

Housing and Neighborhood Services
for the Cambridge Riverfront
by
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S.B., Massachusetts Institute of Technology
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Submitted in partial fulfillment of the requirements
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Signature of Author . (.....)
Department of Architecture, January 21, 1976

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ABSTRACT

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Submitted to the Department of Architecture
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This design project explores the possibility of designing housing at high density (75 dwelling units per acre) while maintaining or reproducing the useful and desirable functional relationships which operate in older, less dense neighborhoods.

The site is a 5.7 acre parcel on the Cambridge Riverfront, presently occupied by large retail uses and parking. The program I generated called for the retention of the existing retail use (50,000 sq. ft.) and parking, plus the addition of as much housing (with residential parking) as possible, while still maintaining the desirable neighborhood qualities of the adjacent community.

The solution proposed in this thesis is to mass the retail space and all parking in such a way as to define a new, raised ground, and to build on this new ground the housing in relation to a new residential street with tributary courtyards.

The project as presented in the drawings has 51,000 sq. ft. of retail space with 250 parking spaces for retail use, one gas station located on the corner of Memorial Drive and Magazine Street, entered only from Magazine Street, and 425 units of housing with 497 residential parking spaces. Of the 425 units of housing, 250 units, which include all of the 3 and 4 bedroom apartments, have direct front door access from the public outdoor distribution network. The other 175 units are accessed by elevator. The density is 75 dwelling units per acre.

Thesis Supervisor: Michael Underhill
Assistant Professor of Architectural Design

SITE DESCRIPTION

The site chosen for this design project is a 5.7 acre parcel in the Cambridgeport section of Cambridge. It is presently occupied by a Stop & Shop supermarket, two gas stations, a clothing store, a newly built pharmacy, and retail parking. The site is flat. It is bounded on the North by the Fenway Cambridge Motor Hotel, which is a 130 foot high tower, on the East by a residential neighborhood of the Cambridgeport community, on the South by Magazine Street and across Magazine Street by a public elementary school, and on the West by Memorial Drive. Across Memorial Drive is Magazine Playground, a public recreational facility, and beyond the playground is the Charles River. The site is uniquely important to the Cambridgeport community for its potential for establishing a connection between the existing neighborhood and the playground/river. It is important to retail interests because of the importance of Memorial Drive in the region's primary vehicular network. (See Fig. 1)

At present there are three vehicular entrances to the site. There is an entrance from Pleasant Street at the Northeast corner of the site, one from Magazine Street to the South, and the third entrance is from Memorial Drive. The Memorial Drive entrance is particularly hazardous and must be supervised by a traffic policeman at peak hours. Also, because commercial traffic is prohibited on Memorial Drive, this entrance is not useable for truck deliveries.

