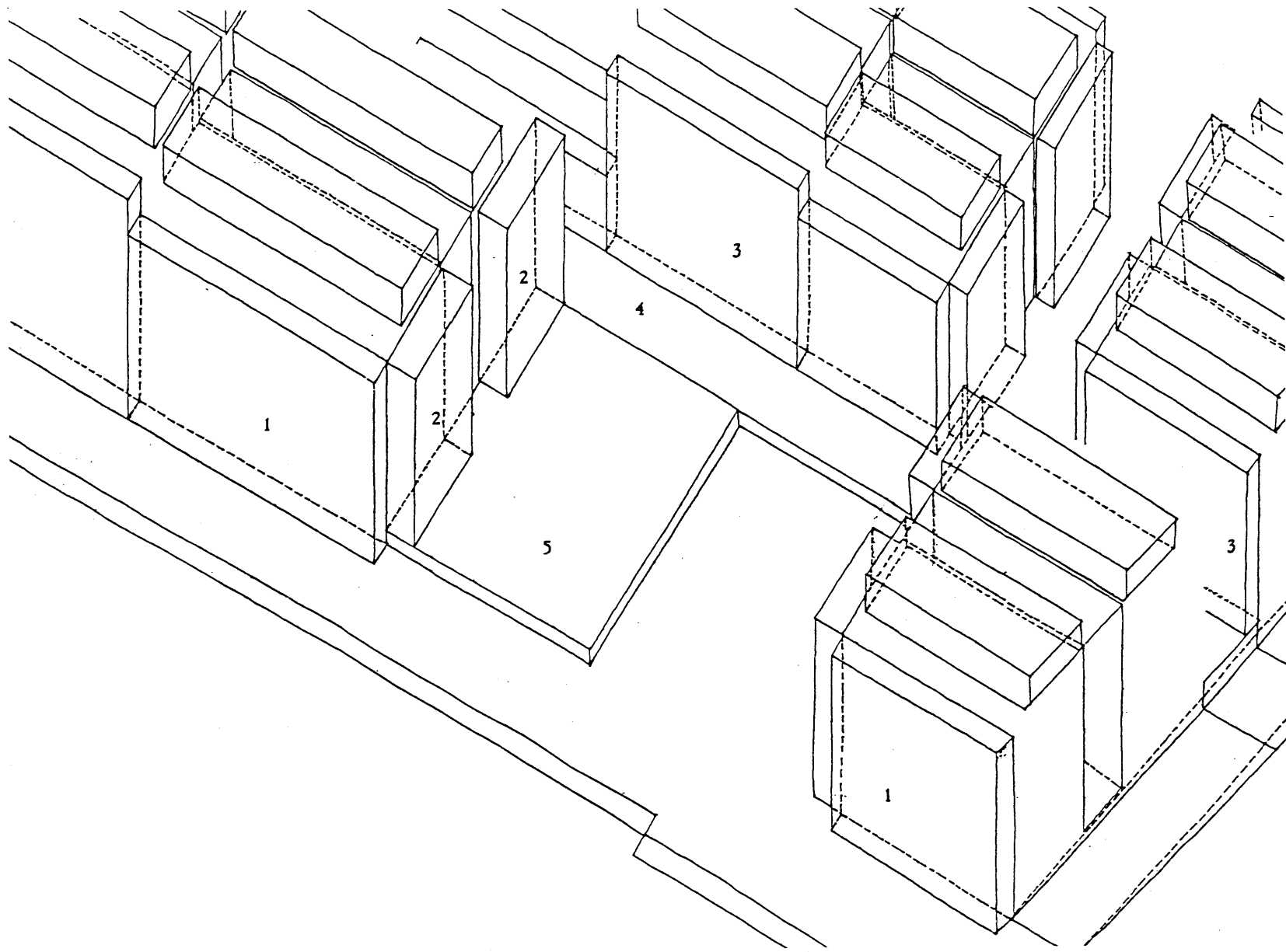
1. An 8 foot building zone following the base of the buildings fronting Farnsworth Street accommodating porches, doorsteps and window projections.

2. A 12 foot zone along the edges of the buildings facing the vacant lot.

3. An 8 foot building zone on either side of the mid-block pedestrian walkway.

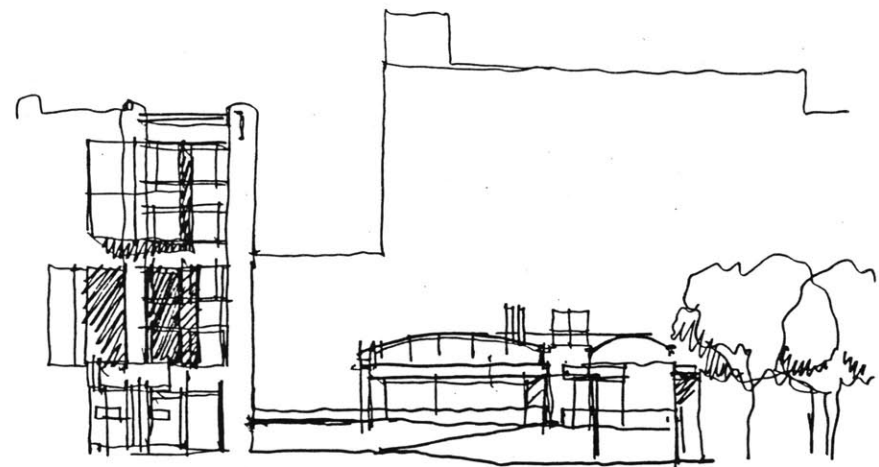
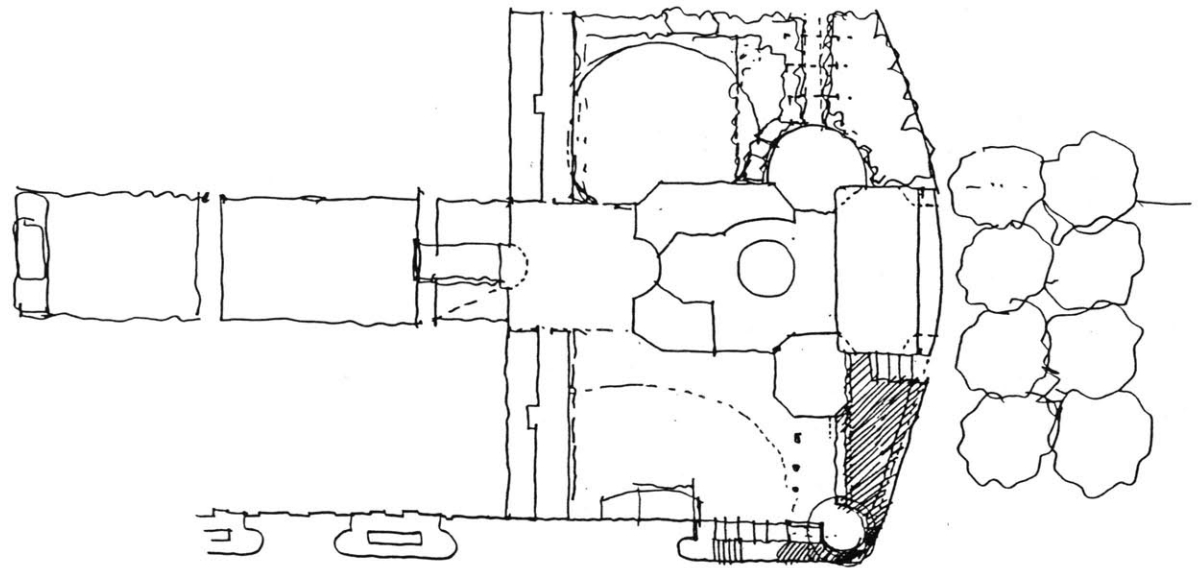
4. A raised platform, half a level above grade corresponding to the common driveway for underground parking underneath it.

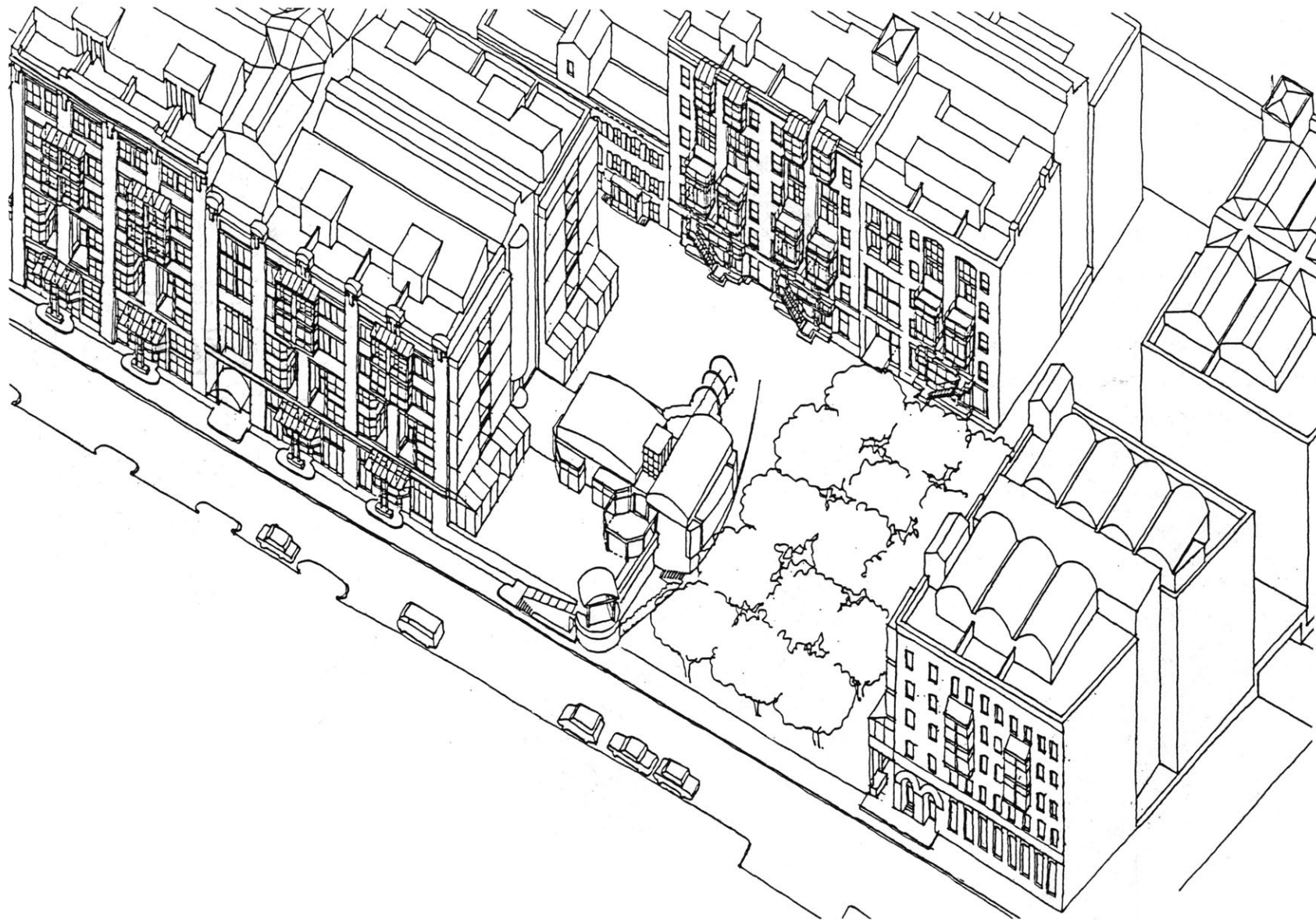
5. A raised platform, a half level above grade occupying 45 to 50% of the vacant lot, accommodating optional communal facilities and parking below and semi-private, communal open space above.



4.3.3 Characterizing Transformed Open Space

The final drawings synthesize the systemic zones and elements of intervention and characterizes more particular qualities peculiar to the site and program put forward as a possible scenario at the beginning of this section. The new building depicted on the raised terrace is a day-care centre.





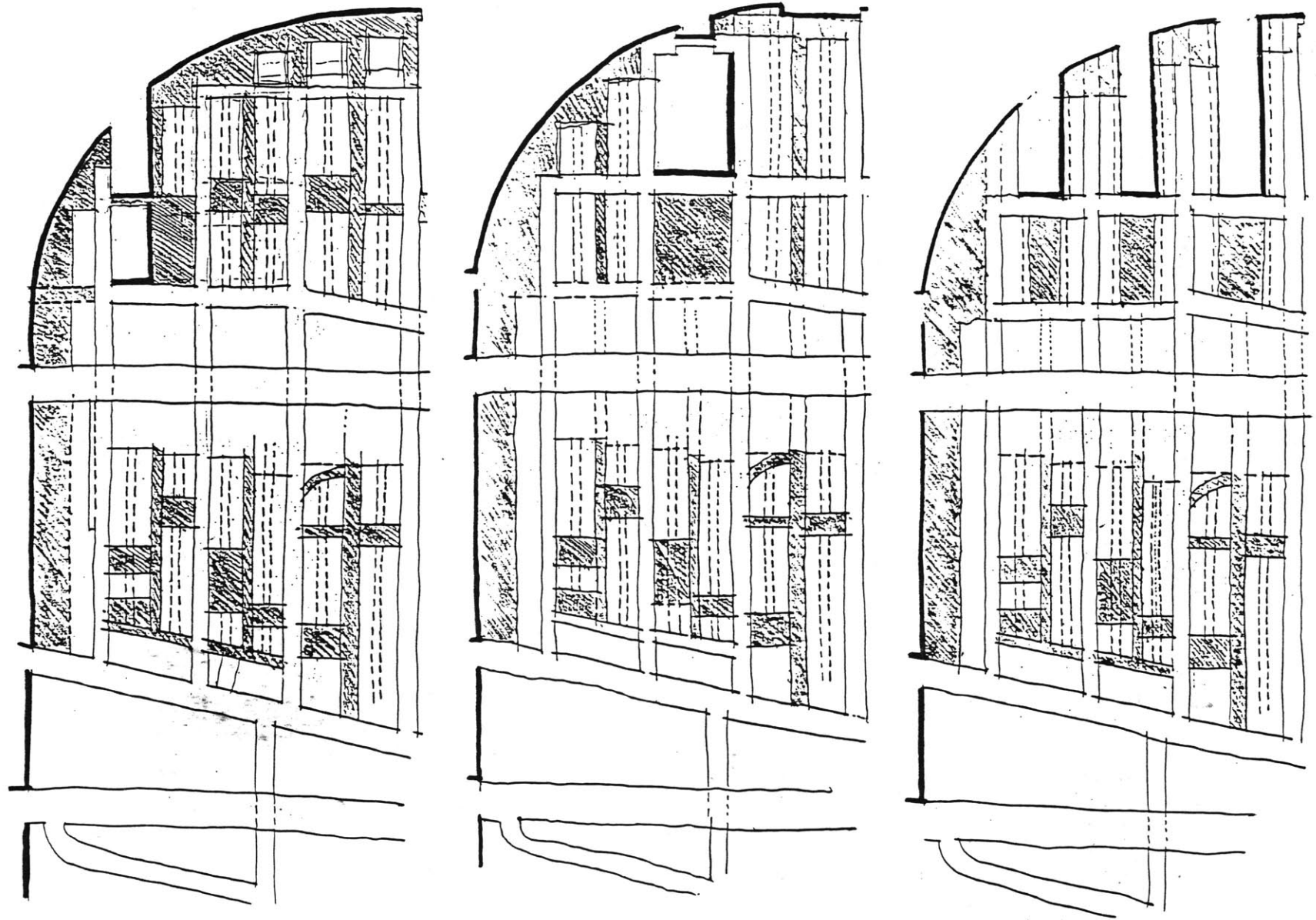


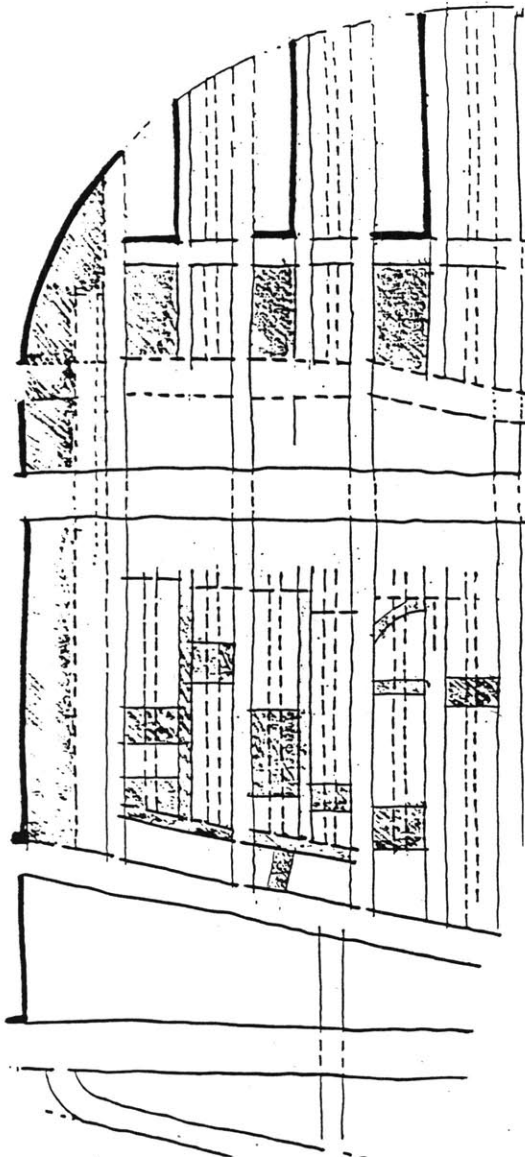
PART 5 -EXTENDING THE WAREHOUSE FABRIC

Thus far, it has been possible to analyse an existing fabric as a comprehensive layering of elements, to suggest how a set of basic rules or principles have interacted with exigencies of site and program to produce the present configuration; and to propose a set of rules and conventions which might shape its transformation. This chapter starts with the previous set of transformations as given and explores their further transformation and adaptation on the neighbouring sites to the north and east of the warehouses: the Fan Pier and the railway lands.

It has already been suggested that the present scheme under review for the Fan Pier (and, by implication, its twin proposal on Pier four), while perhaps a reasonable piece of urban design and planning in itself, is nevertheless a potentially negative intervention in terms of the overall cohesiveness and viability of the city as a whole. The proposition being put forward here is that a richer, more intensive street life could be supported by developments less object-like, more connective and grade-oriented. Such developments should reinforce the existing grid and street hierarchy rather than compete with it as separate islands of activity. The question being raised is: in developing the piers and railway lands, should something completely new be developed or is it possible to extend and build on what is already there? This design investigation takes the latter position. The density and tightness of the warehouses, with their varied potential for being inhabited, seem to point to some prototypical approaches to housing design which are worth pushing further.

Fig. 5.0.1 Opposite: view of Fan Pier, with Commonwealth Pier beyond (*The Boston Phoenix*).





Figs. 5.1.1-5.1.4 Capacity studies for expanding the warehouse district to the piers.

5.1 Measuring the Capacity of the Extended Site

As a first test of the proposition, it is possible to imagine extending a contemporary version of the warehouse tissue all the way across the site. Such a tissue could stand for an integrated working/living environment, an intense neighbourhood of offices, shops and housing. The section through the north-south blocks off Congress could simply be pushed north to meet the water as an extruded section.

While this may, at first, seem to be a crude exercise, the results are quite revealing and useful. First of all, it becomes very easy to measure the capacity of the site in terms of built volume and the scale of streets and blocks. For instance, it can be noted that, in extending the north-south streets out to the water (or to the limiting line of the permitted bulkhead beyond), a line of new blocks between one and one and a half times the length of those north of Congress, can be created. The undeveloped site, measured in terms of these approximately 230'x 700'+ blocks does not seem so vast, especially when compared to other parts of the city with regularized grids. Compared with the residential area of South Boston, with an average block size of 250'x 500', the combined old and new fabric of the Fort Point Channel District is a small fragment. In fact, if the complete 1,200 foot strip of the warehouse district, from the harbour down to Dorchester Avenue is taken as a whole, it constitutes an area scarcely larger than Beacon Hill, one of the most dense, grade-related neighbourhoods in the city. This suggests that, if the result is not to be a series of isolated developments, it is essential to link the housing and other activities of the whole site under study into a single connected system.

A second point stemming from this 'capacity' experiment: a very dense fabric can be generated which, while maintaining a high degree of public access, is still comparable in density to highrise solutions such as that proposed for the Fan Pier.⁽¹⁾ The primary difference between the net result of the proposed developments and their 'thematic alternative' is in the latter's much higher density of publicly controlled streets and walkways. By addressing the organization of the expanded site on a comprehensive scale, it is possible to establish the framework for incremental, small scale development, at once more autonomous and yet more publicly accessible.

The Boston Wharf company could have established the warehouse district as a large compound with controlled access, a self-sufficient organism within the city. (Such is the nature of Island schemes like that proposed for the Fan Pier.) Instead, it developed the framework for a whole series of independent warehouses and factories and carefully knitted its infrastructure into the surrounding city. This framework was continually adapted to new requirements over a fifty year period. The challenge is to see whether or not architects and

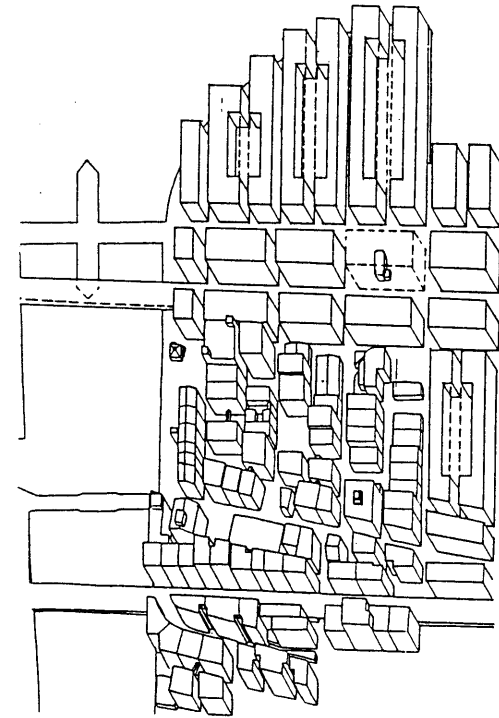


Fig. 5.1.5 Axonometric capacity study for expanding the warehouse district.

(1) As a rough calculation, a residential fabric based on the transformed warehouses, with an average height of 6 floors, represents a coverage of 3.7 F.A.R. while office blocks based on the scale of the Summer Street buildings can be considered to have a density of approx. 8.1 F.A.R. With these figures in mind, the average density shown in the diagrammatic plans and axo are estimated to be 4.7 F.A.R. The initial Pelli scheme proposed the creation of some 3,386,000 sq. ft. of inhabitable space on an existing land area of 694,000 sq. ft. -or almost 4.9 F.A.R. Needless to say, both Pelli's scheme and the one proposed in this study would end up with lower densities after all the demands for public rights-of-way and open space were settled.

planners can establish the systemic conditions that would enable a public authority to adopt such a dynamic approach today.

One other implication arises from this exercise, relating to the general organizational characteristics of the potential expanded infrastructure. The grid as an extended system suggests maximizing north-south connections which are local, by nature, and minimizing east-west connections, which tend to be regional and arterial by nature. Such a grid would match two potentially conflicting goals: that of creating a protected, viable local environment and that of creating an infrastructure well connected with the rest of the city.

5.2 Distinguishing Bands of Different Character Within the Site

As a test of capacity for the site, the extruded warehouse tissue has its inevitable limitations, for the site is fixed within a larger context of a central urban area with its waterfront, central business district, road infrastructure, etc. As soon as the warehouse fabric is laid over the actual conditions of the site, a whole new set of factors arise which call for its modification and articulation.

At present, the site stands virtually erased of evidence of its railways and freight handling facilities from the turn of the century. A Mariner's Chapel, the Pier Four Restaurant, one abandoned rail shed and a lobster outlet are virtually all the buildings that remain. Northern Avenues cuts across the middle of the open site, leaving enormous commuter parking lots on either side. The Fan Pier, itself has been modified in recent decades. Of its two deep slips, the

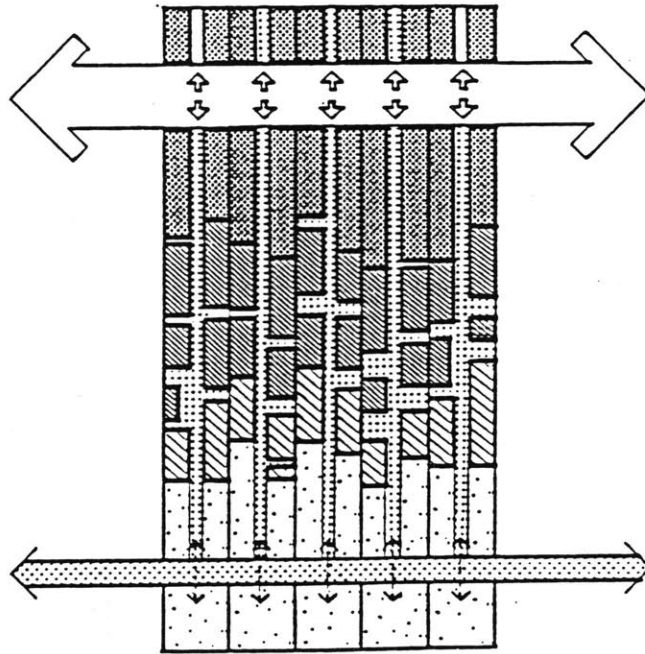
western one has been filled in and the eastern one has been partially infilled and left disused.

On the books is a proposal to rebuild the Northern Avenue bridge. The idea is to preserve the old one as a public tourist attraction and to completely realign the street, pushing it south to within a hundred feet or so of the old warehouse fabric. It is envisioned that it will take the heaviest east-west traffic across the site, linking downtown with the new World Trade Centre on Commonwealth Pier, the renovated fish Pier and new industrial developments further east. At the same time, it is expected to become the axis for major new office expansion as an eastward extensions to the rapidly expanding downtown core.

If the Northern Avenue extension, together with the general programmatic goals for high intensity office, residential and hotel developments, as proposed for Piers One to Four, is accepted as a given it becomes possible to characterize three generalized zones of development running east and west across the site. The first band, that of the realigned Northern Avenue, will end up being the most intensely developed strip of office blocks in the Fort Point Channel District. It will therefore have a more regional character than the surrounding streets. The next band, following the old alignment of Northern Avenue, south of the piers, could be imagined primarily as a residential zone, with many of the physical attributes developed in the warehouse tissue to the south. The old street alignment itself could be held in reserve as public open space threading between the residential and office fabric. The third band would be a series of slips and piers, with major hotels and restaurants, and more housing. This last zone would perhaps be one of the



Figs. 5.2.1, 5.2.2 Above: plan of an Austrian village, and right: diagram of the same village showing parallel bands of decreasing density (see Hertzberger).



most active in terms of street activity. Here, the presence of harbourfront activities would be most strongly felt.

5.3 Rules and Conventions for an Expanded Building Typology

On the basis of this generalized notion of 'banding', it is now possible to generate a series of new prototypical sections that will be the basis for elaborated rules and conventions for building on the expanded site. Likewise, it is possible to think of the warehouse district cross section undergoing a series of modifications which will result in a gradual loosening of the fabric as it moves towards the water. The plan and diagram of a village high street in Austria,⁽¹⁾ shown here, are included as an 'ideogram' for this last idea. In the village plan, there is a strong linear continuity for each house lot, running from the main street, through the house and back buildings to a deep garden. At the same time, there is a horizontal continuity from lot to lot, reflecting these functions as a series of bands of decreasing densities. It therefore provides an interesting parallel to the general behaviour of the thematic fabric proposed for the Fort Point Channel.

