

A DESIGN FOR AN URBAN PEOPLE CENTER

by

Vincent Samuel Hsu

S.B. Massachusetts Institute of Technology

1973

SUBMITTED IN PARTIAL FULFILLMENT  
OF THE REQUIREMENTS FOR THE  
DEGREE OF MASTER OF ARCHITECTURE

at the

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

June, 1975

Signature of Author

.....  
Department of Architecture

Certified by

.....  
Imre Halasz, Thesis Supervisor

Accepted by

.....  
John Habraken, Chairman, Department  
Committee on Graduate Students

Rotch



ACKNOWLEDGEMENTS

I would like to thank the following people for their  
advice and guidance: Imre Halasz

Alina Kurkowski

Donlyn Lyndon

Richard Tremaglio

Mike Underhill

Waclaw Zalewski

ABSTRACT

A DESIGN FOR AN URBAN PEOPLE CENTER

by Vincent Samuel Hsu

submitted to the Department of Architecture on June 16, 1975, in partial fulfillment of the requirements for the degree of Master of Architecture.

This thesis is an exploration of a program and design for an urban neighborhood center located in the Back Bay area of Boston, Massachusetts. It is a continuation of a longer process which began in the preceding term, when I started working on a design of a high-rise, mixed-use complex along Boylston Street. The intent of the thesis is to generate thought on the problems and possibilities of developing an urban people center which would serve as an amenity to the residents of the Back Bay, and to focus on the design implications of such a center.

Thesis Supervisor:

Imre Halasz, Professor of Architecture

TABLE OF CONTENTS

Program:

ASSUMPTIONS / HYPOTHESES	5
STRUCTURE	14
CONSTRAINTS	24
CONTEXT	26

Design:

PLAN +5	36
DARTMOUTH STREET ELEVATION	37
PLAN -6	38
PLAN +21	39
PLAN +34	40
PLAN +48,+56	41
SECTION AA	42
SECTION BB	43
SECTION CC	44
SECTION DD	45
BIBLIOGRAPHY	46

assumptions

HYPOTHESES

The growth of the city into the "megalopolis" has eliminated many of the advantages and benefits the city used to have. Most urban space today falls into two extreme categories of social space: private space (used exclusively by a few individuals) and public space (available to an entire metropolitan area). The increasing density of present urban living suggests a need for the development of semi-public space where people can meet and interact. In Boston's Back Bay the residential unit size has changed in the past ten years from the five-story townhouse to the five-room condominium apartment. There is consequently an increasing need for the urban dweller to extend his "personal" private social space into the semi-public areas that can accommodate space requirements of individuals and small groups.

THE NON-STUDENT CENTER

THE BACK BAY HAS THE POTENTIAL TO SUPPORT A SEMI-PUBLIC URBAN "PEOPLE" CENTER. THE KINDS OF SERVICES AND AMENITIES OF A SEMI-PUBLIC COMMUNITY CENTER WOULD STRENGTHEN THE EXISTENCE OF THE URBAN NEIGHBORHOOD IN

THE BACK BAY. THIS KIND OF SEMI-PUBLIC SPACE DRAWS A REFERENCE FROM THE UNIVERSITY STUDENT CENTER.

The speed at which living patterns change and the existence of different life-styles suggest an increasing need for adaptability in the environment. Adaptability can be defined as the capacity to change over time to meet changing conditions. Buildings are relatively permanent in light of the fact that man's life span is only seventy to eighty years. If the built environment is to respond in some way to change, adaptability must become a major design requirement.

The Back Bay is a quintessence of the urban population in which people of different ages and backgrounds live in close proximity. The basic townhouse unit has served successfully as residential, office, and commercial space. Any built intervention in the Back Bay should offer its users the kind of adaptability that has given a unique richness to the neighborhood in the past.

THE DESIGN OF AN URBAN CENTER SHOULD ACCOMMODATE CHANGING USES OVER TIME. JUST AS THE IDEAL STUDENT CENTER ADAPTS TO CHANGES IN VALUES, ACTIVITIES, AND SPACE

REQUIREMENTS OF TRANSIENT STUDENT USERS,  
A SEMI-PUBLIC, MULTI-SERVICE CENTER SHOULD  
RESPOND IN A SIMILAR WAY TO THE DIVERSE  
NEEDS OF THE COMMUNITY.

A design intervention should meet the needs of present life-styles, and cannot imitate or seek to reproduce existing built conditions. New forms should derive from existing conditions and living patterns. In recognizing the underlying character of a place, the designer can make a more meaningful intervention by enabling the user to continue to identify with his environment through meanings inherently associated with it. The Back Bay has a long and rich architectural history, which is important to respect. Part of the character of the Back Bay comes from architectural variation occurring within a repetitive bay size.

ANY INTERVENTION SHOULD RECOGNIZE THIS  
PATTERN OF THE REPETITIVE BAY SIZE. IN  
ADDITION SUCH FEATURES AS THE BAY WINDOW  
AND THE CORNICE HEIGHT WILL BE CONSIDERED  
IN THE DESIGN.

Historically, variation in each townhouse was predominantly restricted to "sculptural" differences, re-

flecting the relative homogeneity in use and life-style of the people of Back Bay. Part of the richness of Newbury Street derives from the diversity of use determining the form.

VARIATION IN FORM WILL BE DETERMINED BY  
VARIATION IN USE - AS A SYMBOL OF A WIDER  
RANGE OF LIVING PATTERNS TODAY.

The site is located on the corner of Newbury and Dartmouth Streets. Newbury Street acts as a link between Massachusetts Avenue and the Boston Common, and presently serves as a fashionable shopping area for metropolitan Boston. Dartmouth Street, perpendicular to Newbury Street, is intended as a link between Copley Square and the Esplanade, a linear park along the Charles River. Recently there has been a major effort to develop Dartmouth Street into a major avenue between Copley Square and the Esplanade.

THE DESIGN SHOULD RESPECT AND MAINTAIN THE  
QUALITY AND SENSE OF PLACE OF NEWBURY  
STREET AND AID THE DEVELOPMENT OF DARTMOUTH  
STREET AS A MAJOR THOROUGHFARE BETWEEN THE  
ESPLANADE AND COPLEY SQUARE.



Immediately adjacent to the site are townhouses, converted to offices and shops, on Newbury Street, and the newly renovated Vendôme Hotel on Dartmouth Street, which consists of residential condominiums and a shopping mall on the street level.

THE DESIGN INTENDS TO CONTINUE THE EXISTING PATTERN OF USE ON NEWBURY STREET AND THEREFORE WILL INCLUDE COMMERCIAL ACTIVITY IN THE INITIAL PROGRAM. SECONDLY, SINCE PART OF THE VENDÔME HAS BEEN DEVELOPED AS INTERIOR COMMERCIAL SPACE, THE DESIGN SHOULD STRENGTHEN AND ADD TO IT.

It is not within the scope of this exploration to develop a framework for the management of the building. However, the importance of management to the viability of the program cannot be over-emphasized. The collective body which would manage the various activities that will take place must assure an equitable allocation of space to individuals and groups with different and conflicting needs. The quality of management of an "urban people center" (and of semi-public space in general) is decisive in preventing a "bus terminal" environment. Assuming

society's present attitude towards public space, an urban center would have to be organized and run by a body of individuals with a vested interest in that center, not unlike more traditional forms of the university center.

The concept of adaptability suggests that a range of sizes and qualities of space becomes more important in programming than the design of spaces for specific uses. Much of the responsibility of programming should fall upon an active, managing body which will determine how and when a space will be used.

THE PROGRAM RECOGNIZES THAT EFFECTIVE MANAGEMENT OFTEN REQUIRES FLEXIBILITY RATHER THAN SPECIFICITY IN INITIAL PROGRAMMING. CONSEQUENTLY, SOME SPACES ARE PROGRAMMED AS "UNASSIGNED." OTHER SPACES ARE DESIGNED IN SUCH A WAY AS TO BE ABLE TO ADAPT TO USES DETERMINED BY THE MANAGING BODY. AT THE SAME TIME, THE PROGRAM PROPOSES A FRAMEWORK OF FUNCTIONS WHICH PROVIDES CERTAIN SERVICES AND AMENITIES THAT WOULD STRENGTHEN THE USER'S IDENTIFICATION OF THE BUILDING AS A PEOPLE CENTER. IT IS PROJECTED THAT IDENTIFICA-

TION WITH A PLACE WILL ENCOURAGE MORE  
ACTIVITIES TO OCCUR THERE WHICH WOULD IN  
TURN ADD TO THE LIFE OF THE CENTER.

SOME OF THE USES SPECIFICALLY PROGRAMMED  
ARE THOSE THAT REQUIRE A VERY PARTICULAR  
KIND OF SPACE, SUCH AS A THEATRE OR SQUASH  
COURT. THE INITIAL PROGRAM PROPOSES  
STORES THAT WOULD PROVIDE A FILTER BETWEEN  
THE PUBLIC STREET AREAS AND THE SEMI-  
PUBLIC COMMUNITY AREAS. THE FOLLOWING IS  
A LIST OF FUNCTIONS WHICH WOULD COLLEC-  
TIVELY PROVIDE A CONTEXT IN WHICH A PEOPLE  
CENTER WOULD THRIVE.

PUBLIC

BOUTIQUES/SHOPS

24 HOUR STORE

CAFE/PUB

OPEN-AIR COURT OR PLAZA FOR

FESTIVALS/CELEBRATIONS

EXHIBITIONS

PERFORMANCES

PUBLIC MEETINGS

GAMES

SALES

AREA FOR STREET VENDORS AND PEDDLERS

NEWSSTAND

INFORMATION CENTER

LAUNDRY

"PRIVATE" PUBLIC AREAS FOR

SITTING  
READING  
OBSERVING  
EATING  
TALKING  
BEING

GALLERY

SEMI-PUBLIC/SEMI-PRIVATE

INDOOR LARGE ASSEMBLY AREA

DAY CARE CENTER

OFFICES

LOUNGE AREAS FOR

GAMES  
CONVERSATION  
INFORMAL MEETINGS  
WORKSHOPS  
NAPPING

LIBRARY ✓

MEETING AREAS ✓

ATHLETIC FACILITIES ✓

STUDIOS FOR DANCE/ART

KITCHEN

"UNASSIGNED"

It is becoming more apparent that the economic solvency of a building often requires adaptability. An urban people center would be a social amenity that does not aim for monetary profit. However, conditions in the future might require the building to be used for profit-generating space.

BY INCORPORATING A STRUCTURAL SYSTEM THAT IS ALSO ADAPTABLE, MAJOR PHYSICAL CHANGES THAT OFTEN RESULT IN COSTLY RENOVATION OR DEMOLITION COULD BE AVOIDED.

## STRUCTURE

### Conditions

The structural system, besides providing the physical support for programmed activities, should provide the user(s) with an adaptable context that responds to changing space requirements over time. Adaptability should be provided at different scales of use, from the relation of different rooms to each other (organizational) to the type of windows and doors required. The user should be able to expand or contract his space in both vertical and horizontal directions. The amount of manpower and technical expertise needed to make changes should vary with the magnitude of the change. A user should be able to alter his immediate surroundings without having to intrude on the larger supporting framework. At the same time, changes in the larger context should be as easy as possible in order to encourage the user to take an active part in "designing" his environment.

An example of the differences in how the built context can encourage or discourage the users' active participation in constructing his environment to suit his particular needs can be seen by comparing the wood frame residential house with the modern apartment or office building. The "do-it-yourself" attitude is pervasive among homeowners in the American suburb. A house may

change occupants a number of times in its lifetime, and in the process, may radically change its form and use depending on the particular occupant's willingness to adapt his environment to his needs. This "adaptability" of residential construction is rarely seen in the typical apartment or office building where the turnover of occupants is often even more frequent than in residential buildings.

It has been shown that even when the walls of a high-rise building have been designed to be moved in order to facilitate space changes, the manpower required to make the change often prevents the users from taking advantage of the potential flexibility of the system. The problem seems to come from the building system allowing only one magnitude of change--moving the wall.

