
**A Sustainably Responsive Student Housing Project
for Lubbock, Texas**

by
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A Thesis in Architecture

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of the College of Architecture
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**A Sustainably Responsive
Student Housing Project**
Lubbock, Texas

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Arch. 4396

Thesis Program

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Process Documentation

Thesis Documentation

Goals

- Minimize energy costs by reducing the impact of the sun on the building
- Reduce the demand for energy consumption
- Reduce operating costs through the use of energy saving features
- Minimize artificial lighting levels
- Incorporate environmental awareness through facility functions
- Reduce dependency of use on utility networks
- Maintain investment returns at desired levels

Objectives

- Use of natural vegetation in order to reduce solar gain
- Placement of energy efficient and/or reflective glazing throughout the building in order to enhance building performance
- Use lighter shades and colors on the interior and the exterior (ex: walls, ceilings, roof, and floors)
- Use of overhangs on the south side to reduce solar gain
- Introduce more efficient heating and cooling systems
- Use of a lighting control systems in order to increase lighting performance in conjunction with artificial and natural daylighting
- Use clerestories to improve the natural daylighting of the interior spaces
- Artificial lighting will be provided by more efficient lighting fixtures

Objectives (continued)

- Provide for the residents an area for the recycling of waste materials (ex: aluminum cans, paper)
- Maximize the use of daylighting in the building
- Introduce energy efficient materials in order to achieve maximum building performance

Thesis Statement

It is the intent of this program to draw conclusions upon the ideals of sustainability, in order to create a facility based on these ideals. The complex will draw upon these ideals in order to help sustain itself and to maintain the surrounding environment, which is in itself, sustainability

Context Statement

The context chosen is one approached from the urban aspects of design. The attempt will be made to establish a sustainable community in an area which may stand the chance of not sustaining itself for much longer. However, recent interests have sparked the planning for redevelopment of the area into an entertainment district. The reason for choosing a student housing project for my thesis is that the success of such a project could show that such further development in this area could help the revitalization of the district in which it is located and could possibly have nothing but a positive impact in order to gain support for future development.

The site is located in the Depot District in close proximity to downtown Lubbock. The surrounding environment as it stands now consists mainly of deteriorating buildings and parking lots. Although the primary focus will be on the housing project which will be located above street level, it is also the intent to establish a presentable base for available retail spaces located at the street level.

In conclusion, the project location will help to maintain the existence of the area, which is in itself, sustainability.

Project Explanation

Scope

It is the intent of this program to establish a basis in order to develop an off-campus student housing facility for 60 students who attend Texas Tech University. The site selected is located in the Depot District which has recently been zoned for housing projects. The focus will be on the housing project which will be located above street level with some leasable retail space at street level. The size of the project has been dictated in order to maintain a certain human scale not only to the facility but also to the context.

The project must be more than simply shelter, it must functionally provide students with each of their separate needs of identity, convenience, accessibility, and of course their safety. The facility must give the students control over their own environment, in turn making them responsible for certain aspects of their life and help them to facilitate their own growth. The facility must be flexible enough to accommodate varying types of students, with different majors and interests, and diverse attitudes while still providing for an individual identity.

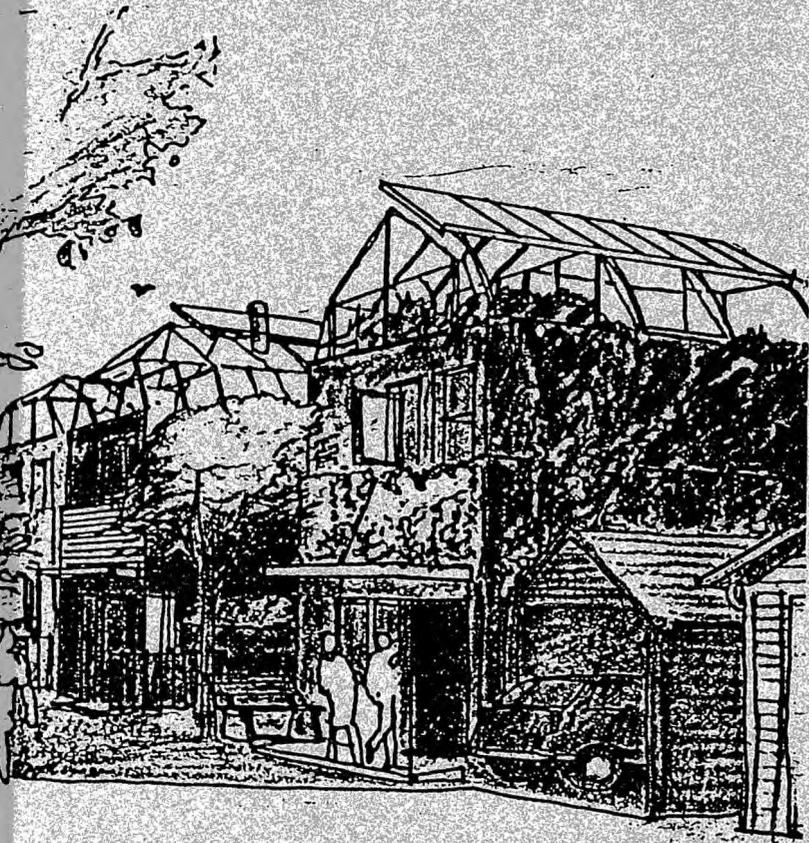
In order to accomplish this, it is necessary that the students be given a choice from the beginning of what type of environment they wish to live in. For instance, students who live on campus are usually given a choice of whether or not they wish to have a roommate or whether they would rather have a single room. All of this of course usually depends on the students classification with the university. This is one reason that off-campus