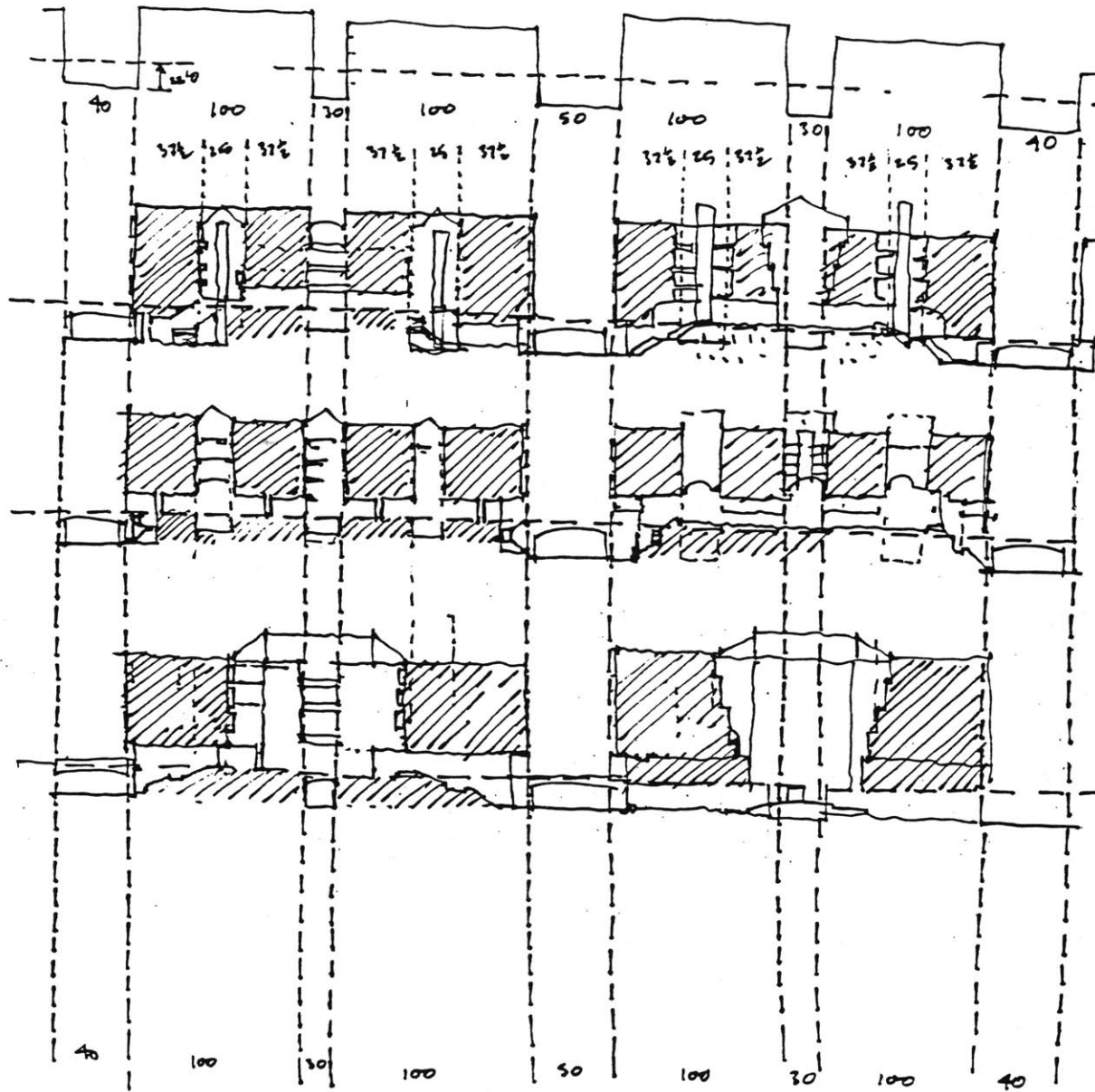
(1) taken from Herman Hertzberger: *Het Openbare Rijk*.

5.3.1 The Northern Avenue Office Corridor

The first sections represent cuts through prototypical office blocks lining the new Northern Avenue right-of-way. The proposal here is to restrict the height of these buildings to within a floor of the tallest existing structures in the area, which, at present, do not exceed ten floors. Here, in order to allow sufficiently large office complexes to be built, they would be able to expand to the entire 230' plus width of a given block. It is suggested that office blocks could be made up of smaller buildings clustered around courtyards or atriums. The perimeter office blocks would generally be restricted to 60' in depth, the equivalent to the maximum depth of a single loaded residential block. The result would be very generous interior spaces. An alternative would be to restrict the total width of office space to 120 feet across any

one block, thus encouraging the creation of complex arrangements of smaller atria alternating with office blocks. Both these alternatives are expressed in the sections.

(N.B.: In this and following sections, the profile at the top of the sheet is based on the dominant rhythms of the existing blocks of the warehouse district. These sections therefore assume the new north-south streets will be extensions of the existing ones.)



5.3.2 The Residential Extension

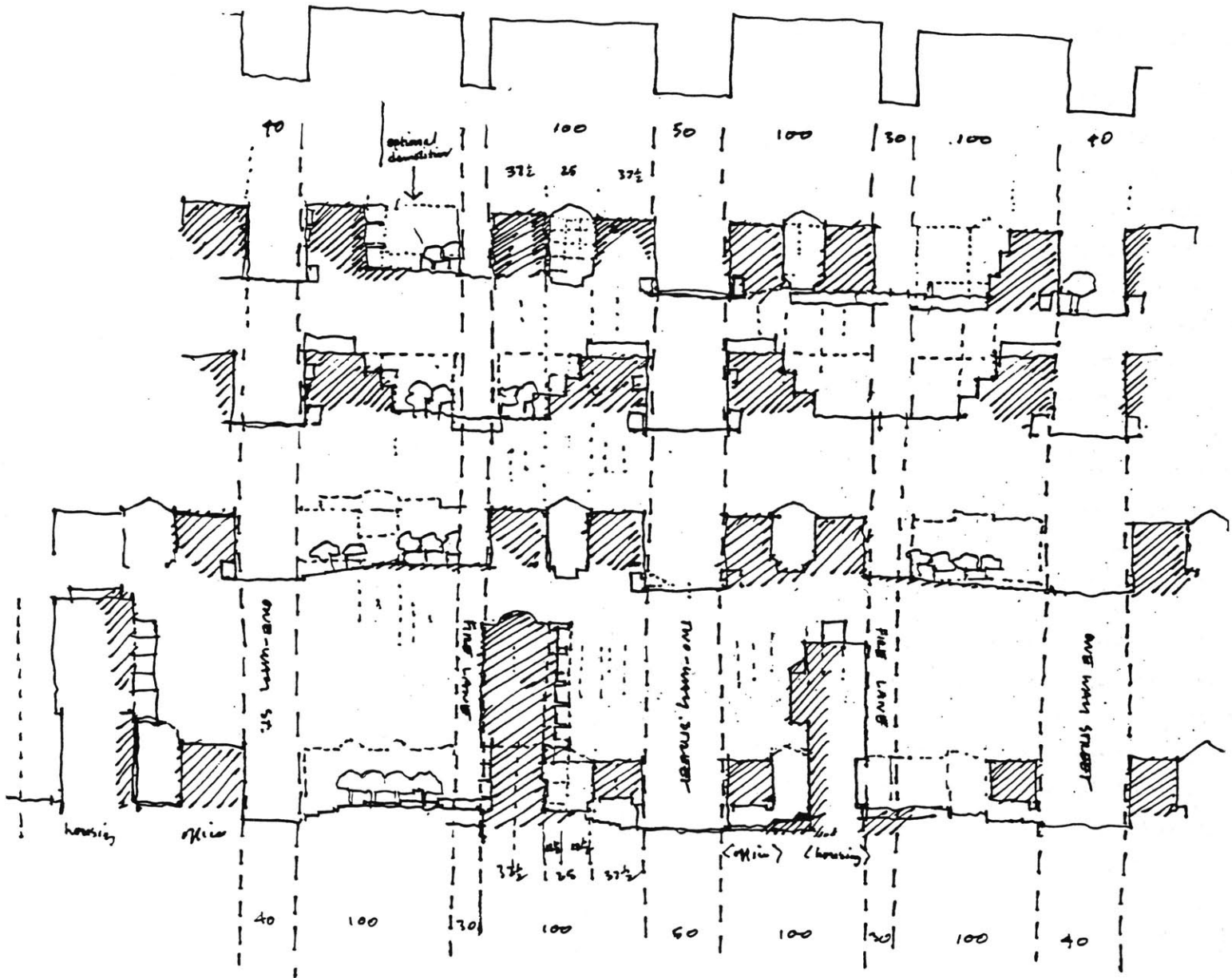
These sections are cut through the predominantly residential zones between Northern Avenue and the waterfront. On this part of the site, it would be possible to pick up on the scale and configuration of housing developed in the warehouse district. It is proposed that the overall configuration of these blocks would allow more open space at grade than do the existing warehouse blocks. Thus, there would be more space in the interior of the blocks for private gardens and pedestrian walkways.

The maximum built-up section for any one block would allow one 100 foot deep section using light courts to layer two rows of dwellings; a minimum exterior garden width of 70 feet; and a 60 foot deep block of double aspect apartments. More typically, a block section would consist of two 60 foot sections, each lining the street. Assuming a block

width of 230 feet, this would leave 110 feet for gardens and walkways in the interior of the block. The constraints in each of these sectional arrangements would be a minimum height requirement of 52 feet along the street edge before setbacks, and a corresponding minimum frontage, to be negotiated for each block. An overall density requirement would be combined with these restrictions to control building heights; structures over six storeys could be subject to special review. To maintain a certain density of entry points, the length of any one residential block with shared services, etc. would be 200 feet. As in the warehouse district, parking would again be accommodated a half level below grade, with a landscaped deck above, accessible to emergency vehicles but otherwise restricted to pedestrian use.

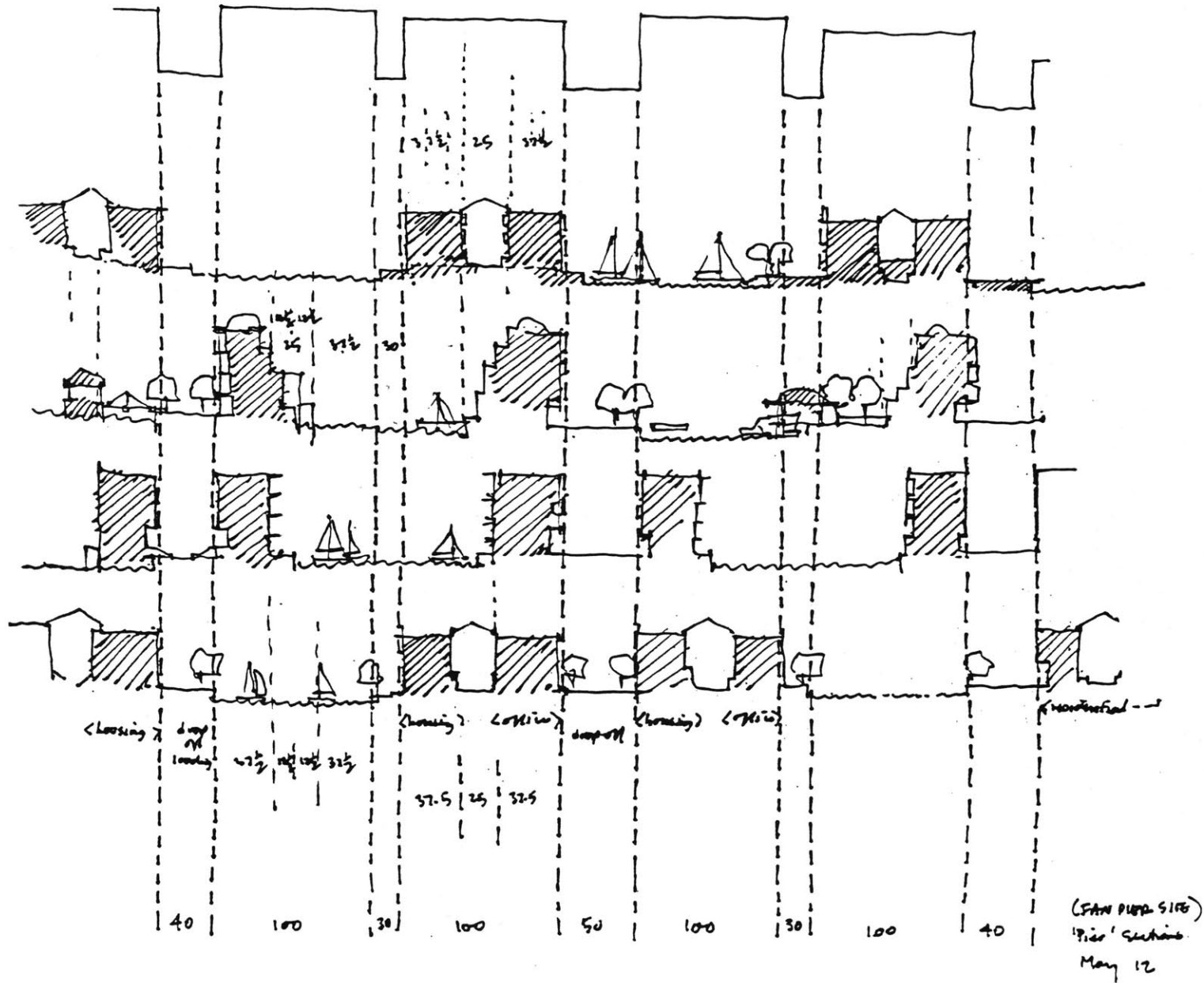
While the intention here would be to reinforce the residential scale of the north-south streets, it is

assumed that these blocks would be subject to wider variation within the block interiors and towards the northern end where they reach the waterfront. One of the sectional studies shows how, where the blocks are wider and where special public features like extensions of the water into the site occur, certain portions of the site could be used for the erection of 'non-thematic', tall, but thin apartment towers.



5.3.3 Residential and Hotel Piers

These sections are cut through the piers, themselves. It is proposed that each north-south street be treated as a pier and 'wharfed out', even beyond the present seawall to the maximum bulkhead line some 200 feet from shore. Thus, each street could be built up on one side, the opposite side becoming a sea wall directly edging a slip. The minimum stretch of water between two streets would be 100 feet. Building sections could take the form of 100 foot sections with central light courts or single loaded residential blocks of up to 60 feet, sometimes with garden terraces. Again, as in all the sections, parking is provided in a single level below grade, and lined, where possible, with at least 30 feet of inhabitable space.

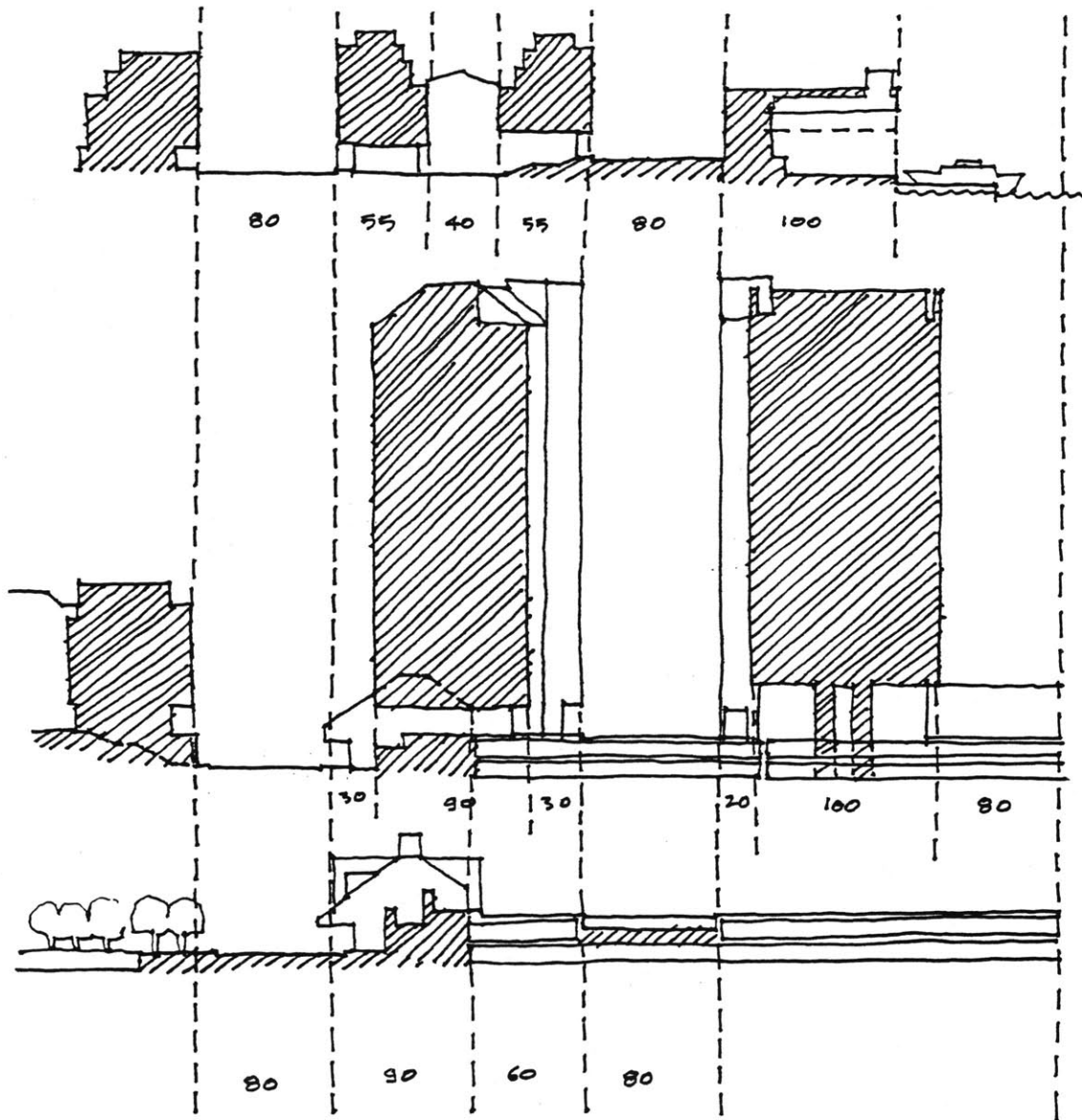


5.3.4 *The Eastern Transitional Edge*

The eastern edge of the expanded site, between the Boston Wharf lands and the western edge of Commonwealth Pier, presents a new set of circumstances which must be accommodated through modification and expansion of the thematic field. The presence of Commonwealth Pier introduces problems of scale, access and level change to the overall site considerations. As the new World Trade Centre, it will attract large crowds to its exhibition halls and conference centre. It will also spawn new commercial development and generate heavy parking and public transport demands. It also reintroduces one of the basic organizing elements of the site: the two-level infrastructure. The main upper level of the pier structure is connected by a long elevated street (Viaduct St.) back to the Summer Street spine. Ideally, the proposed infill fabric for this area should

make some kind of positive transition between the quieter residential areas and this massive commercial development.

In Part 3, one potentially useful variation of the residential section was introduced to deal with a narrower block within the warehouse district. This was a deeper block which organized its lower floors as offices around atria and pushed residential accommodation to the roof. This block might again be introduced in transitional areas between changing scales of building and changing street levels.

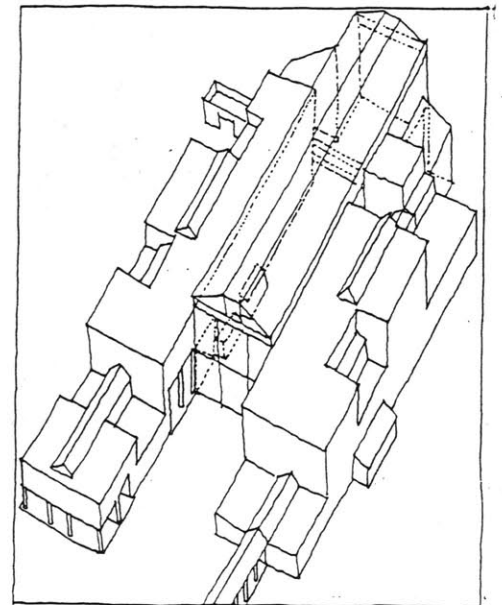
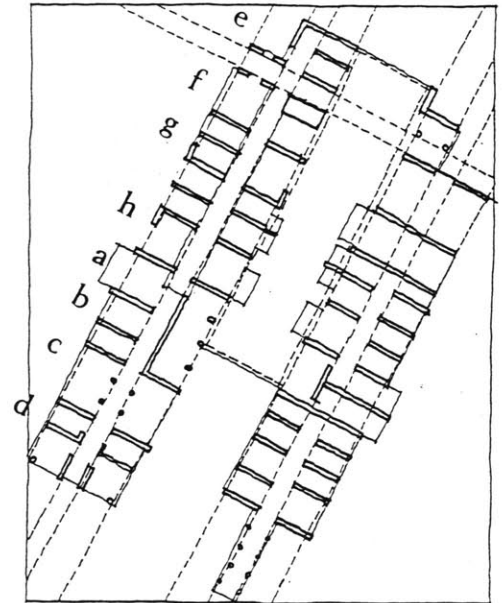
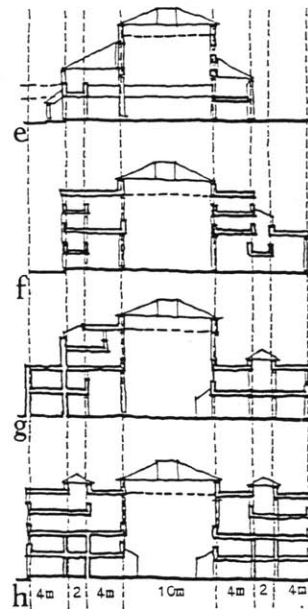


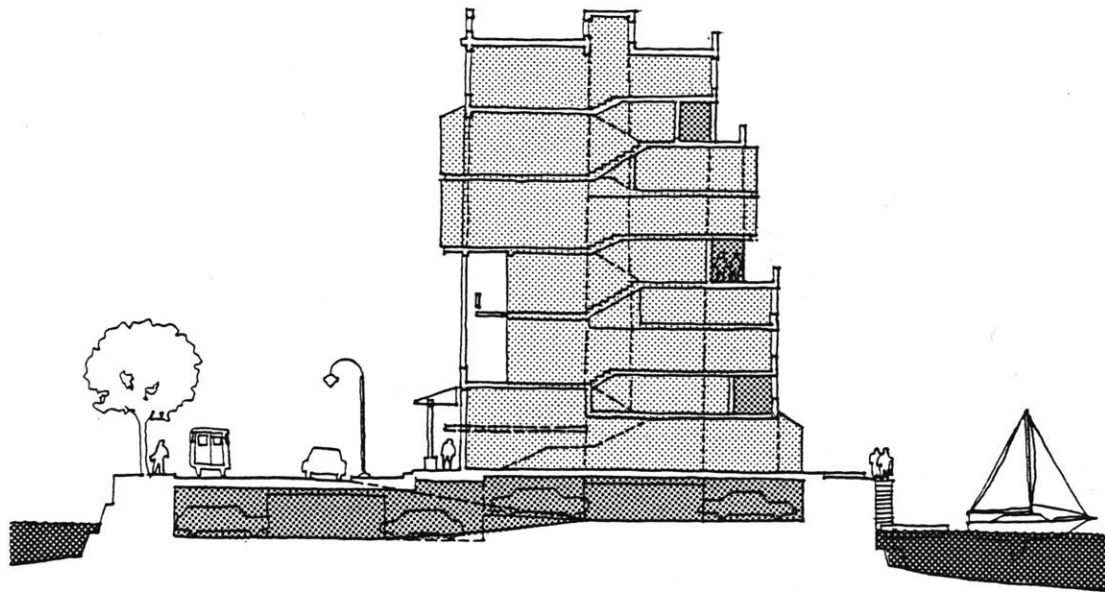
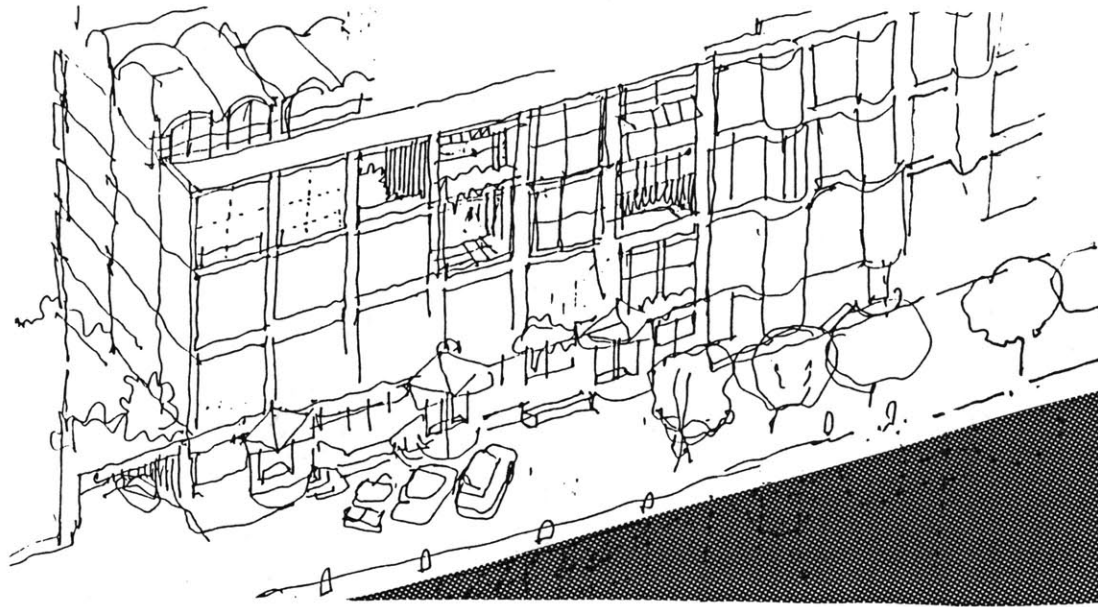
5.4 Building Blocks for the Expanded Typology

The following drawings, while still of a prototypical nature, give a more detailed sense of possible building types which would work well with the block dimensions being explored in the sections. The new building types represented on the following pages can be considered to expand and evolve from the initial types explored in Part 3 (also represented on this page).

5.4.1 Hotel or Residential Atrium Types

A series of diagrams suggest modifications to the 100 foot warehouse section. If this is imagined as a linear system not restricted to the 100 to 200 foot maximum of residential blocks, the light court becomes a galleria. As a prolonged and elaborated section, extending the length of one of the piers, this could easily provide a pattern for a hotel, fitting in comfortably with the established thematic field.