The structural system proposed, besides supporting an initial program, attempts to establish a "hierarchy" of adaptability, where the user will be able to add, subtract, or altogether alter his physical context at all scales of built definition, from the individual work space to the relationship of different floor levels. Thus, rather than requiring a major effort in order to make a space change, the system allows for adaptation on a continuum of cost in time and energy required to alter the environment.

The building system provided<sup>5</sup> a framework that is continuous with the existing pattern of the built Back Bay context and which strengthens the existing fabric. An important component that helps define the Back Bay is the 24' wide townhouse. A second important condition that defines Newbury Street, in particular, is implied "zones" of use. At the street level are the split-level retail shops which contribute most to the "sense of place" that Newbury Street has. Above this shopping "zone" is a semi-public zone which is somewhat removed from the random window shopper at street level (Newbury Street), but still offers services to the general public. This middle zone houses special services for a limited clientèle, semi-private offices, and private residential units in some buildings. The third zone consists mostly of semi-private offices or apartments, and is oriented more towards private use. Physically, this zone orients itself towards the roofs of the existing townhouses rather than towards the street. Expansion most often occurs above this third "roof" zone.

The building system used is designed in such a way as to give stronger definition to these zones, as well as offer more flexibility within each zone. To meet these requirements, the structural system uses two sub-systems: primary and secondary.

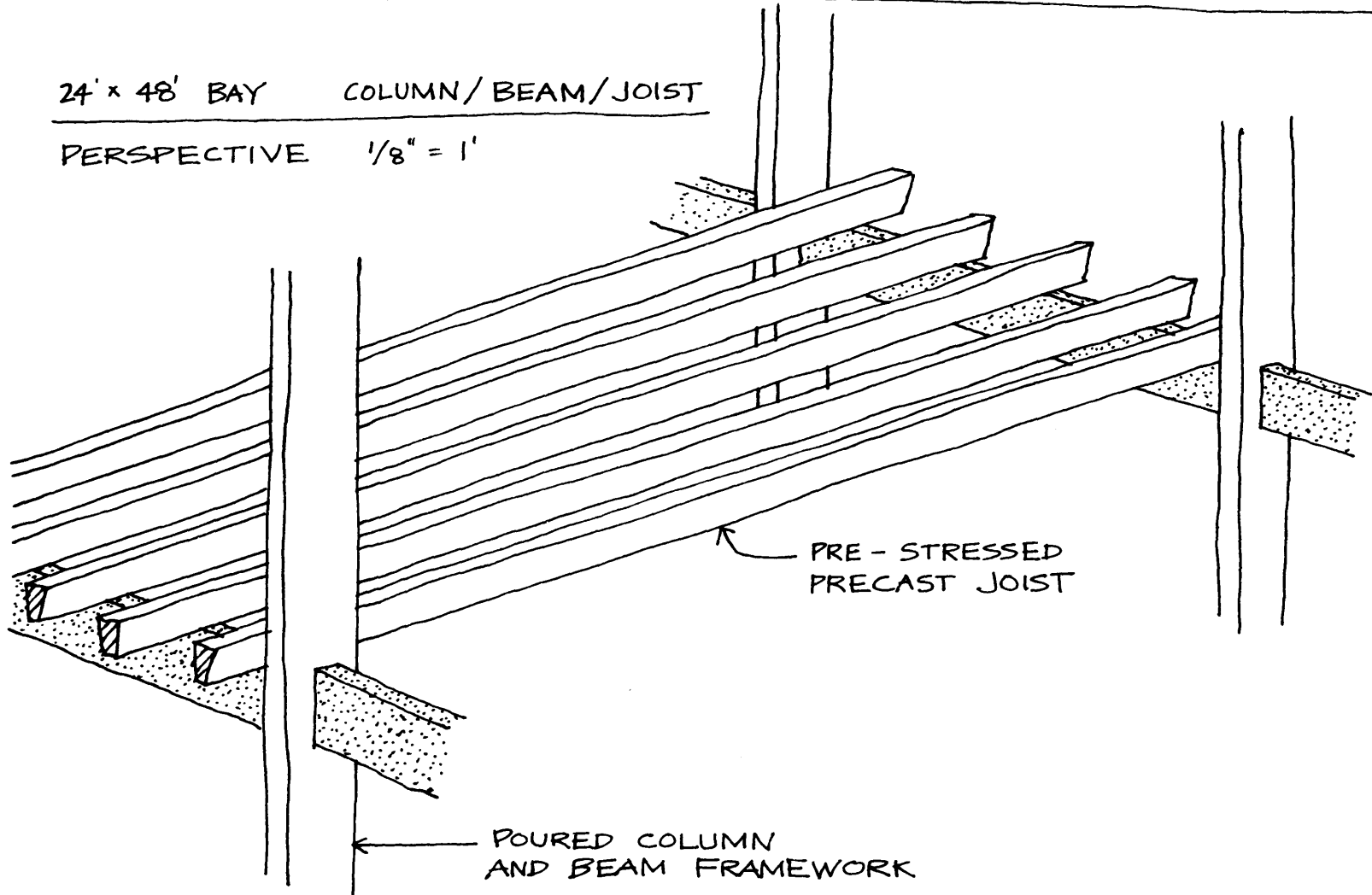


### Primary system

The primary framework proposed is a poured-in-place column and beam system forming predominantly 24' by 48' bays. On Newbury Street, columns are spaced 24' apart. On Dartmouth Street, in keeping with the module of the adjacent Vendôme building, the columns are spaced 23' apart. The floor of the primary system is composed of pre-cast, prestressed concrete joists spaced 5 feet apart, supporting a poured slab floor 4" thick. The 5' distance between joists allows for standard 4' by 8' plywood sheets to be used as temporary supports for the poured concrete floor. The use of pre-cast concrete joists allows one to use the space between the joists for openings in the floor, and in the future, allow for increased vertical circulation and access by removal (cutting out) of the concrete slab between two joists. The kind of change between "zones" implied here might occur at 10- or 20-year intervals, at a point in the building's life when a major reorganization or change in the use of the building as a whole is required. Although technical advice would be needed to implement these changes, the cost in time and energy, and the disruption of existing services in the building, would be far less than that needed to implement a similar change in a more

24' x 48' BAY COLUMN/BEAM/JOIST

PERSPECTIVE 1/8" = 1'



traditionally built office, retail, or residential building.

### Vertical circulation and mechanical shafts

Major vertical circulation and mechanical towers such as fire stairs, mechanical and elevator shafts, would work within the primary framework. Where possible, these towers would substitute for columns. Location of these permanent, fixed, vertical towers is determined by existing fire code requirements, the desired orientation of users to the building, its use, and mechanical efficiency.

### Secondary system

The secondary system consists of light-frame construction, which would be used within the fire zones defined by the concrete slab floors. This secondary system, similar to low-rise residential construction, would provide the users with the opportunity to intervene in their physical context to whatever degree their needs required.

By establishing this adaptable secondary framework, the user would be provided with a much wider range of alternatives in changing his physical context, not unlike the kind of changes made in low-rise residential construction. The use of light-frame construction to define

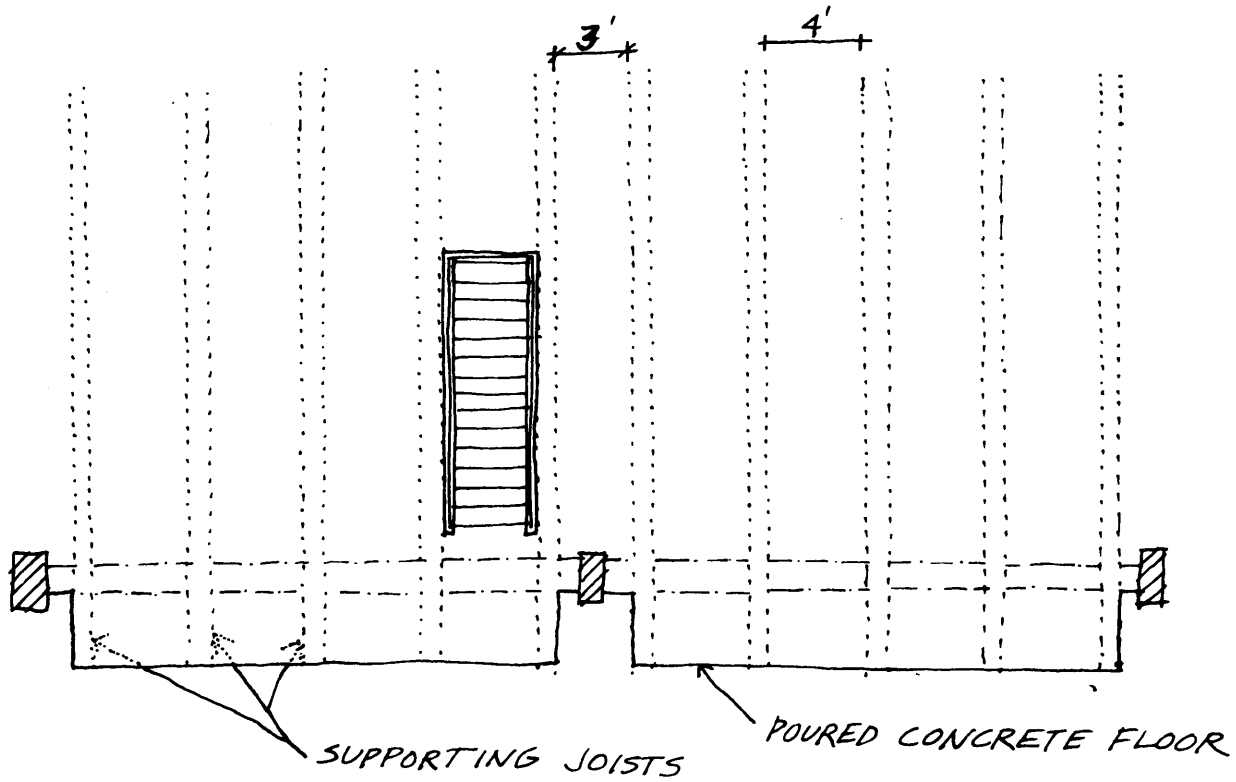
the space more specifically facilitates minor changes which might be required by one of the tenants or groups of users in only part of a "zone." For instance, a retail store might change owners, but would maintain a similar use for the public. Changes in the space would be minor. In a semi-public zone for community use, changes might be required more frequently, as different activities generated by community interest are formed on an ad hoc basis. The adaptability required in this case would be very high.

Light-frame construction allows for the use of the kinds of materials which do not require any heavy equipment or mechanization to handle. Even materials such as masonry or glass block, although fairly permanent, can be knocked down or built up with limited technical background. Thus certain activities that might remain for a long period of time such as a day care center, might use concrete block to determine most of its space, while other spaces around it are left to be built with wood, to meet the needs of more temporary requirements for space by users. The process described here would be mostly one of addition and subtraction, rather than completely rebuilding or reorganizing a zone every three to five years. The use of light-frame construction within each fire zone would support a process of building that is

much closer to the processes found in indigenous forms of architecture, which allow more individual participation by the user in the design decisions and construction of the built environment. There is an implied assumption here that the user has a particular attitude towards his environment, where he is an active participant in interacting with the built context. Although this might not be the case, or certainly not the case with everyone, the contention here is that the designer should provide the opportunity, where possible, in order to begin to encourage the users' active participation.