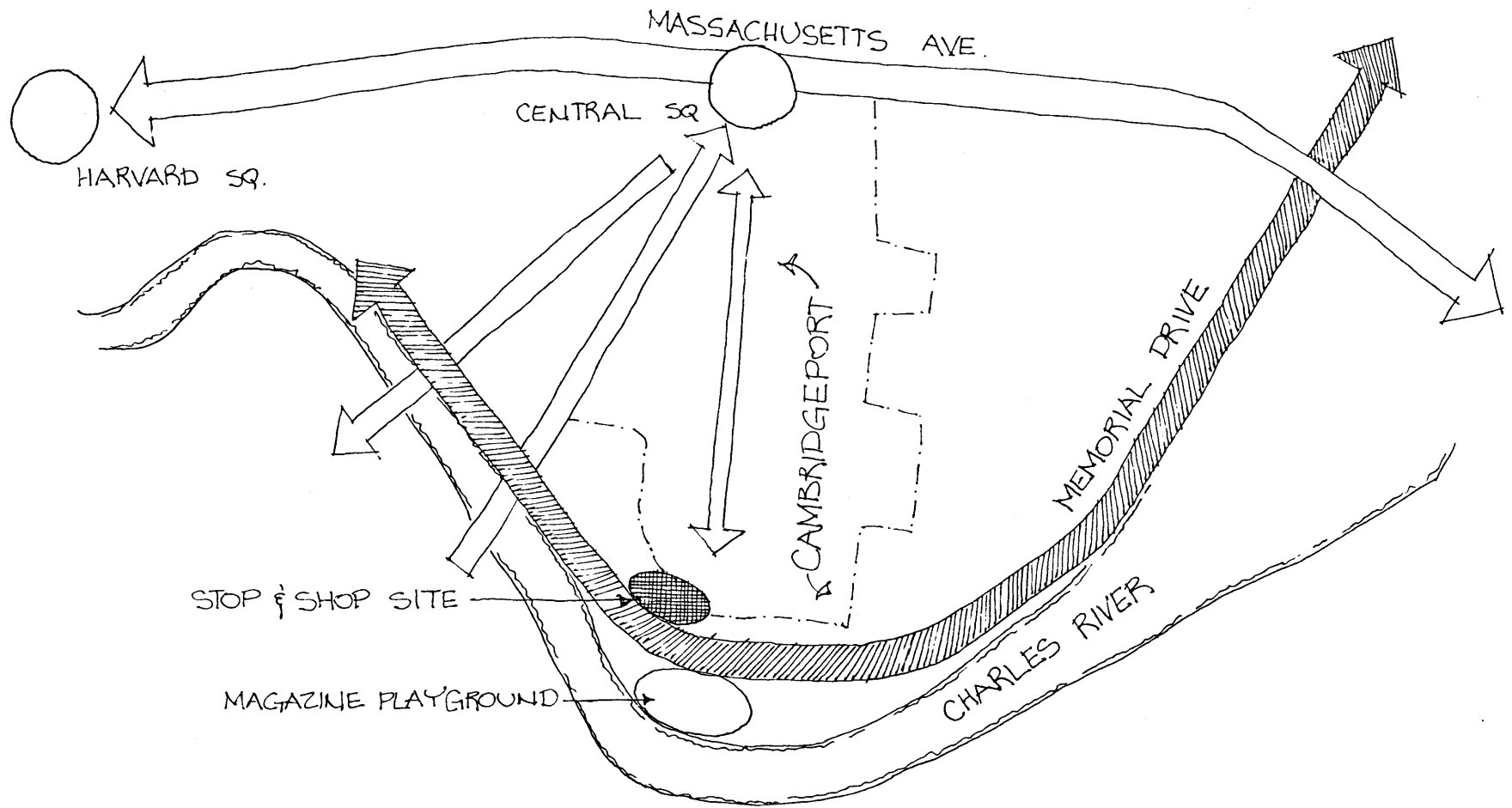


FIGURE 1.

THE PROGRAM

For the purposes of generating and evaluating a program for the redevelopment of this site I assumed the following:

That before building the pharmacy, Stop & Shop investigated the possibility of redeveloping the entire site.

That at that time Stop & Shop either possessed or was able to acquire the ability to act upon the entire site.

That some representative group from the neighboring community involved themselves in a meaningful way in the planning process at an early stage, perhaps in a manner similar to that employed at 808 Memorial Drive. (See Appendix A)

This interplay of actors would serve to create a situation of wanting to maximize individual goals, and having to compromise, since either actor could unilaterally block the project. Stop & Shop, in order to justify redeveloping the site and relocating its store, and recognizing the market potential for this river-front property would seek to maximize density and its return on its investment, and would compromise only if the final project held significant benefits over their doing nothing (it should be noted that the supermarket on the site now is extremely successful). The community group, in proportion to their ability to block a

zoning variance (the site presently has a maximum F.A.R. of 1, certainly too low for profitable redevelopment) would insist that the project fulfill community goals of increased low and moderate income housing and preserve the character of the existing neighborhood.

In keeping with these goals and in trying to reach a mutually agreeable compromise, I propose to provide the following:

1. Sufficient retail space to accommodate the existing supermarket (40,000 sq. ft.) plus the proposed pharmacy (10,000 sq. ft.) plus adequate retail parking for these uses.
2. Space to accommodate both existing gas stations if possible.
3. As much housing as is possible while maintaining the positive qualities of the existing neighborhood. (The present legal maximum density is 144 dwelling units per acre, my proposed density at the time of program formulation was 100 dwelling units per acre.)

THE DESIGN

The locations of some of the major elements of this project were determined by the following strategy for the phased redevelopment of the site. In stage one the clothing store at the north end of the site is taken down and the new retail space is built with residential parking and housing above. In stage two the existing Stop & Shop is removed and replaced by the retail parking structure, freeing the rest of the site for construction. Residential parking and housing may be built above the retail parking at this stage. In the third and final stage parking and housing is built on the remainder of the site.

My original intention to preserve the existing neighborhood characteristics, especially in the organization of the housing manifest itself in the following two ways. I wanted to preserve or reproduce the existing functional relationships between the various parts of the public domain, that is the relationships between street and front yard, front yard and entrance, etc. The present network of the Cambridgeport community consists of main streets, most of which run between Memorial Drive and Massachusetts Avenue and between which run a series of secondary streets, less continuous and of a quieter and more residential character. (See Fig. 2). From some of these secondary streets run short cul de sacs which act as entrance courts for the houses which they serve.