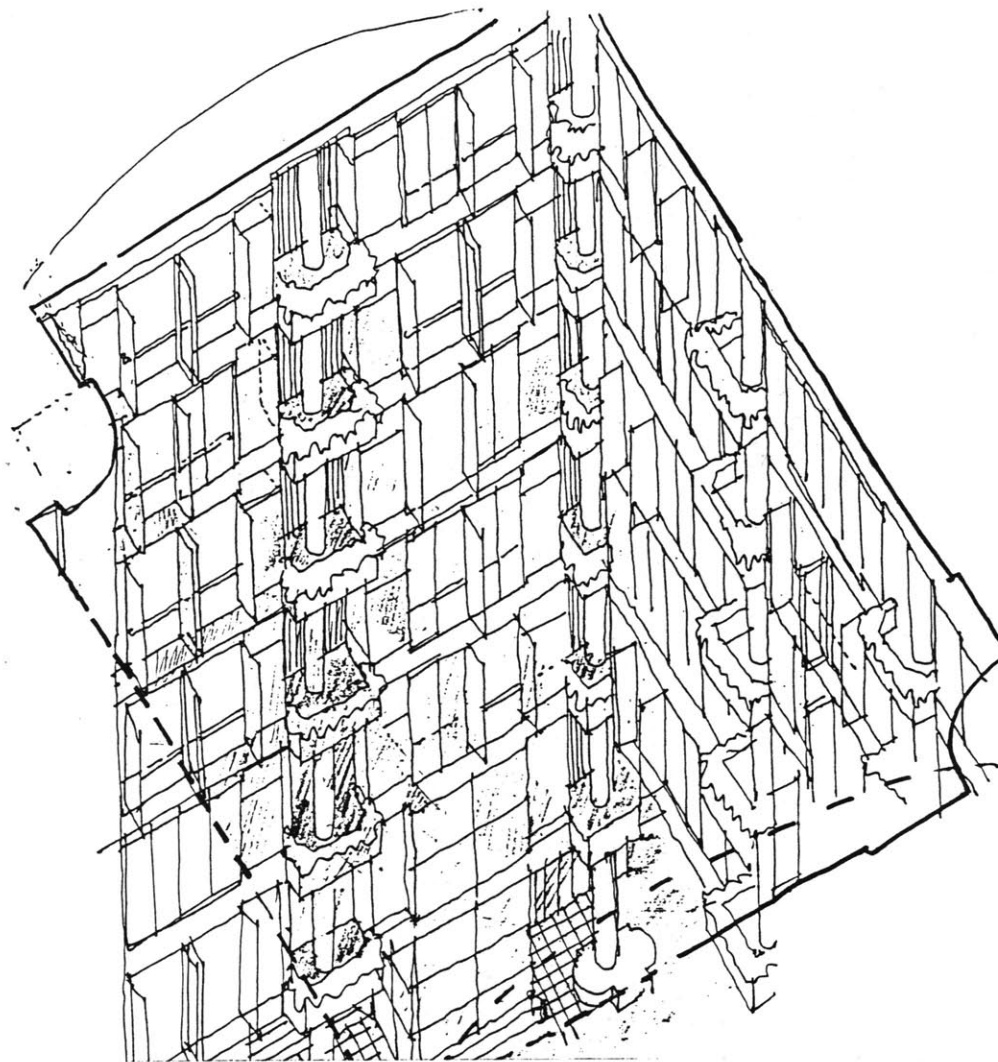
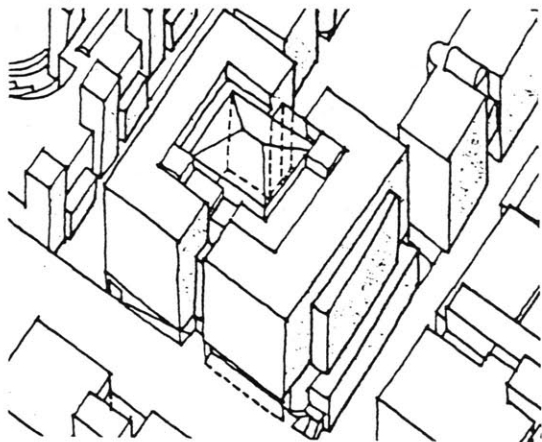


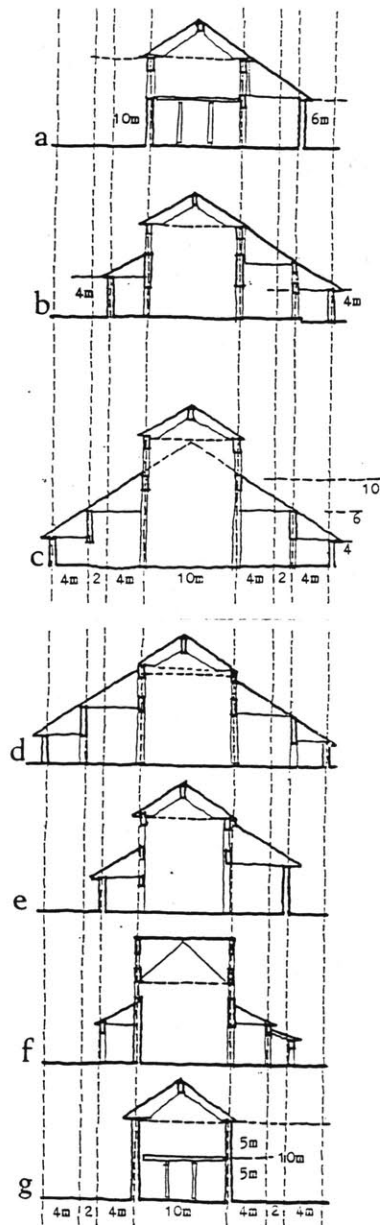
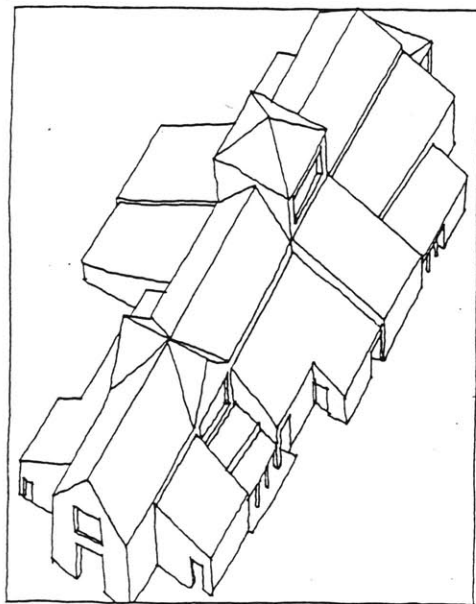
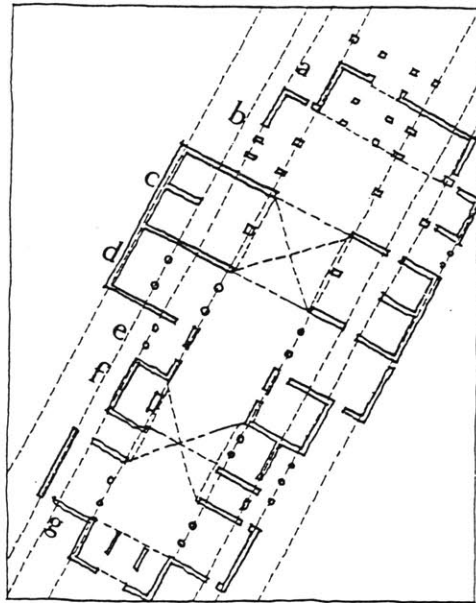
5.4.2 Single Loaded Residential Blocks

The detailed drawings here show the typical 60 foot deep residential block which could be used in many places around the site. The 12 foot floor-to-floor heights of the warehouses would be maintained in the front half of the new prototypical section as one-and-a-half-storey living spaces facing the street. The rear half of the section would employ more conventional residential floor heights, thus setting up a split level arrangement through the building. Such a section would allow a skip corridor arrangement and concentrate a greater number of dwellings on more intensive access.

5.4.3 Atrium Office Block

The sketches here show the kind of lowrise office block which could occupy sites approx. 200' X 230' lining Northern Avenue. The typical height of such blocks would be 9 or 10 stories, including a service and parking podium (below the grade of Northern Avenue). For the purposes of this investigation, they are all assumed to have either courtyards or atria, to let natural light into the deep section.





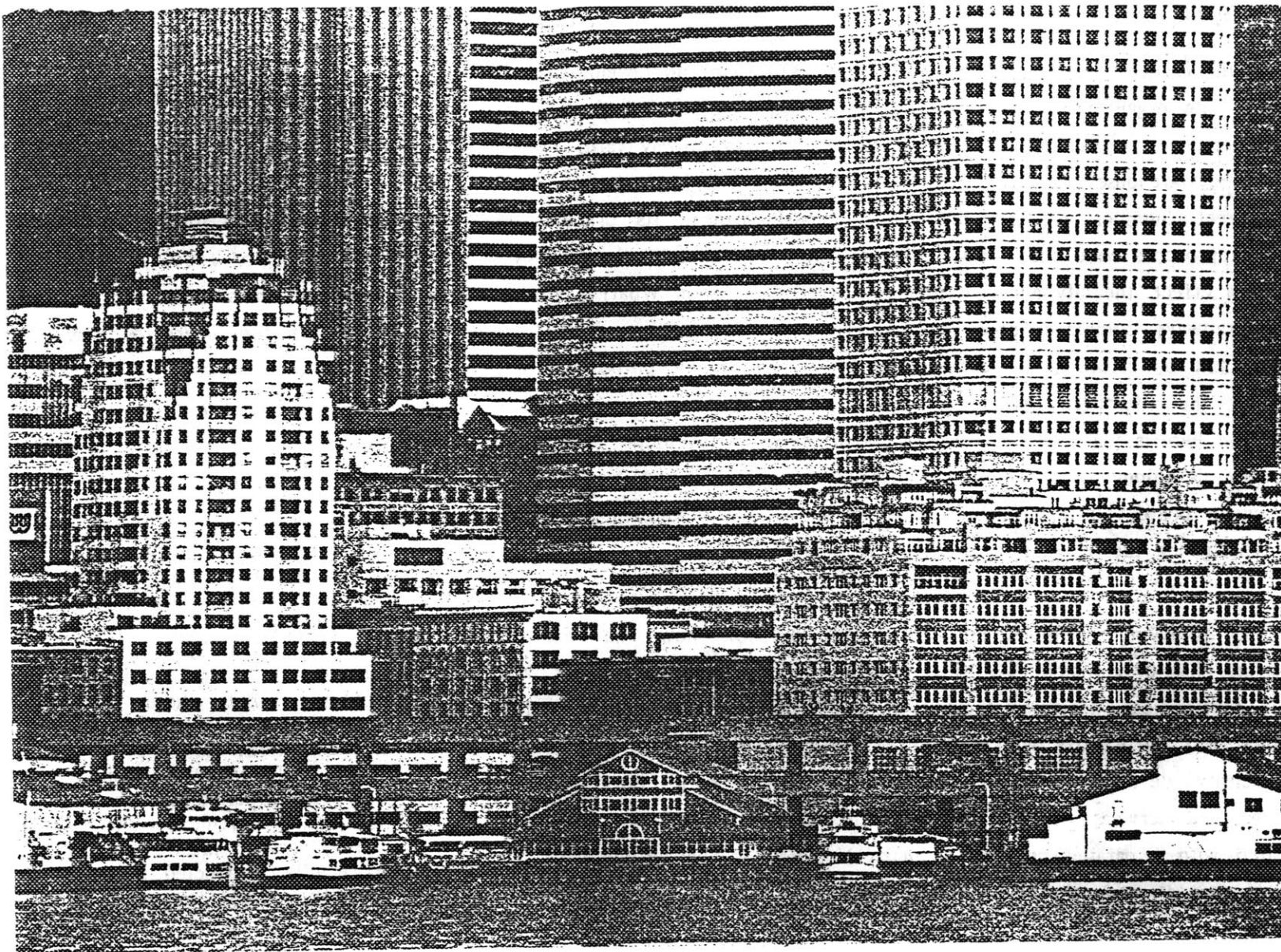
5.4.4 Hall Section

One final prototypical section is introduced as a transitional type to complete the range of the field needed to accommodate the variety of anticipated functions and conditions. This is a kind of hall section which could accommodate a market, boathouse, wholesale and specialty shopping, restaurant complex, etc. In this exercise, it will be used to accommodate changes in level between the Commonwealth Pier and the warehouse fabric. It will also be used to define potential shopping spines and working edges of the waterfront. As such, it will signify, volumetrically, 'hinge' areas of the site.

*5.4.5 A Synthetic Image of the Types:
The Seattle Waterfront*

The image of the Seattle waterfront, shown here, is a fortuitous one because in it, one begins to see all the possible components of an expanded theme at work together. If the wall of office buildings at the back is taken to correspond to downtown Boston, with its solid mass of corporate towers, all the foreground elements can be used to represent equivalent elements summarizing the new fabric proposed for the piers and railway lands of the Fort Point Channel, the foreground to central Boston. The tallest of the foreground buildings, an apartment tower (probably, in this case, a converted office block) might represent one at the head of one of the slips penetrating the Fan Pier; the massive warehouse block is of the scale of the proposed mixed use office and residential blocks in the expanded thematic field; there are ferry

terminals which correspond to the 'hall' section and even turn-of-the-century warehouses in the rear. Together, they form a cohesive, tightly-knit fabric which is a world quite distinct from the hulking office towers behind.



5.4 Extending the Two-Level System

In the earlier chapters which explored the preparation and development of the basic site organization and fabric, it was revealed how the basic conflict between east-west expansion and the massive north-south railway yards to the east of the warehouses led to the development of the two-level system. As a raised street, Summer was not simply an isolated viaduct. Its bridges and ramped approaches were lined with buildings, taking advantage of the two-level access. In effect, the city and two private powers, the Boston Wharf Company and the railways, combined forces to create a street with its own architectural identity, still powerful in the cityscape today. In Part 3, a proposition was made for the intensified use of its section to provide more parking. The proposition here is that the city can and should be built not simply as a chain of private developments, reviewed and often reluctantly approved by the local development board, but that the city take an active part in designing the site and orchestrating the weaving together of the urban tissue.

The following examples are introduced to show how the idea of integrated city development, knitting building and infrastructure, public and private development, has been thought of and implemented in the past. The examples deal particularly with the development of two-level systems where high density development in city centres required careful integration of buildings and services at all levels of the urban infrastructure. They are compared with a parallel proposal to make Northern Avenue an elevated, but integral urban street in the new neighbourhood.

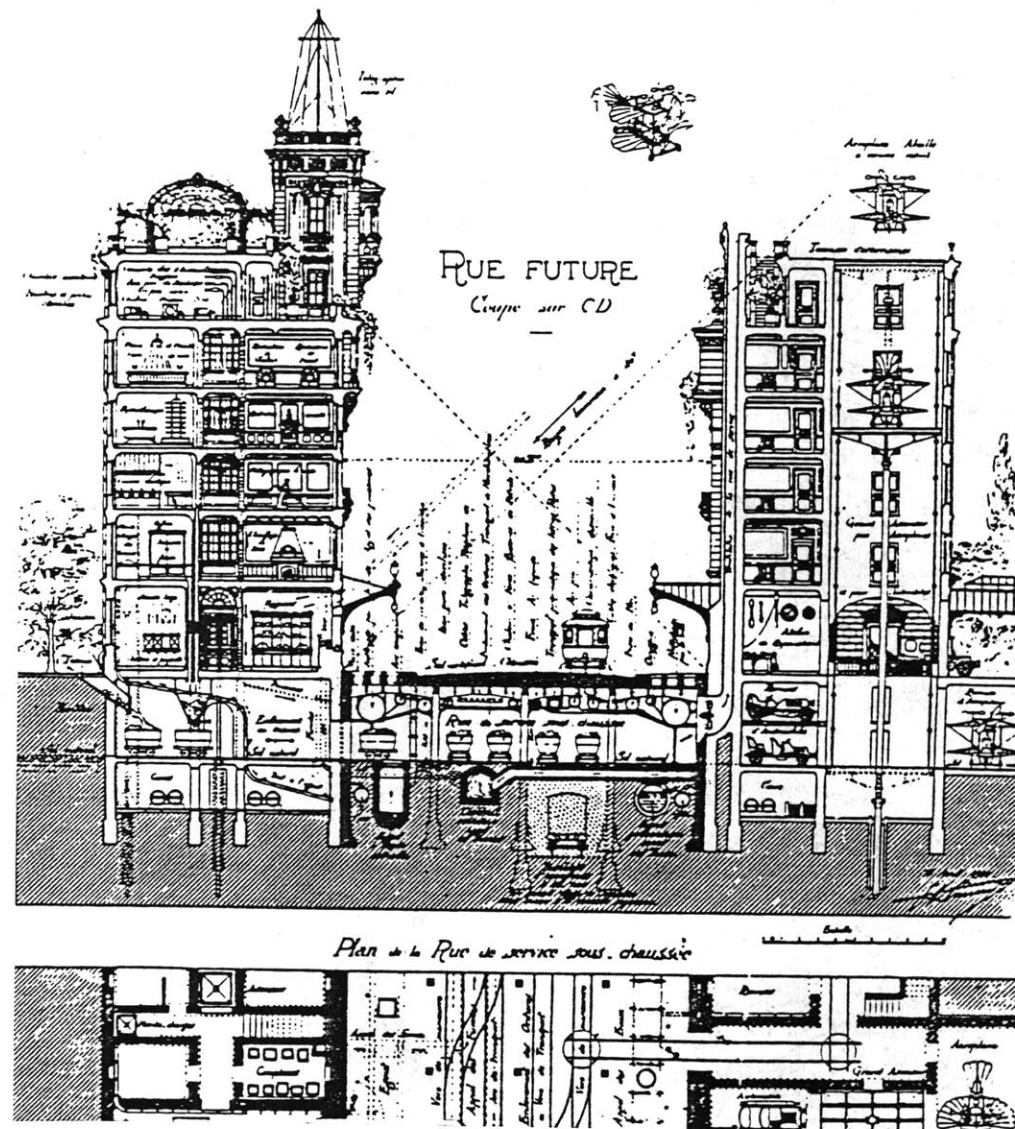
5.5.1 Paris Transformations; Street of the Future

In his 'Etudes sur les Transformations de Paris, Eugene Henard, an architect working for the French government at the time of the World's fair of 1900, proposes a series of interventions, both for Paris and the city of the future in general. In his diagram of the 'Rue Future', he proposes to build a 'bridge roadway' which integrates all necessary services in a parallel road below.

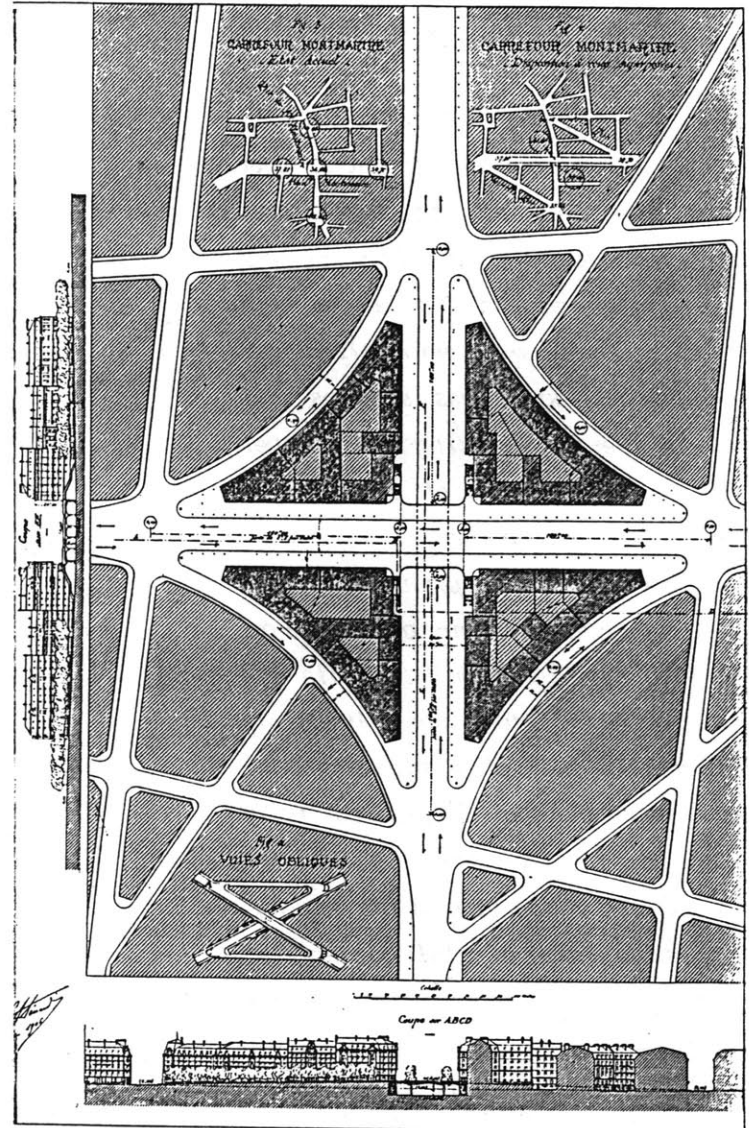
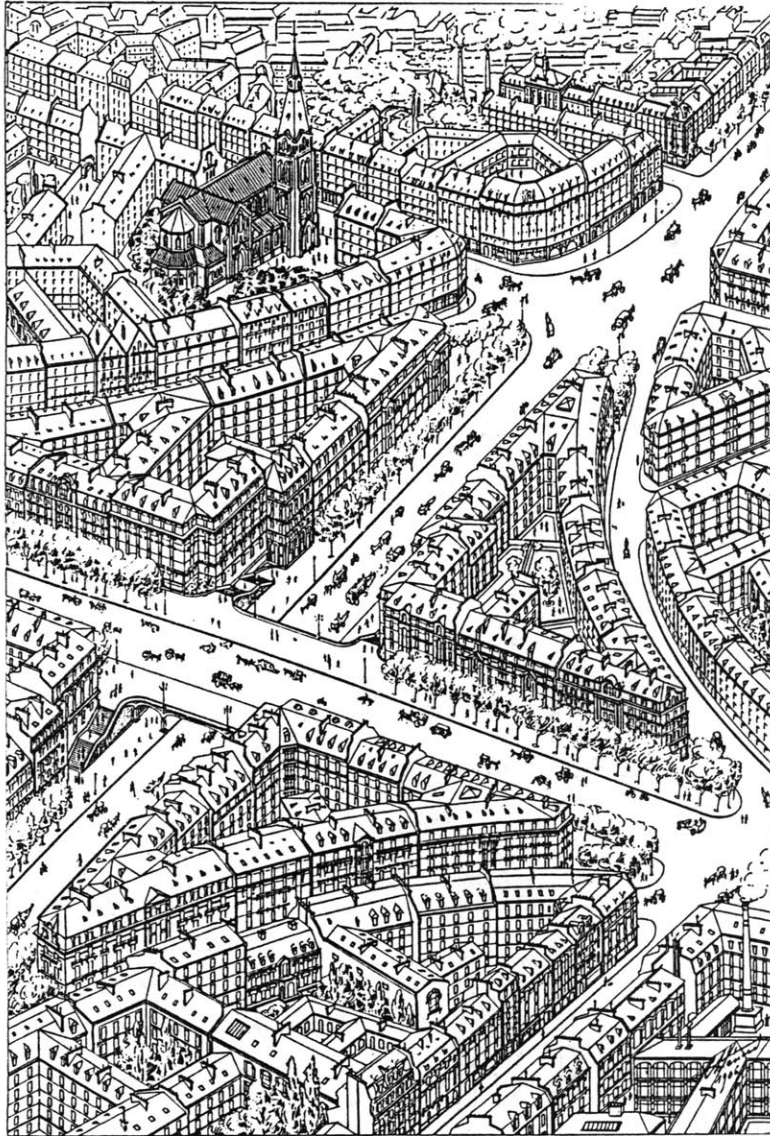
All of the evil arises from the old traditional idea that the bottom of the road must be on a level with the ground in its original condition. But there is nothing to justify such an erroneous view. As a matter of fact, if I were to establish as a first principle the idea that the pavement and carriage-way must be artificially constructed at a sufficient height to allow thereunder a space capable of containing all the installations needed for the

service of the road, the difficulties I have just pointed out would disappear altogether...⁽¹⁾

It is important to note that while the idea of the street was quite revolutionary, the idea of the architecture was not. The experience of the street was normalized by conventionalized access systems and state-of-the-art building. A further drawing of Henard's of a two-level intersection within the city is highly suggestive of the spirit in which the two-level system of the Fort Point Channel was built. While the plan of the interchange itself is almost like that of a superhighway, the image of the project carefully reproduces typical Parisian streetscapes of the turn of the century. here is the image of a fully integrated working city which maintains the continuity of the built fabric in the face of complex traffic problems.



(1) Wolf: Eugene Henard and the Beginning of Urbanism in Paris 1900-1914, p. 96.

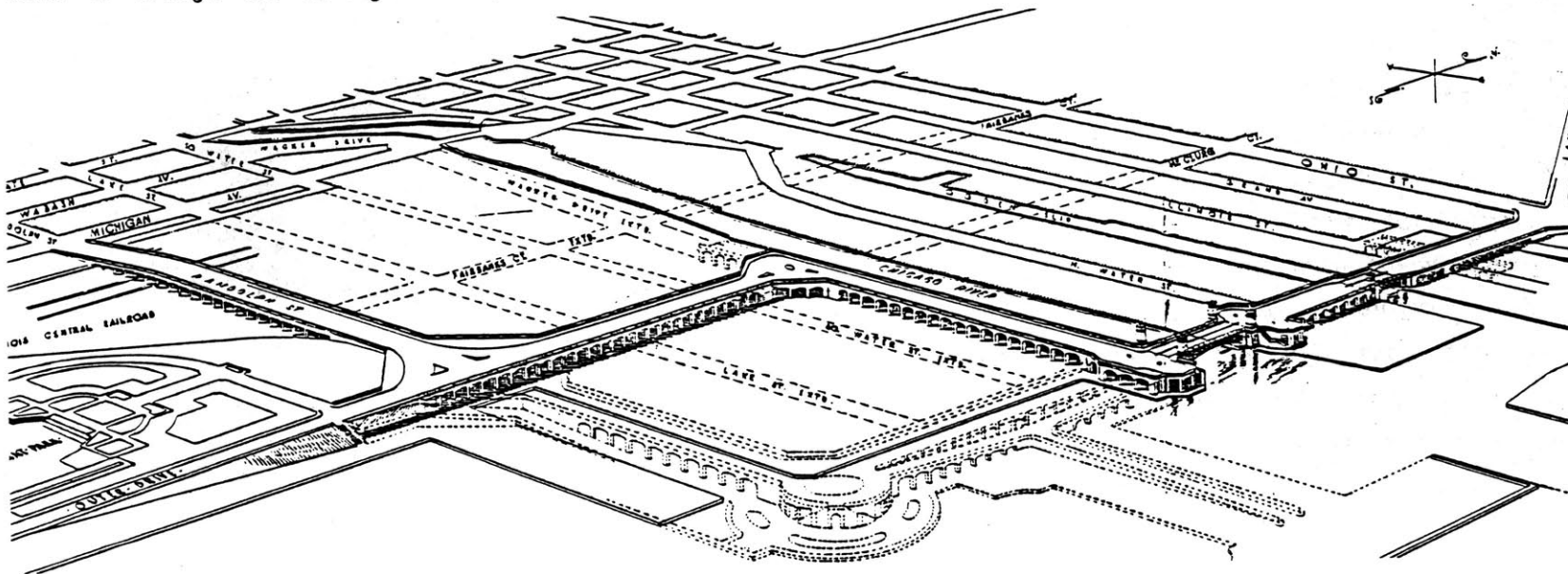


5.5.2 Chicago's Outer Drive

The drawings from "The Outer Drive. Chicago" by the Chicago Planning Commission show a similar attitude toward the building of cities being put into practice in the late 1920's, this time in an American context. This was a detailed and elaborate study of alternatives for extending a number of downtown, lakefront streets in a two-level system. The system was required to skirt or bridge the Chicago River,

the waterfront, the Illinois Central Railway, etc. and, at the same time, tie directly into the existing city grid. Not only did this road system have to weave itself into an already complex grid; it also had to provide for future mezzanine level roadbeds below, with their ramps and required clearances. All bridges, footpaths, and stairs were considered as carefully conceived architectural designs. The proposals even anticipate the infilling of the city grid, with

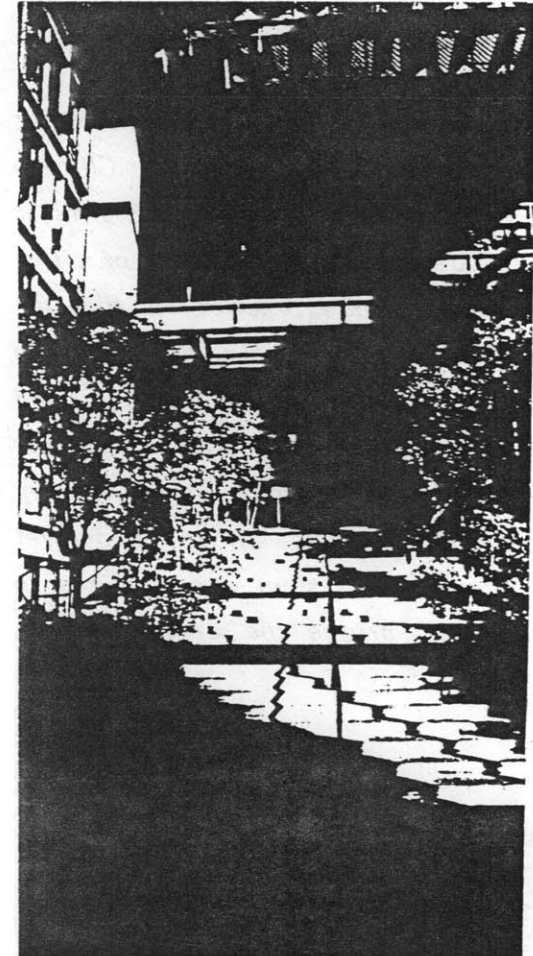
various buildings lining the edges to take advantage of the two-level access system. Rather than isolate parts of the city with great swaths of no-man's land in between, this approach took enormous pains to ensure continuity of development, both vertically and horizontally, so that what might be foreign and incompatible elements could work together effectively within the central core of the city.