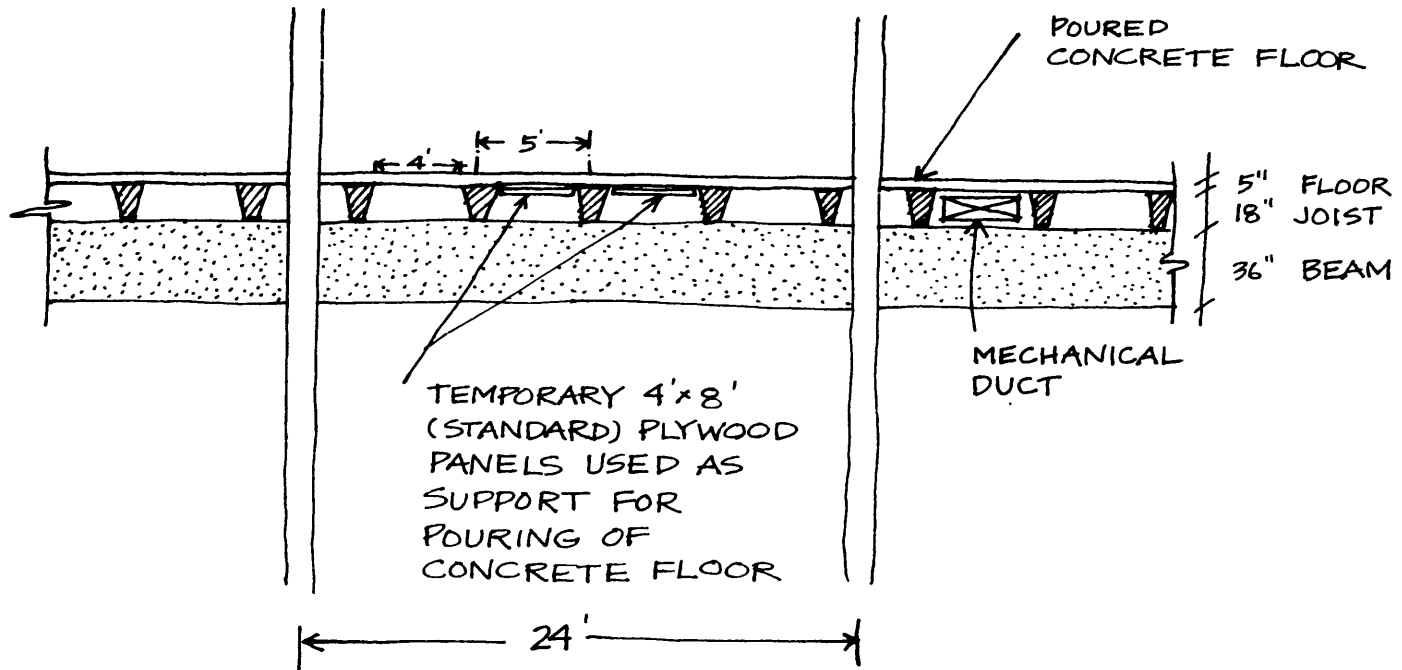
2 BAYS WITH "CUT" OPENING FOR ADDITIONAL STAIR

PLAN  $\frac{1}{8}'' = 1'$



DETAIL COLUMN / BEAM / JOIST / FLOOR

ELEVATION  $1/8" = 1'$



## CONSTRAINTS

### Environment

Sunlight, clean air and water, and vegetation are basic human needs which are at a premium in high-density urban living. The presence of natural light and vegetation should be felt in as much of the center as possible. The building should be given maximum exposure to sunlight in view of Boston's winter climate. Dartmouth Street, as well as other cross streets in Back Bay perform the essential function of breaking into the long avenue facades, allowing light and air and people to penetrate across long blocks. New buildings in excess of the prevailing cornice height on cross streets should still preserve the scale of the cross street. Twenty feet appears to be the minimum cornice setback which is perceptible from the street as creating a cornice line.

### Mechanical system

There is a high demand for space that has direct access to the street level. At the same time, excavation below minus six feet is costly and difficult. The area for mechanical equipment will be located on the upper levels of the building. A downfeed, multi-zoned heating and air-conditioning system would be used. A multi-zoned



system allows increased flexibility for individual tenants to make space changes.

### Service

The Boston Zoning Code requires two loading docks for a mixed-use building of the size proposed.

### Parking

Since the center would serve people who live in the immediate area, on-site parking will not be provided. An appropriate place for collection garages is located south of Boylston Street, near the points where several main arteries empty traffic from the suburbs into the city. In this area south of Boylston, street level retail frontage and the pedestrian street environment are not as valuable as on Newbury Street, and a garage with ramps and traffic is more easily tolerated. The Boston Code stipulates that the alley right-of-way, which has a 14' clear height, must be protected. However, air rights over the alley will probably be obtainable in the future, when the appropriate legislation is passed to give the city the power to grant the air rights over the Back Bay alleys.

# CONTEXT

## TRANSACTIONAL SPACE MAP \*

1" = 100'



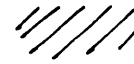
PEDESTRIAN SPACE



EXTENSIONS OF PEDESTRIAN SPACE (STORES, ETC.)



EXTENSIONS OF PEDESTRIAN SPACE VISUALLY (GRASS PLOTS, ETC.)