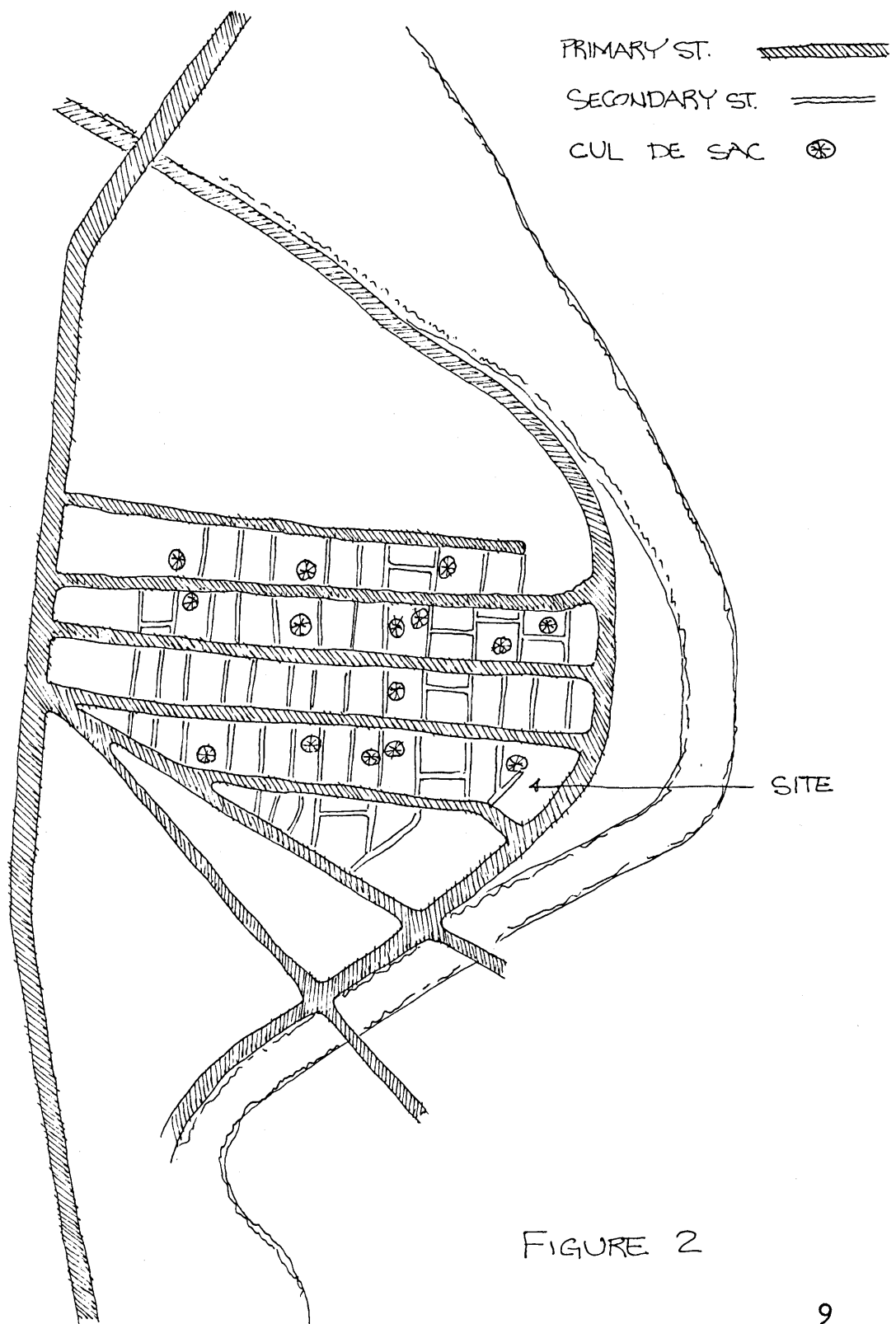
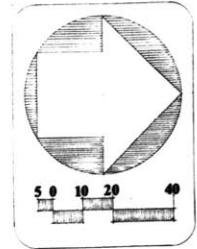