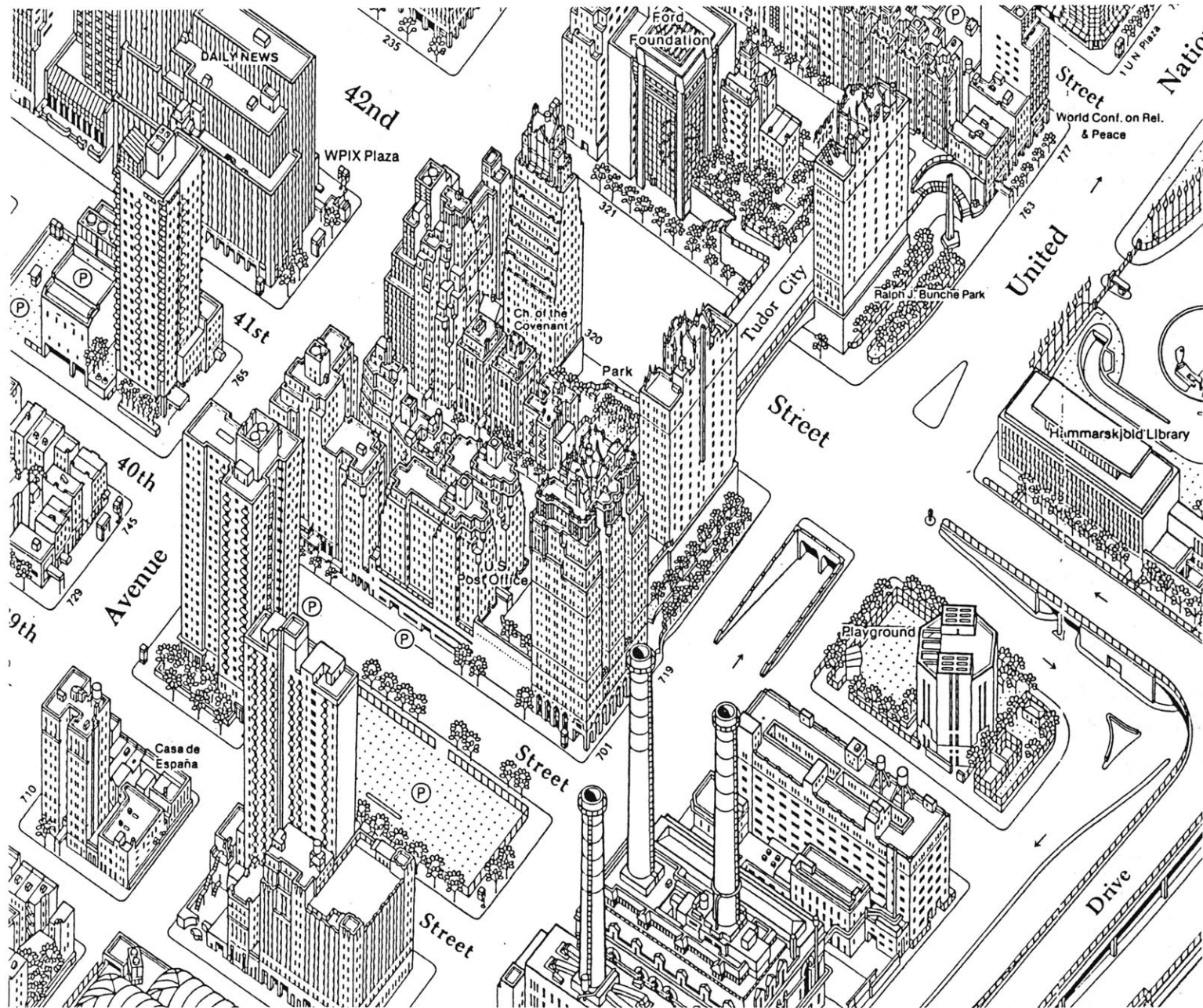


5.5.3 Tudor City and the Ford Foundation

A final example suggests how a carefully integrated system can continue to be adapted over time as development pressures change. Tudor City, New York, was built on the east side of Manhattan at about the same time as the Chicago Outer Drive project when the adjoining future site of the United Nations complex was a vast abattoir. As a residential enclave of apartment blocks, it raised itself up from the immediate context, deforming the city grid so that several blocks of quieter residential street could be formed in the heart of the city. By raising 41st and 43rd Streets, and taking advantage of the natural topography, it was possible to bridge 42nd Street and join four city blocks together. In the 1960's, when the Ford Foundation located its corporate headquarters on 42nd Street, immediately adjacent to the site, an

atrium building was designed, making a semi-public transition from upper to lower streets. Thus, both an interior garden and exterior stairs to parks on terraces above form a range of public and private access between different realms tightly composed within the city. It is highly suggestive of the manner in which public and private networks can be integrated to deal with complex juxtapositions.

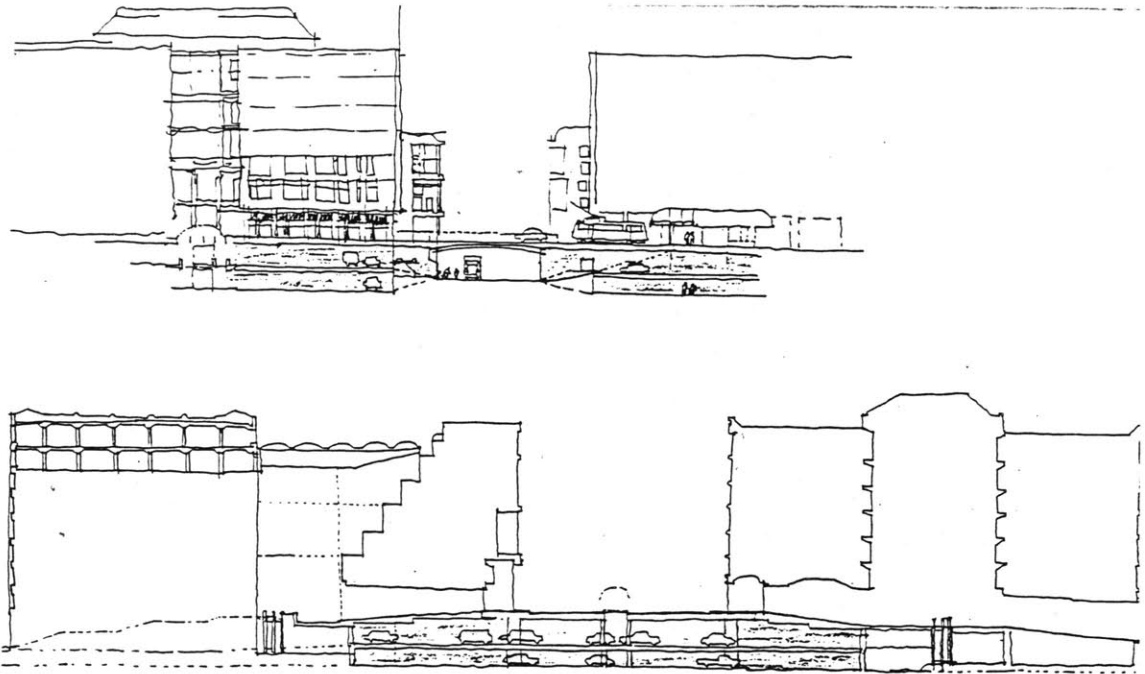




5.5.4 Northern Avenue as an Elevated Street

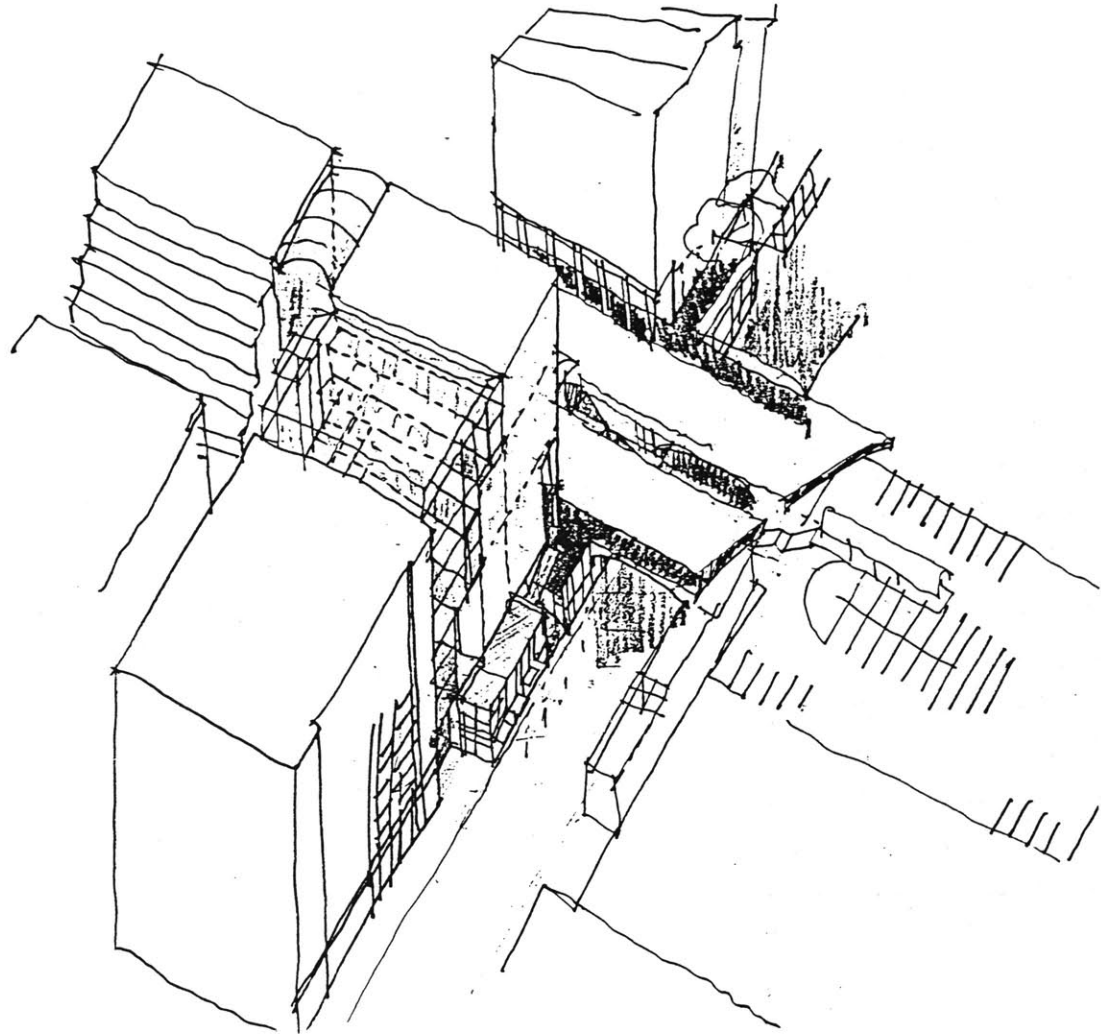
The last drawings in this chapter deal with the particular problems and opportunities presented by Northern Avenue as it passes through the residential fabric being proposed in the study. If the street is established at grade, it must inevitably set up a wide gap in the north-south tissue of the field. The office blocks on either side of the road will require parking ramps, loading bays, extensive lobby access and possibly setbacks from the neighbouring residential district. Traffic will be relatively heavy, and easily disrupted by too many intersections if all the north-south streets are allowed to go through to the waterfront.

It seems appropriate, at this point to return to the precedent of the site itself, to explore more fully the potentials of the two-level



system. The following diagrams characterize potential sections for Northern Avenue as a raised street, paralleling Summer Street as an east-west artery. As a giant viaduct, the connotations of a raised avenue are rather negative, but in light of the precedents which have been illustrated here, such a device might actually be thought of as a way of knitting the urban fabric together in a more intensive, integrative way.

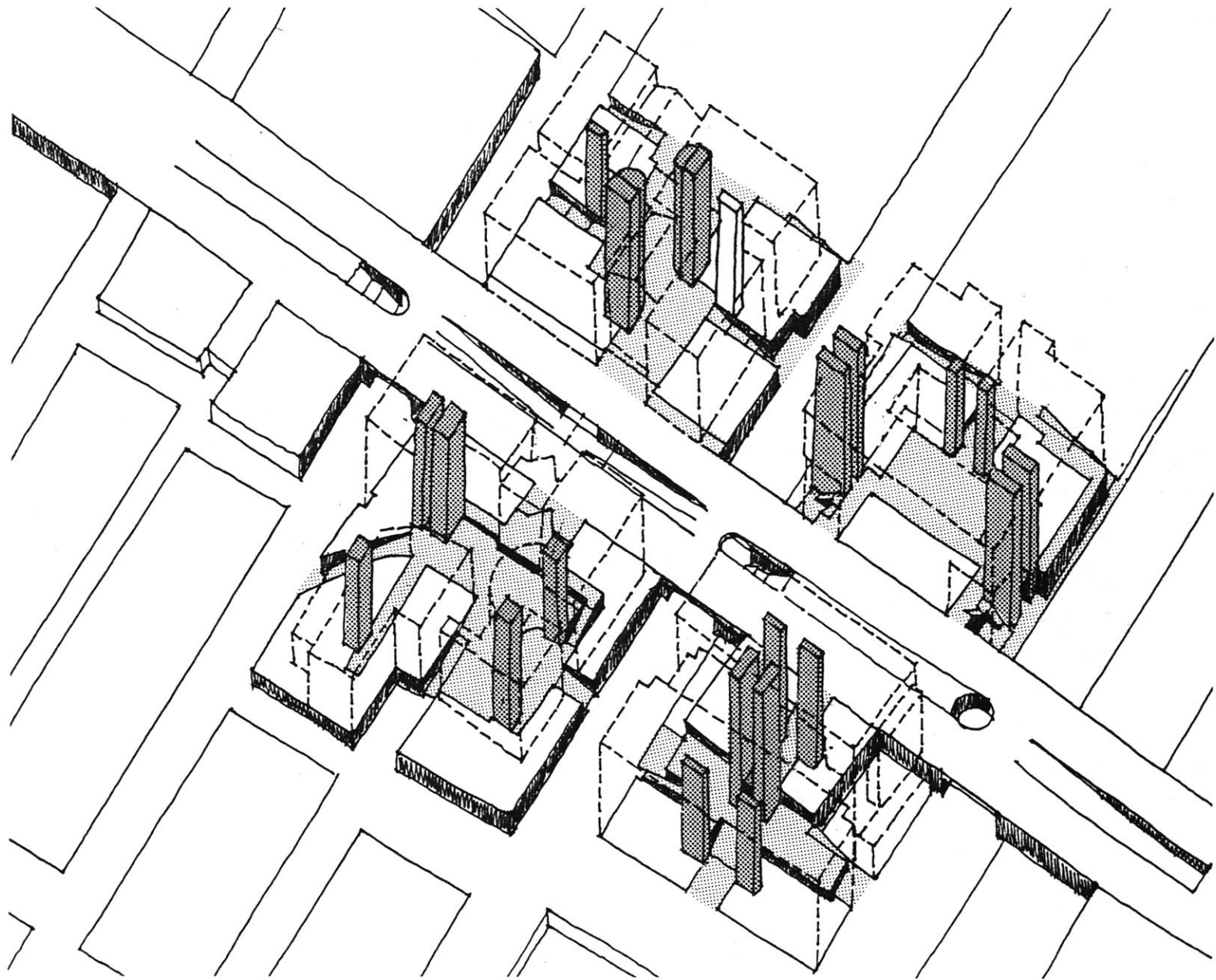
First of all, the raising of Northern Avenue preserves the north-south streets as quiet residential enclaves and reinforces their continuity from one end of the site to the other. Parking and service access are provided with a number of location choices. The raised street, as a piece of public infrastructure, could also accommodate several layers of parking in a 120 foot right-of-way. This parking might, for the most part, be accessed directly from Northern Avenue or from the busier

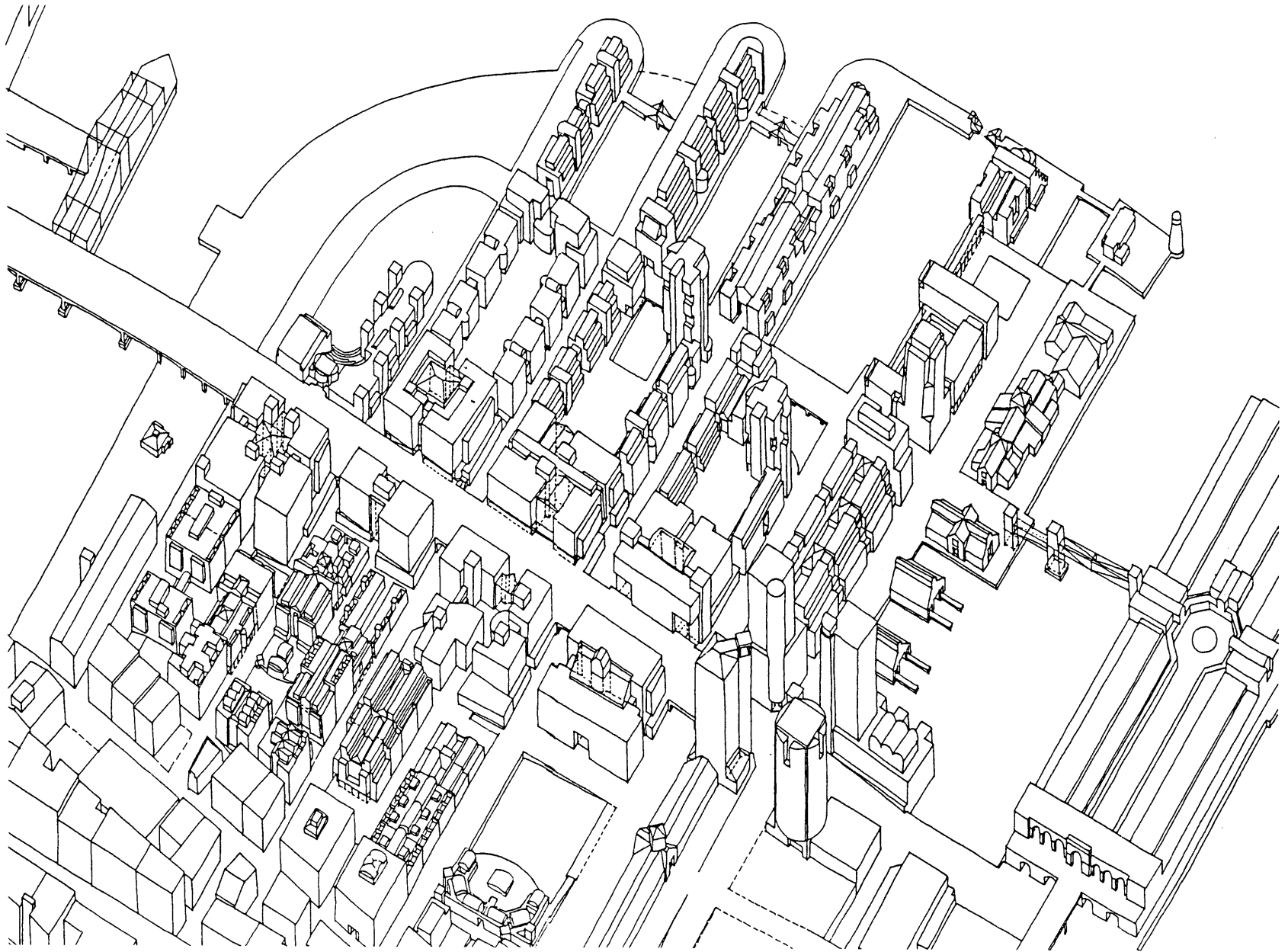


perimeter streets below at grade. Servicing could also take advantage of the two-level system and work mainly off Northern Avenue to preserve the residential quality of the other streets. Offices, or in some cases, mixed use buildings with residential accommodation as well would focus around atria which, during the day would operate, (much like the Ford Foundation offices), as public access between Northern Avenue, the mid-block pedestrian walkways, parking garages, and local streets.

While the Northern Avenue corridor would serve expanding office needs and would tend to be lined with lobbies, banks and larger restaurants for the noon-day crowds, the lower elevations along the north-south streets would be preserved for more local uses: rental space for small convenience stores, local bars, and in some instances, even workshops.

In certain locations, exterior stairs would make clearer public connections between upper and lower streets in this transition zone. There might be need of links to bus routes passing through the area on the elevated street; people coming on foot from the other side of the Channel would require ready access down to the level of the public promenade which would be part of the Harborwalk system. Thus, two very different worlds could be brought into a state of coexistence through a two-level system and the world of the offices, through the mediating device of courts and atria, could gain a special identity of its own.





PART 6 -BUILDING UP THE WHOLE PICTURE -A SYNTHETIC VIEW OF A TRANSFORMATION PROCESS

In this chapter, one possible vision of how these elements could be combined to form an integrated urban tissue for the Fort Point Channel District is put forward as a series of layered interventions. While some of the ideas suggest highly specific configurations, they all evolve from various strands of the themes already presented in this investigation. It is perfectly conceivable that the same system of elements, rules and conventions could produce many viable alternatives for the same site. And it would be of no surprise if all the solutions produced were equally as valid. the intent here is to test the validity and effectiveness of the prototypical propositions put forward by attempting to depict an overall vision for the site.

6.1 The Site and Base Infrastructure

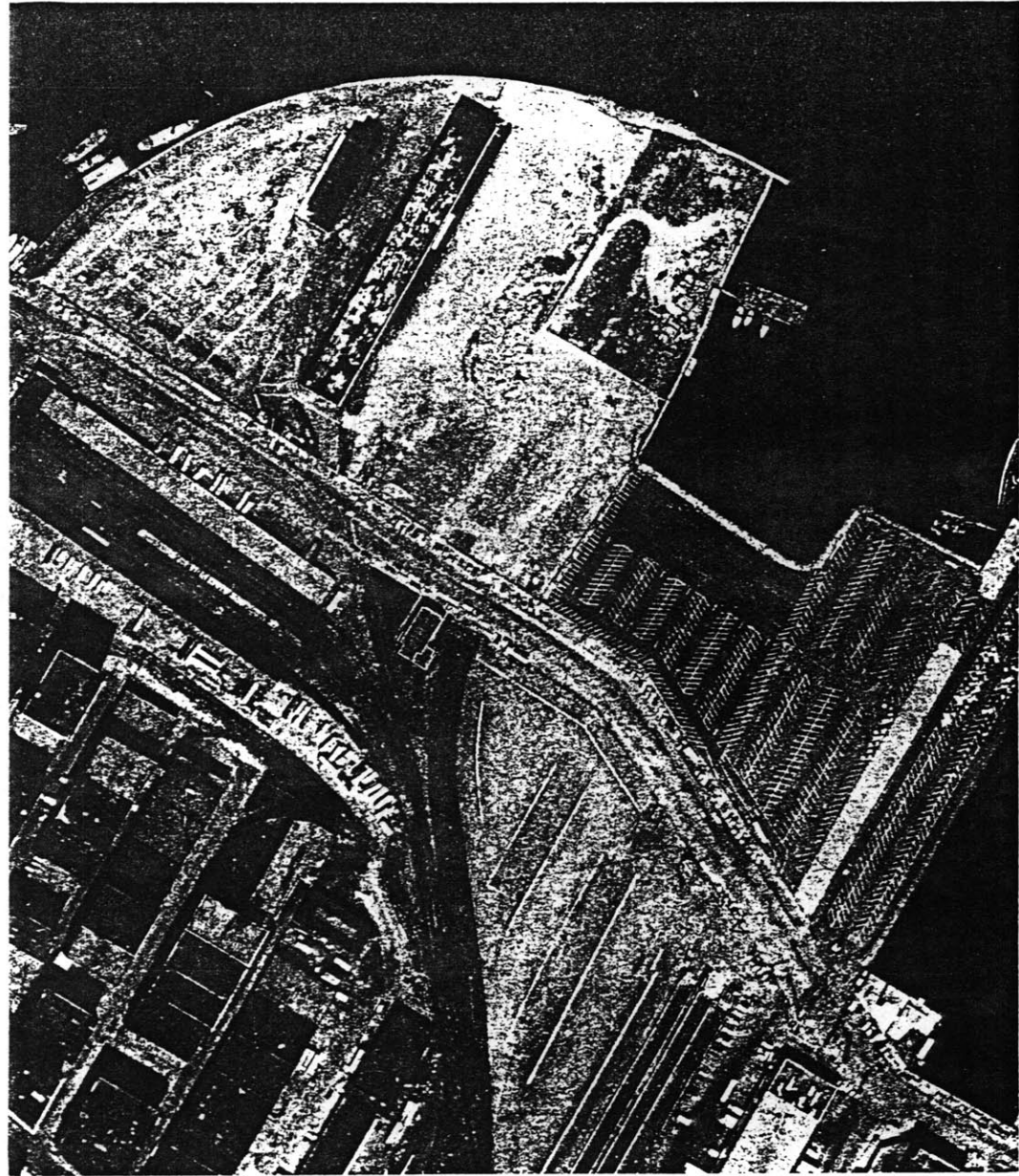
The following drawings suggest a step by step process of establishing a final site configuration and organizational pattern for the infrastructure. this is not to be seen as a phasing diagram of how to develop the Fan Pier and railway lands. Rather, it is an attempt at unfolding a way of thinking about the site as a logical process of design.

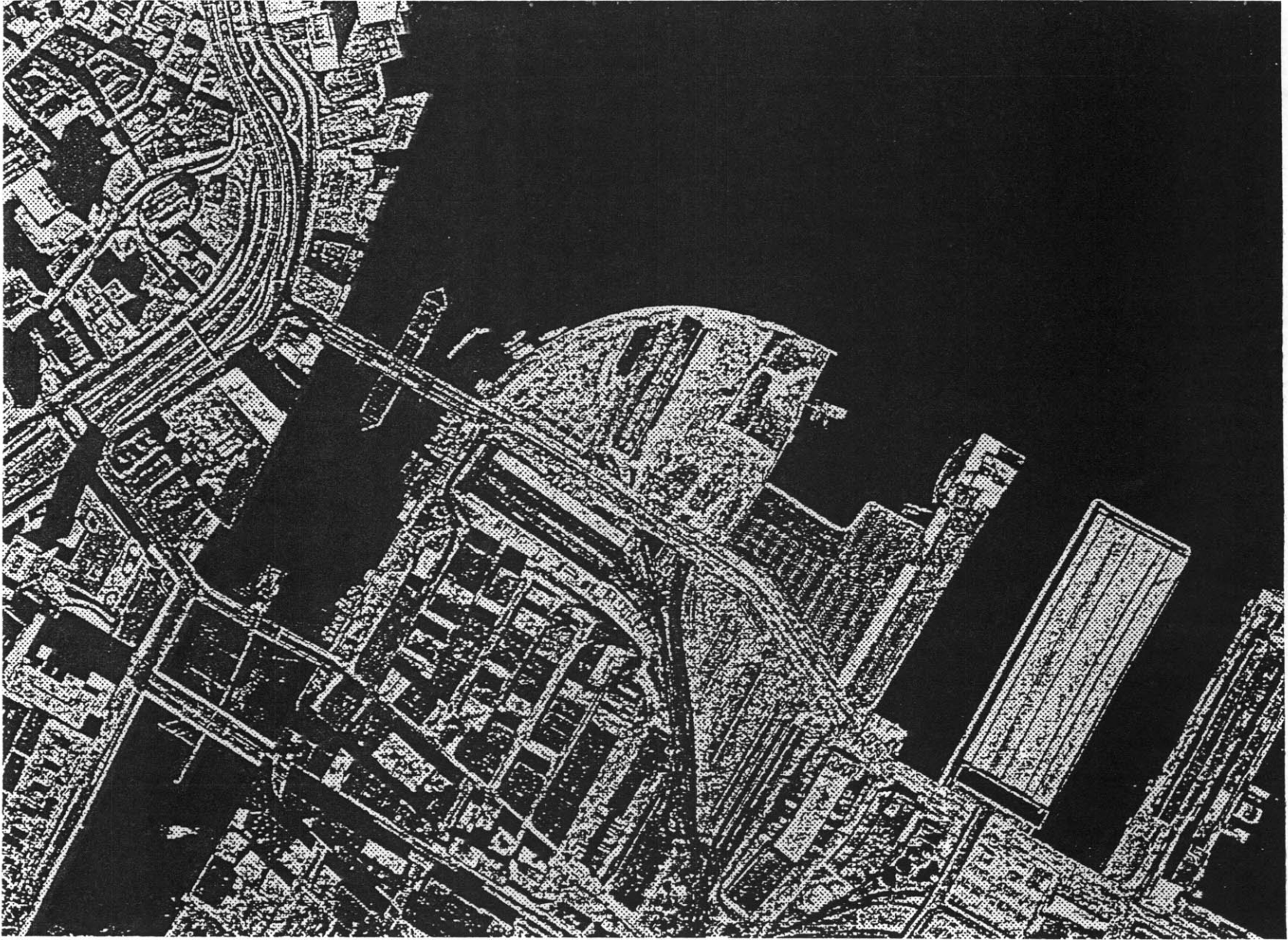
Fig. 6.0.1 Opposite: axonometric view of expanded tissue model for the warehouse district and Piers 1 to 4

6.1.1 *The Existing Site*

The aerial photograph shows the entire site under consideration in the context of downtown Boston. As can readily be seen, most of the Fan Pier area is essentially a parking lot and the warehouse district is virtually an island unto itself. The Commonwealth Pier, while a dominant element in the landscape just to the east of the piers which are to be redeveloped, is also quite isolated from the rest of the city and needs to be integrated with new development.