STREET SOMETIMES SHARED WITH PEDESTRIANS

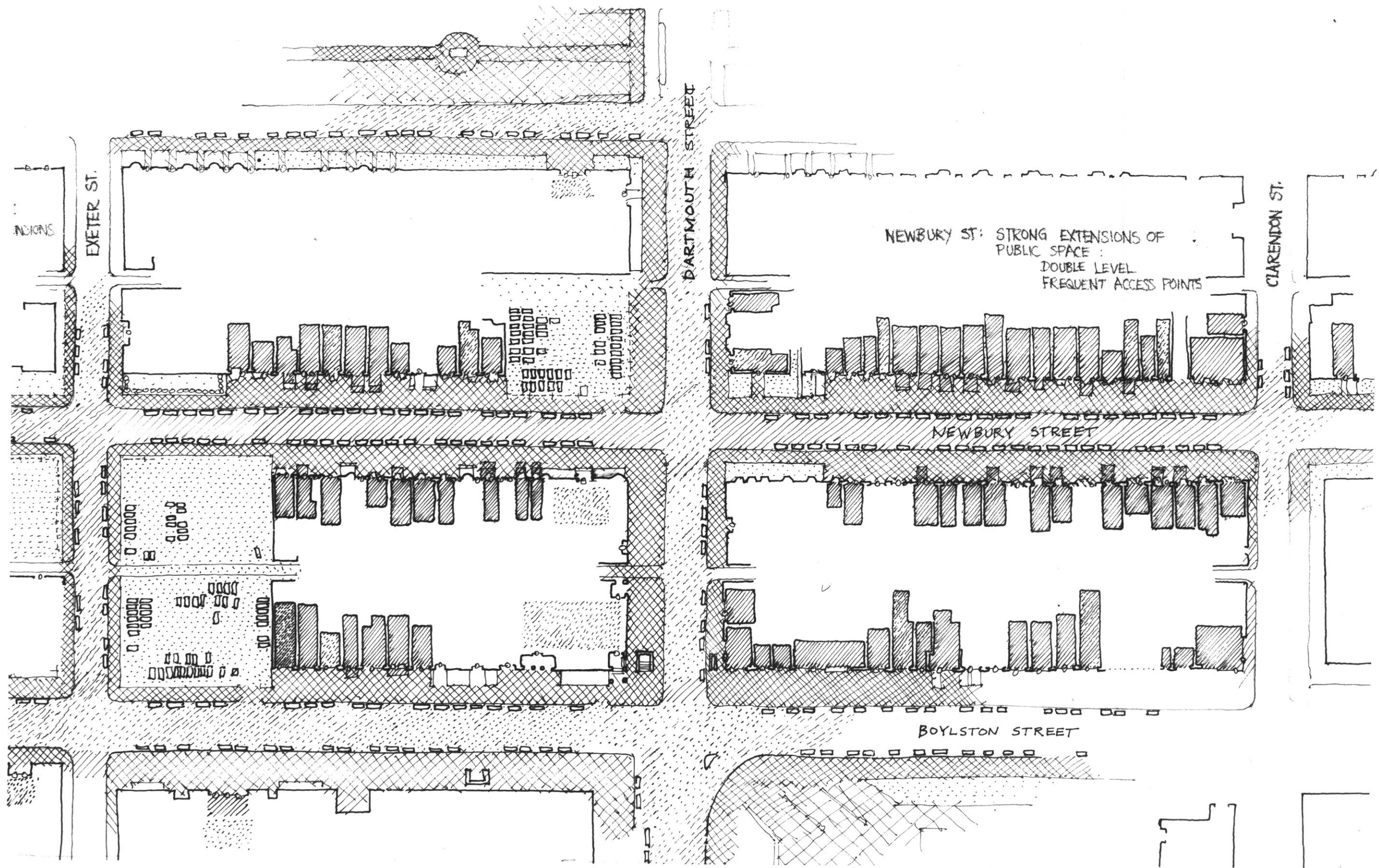


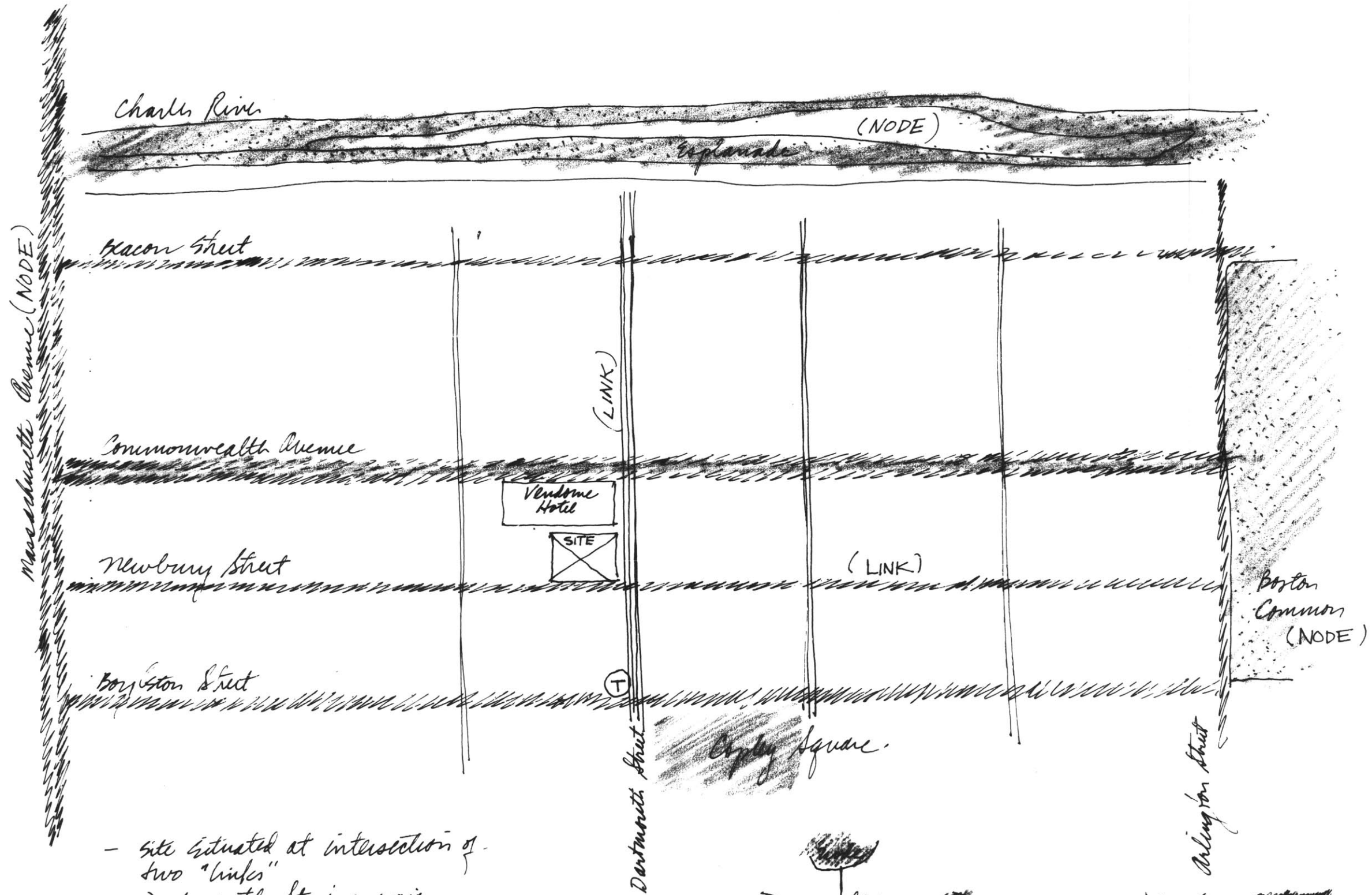
LIGHTLY - USED PEDESTRIAN SPACE



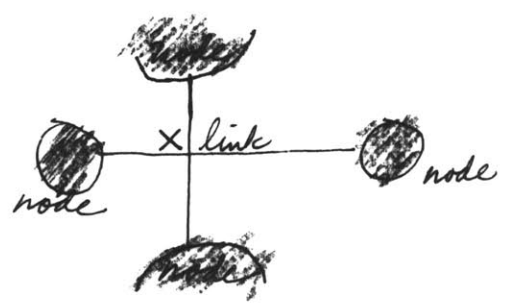
STREET RARELY CLAIMED BY PEDESTRIANS

\* RECORDED AND DRAWN BY JULIAN SMITH

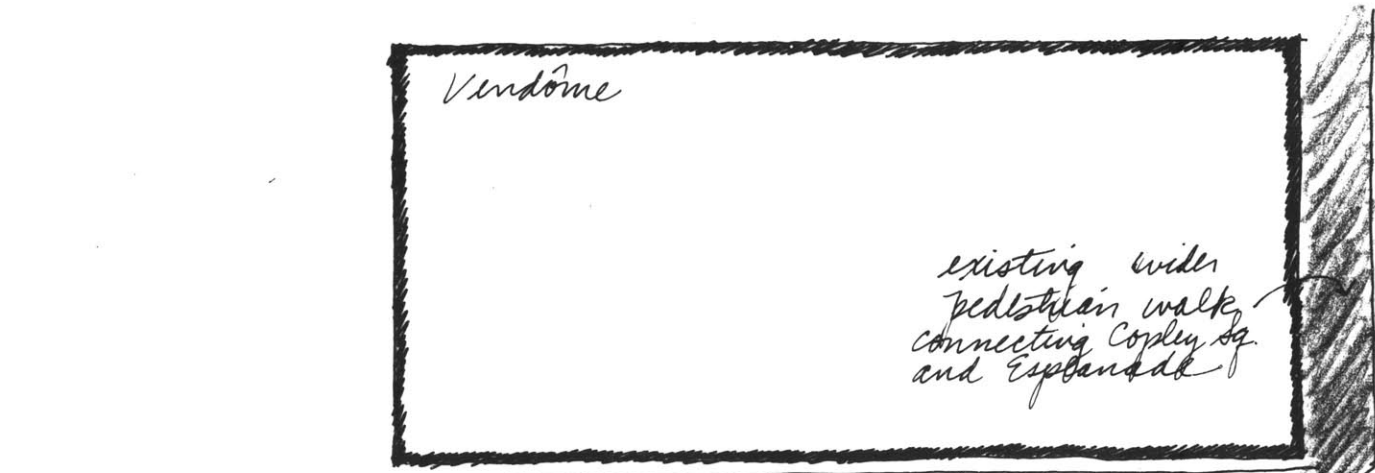




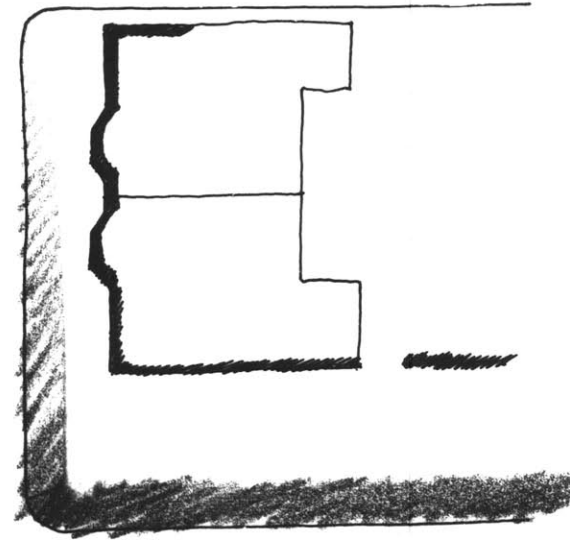
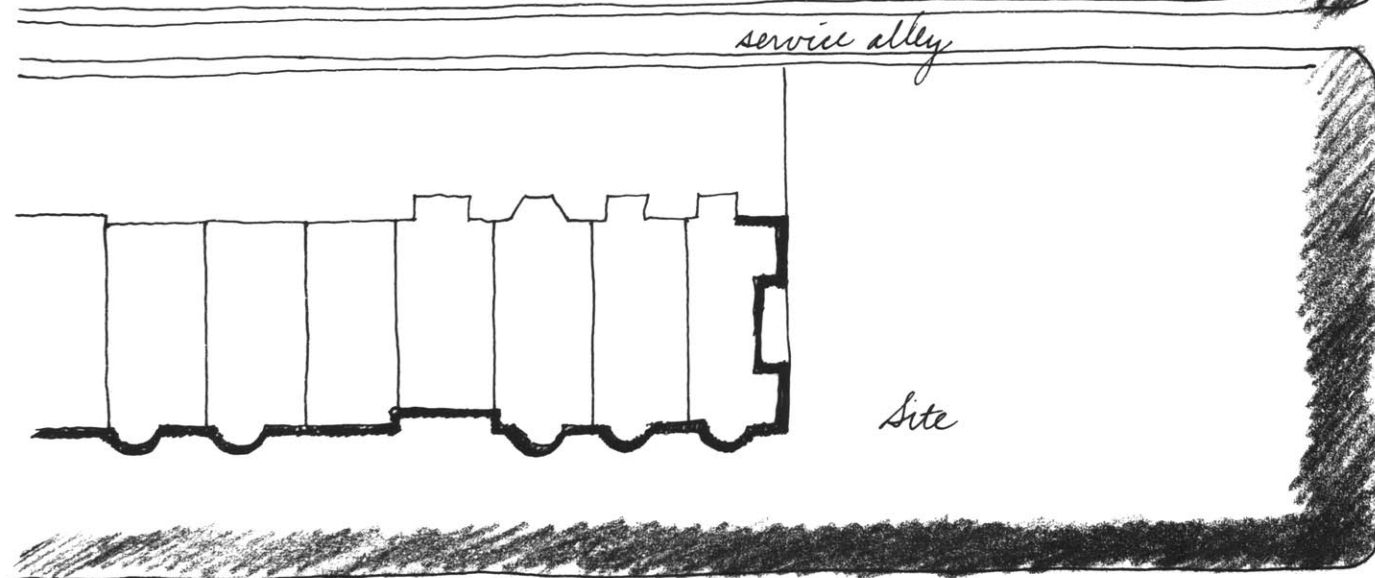
- site situated at intersection of two "links"
- Dartmouth St. is a major link between Copley Square and Esplanade
- Newbury is one of five links between Boston Common and Massachusetts Avenue



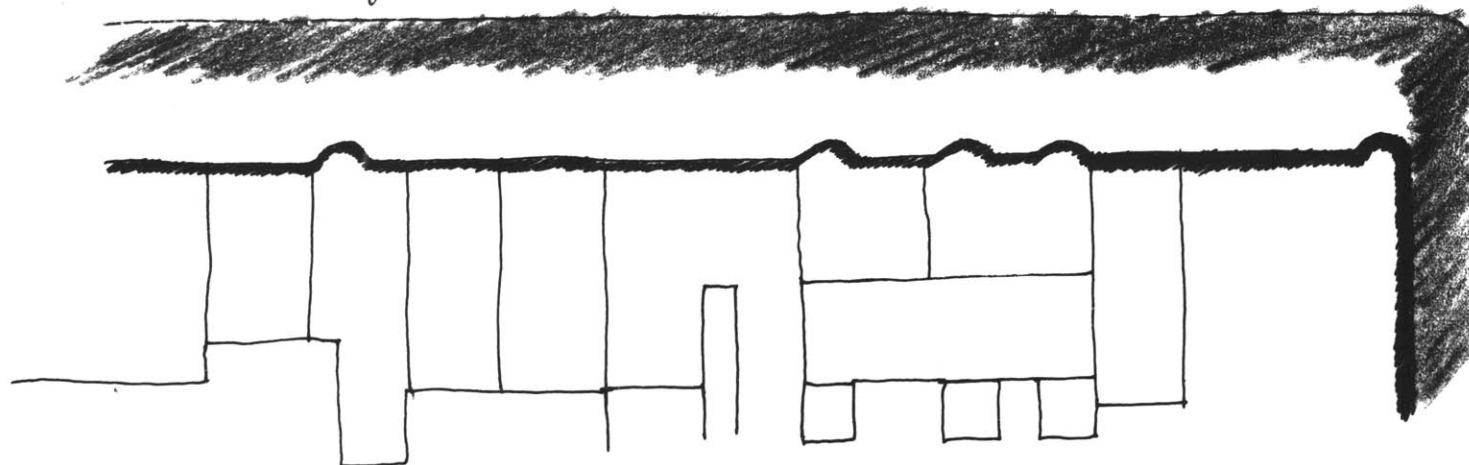
BACK BAY



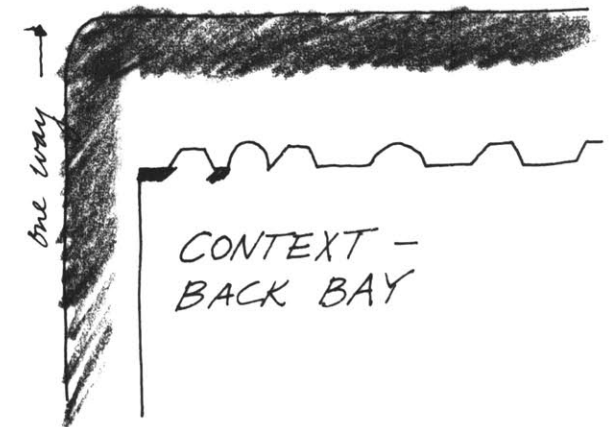
Dartmouth Street  
 - major link between Copley Square  
 and Esplanade