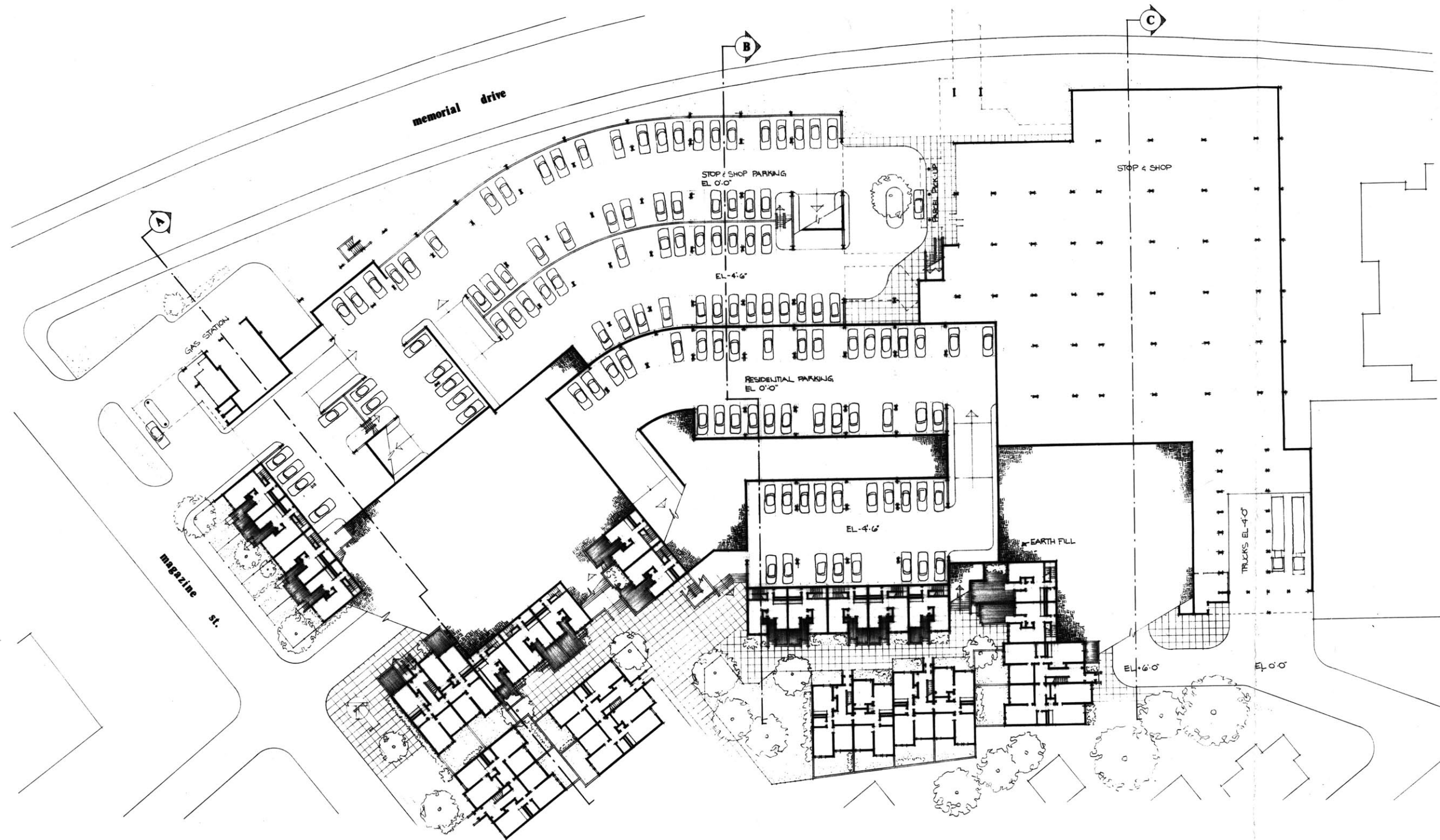