The site as a series of large, disconnected elements needs to be woven together into a dense fabric.

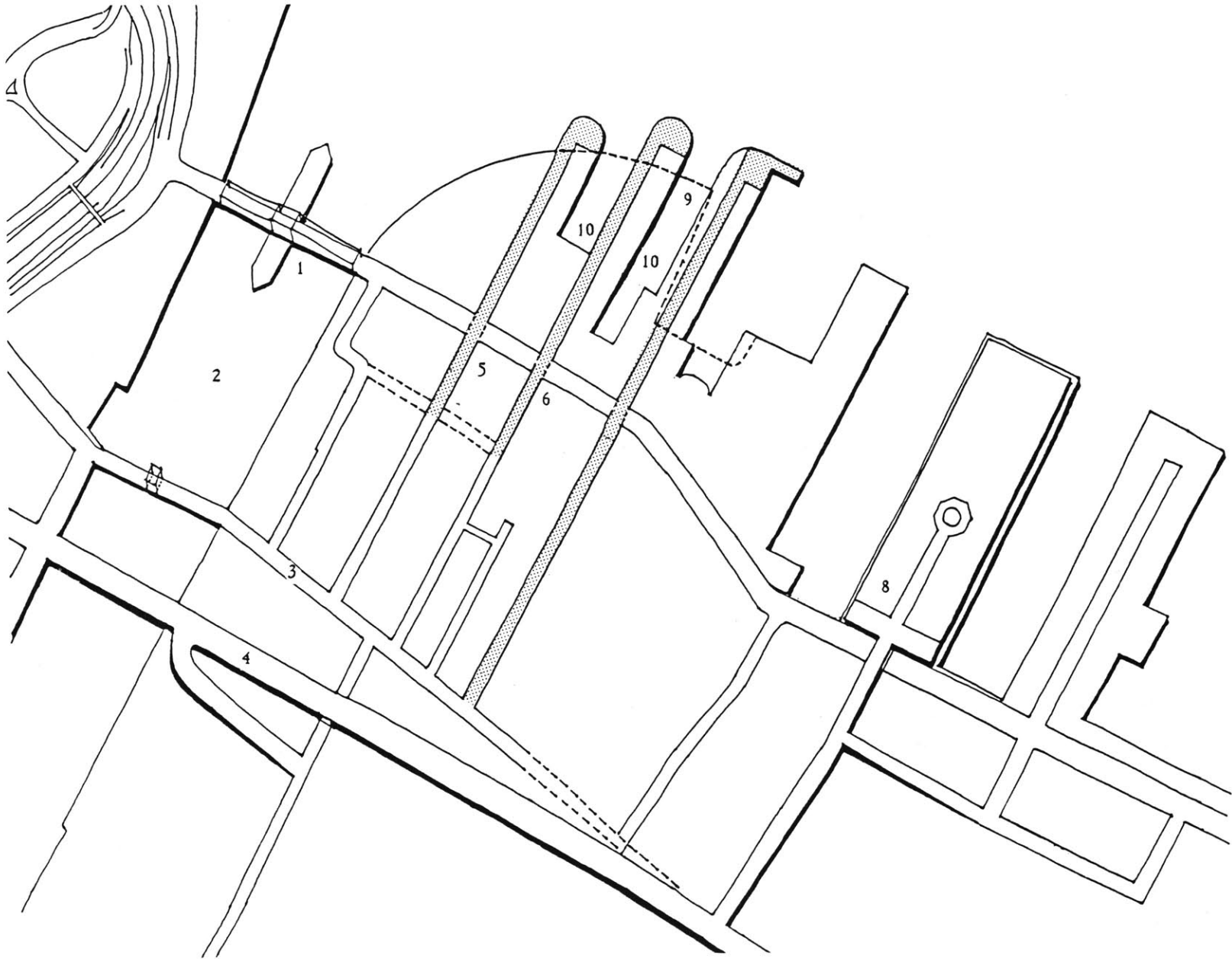




6.1.2 *The North-South Blocks, Piers and Slips*

This drawing suggests a first move of extending the existing north-south streets: Farnsworth, Pittsburg, and an unnamed right-of-way at the eastern edge of the warehouses, north to the harbour's edge. The rebuilding of the water's edge is imagined in a similar way to the wharfing out of Old Boston. Streets are allowed to extend up to an additional 200' to the 'approved pierhead and bulkhead line' creating three new pier extensions, with water in between. In the process, the slip between Piers Three and Four is partially filled in and redefined.

1. Northern Avenue Bridge
2. Fort Point Channel
3. Congress Street
4. Summer Street
5. Farnsworth Street (extended)
6. Pittsburg Street (extended)
7. Proposed new north-south street
8. Commonwealth Pier
9. Present edge of Fan Pier
10. New slips

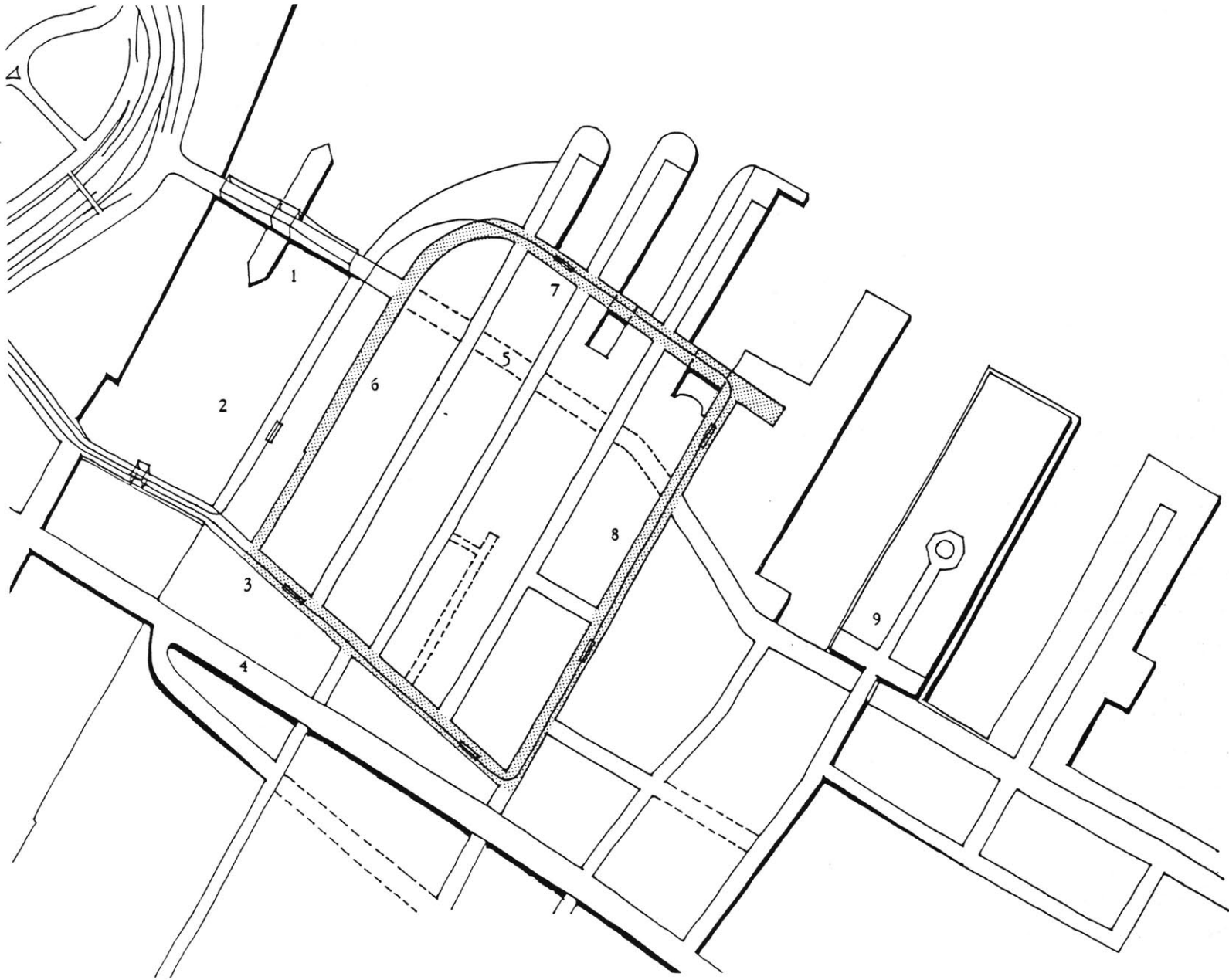


6.1.3 A New East-West Street

A new east-west street is created, bisecting the lands north of the warehouse district as a major public Esplanade. It forms the southern edge of the pier and slip configuration and establishes an axis aligning with the centre of the Commonwealth Pier building at one end, and the old downtown skyline (with the Custom's Tower) at the other. Sleeper Street and a new north-south street aligning with the western edge of Pier Four are joined to this new east-west axis and Congress Street further south to create a complete access loop to the waterfront and the local streets within. As Congress Street is directly linked with downtown via its own bridge, it can readily be understood as a primary loop for local access. The loop, as a slow moving traffic artery lined with pedestrian-oriented facilities might support a public transit line, like a streetcar or trolley

bus, to shuttle people back and forth between downtown and the new offices and hotels of the Fort Point Channel. The interior north-south streets could therefore be restricted to local traffic and reserved mainly for pedestrian use.

1. Northern Avenue Bridge
2. Fort Point Channel
3. Congress Street
4. Summer Street
5. Old alignment of Northern Avenue
6. Sleeper Street (upgraded)
7. New east-west boulevard
8. New north-south street
9. Commonwealth Pier



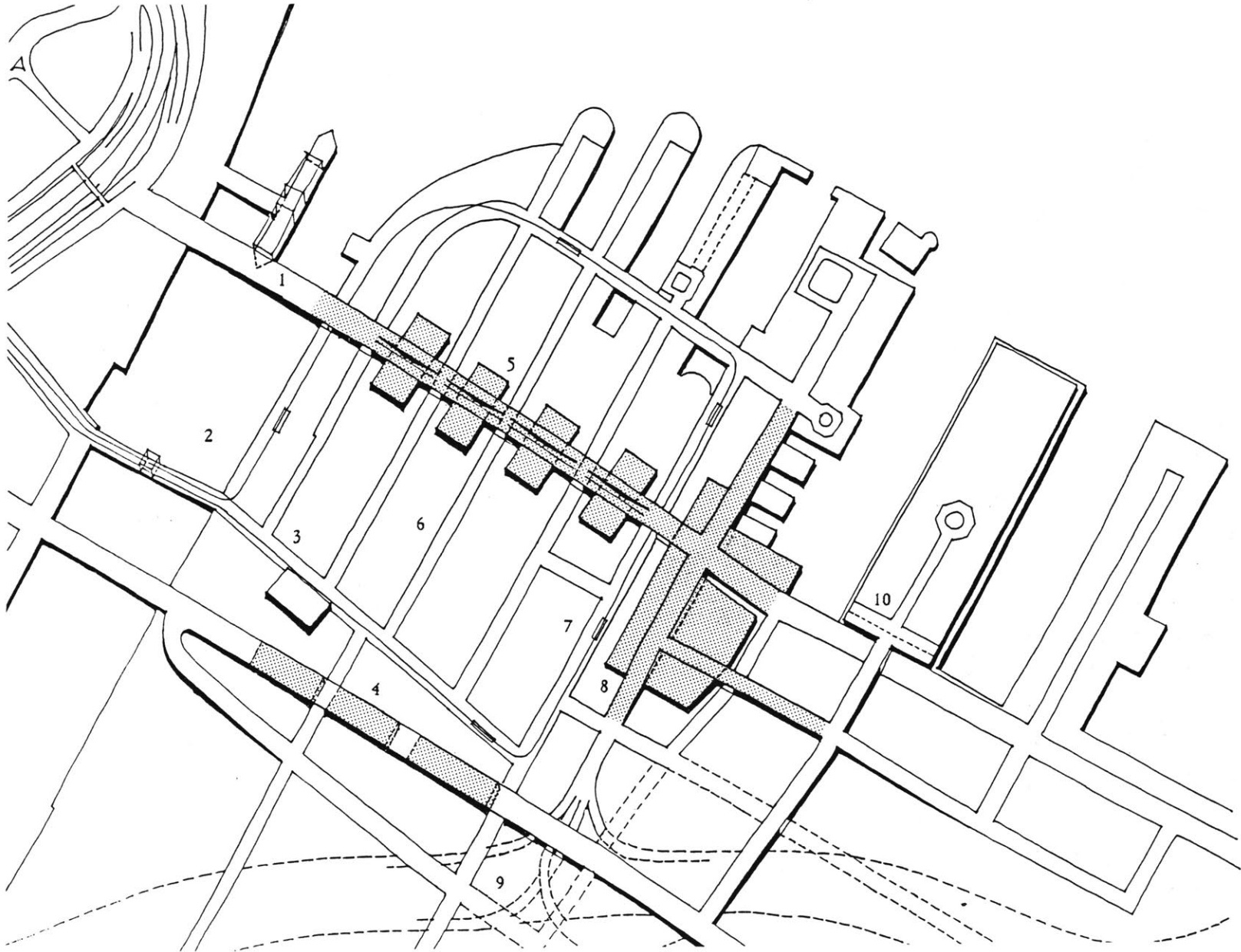
6.1.4 Northern Avenue, Realigned and Elevated

Northern Avenue is extended across the site as an elevated road with a combination of public and private parking below. At a raised intersection, one block beyond the last north-south street at grade, new streets ramp down to Pier Four to the north and Congress Street to the south, providing access to the local neighbourhood. Northern Avenue, itself, has reached grade again by the time it gets to the slip adjoining Commonwealth Pier, preserving the new World Trade Center's own two-level access system. To complete the elevated route as an arterial system across the site, an additional east-west street forms an elevated connection between the Viaduct and the access ramp to Northern Avenue. Thus, there is a complete loop from Summer Street to Northern Avenue, carrying through traffic and providing easy access to all the major public

parking garages in the area. The new north-south ramp access could also feed into the proposed Third Harbor Crossing at the south end of the site.

In building up this basic grid of streets, care has been taken to make as many connections as possible to the existing city grid, thus allowing the new urban tissue to expand and weave into the fabric of adjacent territories.

1. New Northern Avenue Bridge
2. Fort Point Channel
3. Congress Street
4. Summer Street (with underground parking added)
5. New Northern Avenue (elevated over parking)
6. Pittsburgh Street (extended)
7. Proposed new north-south street
8. New ramped street
9. Possible alignment of Third Harbor Crossing
10. Commonwealth Pier



6.1.5 Open Space Systems

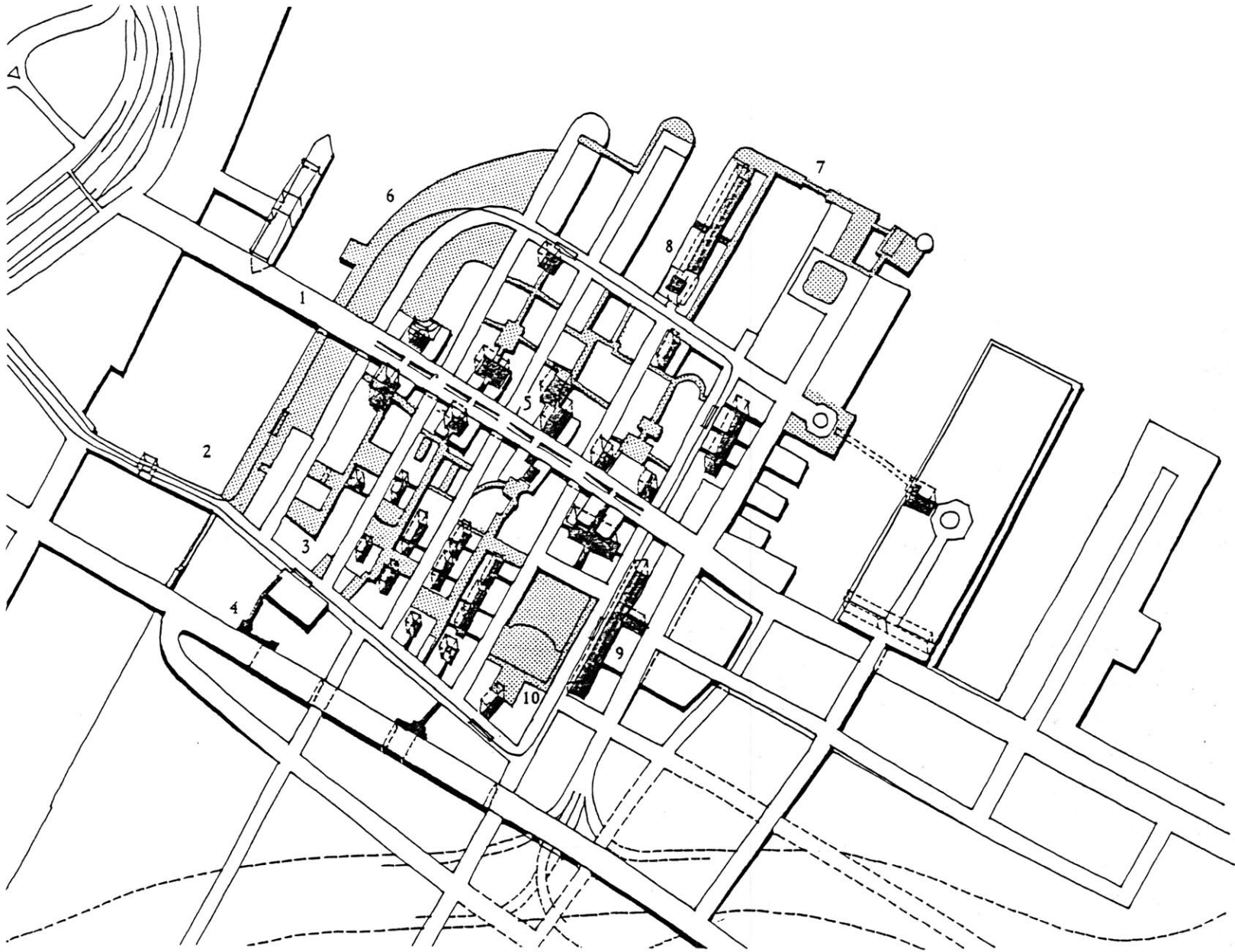
The next layer of consideration illustrated here is a comprehensive open space system: a series of public parks; semi-private gardens; playgrounds; and promenades, which provide essential breathing space in this dense urban configuration. On the western edge of the site, the open space in front of the museums is extended as a broad promenade under the Northern Avenue viaduct and up along the curve of the Fan Pier until it reaches the first pier extension. From here, the promenade would feed into the east-west Esplanade and out onto the piers, thus extending the Harborwalk system of Boston Harbor. On the eastern edge of the site, a major new recreation ground is created as an extension to the network of paths and gardens which filters through the old warehouse fabric. This new park, running the full width of a block, sets up a special site condition

for a non-thematic building. It can be imagined that a neighbourhood school or recreation centre could establish itself on land reserved for the purpose, immediately to the south.

Another non-thematic site for a school or community facility is established adjacent to a recreation ground along side the public promenade at the New Northern Avenue bridge. This facility bridges the major public access from the elevated street down to grade. A parallel network of neighbourhood gardens and small parks filters through the residential blocks north of Northern Avenue, following the city-owned right-of-way of the old Northern Avenue alignment. One more park preserves public access to Pier Four and is located at the end of the north-south ramp. Beyond it, across a small bridge on an island of its own, is shown the relocated Mariner's Chapel.

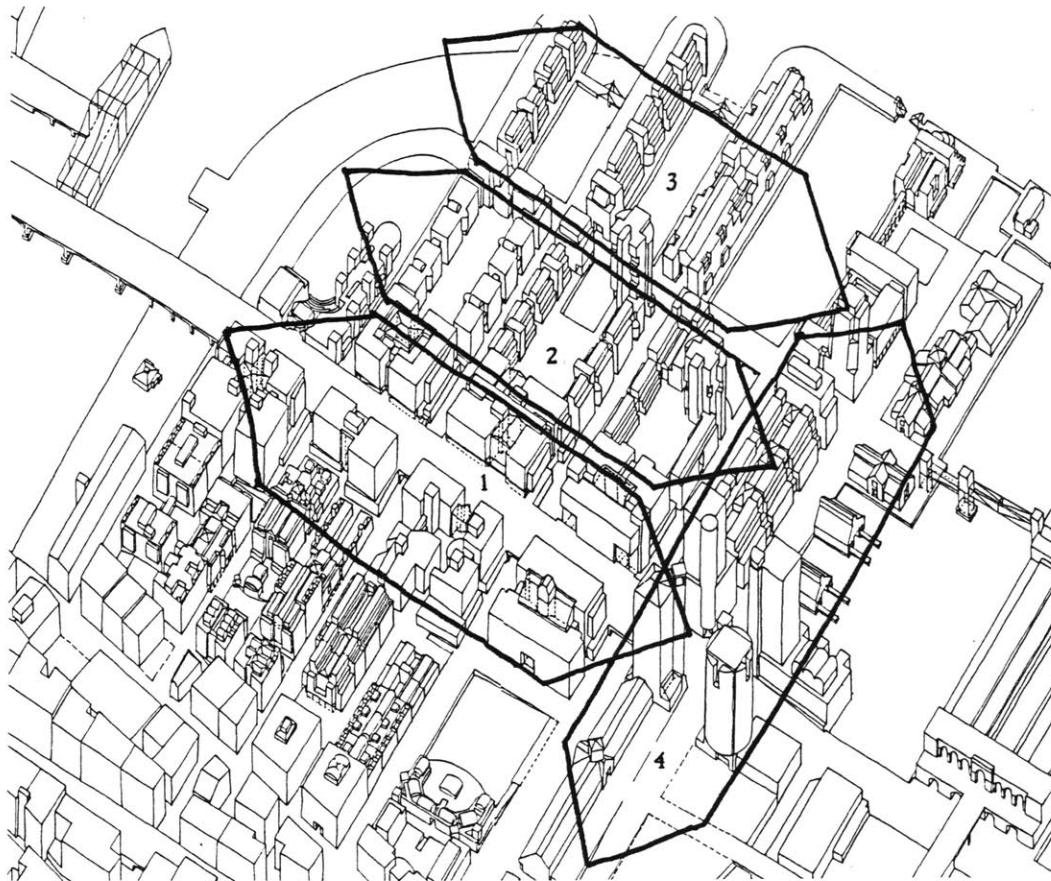
All these small parks are interlinked in various ways by a pedestrian network. Perhaps the most dramatic connection contemplated would be one from the end of the new Esplanade, across the slip to the new World Trade Centre. This connection might take the form of a tall swing bridge, preserving the potential of the slip as a berth for major ships on special occasions.

1. New Northern Avenue Bridge
2. Fort Point Channel
3. Congress Street
4. Summer Street (with new pedestrian connections)
5. New Northern Avenue (with atrium office blocks)
6. Public Esplanade (extension to Harborwalk)
7. Public walkway
8. Galleria hotel
9. Market Hall
10. Neighbourhood park
11. Commonwealth Pier



6.2 Layering in the Prototypical Building Fabric

Four bands of building fabric can now be built up three-dimensionally on the infrastructural system: first, the band of office blocks lining Northern Avenue; second, the residential blocks adjacent to the office corridor; third, the residential and hotel piers, interspersed with marinas and boat clubs; and fourth, a more intensive mixed-use spine of markets, offices and apartments running north and south along the eastern edge of the site.