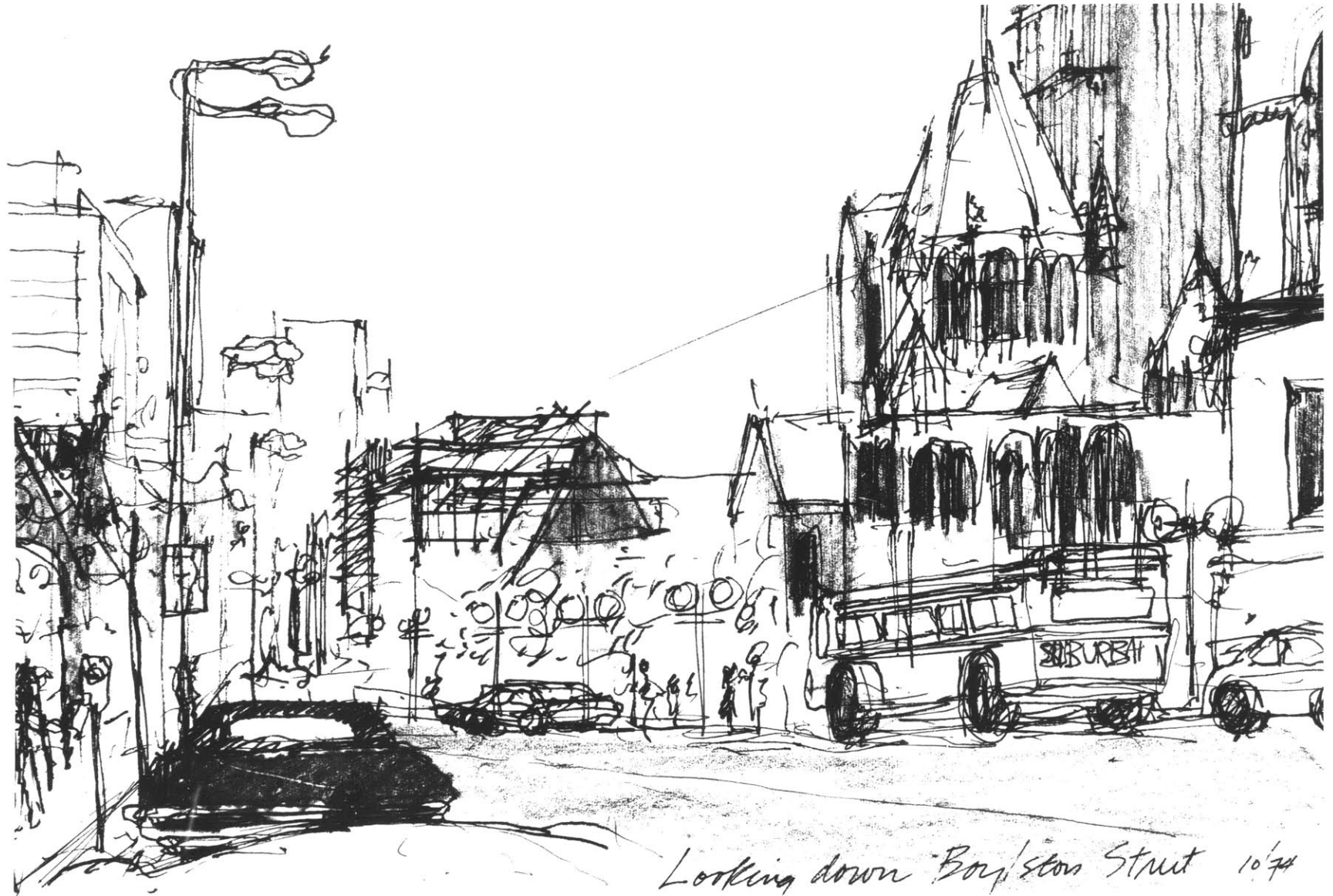
Newbury Street - link between Boston Common and Massachusetts Avenue



← one way ~~vehicles~~  
 vehicles







Looking down Boylston Street 10/74



VENDOME

DARTMOUTH STREET

CORNER OF NEWBURY STREET AND  
DARTMOUTH STREET









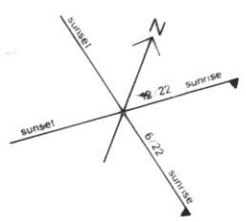
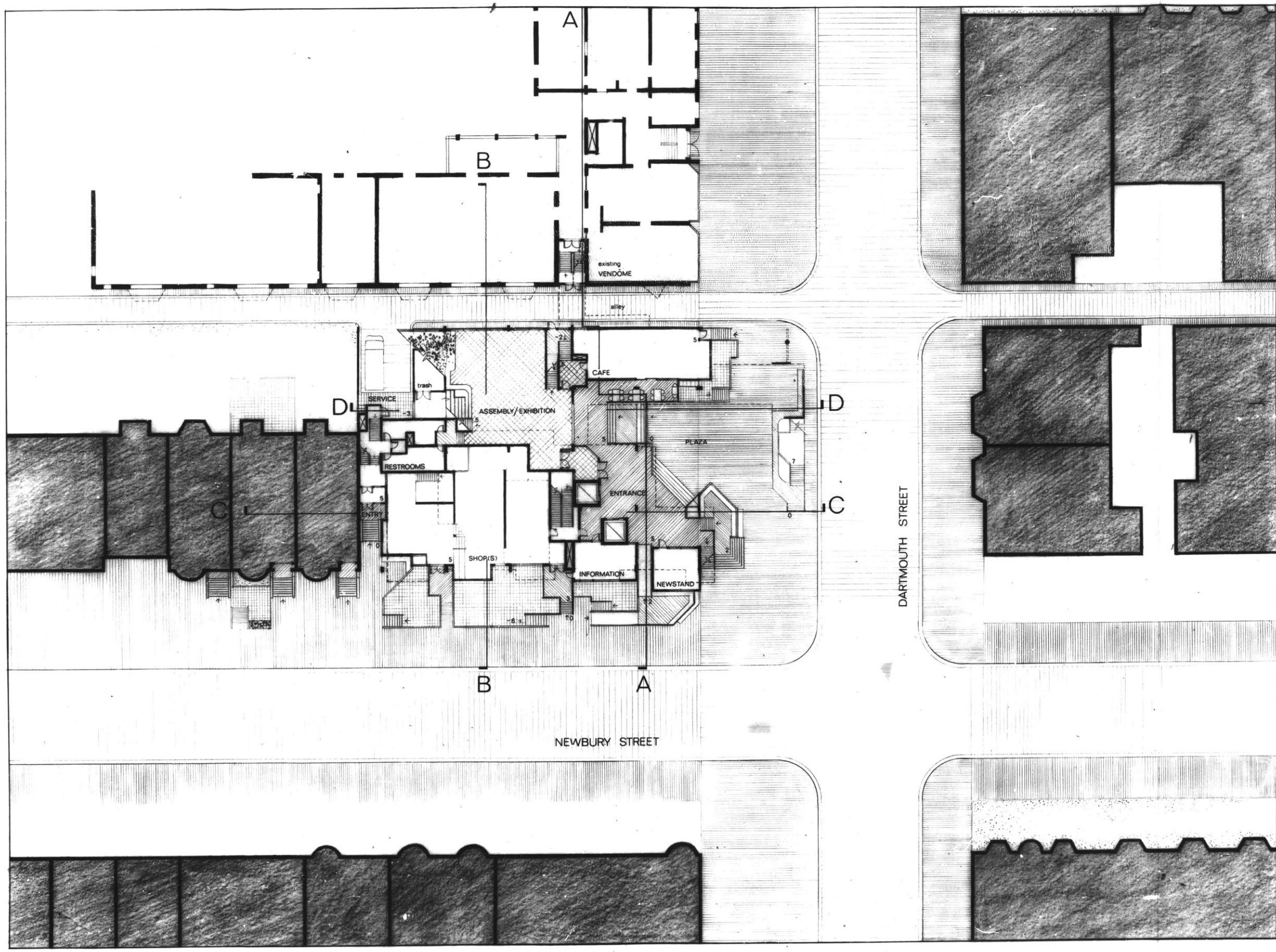
ADJACENT  
TOWNHOUSE