FIGURE 2

Specifically, this project is designed as a secondary street with a series of cul de sac entrance courtyards, translated to suit the needs of higher density.

Secondly I wanted, insofar as it is possible at high density, to maintain some close relationship between a person's parking space and his/her front door, to relate the pattern of parking and coming to one's front door to the existing hierarchy of the public domain. Therefore the parking is directly under the housing and except in the case of the two towers the tenants exit from the parking garages directly to their own courtyards.

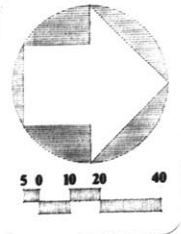
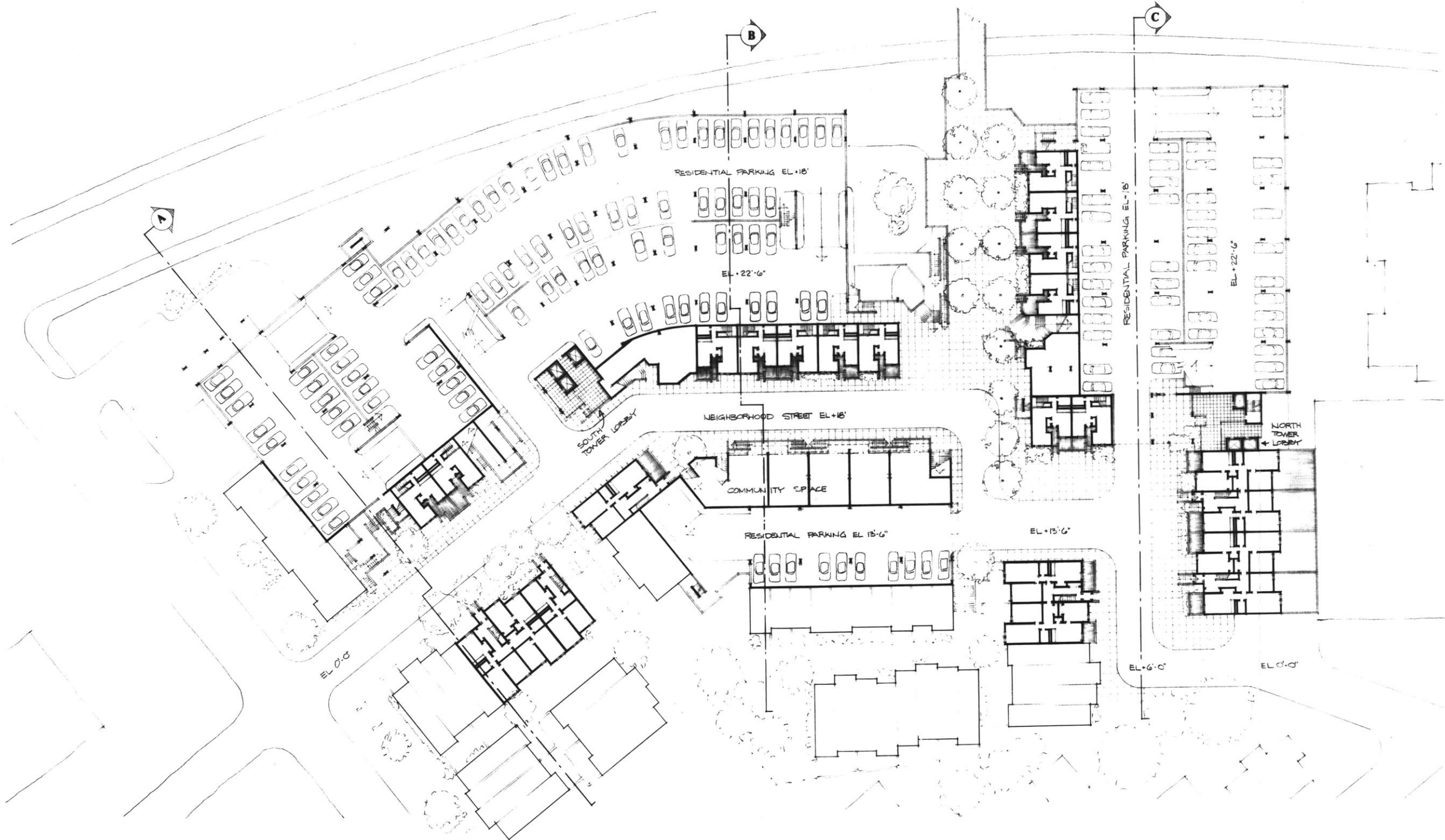
The project in its final form, as presented in the drawings consists of 51,000 sq. ft. of retail space with 250 parking spaces for retail use, one gas station located on the corner of Memorial Drive and Magazine Street, entered only from Magazine Street, and 425 units of housing with 497 residential parking spaces. Of the 425 units of housing, 250 units which include all of the 3 and 4 bedroom apartments have direct front door access from the public outdoor distribution network. The other 175 units are accessed by elevator. The density is 75 dwelling units per acre.



cambridgeport housing
 mixed use development on the cambridge riverfront

plan at ground

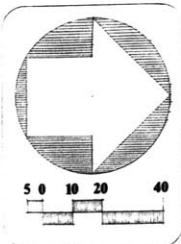
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 m. i. t.
 jan. 21, 1976