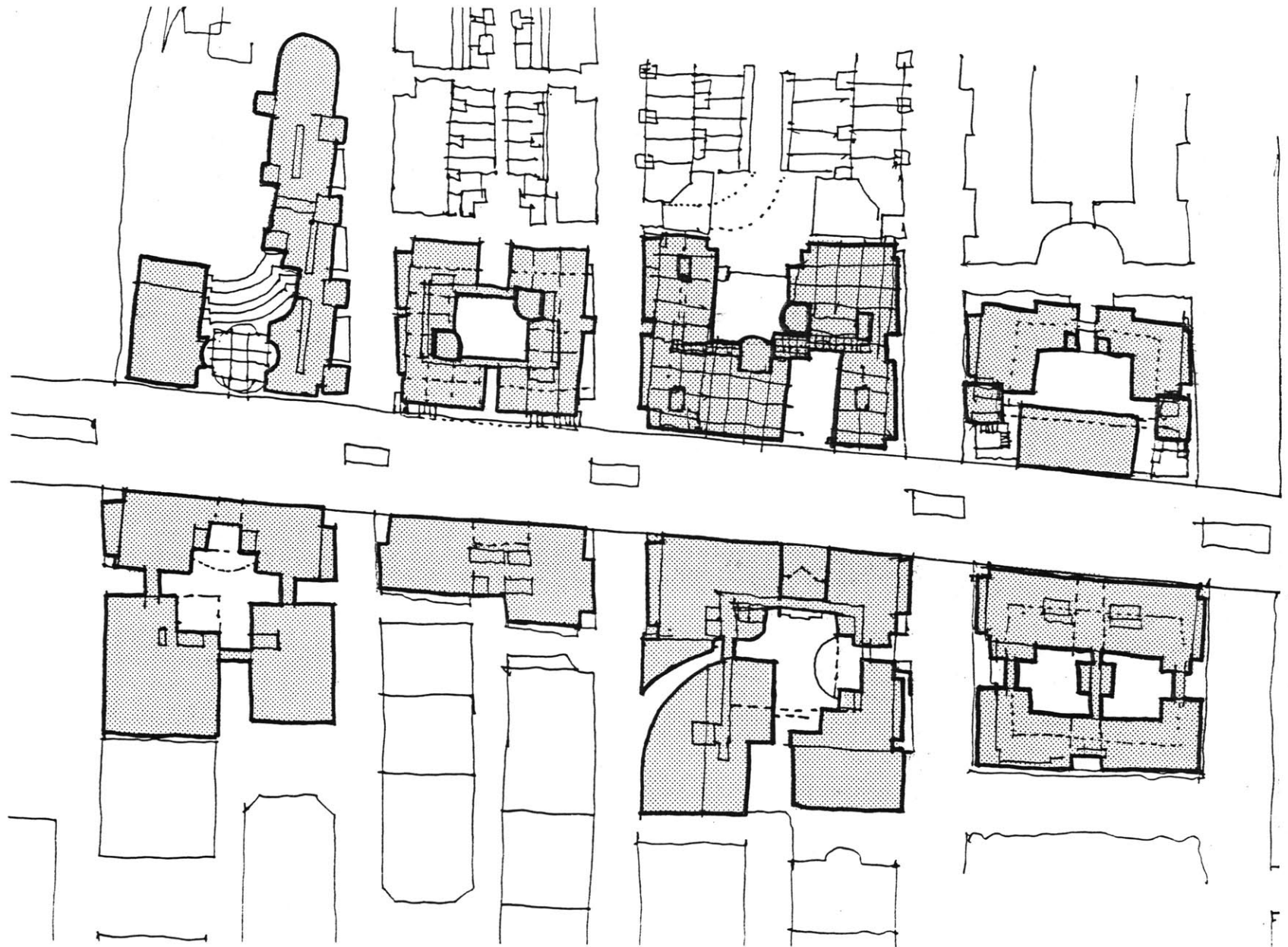


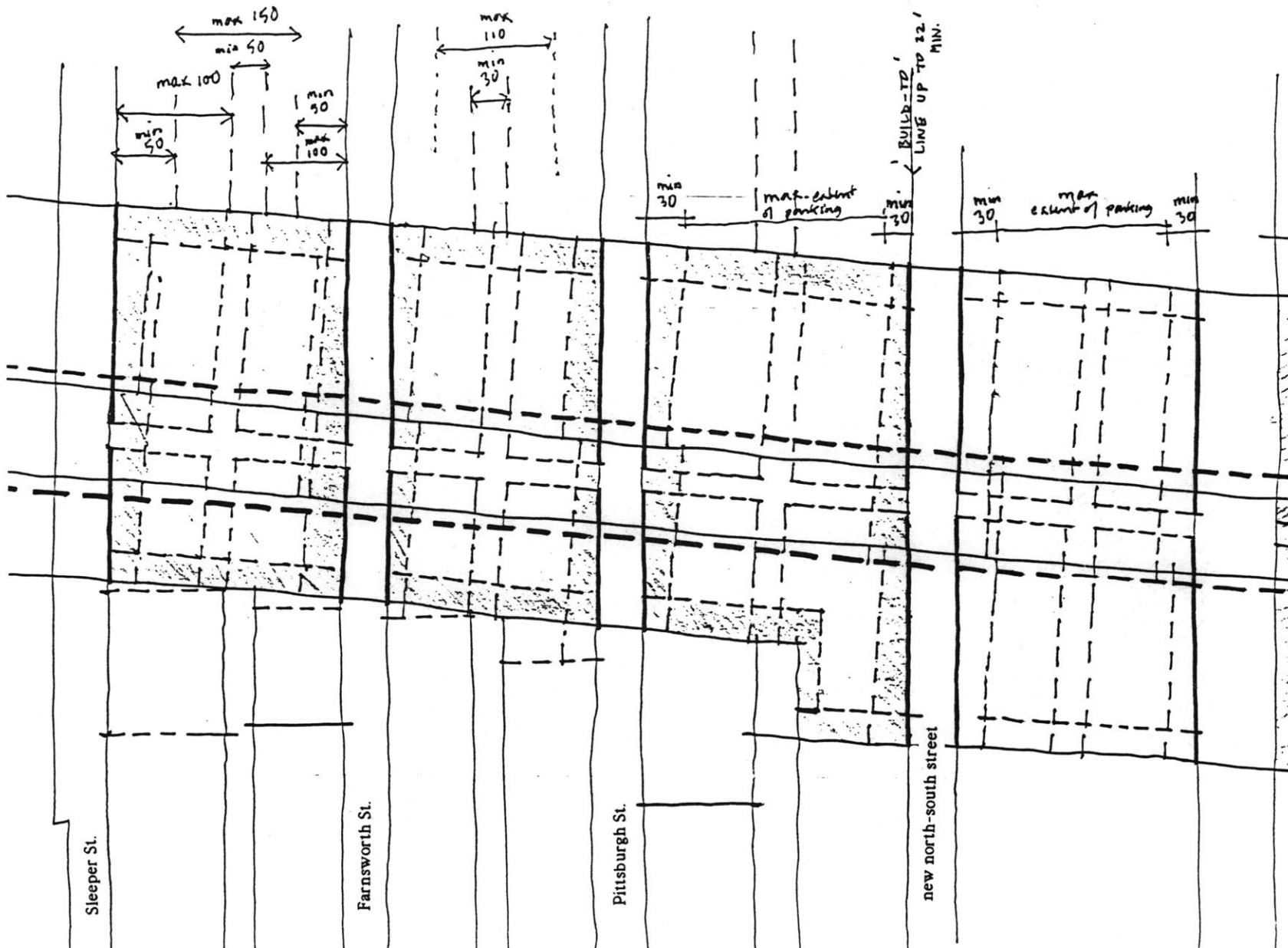
6.2.1 *The Northern Avenue Corridor*

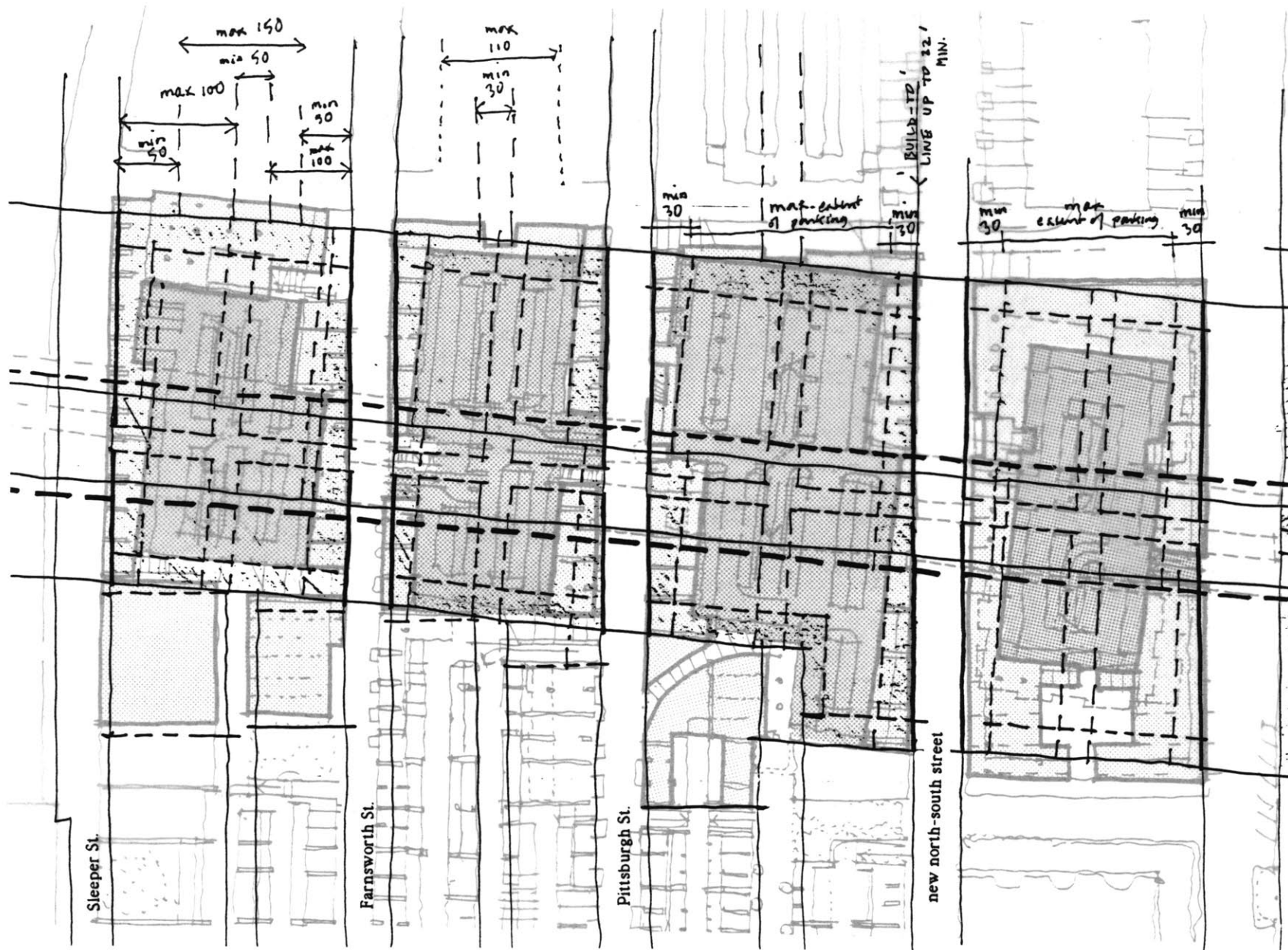
The following drawings define thematic rules for the office and mixed use blocks of Northern Avenue. Plans show dimensional guidelines, strategies for parking layouts, potential atrium configurations and required connections between different levels. Two distinct grids are indicated to make clear the interplay of two essentially different worlds; that of the offices above and that of the residential below. To carry the smaller scale of warehouses through at the lower level, the bases of the office blocks are treated as separate podiums, scaled to the heights of the adjacent buildings on the north-south streets and angled towards them. The offices, their atria, and parking garages, for the most part, are oriented to align with the angle of the raised artery. They are built right up to the street line to a maximum of ten stories

above grade, (i.e. eight above Northern Avenue).

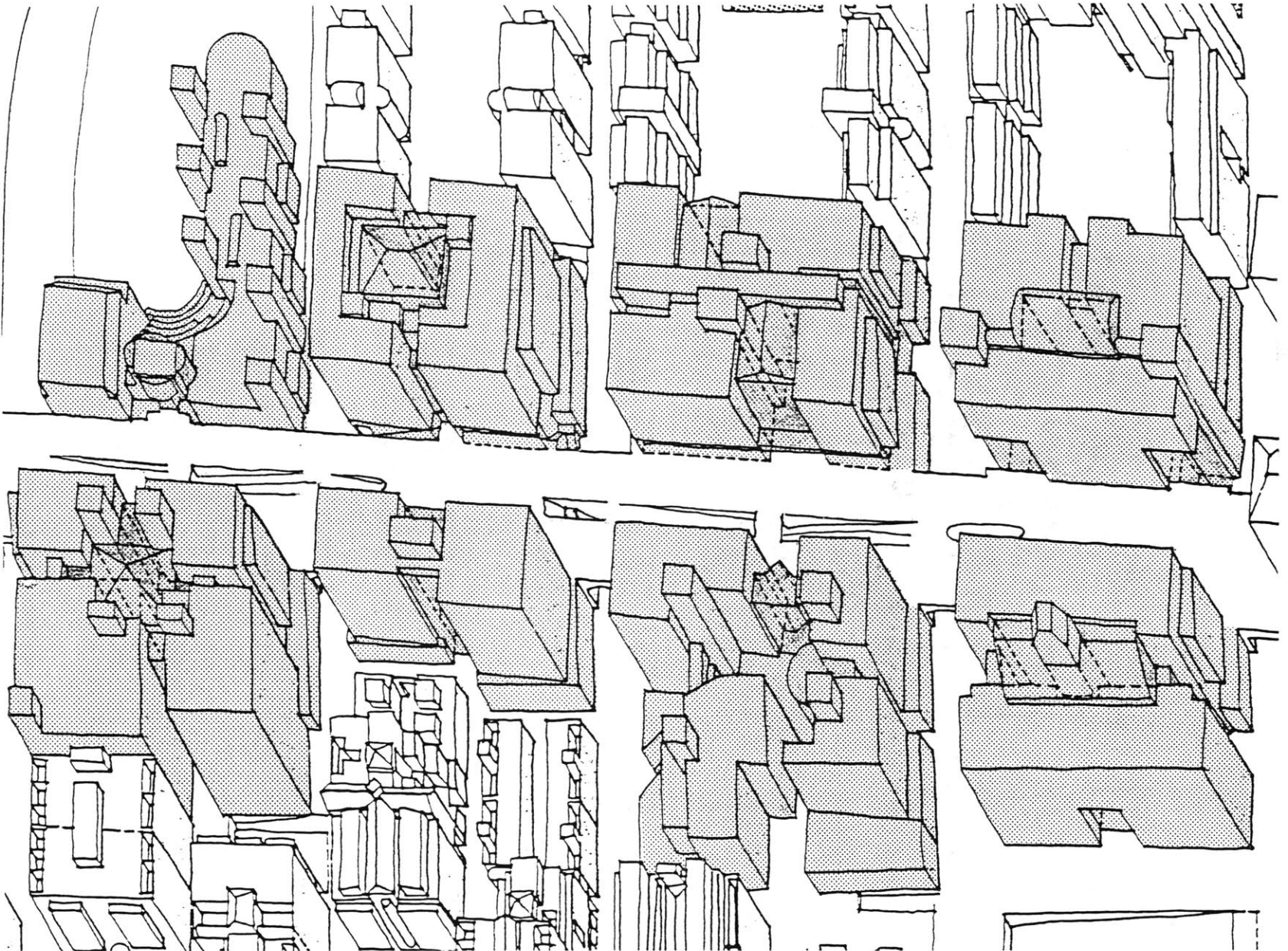
The axonometric projection of this office/mixed-use fabric shows how the building volumes are made up of clusters of smaller buildings, similar in mass to the warehouses. Few individual floor plates in these connected complexes exceed 100'x80'. Larger floor requirements are met by bridging from block to block around the atria and courtyards. In some cases, on the south side of Northern Avenue, old and new buildings are combined together to form some of these clusters.









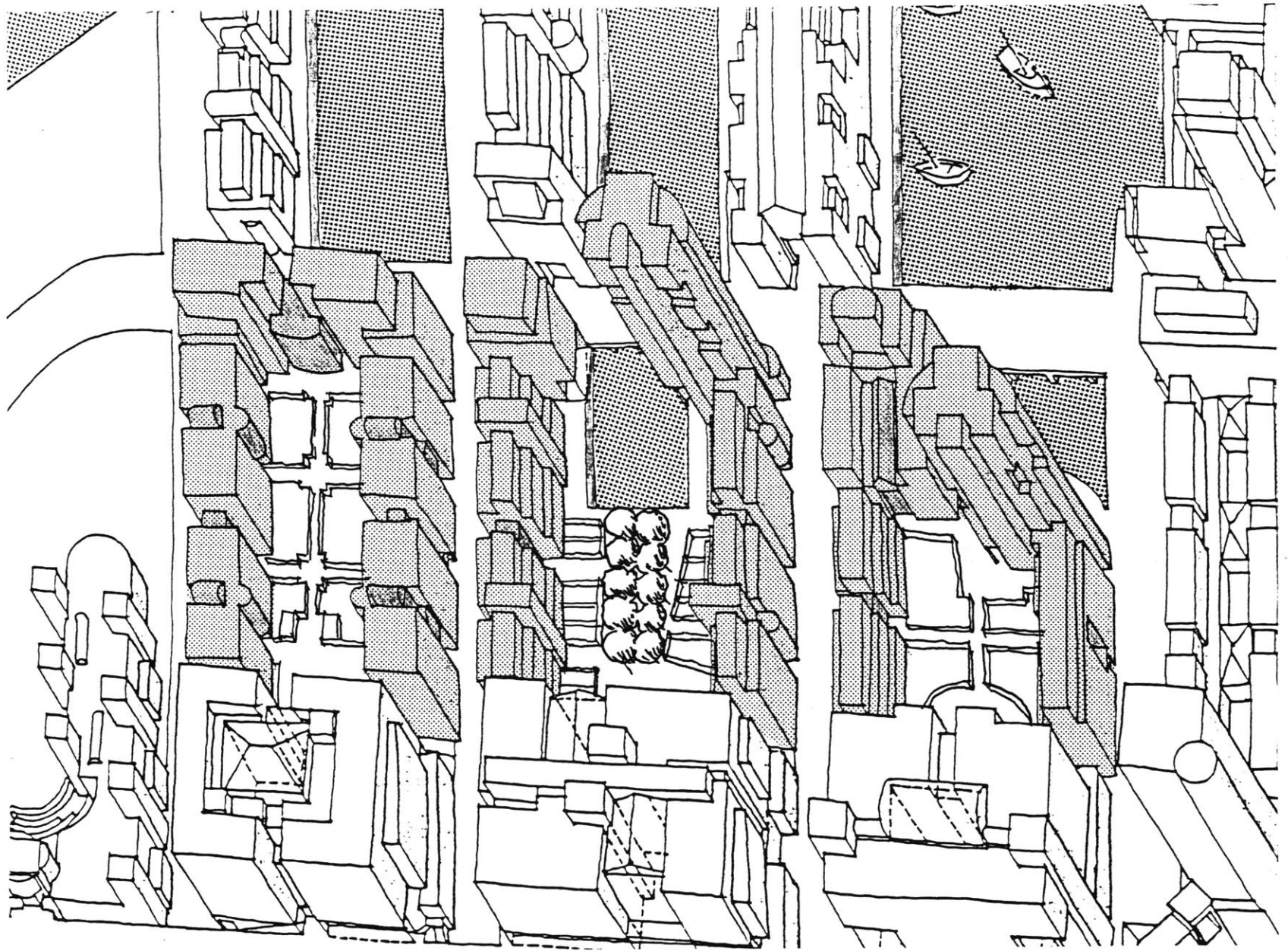


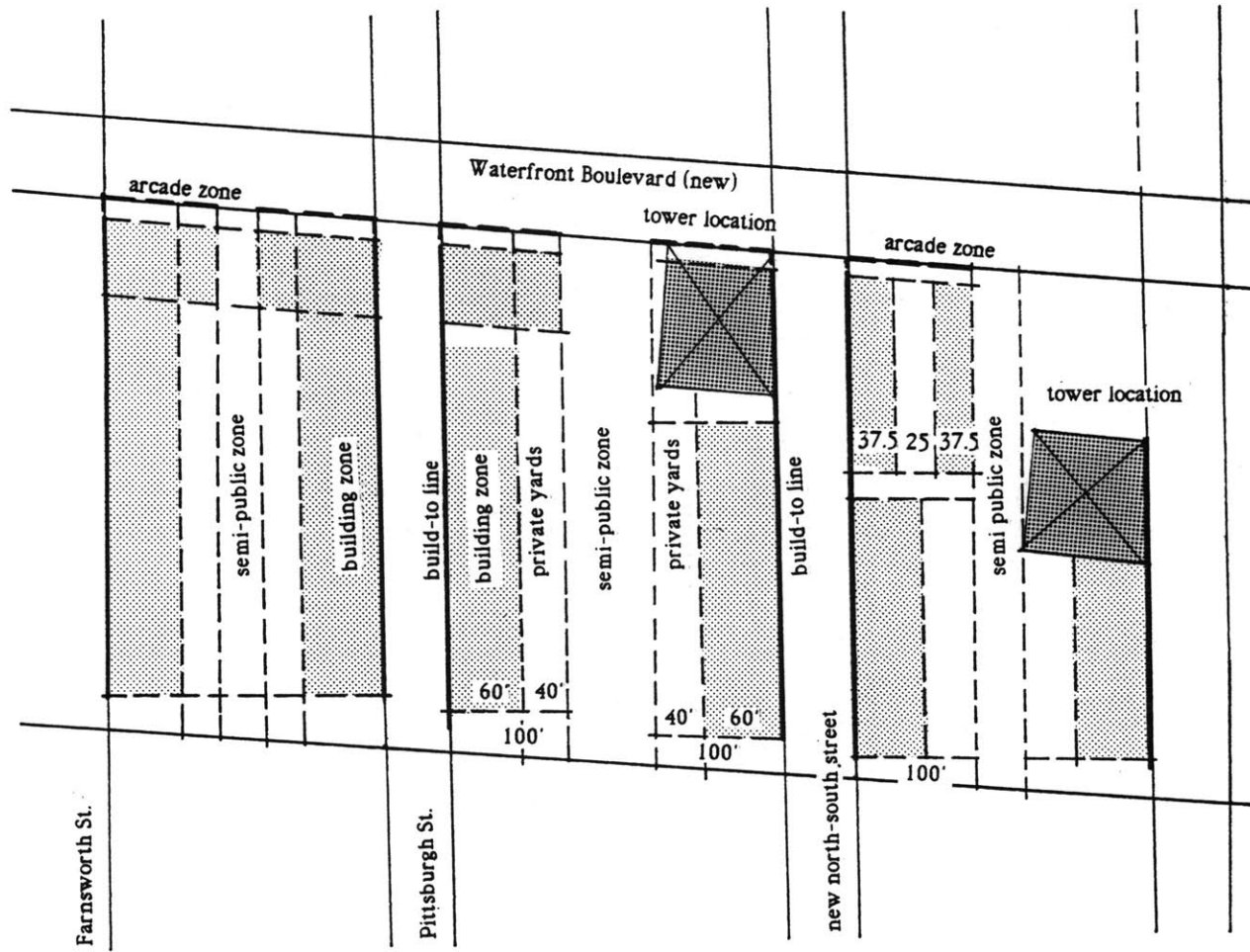
6.2.2 *The New Residential Blocks*

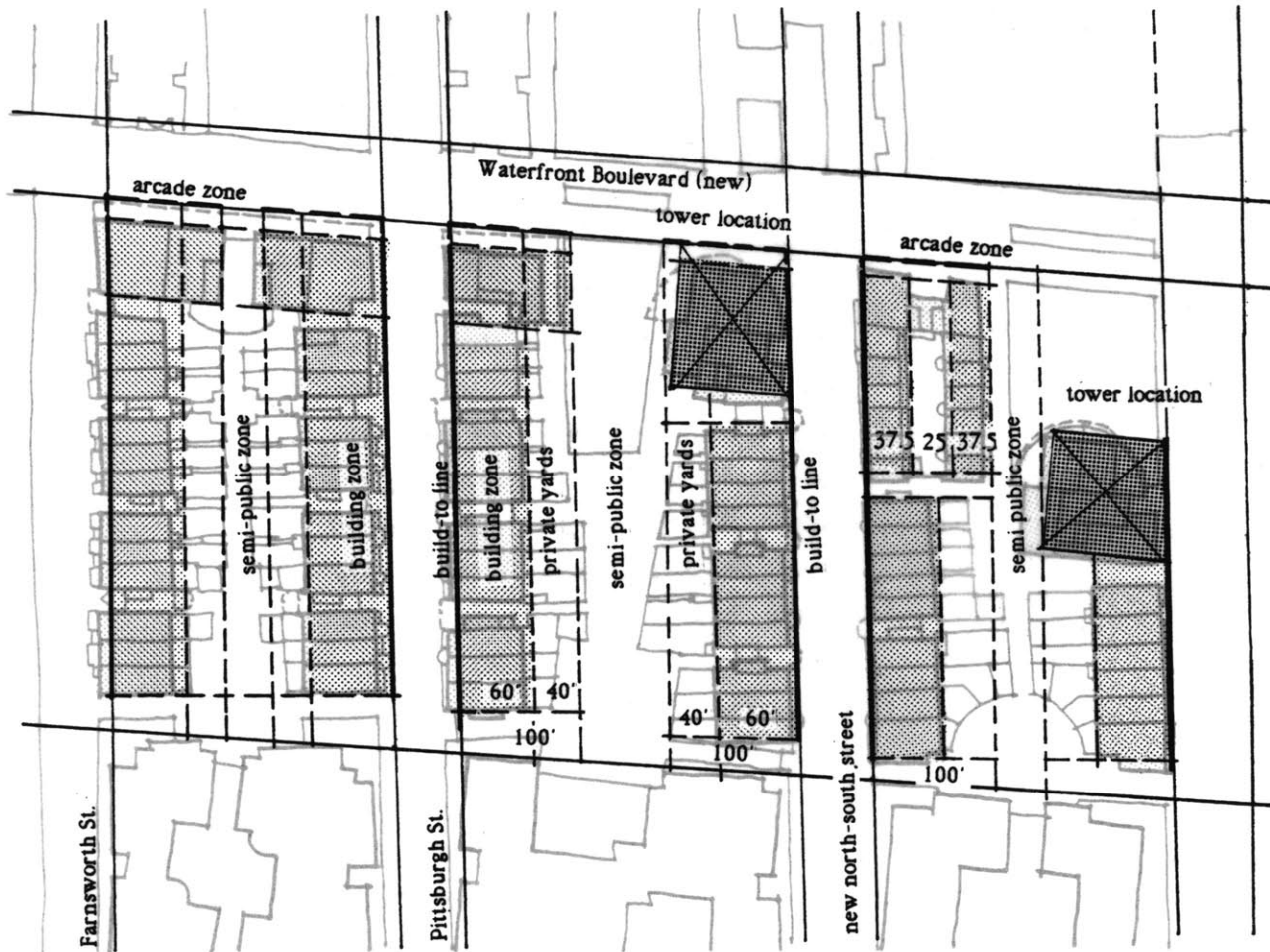
This set of drawings again layers dimensional guidelines, parking systems, typical residential floors and three-dimensional projections to test the use of residential sections modified from those used in the warehouse transformations. The westernmost block shows the basic guidelines response with a set of single loaded dwellings lining the perimeter of the block to a height of six stories. Large private gardens take up most of the interior block while a small public park occupies the southern end along the old Northern Avenue right-of-way. The residential blocks lining the esplanade at the northern end of the block are slightly taller and contain extra space at the base for retail and entertainment facilities associated with the hotels.

The two adjoining blocks are projected to illustrate possible

transformations of this basic block morphology. The second block shows, on a slightly wider site with the same overall density, how it is possible to build a tall thin apartment tower, facing the end of one of the slips. The developer of this block has extended the water into his site as a public amenity, opening the end of it as a small park, instead of enclosing it with a building. The resulting extra density has been put into the tower instead. The third block shows a similar transformation. Since the block is narrower, the slip extension reaches the edge of one of the north-south streets and the tower is pushed back from the Esplanade, where it is kept lower by height restrictions. Some of the extra density is taken up in a double loaded block with light courts on the western edge of the block.