BACK OF VENDÔME

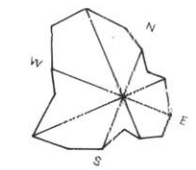
SITE







sun

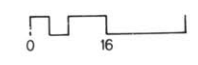


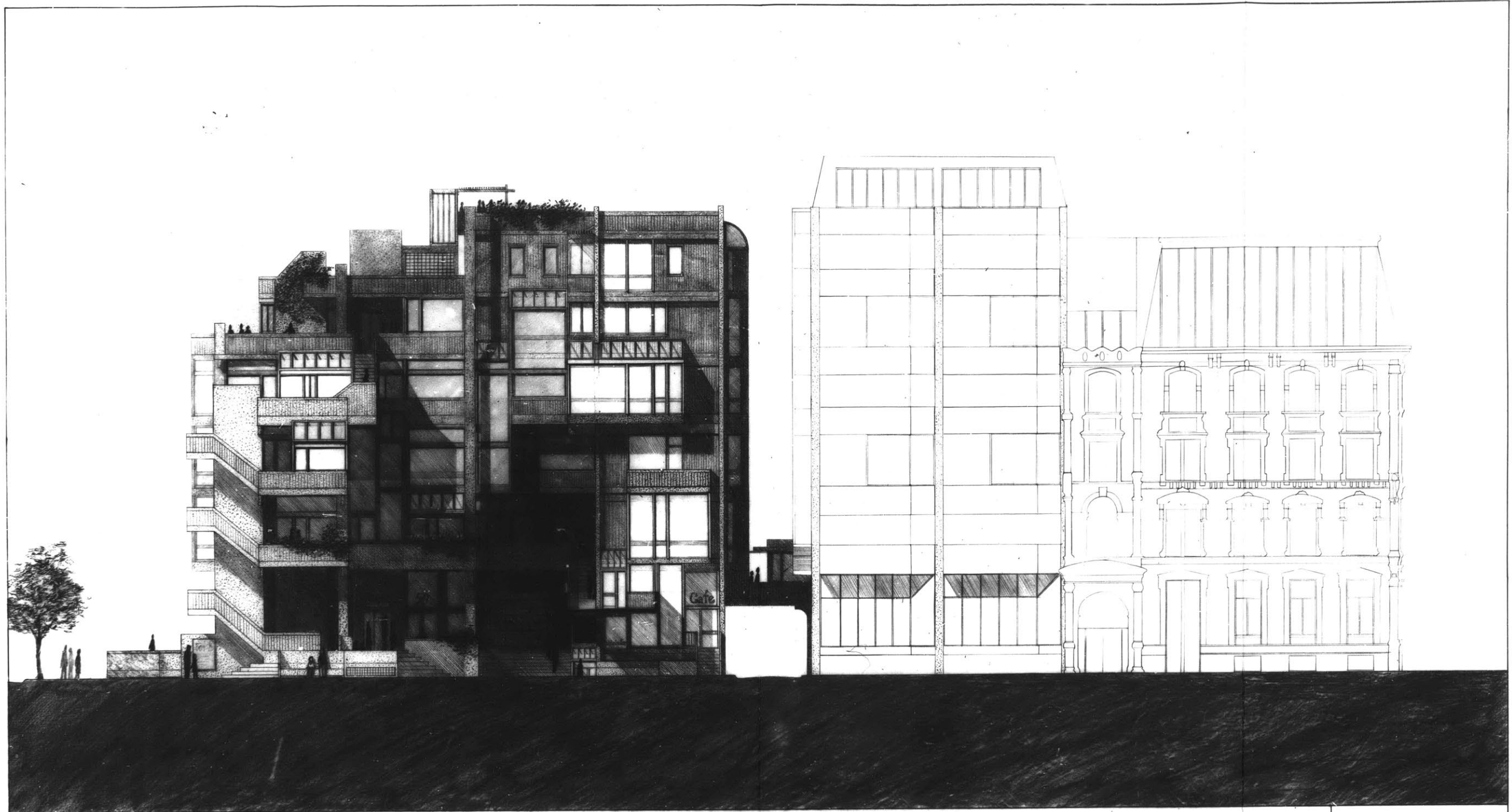
wind

DARTMOUTH STREET

NEWBURY STREET

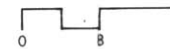
PLAN +5

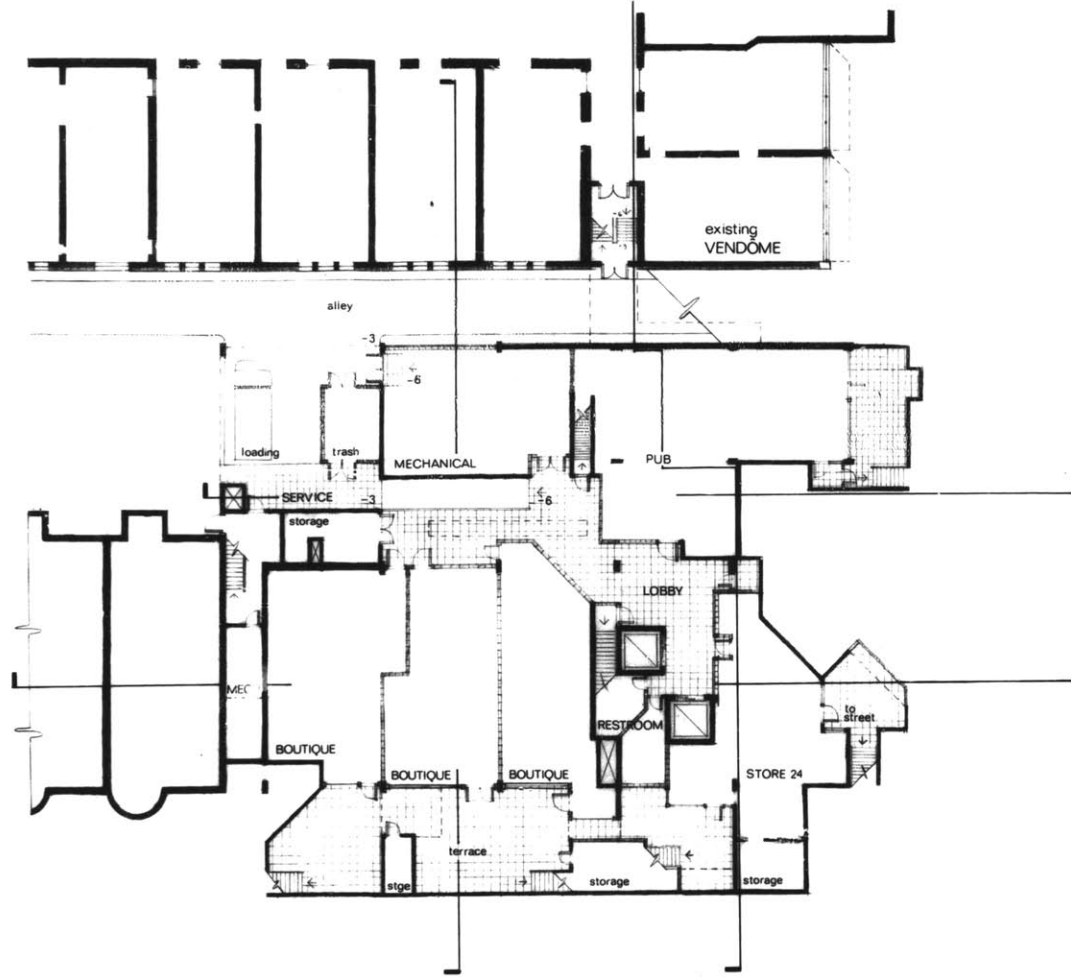




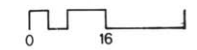
AN URBAN PEOPLE CENTER · BACK BAY

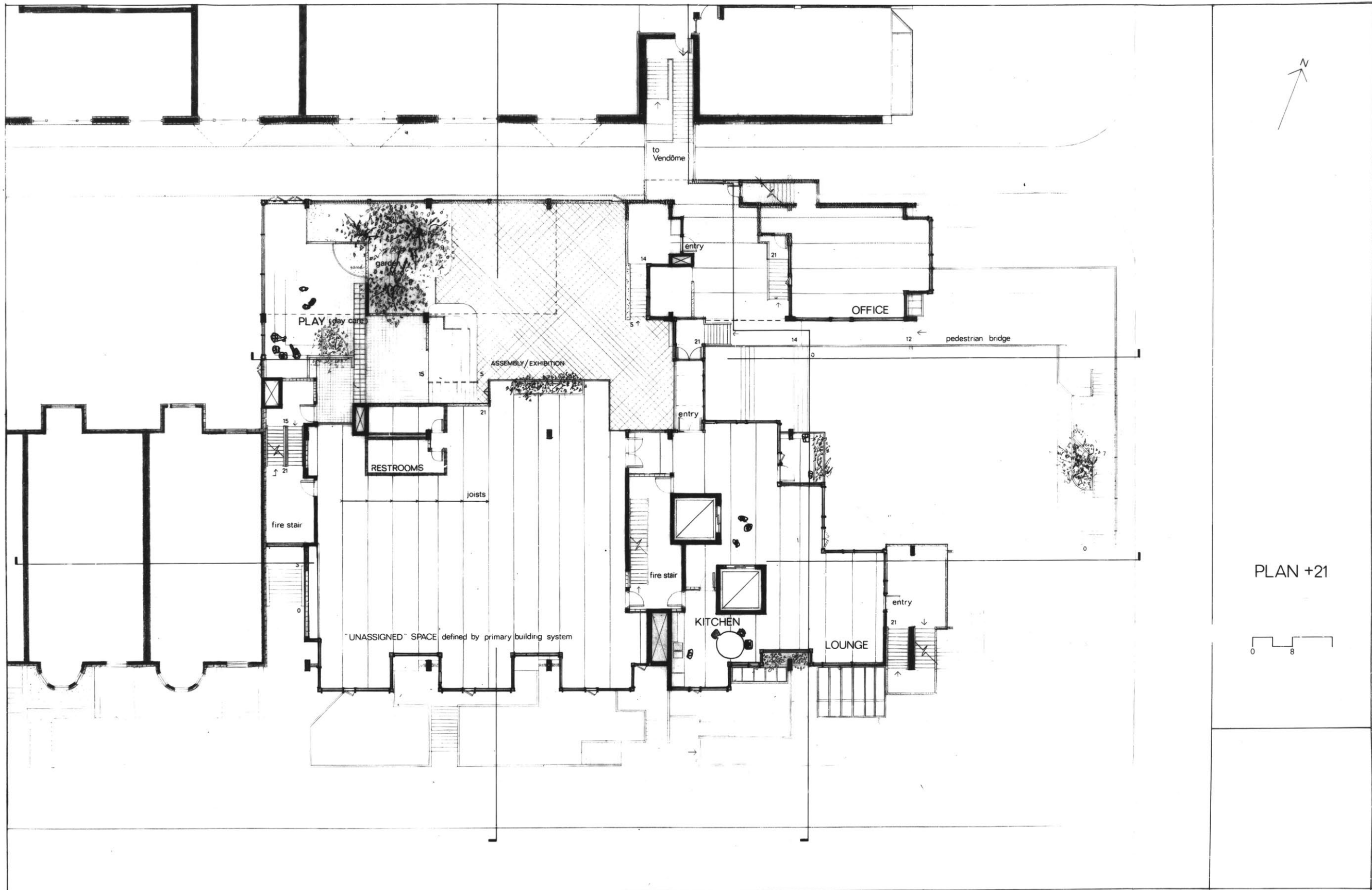
DARTMOUTH STREET ELEVATION





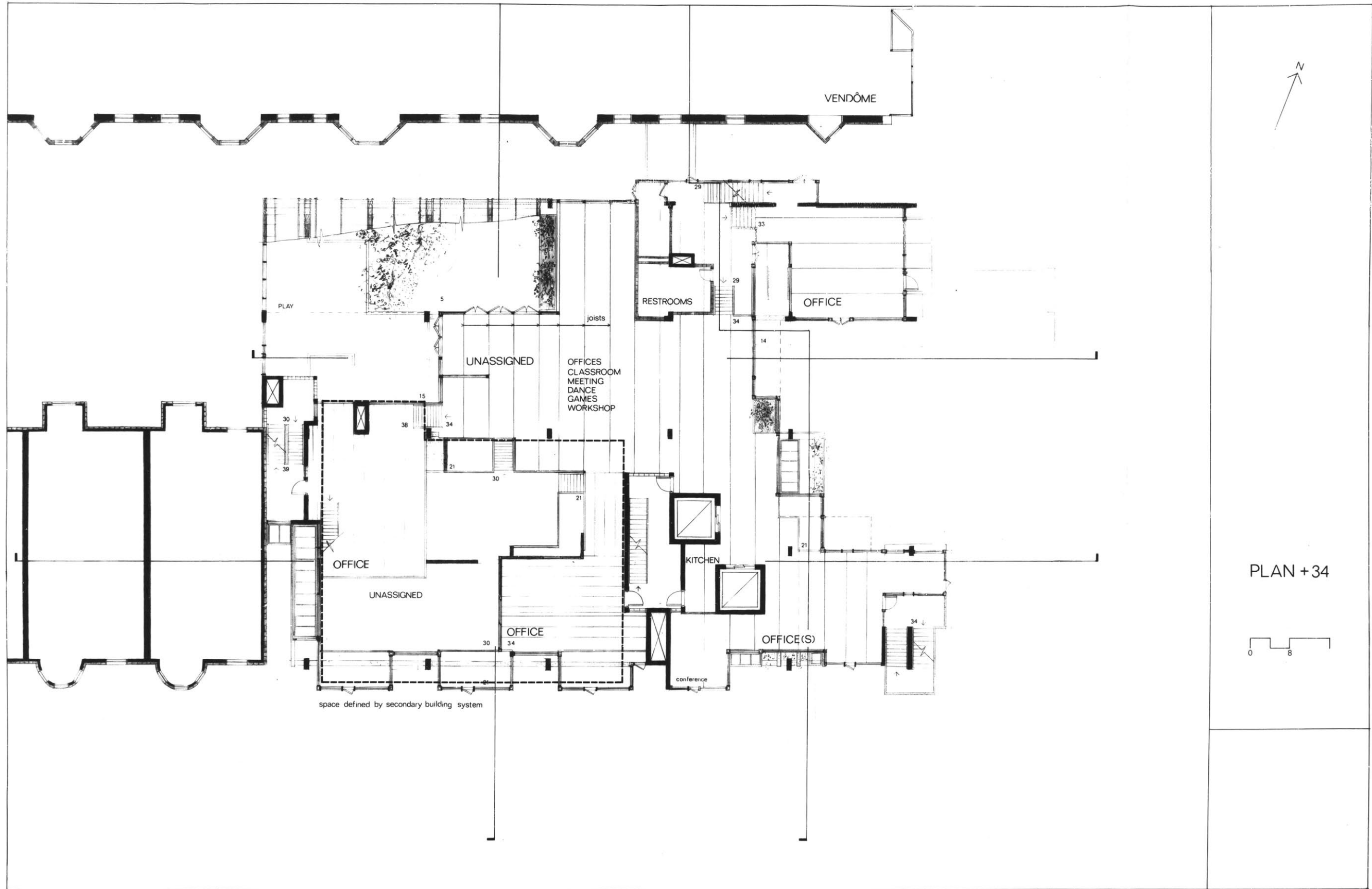
PLAN -6



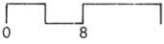


PLAN +21

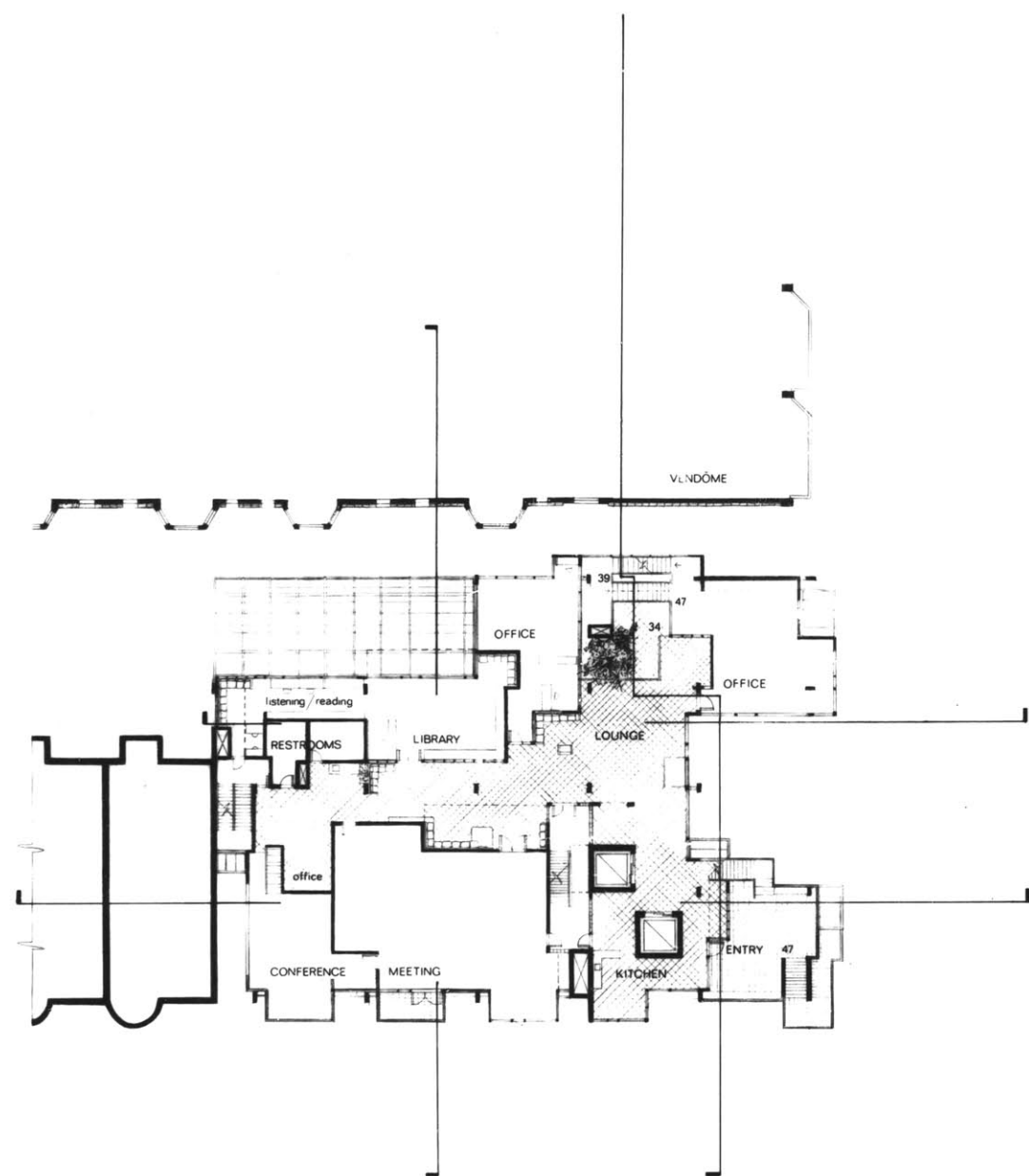




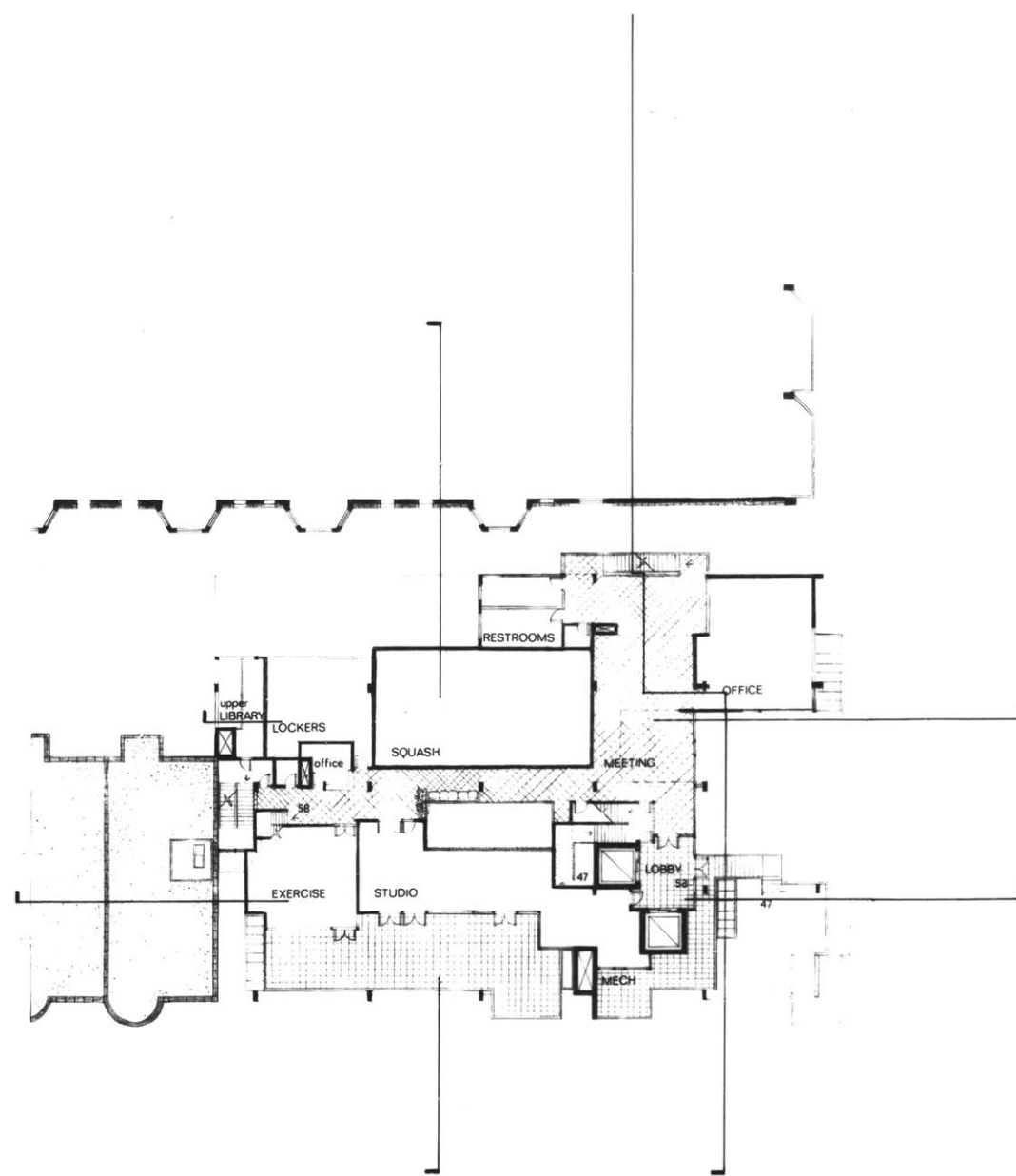
PLAN +34







+47

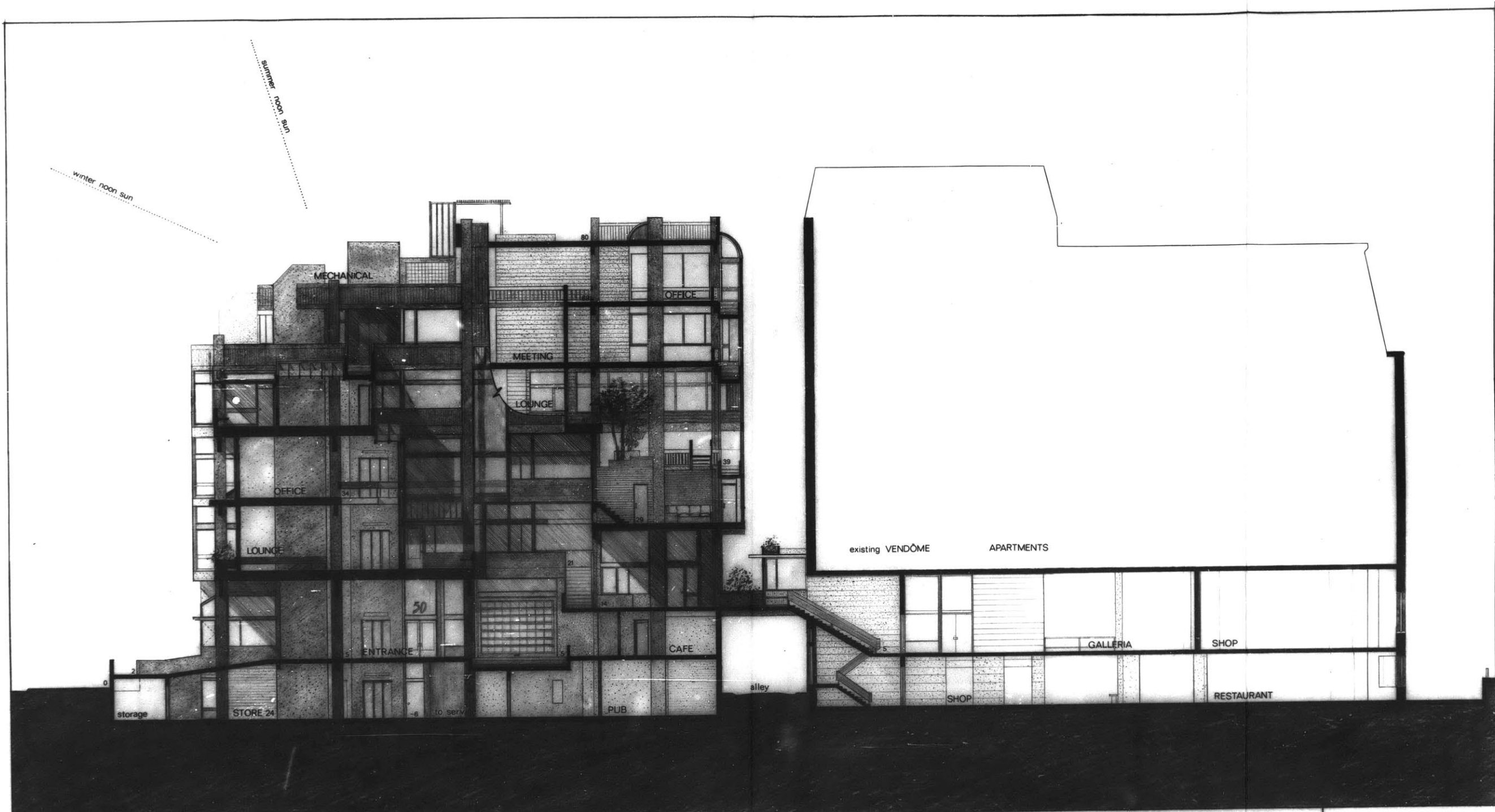


+58

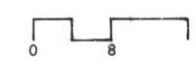


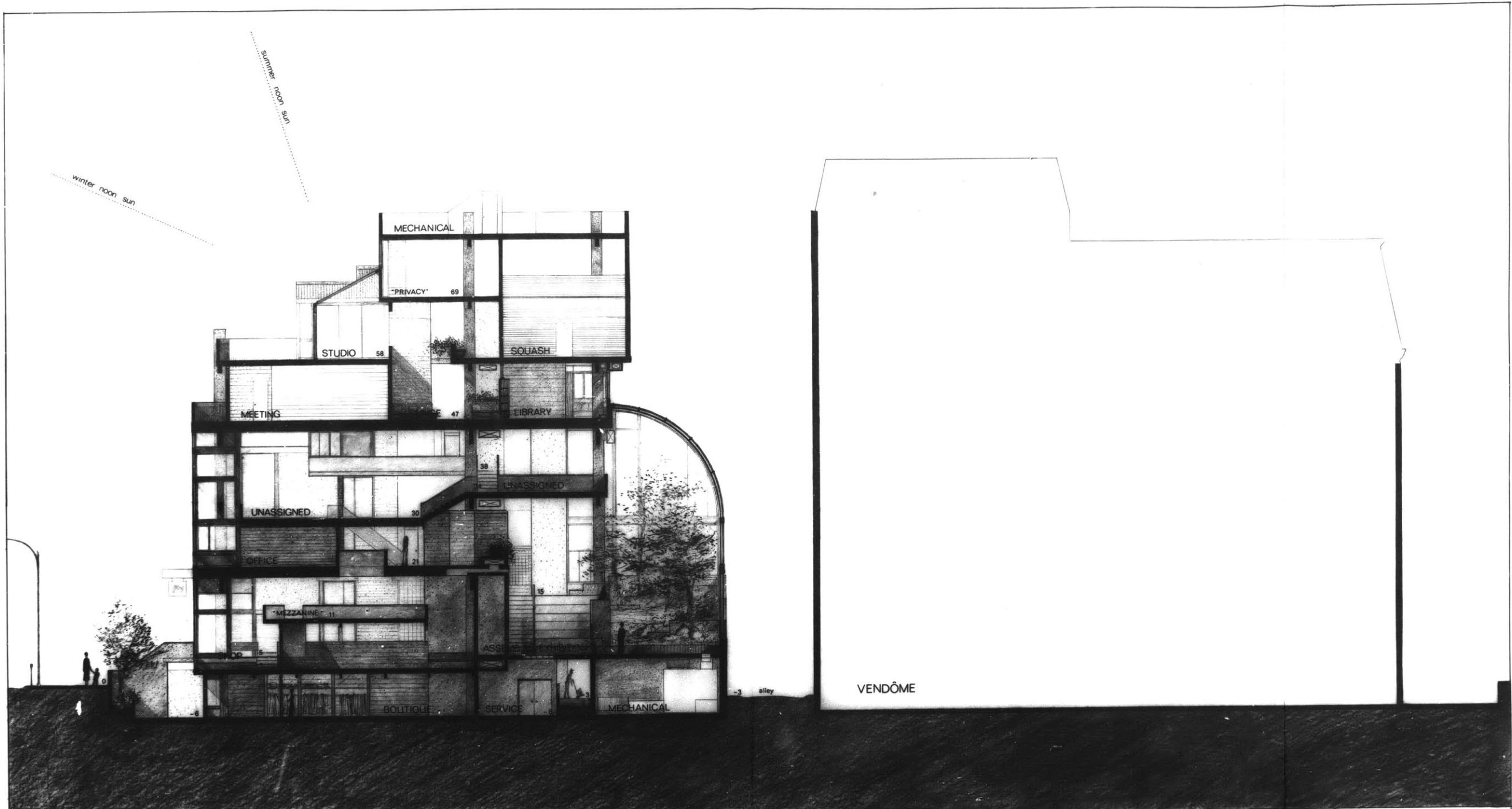
PLAN +47,+58



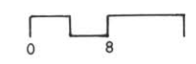


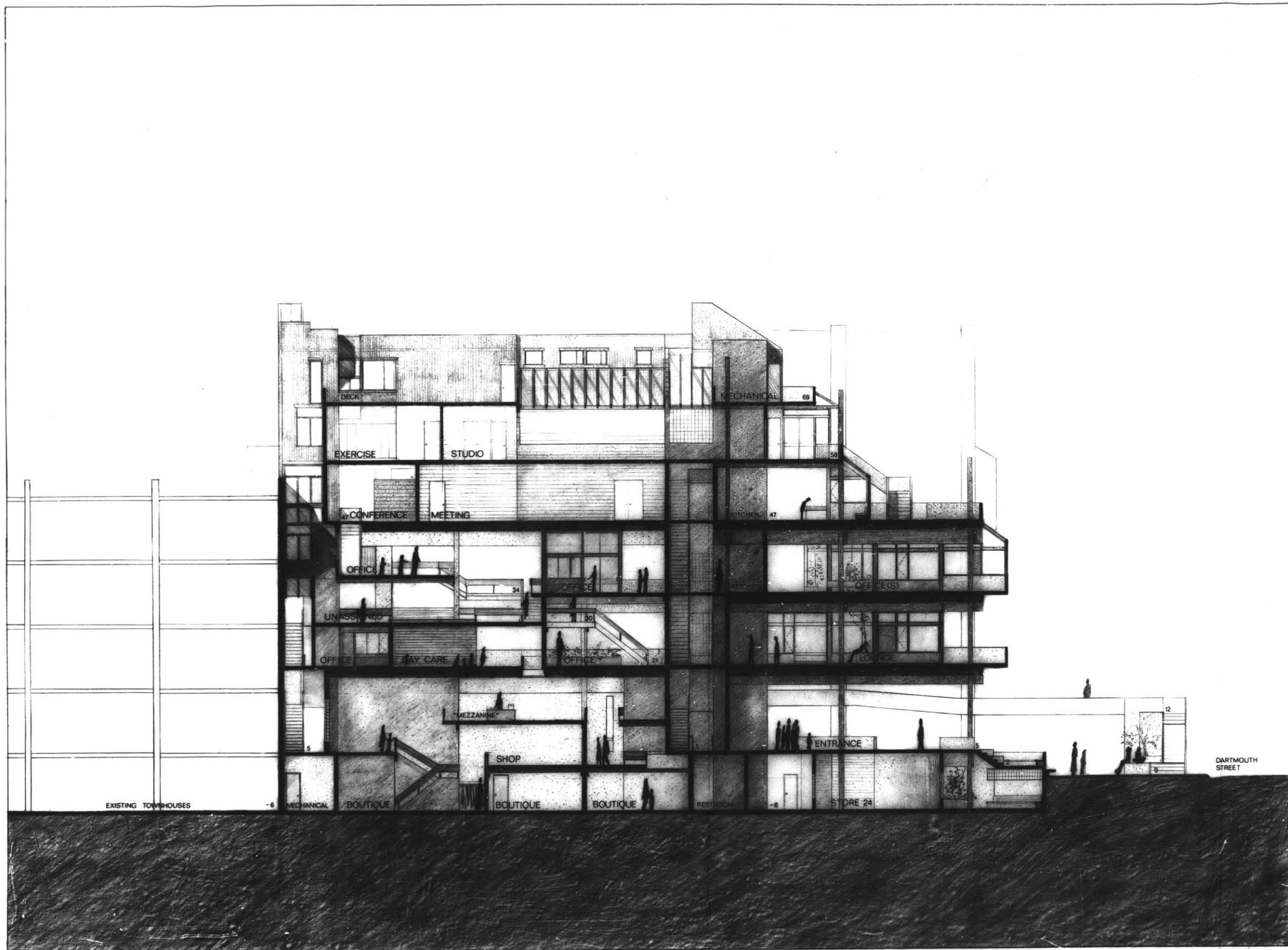
SECTION AA





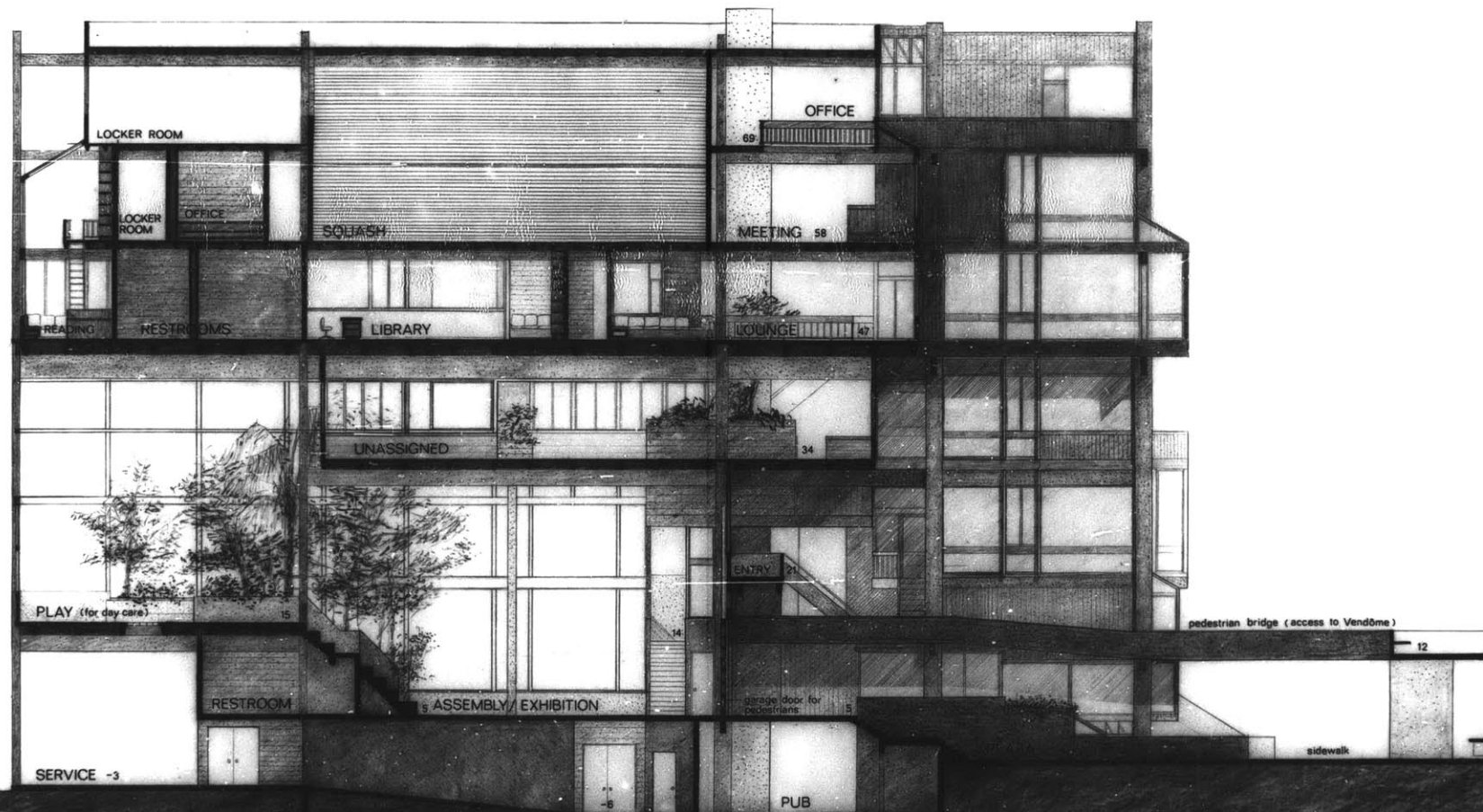
SECTION BB



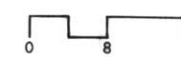


SECTION CC





SECTION DD