cambridgeport housing
 mixed use development on the cambridge riverfront

plan at street

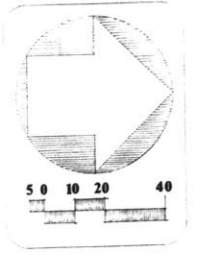
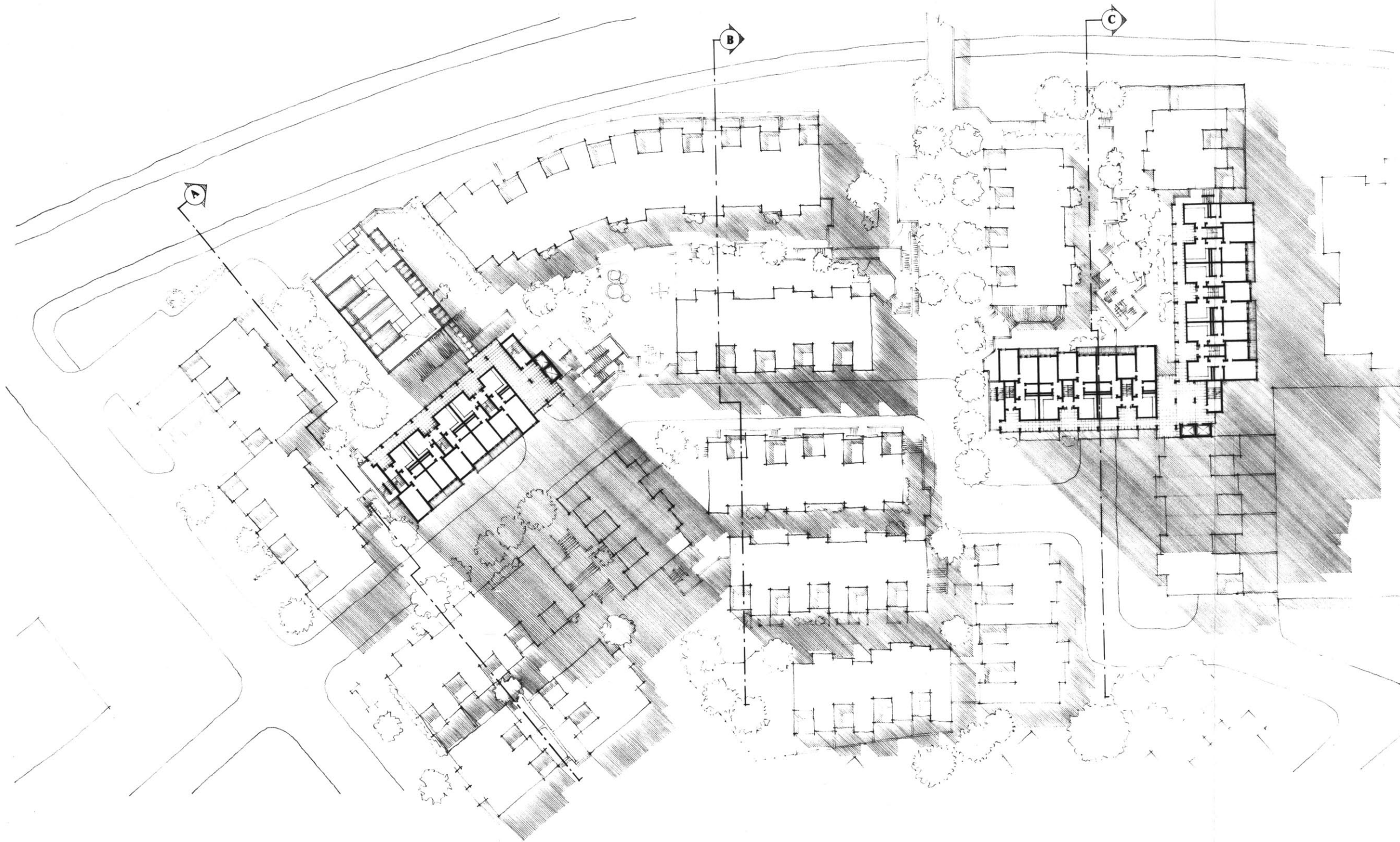
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cambridgeport housing
 mixed use development on the cambridge riverfront

plan at el. 54'

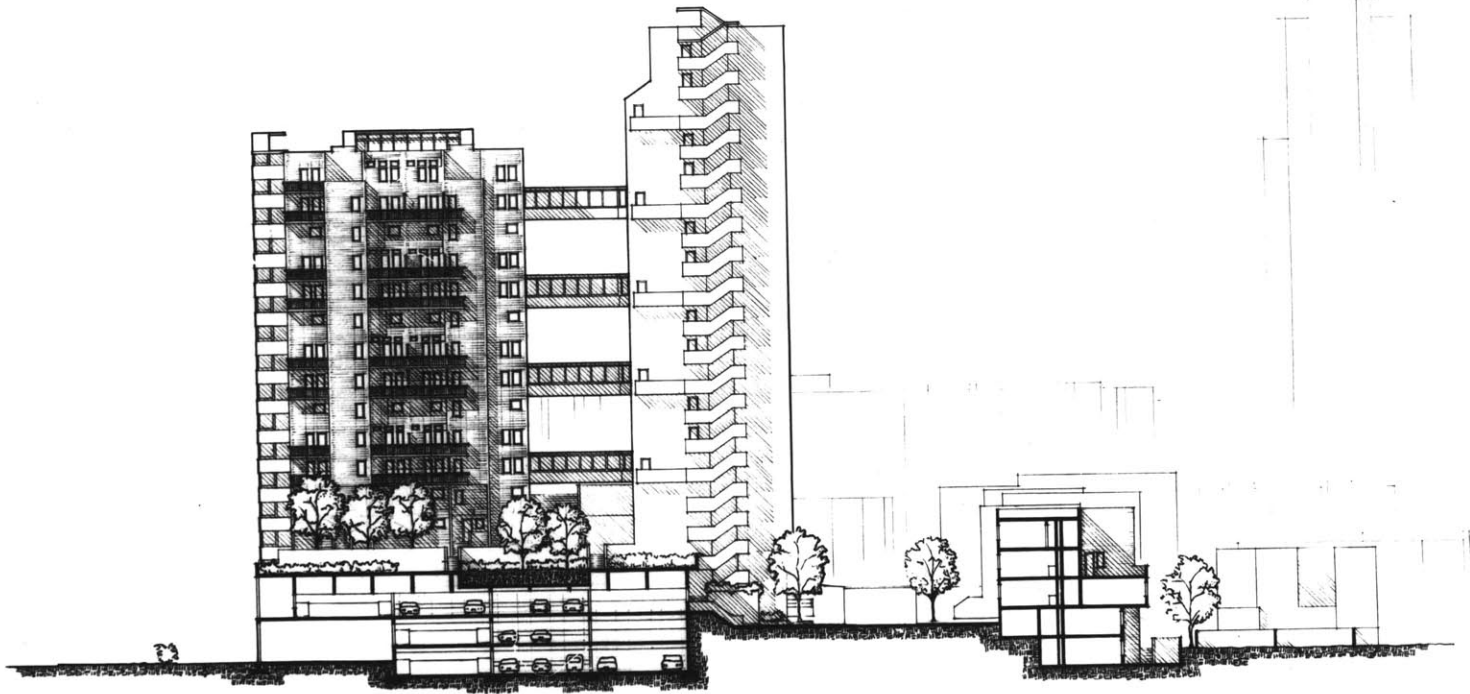
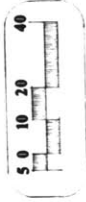
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cambridgeport housing
mixed use development on the cambridge riverfront