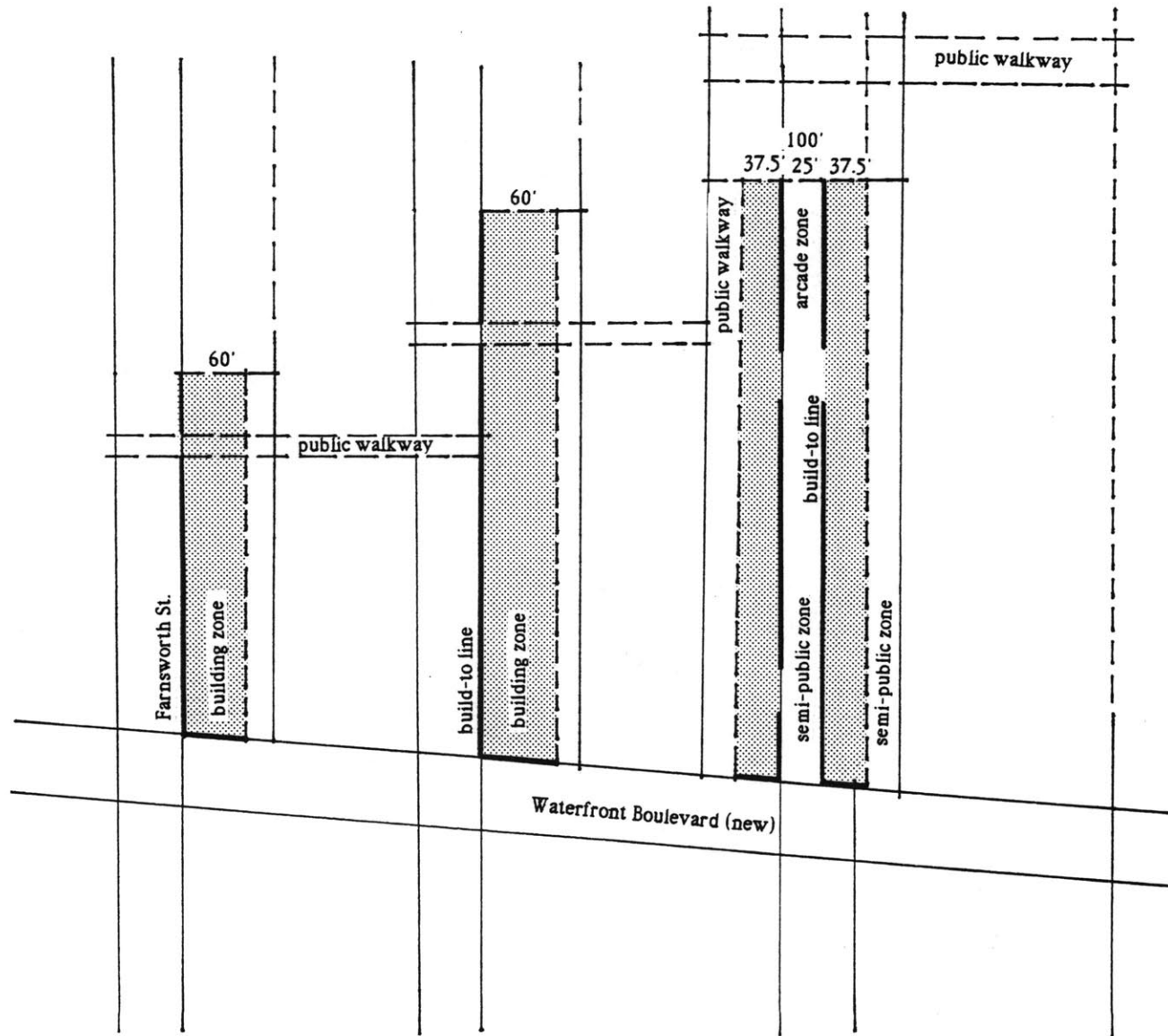


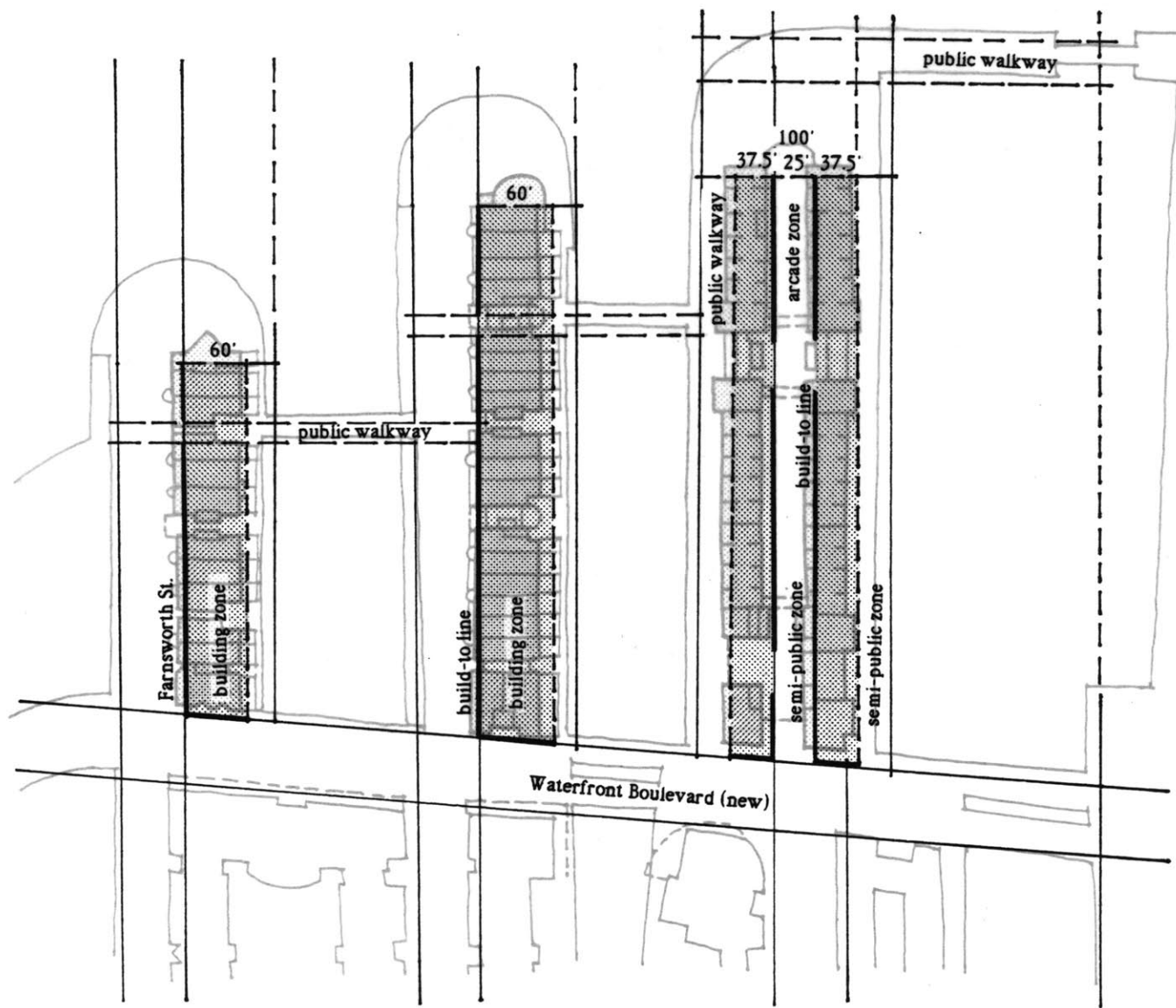


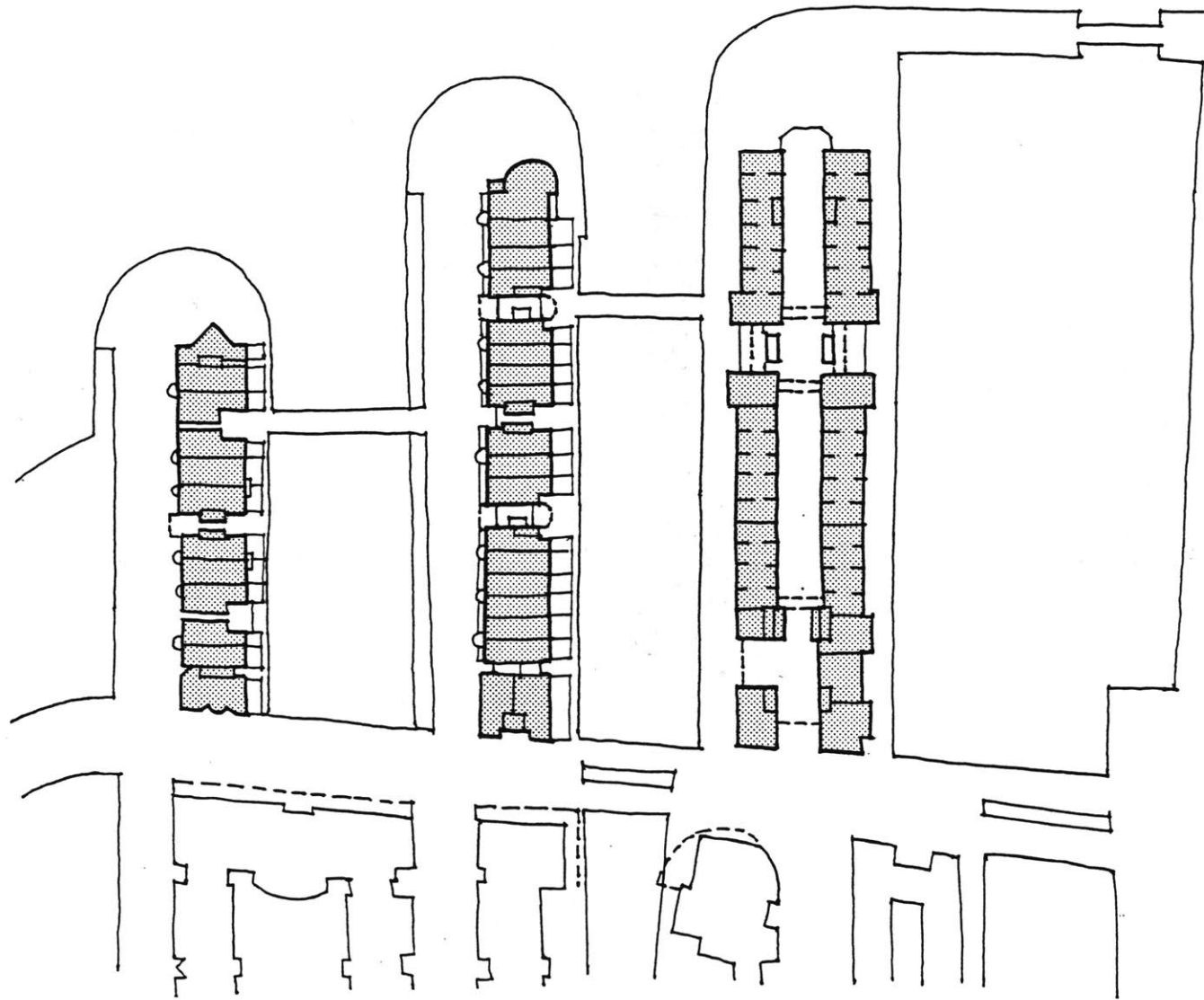


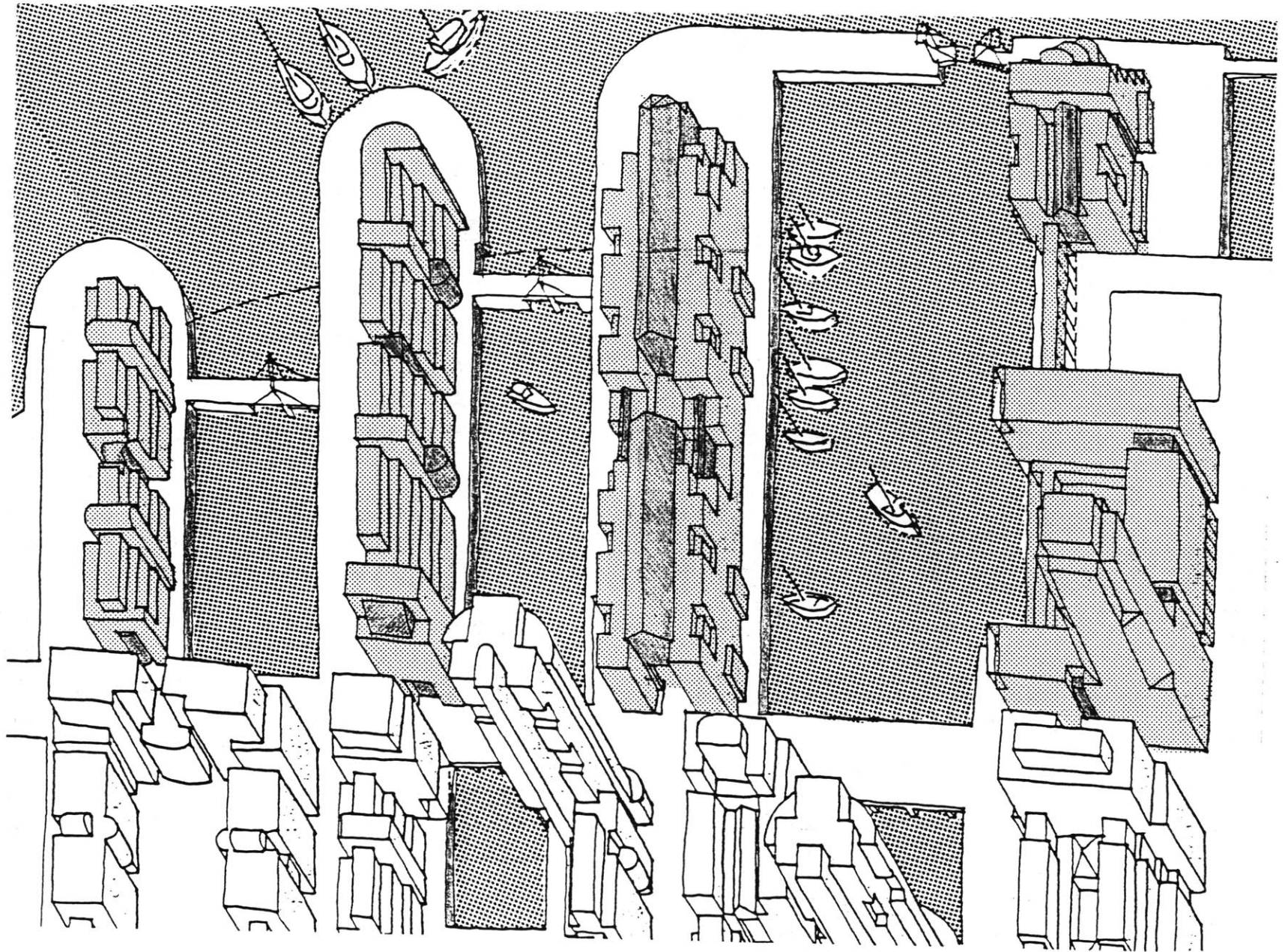
6.2.3 The Piers

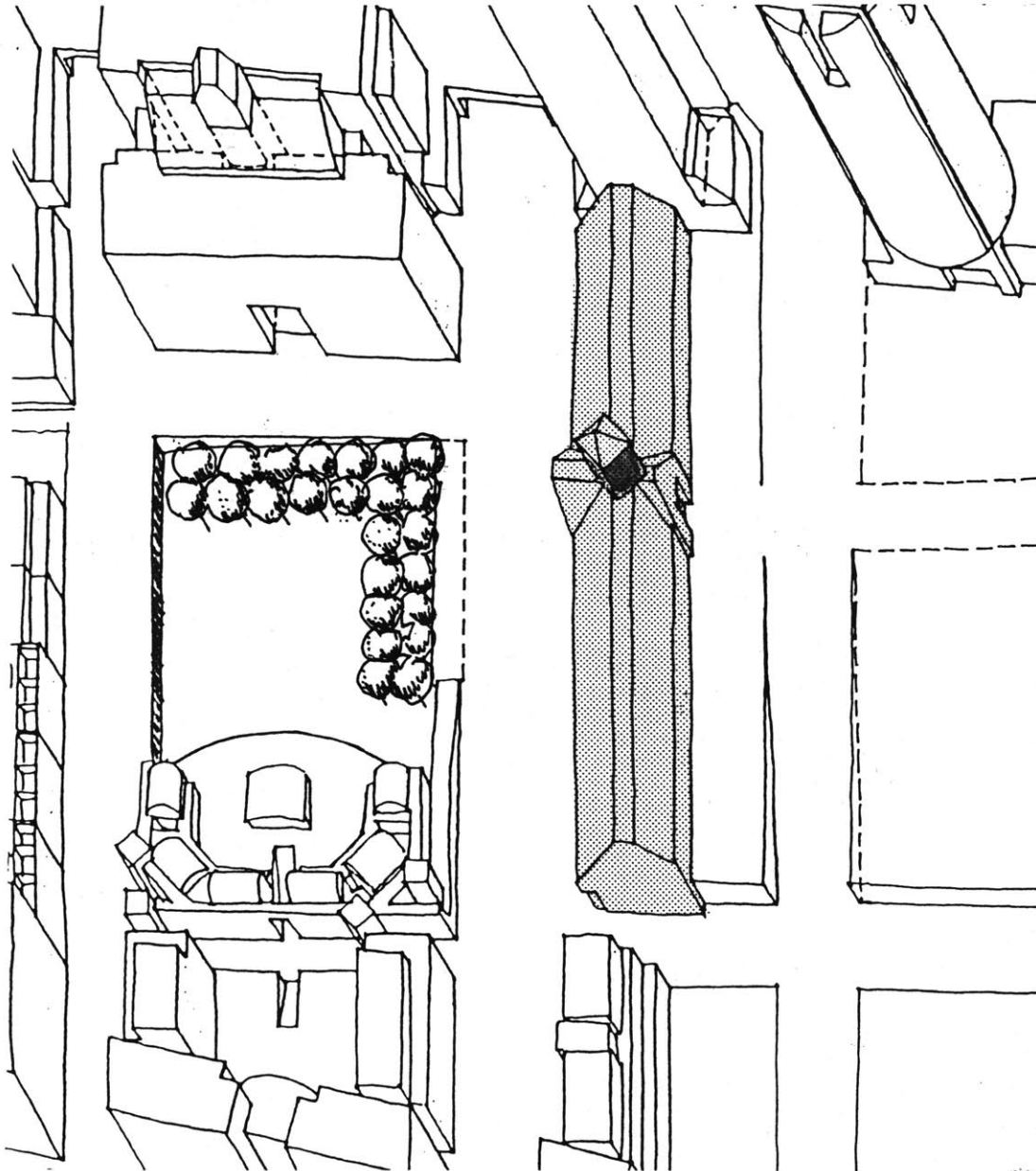
The piers can be quickly sketched with the use of components already explored. Piers One and Two are developed as single loaded residential blocks, six stories high, facing slips or the open water of the harbour. In general, they continue the character of the street edge developed in the previous zone and the streets remain accessible to the public. The third pier is projected as a galleria hotel, with a very public base lined with restaurants, bars, shops, etc. Beyond, on Pier Four, the barn-like restaurant is retained and other 'hall-like' blocks are introduced around the public square to support special shopping and eating facilities. A second hotel, on Pier 4, extends the galleria section into a series of sheltered, but open courtyards which are private gardens for the visitors.









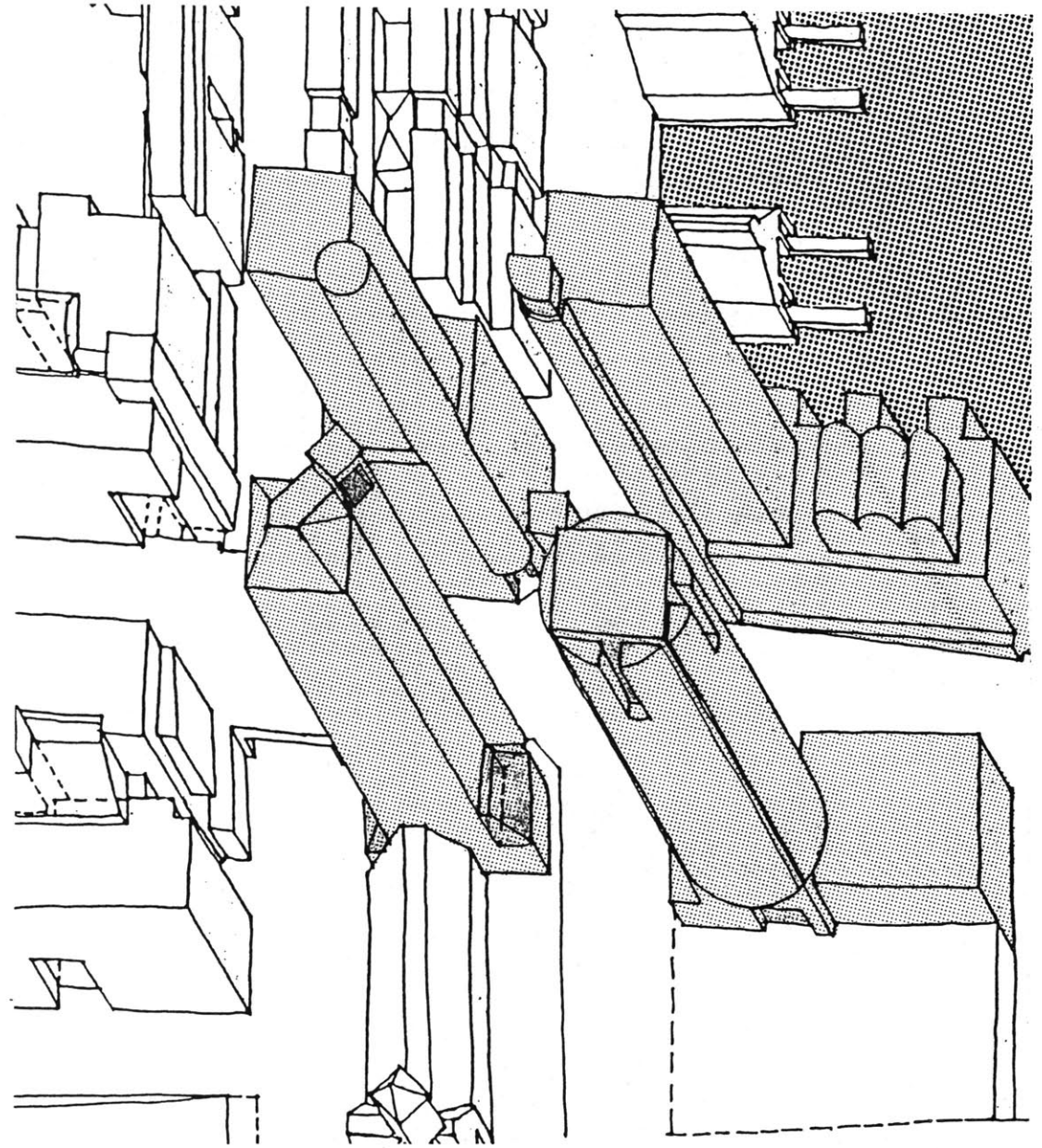


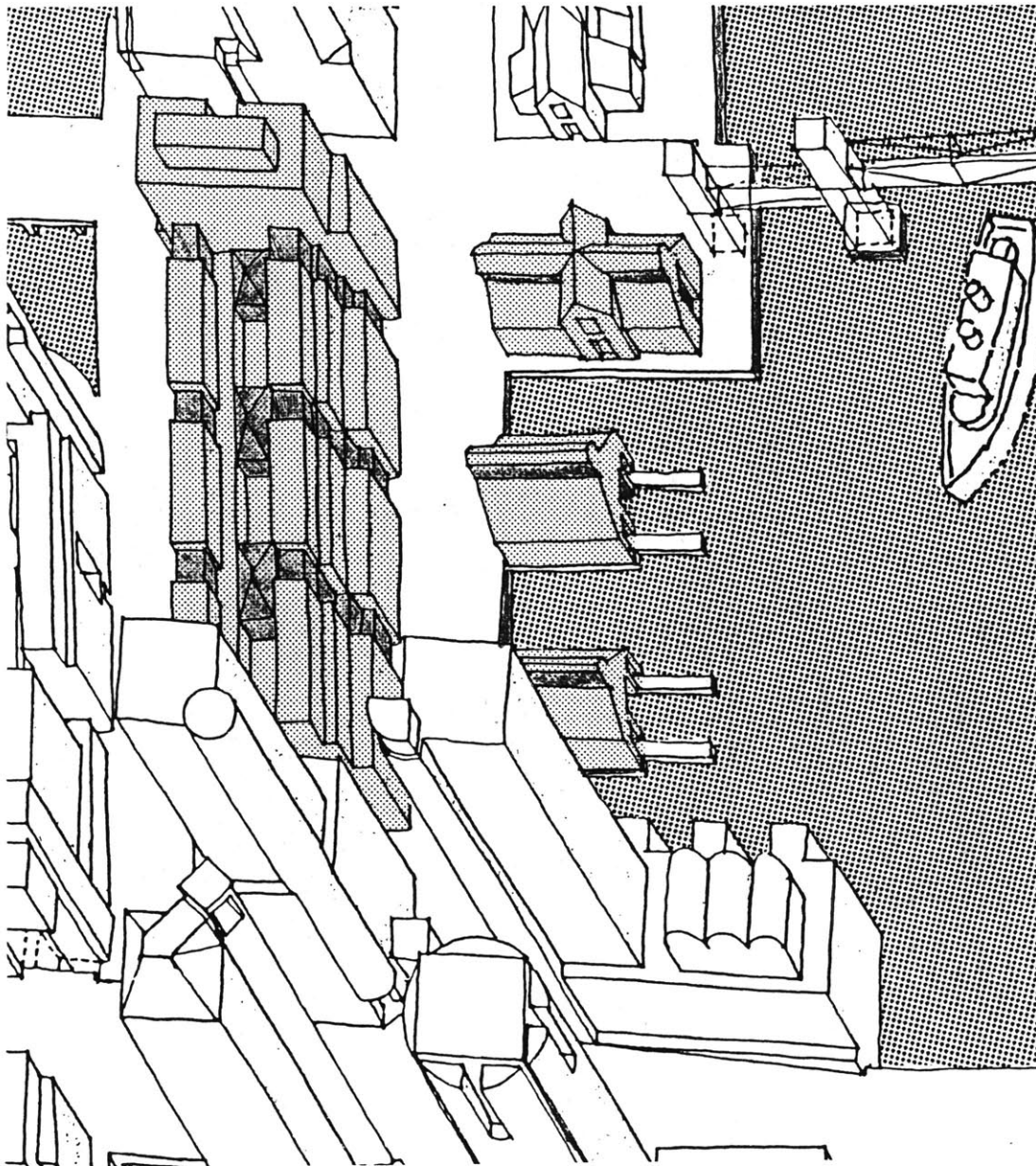
6.2.4 The Two-Level Edge

This last cut through the site looks at the narrower blocks at the edge of the site, generated by the ramped streets off Northern Avenue. Since it adjoins the local perimeter route serving the most public areas of the neighbourhood, its buildings have a greater density of shopping facilities than most and take advantage of the stepped section between streets. The area adjoining the park south of Northern Avenue is depicted as a large market complex, with a stepped hall section to bridge grade with the level of the Viaduct beyond. It is well serviced by a major parking and service podium behind. Outdoor market functions occasionally spill over into the park opposite while the building itself is lined with overhead glass doors, opening it up for temporary produce stalls, directly accessible from trucks off the street.

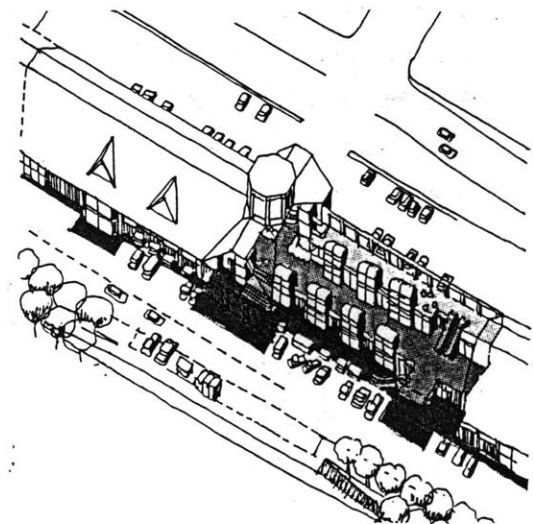
At the raised intersection of Northern Avenue, another 'non-thematic' element is introduced, this time in the form of four tall office towers. These are restricted to very slender profiles but could, perhaps, be bridged above the intersection to form bigger floor plates. Because of the concentration of servicing and parking generated by the two-level system at this point on the site, and because this is one of the most intense mixed-use nodes of the district, it is proposed that such towers be allowed as landmarks for the site. Their building envelopes are restricted by the narrow blocks on which they are located so that they will not overpower the lower buildings.

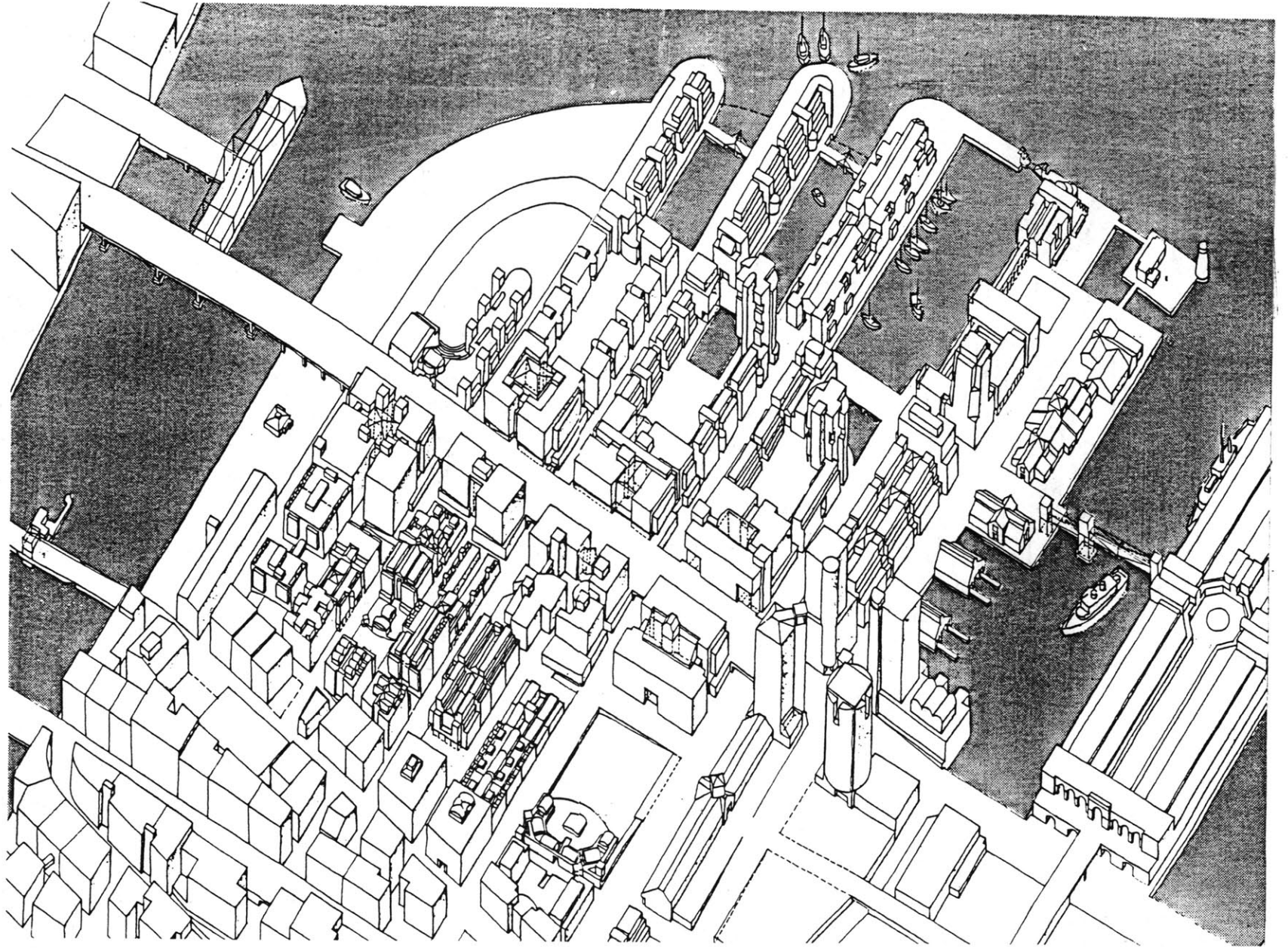
The northern half of the ramped street, leading to Pier Four and the waterfront Esplanade, is lined with mixed use office, retail and residential buildings. Opposite are a series of 'hall' sections, employed





here to represent boathouses and workshops associated with a working waterfront edge. Obviously, this represents an idealized situation which would be hard to achieve, given the pressure for other kinds of development. Other decision-making forces would have to come into play to ensure the maintenance and expansion of diverse activities in the area.