## BIBLIOGRAPHY

- Alexander, Christopher, A Pattern Language which Generates Multi-Service Centers, Center for Environmental Structure, Berkeley, California, 1968.
- Appleyard, Donald, "Designing the Pluralistic City", photocopy, 1966.
- Ashley, Myer, Smith, Downtown Washington, Streets for People, Redevelopment Land Agency, Washington, D.C., 1973.
- Holmdahl, Gustav, and Lind, Sven, edit., Gunnar Asplund, architect, 1885-1940, AB Tidskriften, Stockholm, 1950.
- Bacon, Edmund, Design of Cities, Viking Press, New York, 1967.
- Back Bay Architectural Commission, Back Bay Residential District: Guidelines for Exterior Rehabilitation, undated
- Back Bay Task Force, Report to Boston Redevelopment Authority Director Warner, 1970.
- Boston Zoning Code and Enabling Act, City of Boston, 1973.
- Cullen, G., Townscape, Reinhold Publishing Corp., New York, 1961.
- Dahinden, Justus, Urban Structures for the Future, trans. by G. Onn, Praeger, New York, 1972.
- Dober, Richard, Environmental Design, Van Nostrand Reinhold, 1969.
- Habraken, N.J., Supports: An Alternative to Mass Housing, Praeger, New York, 1972.
- Halprin, Lawrence, Cities, Reinhold Publishing Corp., New York, 1963.
- Halprin, Lawrence, Take Part, A Report on New Ways in Which People Can Participate in Planning Their Own Environments, San Francisco, 1972

Lynch, Kevin A., The Image of the City, MIT Press,  
Cambridge, 1964.

Negroponete, Nicholas, Systems of Urban Growth, B.Arch.  
Thesis, 1966.

Newman, Oscar, Defensible Space: Crime Prevention  
Through Urban Design, Macmillan, New York, 1972.

Sitte, Camillo, City Planning According to Artistic  
Principles, trans. by Collins, G., Random House,  
New York, 1965.

Smithson, Alison Margaret, Urban Structuring, Reinhold,  
New York, 1967.

Stankovich, Dushan, An Efficient Multi-Story Space  
Frame, M.I.T. M.Arch. A.S. Thesis, 1973.

Stokes, Martha, New Development on the Edge of Boston's  
Back Bay, M.I.T. M.Arch Thesis, 1974.

Zevin, Barry, Built Form Exploration on an Urban Edge,  
M.I.T. M.Arch Thesis, 1973.