plan at el 135'

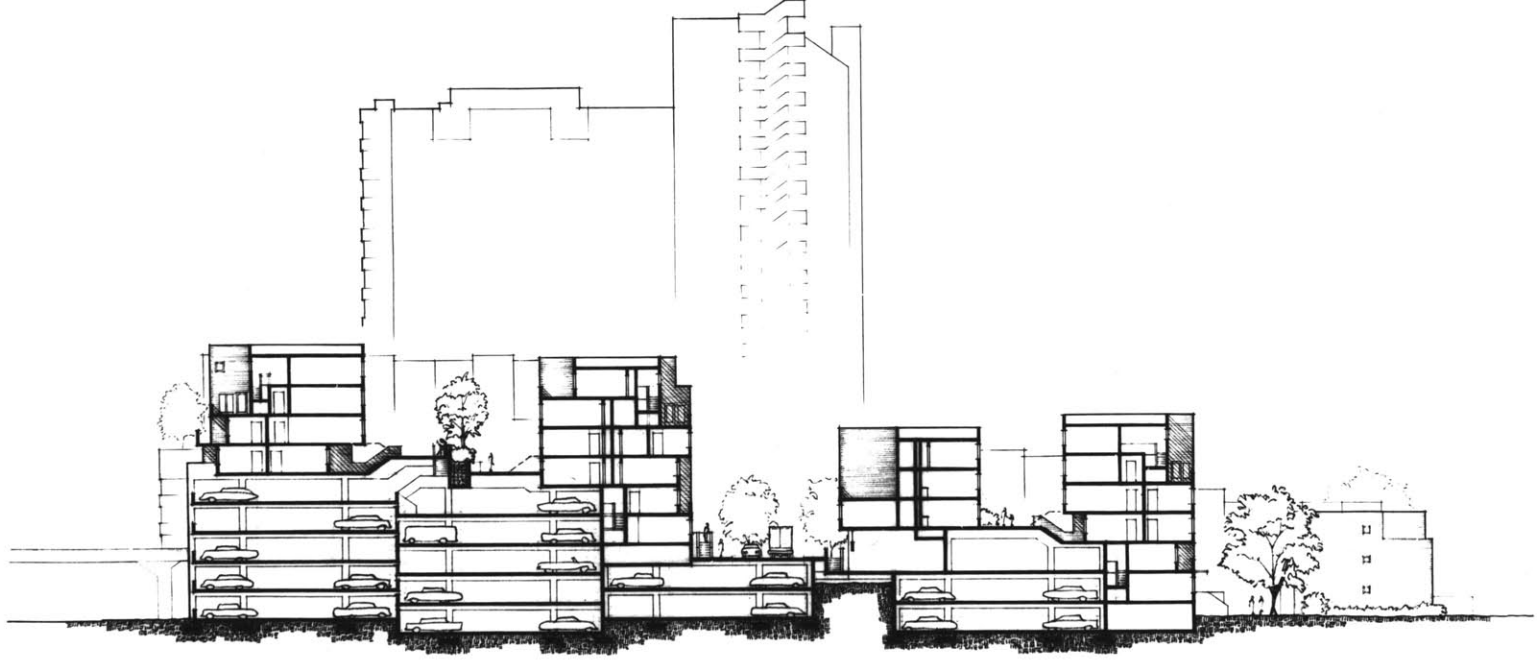
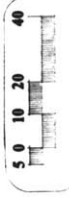
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cambridgeport
housing