PART 7 - REVIEWING THE PROCESS - REFLECTIONS AND IMPLICATIONS

7.1 The Basic Principles of an Alternative Approach

The underlying premise of this design investigation has been that appropriate architectural and urban design guidelines for a district in the city can be developed 'thematically'. A thematic approach to the making of an urban tissue (or the consolidation of an existing one) suggests the creation of an inclusive, rather than exclusive, environment with regards to use and occupation. To achieve such an approach requires taking into account the many potential levels of agreement operating at different scales within the urban tissue and providing them with an effective structure for decision-making. Ideally, a thematic design should promote the dynamic juxtaposition of different interest groups and their activities and result in a physical fabric capable of supporting both change and continuity over time.

The key principles underlying the design approach taken in this study can be summarized as follows:

1. Establish a clear urban design framework operating beyond the confines of individual projects (like the one proposed for the Fan Pier) so that co-ordinated development can extend across the Fort Point Channel area as a whole.
2. Preserve as much of the surviving warehouse fabric as possible through upgrading and transformation. Derive patterns from the existing warehouse and

Fig. 7.1.1 Summary Axonometric of proposal for thematic development of the Fort Point Channel Area.

block configuration which can be applied to the development of adjacent areas, thereby ensuring the effective physical integration of new and old environments.

3. On adjacent open sites, promote a high-density but predominantly lowrise building fabric, contrasting with, rather than extending, the form of the central business district. This lowrise development should maximize individual addresses, reinforce an active public/private interface and maintain a continuous, built-up street edge.

4. Provide a unified transportation infrastructure by extending the existing two-level access system across the entire site. By integrating a comprehensive strategy for both garages and on-street parking with a partially elevated street network and a parallel public transportation loop, the impact of new developments and their accompanying traffic can be minimized and a dense streetscape can be maintained.

5. Develop a comprehensive open space network for pedestrians capable of meeting both the regional needs of the proposed Boston Harborwalk, (the continuous waterfront park system under development along the waterfront,) and the everyday needs of a permanent residential community. Create suitable sites for local parks and community facilities to give the network points of focus.

7.2 Problems and Implications of a Comprehensive Approach

Needless to say, the procedure which has been unfolded in this study is an artificial one because it is the product of the ideas of a single designer.

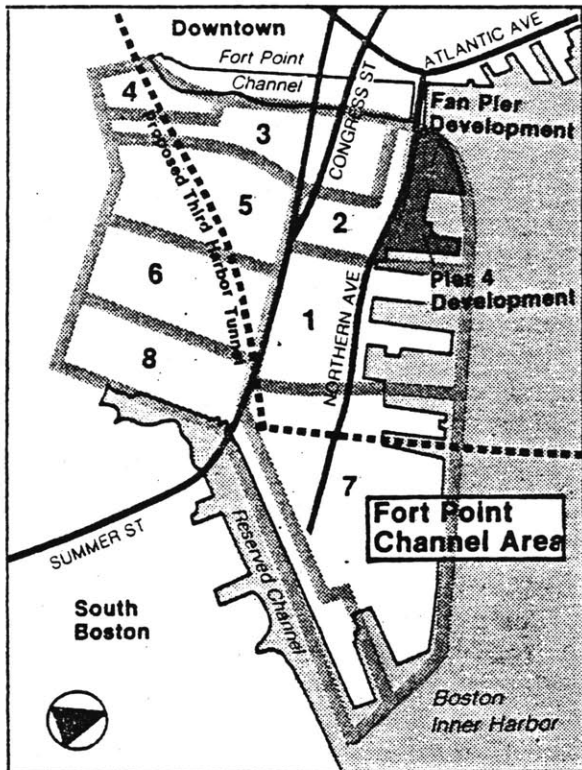


Fig. 7.2.1 Current large scale land holdings of the Fort Point Channel Area (*The Boston Globe*).

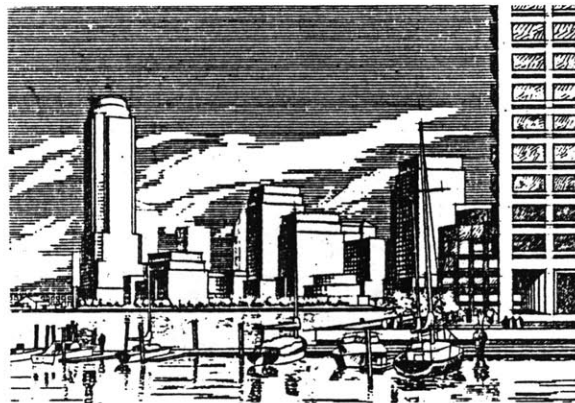
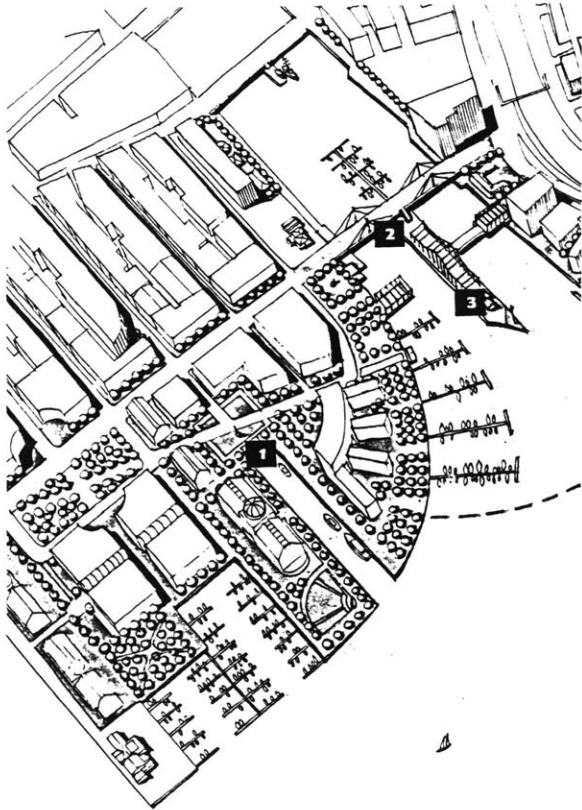
Thus, it can only approximate the kind of considerations and levels of decisions which should be made through intensive negotiation between various interest groups. It is unlikely that such a range of guidelines and design principles could be implemented without the effective participation of many different actors in the development process. Developments where public authorities impose too many guidelines and try to specify the physical outcome too explicitly are often faced with a difficult, uphill battle to win the co-operation of the private sector. Invariably, the public sponsors must offer considerable incentives to the private developers and allow major modifications to the original plans in order to achieve even the most general goals further down the line. Conversely, the private sector is unlikely to be able to integrate their developments effectively with the rest of the city without the broader powers and controls of centralized public authorities. Developments which build on the existing assets of an urban context rather than independently from it therefore necessitate a carefully orchestrated linkage between public and private interests working according to common urban design principles and goals.

One of the key factors enabling private enterprise to determine the nature of redevelopment in major urban centers lies in its effective control and ownership of vast tracts of land. While high density development in the historic core of Boston is, to some extent, mitigated by the physical constraints of the existing street configuration and by the political constraints of downtown neighbourhood associations and other lobbying groups, former industrial zones on the rim of the inner city lack such built-in controlling mechanisms. In such instances, private developers assume responsibility for both public and private domains throughout the planning and construction phases of their projects.

Once private developers assume control over blocks and blocks of the city, the nature of public space within these land holdings becomes ambiguous. As has already been demonstrated earlier, the 'island' scheme proposed by Pelli for the Fan Pier might easily be read as an exclusive compound, the roads and elliptical plaza acting as a grand driveway for the proposed hotel. The open space amenities and pedestrian bridges become a 'concession' to the city in exchange for greater density rather than a natural extension to the everyday public infrastructure of the adjacent warehouse district.

New, large-scale developments by the private sector inevitably suffer from being self-contained, isolated zones within the city. With large land holdings, growth pressure and market demands, it is difficult to control the quality and character of new building complexes through public intervention. As these large-scale developments often take place on essentially open sites, swept clean of the past evidence of human occupation, it is difficult for planning authorities to enforce either innovative or conventional patterns which might lead to more livable and active streets and more generally accessible public spaces. With the flexibility of contemporary building technologies and the accustomed scale of high intensity development, there is also a freedom from conventional practices which have contributed to the viability of intense streetscapes in the familiar examples of Back Bay and Beacon Hill.

The review process by which an organization like the Boston Redevelopment Authority (BRA) controls the nature of a given development, while often effective in winning public amenities, modifications in scale and density, and better functional programming, is at best a crude tool. The development which is to take place in the Fort Point Channel area will bear little resemblance to



the previous urban design schemes of the BRA and their own private consultants for the same site. Instead, with very generalized goals in mind (e.g., like preserving public access to the waterfront and maintaining public street rights-of-way,) the BRA is forced to negotiate with developers on an incremental, often piece-meal basis. The trouble with this kind of process is that it generally precludes the possibility of effective overall urban design strategies for the city. With no generalized goals articulated about the shaping of infrastructure and massing of buildings, it is difficult to determine, or object to, the placement of towers (like the 50-storey hotel planned for Fan Pier) or the density and organization of the street network. Johnathon Barnett has described what he calls the "Negotiation Syndrome" whereby developers take on planning authorities and review boards to 'interpret' zoning and design regulations and win major concessions. Barnett points out the inevitable consequences of such a negotiation procedure, what he calls the "Trojan Horse Corollary".⁽¹⁾ Each concession won by an individual developer alters the spirit of zoning and architectural controls, perverts their original intentions for the sake of corporate gain, and thereby represents a powerful precedent for other developers to follow. One amendment, added on top of another, may eventually bring about the breakdown of the original planning intentions.

Figs. 7.2.2, 7.2.3 Above: recent depiction of the Fan Pier/ Pier 4 developments by the BRA versus below: artist's rendering of the Pelli scheme proposed by developers for the same site (*Boston Redevelopment Authority and The Boston Globe*).

(1) see Johnathon Barnett: Introduction to Urban Design, pp. 100-101.

A brief overview of existing neighbourhoods in the center of Boston, products of extensive, comprehensive urban expansion in past eras, has indicated there is still much to be learned from the existing built environment. A number of North American cities have attempted to institute design and development controls on this basis. San Francisco is one instance of a large urban center which has instituted a comprehensive Urban Design Plan with patterns and principles operating on a city-wide scale, building on the positive lessons to be learned from what is already in place.⁽¹⁾ Another example is Toronto, which, in the early '70's, hired a consortium of architects to produce an extensive range of guidelines, ranging from sunlight criteria for open spaces to aesthetically significant view corridors.⁽²⁾ Boston, itself, has gradually instituted such controls in its most historic neighbourhoods over the last few decades. To date, such guidelines have had limited effect on large-scale development in immediately adjacent areas. None of the examples cited seems to have had sufficient power to effectively control the scale and quality of subsequent development. Clearly, more work has to be done to make the ideals of design guidelines realistic propositions for developers.

(1) see Barnett: "Introduction to Urban Design".

(2) see Baird, et al "onbuildingdowntown: Design Guidelines for the Core Area, City of Toronto Planning Board, 2nd edition, 1974.

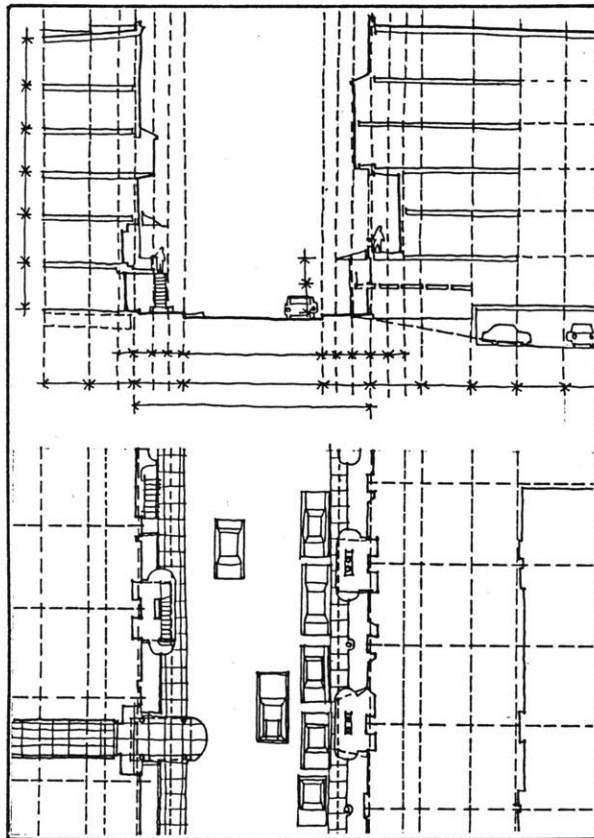


Fig. 7.2.4 Street Profile Guidelines (from Part 3)

What, then, are the implications of trying to introduce a comprehensive urban design process for controlling whole districts of the city undergoing rapid development? While it has not been within the scope of this design exploration to prove its political or economic viability or to come up with a detailed procedure for its implementation, it is at least possible to give a tentative indication of ways for making such an approach a reality. Reflecting on some of the factors which influence large scale development today, it is not difficult to see what some major stumbling blocks for this alternative approach might be. At the same time, it can be demonstrated that such difficulties can potentially be resolved through conventional tools already at the disposal of city authorities. The basic design principles that have been put forward at the beginning of this section can thus be restated together with the problems they raise and some tentative strategies for implementing them:

1. Establish a clear urban design framework operating beyond the confines of individual projects so that co-ordinated development can extend across the Fort Point Channel area as a whole.

The key to this principle is the idea of ensuring that the entire site is penetrated by a dense network of public streets, carving the land into relatively small development parcels. Obviously, private developers tend to favor the development of large 'superblocks', where they can exercise far greater power on access and land use. However, one of the city's most powerful control mechanisms concerns the definition of public streets and its edges. By declaring its rights over all existing public rights-of-way, declaring and enforcing intentions to extend them, and proposing new street alignments conforming to broader planning strategies for the city's infrastructure, planning authorities can

establish clear and effective limits to private development and open up a process of negotiation at an early stage.

2. Preserve as much of the surviving warehouse fabric as possible through upgrading and transformation. Derive patterns from the existing warehouse and block configuration which can be applied to the development of adjacent areas.

While, in this particular case, the developers who own most of the warehouse district are in favour of renovating the existing buildings for housing and offices, the degree to which they wish to preserve the fabric as a whole is in question, as is their interest in promoting a more densely inhabited streetscape. Their tendency has been to demolish some of the buildings for the sake of the others, thus gradually breaking down the continuity of the streets.

Traditional zoning controls might be used by planning authorities to introduce potential design guidelines for the developers. The city might, in the case of the north-south streets, reduce the allowable FAR, by as much as 20 to 25% of the existing floor space while requiring preservation of the existing building envelopes. Guidelines, such as those suggested in Parts 3 and 4 could then be put forward or developed with the owners to provide a general approach for transforming the buildings. Zones of permissible encroachments into the streets and on the roofs could be defined as bonuses or incentives for carrying out the spirit of more detailed design guidelines offered by the planning authorities. Ideally, historic zoning and density limits should be imposed by the city as the initial step towards a more detailed, negotiated design review process with the developers.

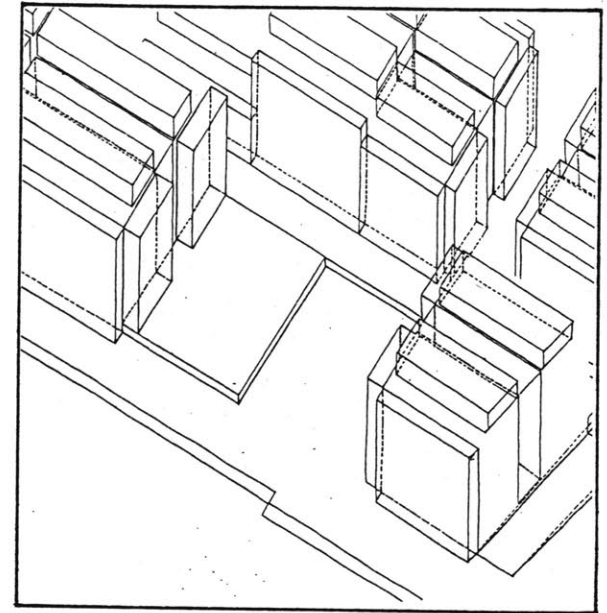
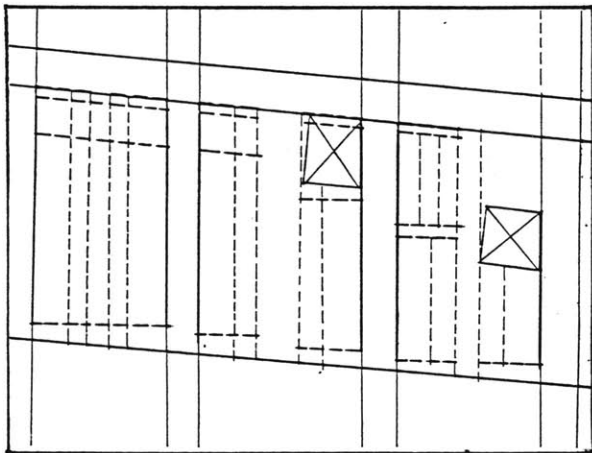


Fig. 7.2.5 Warehouse district guidelines for building envelope modifications (from Part 4)



Figs. 7.2.6, 7.2.7 Plan pattern and guidelines for new residential blocks (from Part 6)

3. On adjacent open sites, promote a high-density but predominantly lowrise building fabric. This lowrise development should maximize individual addresses and maintain a continuous, built-up street edge.

The principle stumbling block for private developers with the 'lowrise' approach is that it tends to fly in the face of their predisposition to erect monuments for corporate prominence and prestige. The promotion of more individualized street addresses for housing and small businesses also contradicts the private sector's (and, to some extent, their clients') preference for security-controlled lobbies.

Again, it is certainly within the normal powers of city authorities to control overall building heights as part of a declared official plan. In this context, the district in question must be looked at in terms of the shape of high intensity development in central Boston as a whole. It would be quite feasible to impose a 72' (six stories) height ceiling on any new development, at least in the form of a holding bylaw which could give the city greater negotiating power in a design review process. At the same time, strategies could be introduced allowing for 'landmark' structures to pop up in restricted locations (e.g., at the ends of blocks, adjacent to large open spaces) in return for public amenities, such as extensions to the slips at the harbor's edge or additional parks.

4. Provide a unified transportation infrastructure, integrating a comprehensive strategy for both garages and on-street parking with a partially elevated street network and a parallel public transportation loop.

Northern Avenue is a case in point. The proposal presented in this study has explored the idea of an elevated roadbed incorporating parking garages below which extend under adjacent building sites as well. While parking garages could be funded and constructed privately, they would require ramp access from the street above. Of necessity, the raised access system would be built by the city or a special development authority. Alternately, private interests could build sections of the parking and traffic artery according to public specification. In either case, the careful integration of street, buildings and parking into a dense, interconnected system would require a carefully integrated decision-making process and considerable capital investment on the part of both public and private sectors.

The private sector's propensity to build independent parking structures as part of autonomous developments obviously mitigates against such a process. However, the city has some conventional tools which might help to compensate for this tendency. For example, the city could issue tax free bonds and fund garages on the site through its own parking authority, enhancing the possibility of co-ordinating the major new road work to be done as well. Alternatively, the city could hand over the ground rights to the Northern Avenue corridor so that developers could use the space under the new road as an extension to their own developments. The city would then require them to meet various design criteria for ramp access, street edge conditions, etc.

5. Develop a comprehensive open space network for pedestrians capable of meeting both the regional needs of the proposed Boston Harborwalk and the everyday needs of a permanent residential community.

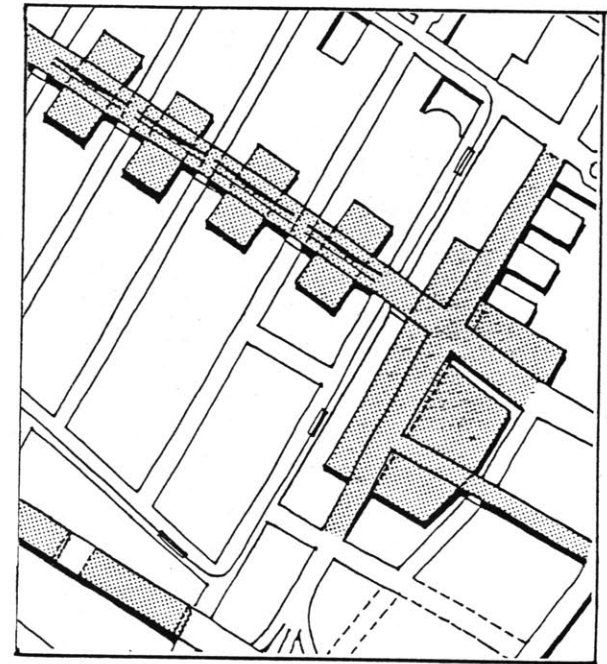


Fig. 7.2.8 Elevated street and service spine (Part 6)

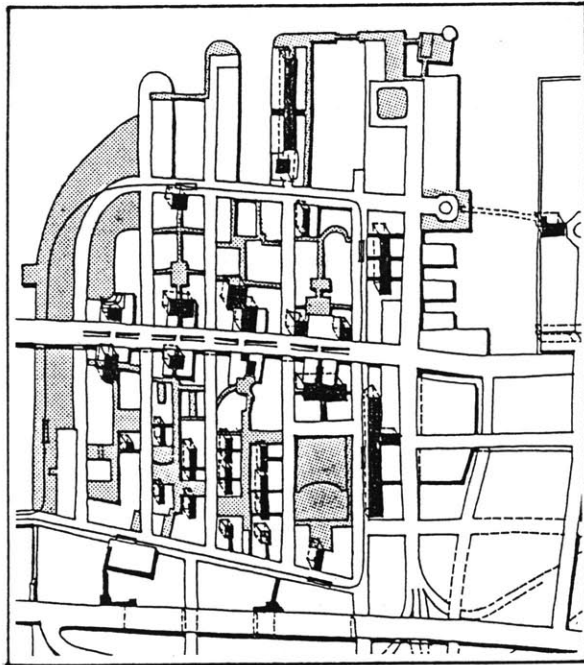


Fig. 7.2.9 Open space pattern (from Part 6)

Much of the land envisioned as public open space in the proposal illustrated in this study is privately owned. The tendency of private large scale development is to internalize functions and restrict public access to peripheral areas of the site. In this regard, the prospect of mid-block walkways and covered passages seems unlikely.

The city might start to introduce more systematic open space controls first by claiming jurisdiction over the old railway rights-of-way through the north-south blocks of the warehouse district and along the Fort Point Channel and exercising appropriate design guidelines to maintain them as pedestrian ways. The vacant lots left over from the demolition of warehouses along the existing streets could become part of a formula for a required percentage of open space to be contributed by each development. In the case of the northern half of the warehouse district, it would be necessary for the city to establish zoning guidelines for each block as a whole. This practice would then generate similar controls for new development parcels in the expansion area to the north and east.

7.3 Conclusions

It is significant that all the possibilities which have been put forward here for implementing the proposed alternative approach to development have been based on conventional zoning and design guideline techniques which are in current use in cities across North America. It is evident that, in order to achieve the desired results, considerable design control is a necessary prerequisite. City planning authorities, like the BRA, must be able to get ahead of the process in order to establish a coherent framework for the development which

is to take place in the near future. If good guidelines are to be implemented, the city cannot afford to be in a 'response' position; it must be able to anticipate the full implications of the transformations sweeping the Fort Point Channel area.

Boston is fortunate to contain districts which reflect a very different way of making cities than is common practice today. In this study, Back Bay Boston has been a useful paradigm as a structured, speculative development which, from the outset, combined private, incremental construction with public amenities in the form of boulevards and parks. The integration of public and private realms into a cohesive physical fabric has resulted in a rich, adaptable environment which, within a well-defined framework, continues to evolve more than a century later. Similarly, it has been shown how the Boston Wharf Company, within the more restricted field of industry and warehousing, was able to build a 'city-like' district based on a clearly defined systemic structure, but responding to a variety of individual client needs. Through a series of transformation experiments, it has been demonstrated how the warehouse district can be adapted for new uses. In both these examples, there was obviously a balance between the various controlling parties. No one entity dominated, and each project could be built in such a way that it contributed to an overall unity demanded by commonly held conventions while retaining its own individuality. This is a quality which cities might begin to strive for again.

My design exploration of the redevelopment of the Fort Point Channel has done little more than characterize the physical possibilities of an alternative approach. Many issues have been raised here which require further research and discussion. Before an alternative approach to prevailing large-scale

development practices can be considered as an effective way to establish new urban neighbourhoods, issues of control and implementation must be seriously addressed. Cities like Boston are faced with the difficult choice between embracing the rapid, isolated expansion of self-contained projects as the means to instant economic prosperity or carefully redefining development priorities so as to ensure continuity and careful integration of new growth within the existing urban fabric.



Fig. 7.3.1 Boston ferry commuters with the downtown skyline beyond...is this the future of the Fort Point Channel? (*The Boston Globe*).

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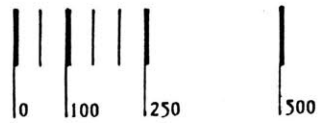
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REINHABITING THE FORT POINT CHANNEL

*A proposal for Transforming and Extending
the Warehouse District in South Boston*

1. Fort Point Channel
2. Old Northern Avenue Bridge
3. Realigned Northern Avenue and new bridge
4. Congress Street Bridge
5. Summer Street Bridge
6. Public Esplanade (extension to proposed Harborwalk)
7. Children's Museum
8. Community facility (school or recreation center)
9. Raised Northern Avenue with parking below
10. New office blocks
11. Renovated warehouse district
12. Community facility (daycare center)
13. Neighbourhood park
14. Community facility (school)
15. Market hall
16. New residential blocks
17. New hotel
18. Relocated Mariner's Chapel
19. Boston Harbor
20. Pier 4 Restaurant
21. Commercial facilities
22. Pedestrian bridge to World Trade Center
23. World Trade Center (renovated Commonwealth Pier)
24. New ramped street
25. Possible alignment of proposed Third Harbor Crossing
26. Viaduct Street



1000 feet