section A

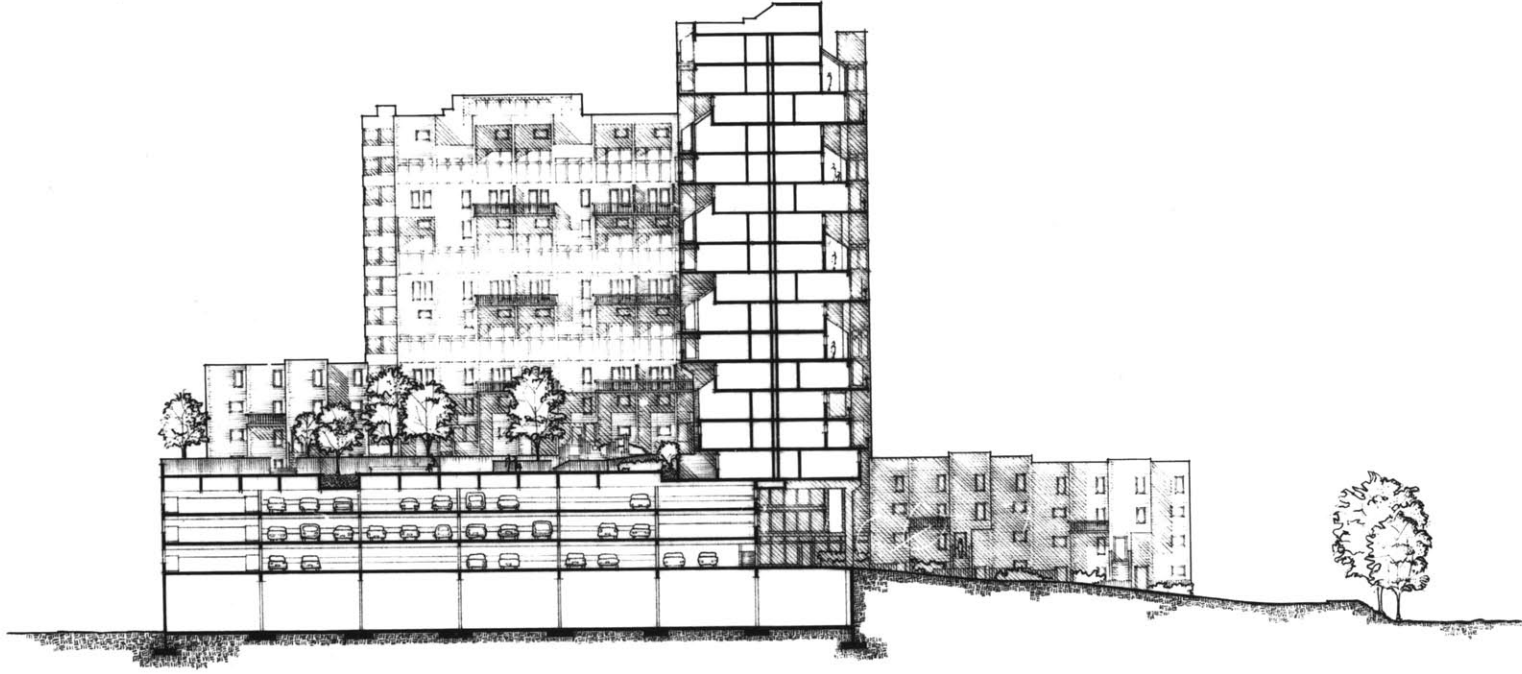
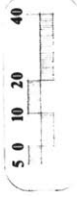
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section C

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APPENDIX A

808 Memorial Drive

Zena Nemetz, acting as architect/developer assembled the parcel at 808 Memorial Drive and proposed luxury housing in a 21 story tower parallel to the Charles River. She applied for a zoning variance and was opposed by the Riverside Cambridgeport Community Corporation. A compromise was reached, and the R.C.C.C. joined the development team.

The terms of the variance were as follows. The Board of Zoning Appeals allowed a non-conforming use (gas station) to remain on the site, and they allowed an increase in F.A.R. from 3 to 4, provided that the developer apply for loan subsidies to enable her to build as many rental units for low and moderate income people as possible, and that she agree to work with the R.C.C.C.

The Community Corporation wanted low-rise family housing for the site, as much green space as possible (in the final design, most of the outdoor green space was located on the roof). They also wanted to encourage some relationship between the new housing and the community, and to provide needed community facilities.

Because of high land costs and problems of economic feasibility, the final program consisted of 25% low income housing, 30% moderate income housing and 45% market rental housing.

The breakdown of unit types is as follows:

1 Bedroom	125
2 Bedroom	137
3 Bedroom	30
4 Bedroom	<u>4</u>
Total	295 Units

There is 15,000 sq. ft. of community space, including a day care center and livingroom sized community rooms at each floor.

There is 35,000 sq. ft. of commercial space, of which approximately two thirds is office space and one third is retail space.

There is parking for 322 cars in a parking garage on the site. A teen center is also located in the parking structure.

The lower building consists of 2, 3 and 4 bedroom units, while the tower consists of 1 and 2 bedroom units. Housing for the elderly is provided in the tower, and the tower has a higher percentage of market housing than low and moderate income housing.

The gas station stays on the site, but air rights over the station have been purchased by 808 Memorial Drive developers.

The housing density of 808 Memorial Drive is 145 dwelling units per acre, the maximum allowed by the zoning ordinance.