Project Explanation

Scope

housing is appealing to so many students, the fact that they do indeed have a choice. The complex will consist of 12 - 3 bedroom units, 9 - 2 bedroom units, and 6 - 1 bedroom units. Perhaps the worst complaints students have is that they are dissatisfied with the meals provided in on campus housing. For this reason each unit will have its own full kitchen in order to allow each student to prepare their own meals. Each unit will also have its own bathroom or bathrooms depending on the size of the apartment. Living and dining areas will be provided so that students may entertain and relax in their own environment. Adequate storage space will be provided for each apartment, this will also depend on the size of each individual unit. It is deemed necessary that each unit will have its own outdoor space such as a balcony or even a rooftop patio or terrace. A separate area will be provided for students to do their laundry in order to isolate and reduce noise and heat gain which can often be related to such spaces. There will be two separate study spaces which will be isolated to provide privacy and quiet to accommodate each students varying study habits. The administration and leasing office will be located on site at the street level in order to provide accessibility for the public and privacy for the residents. A mail room will also be located on site in close proximity to the administration office. Adequate areas and spaces must also be zoned for mechanical systems and also for the janitorial needs of the facility.

Thesis Issues & Design Responses



Thesis Issues

- **Solar and Wind Protection**
- **Renewable Energy Sources**
- **Daylighting**
- **Recycling**
- **Thermal Envelope**
- **Air Quality**
- **Site Selection (Environmental Impact)**
- **Heating and Cooling**
- **Lighting Controls and Lighting**
- **Building Materials**
- **Hvac Controls and Distribution**

Thesis Design Responses

The following issues can be responded to through the use of the two foollowing:

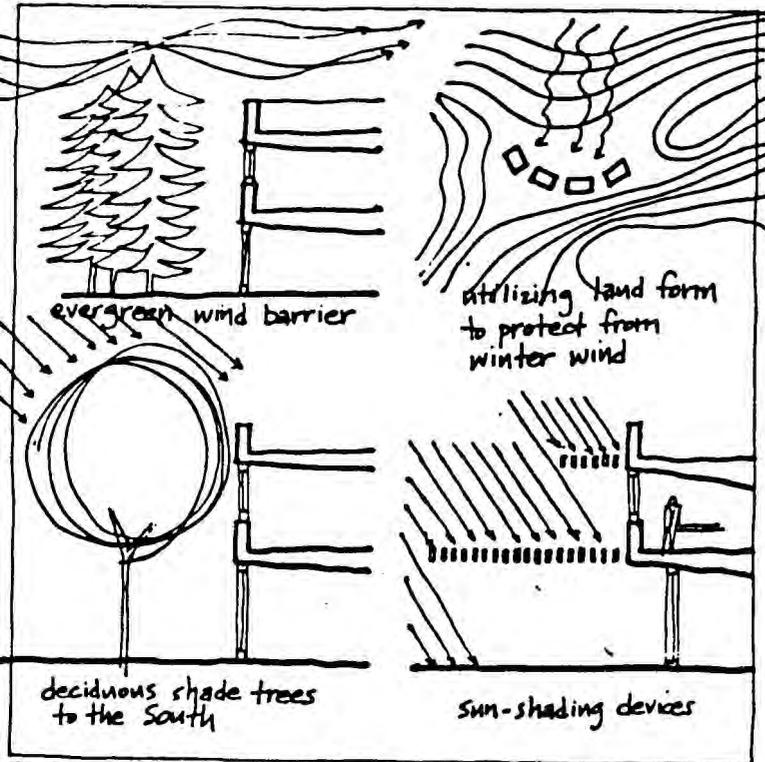
Nature Driven Technologies

- Solar and Wind Protection
- Renewable Energy Sources
- Daylighting
- Recycling
- Thermal Envelope
- Air Quality

Technology Driven Strategies

- Site Selection
- Heating and Cooling
- Lighting Controls and Lighting
- Recycling
- Building Materials
- HVAC Controls and Distribution

Thesis Design Responses

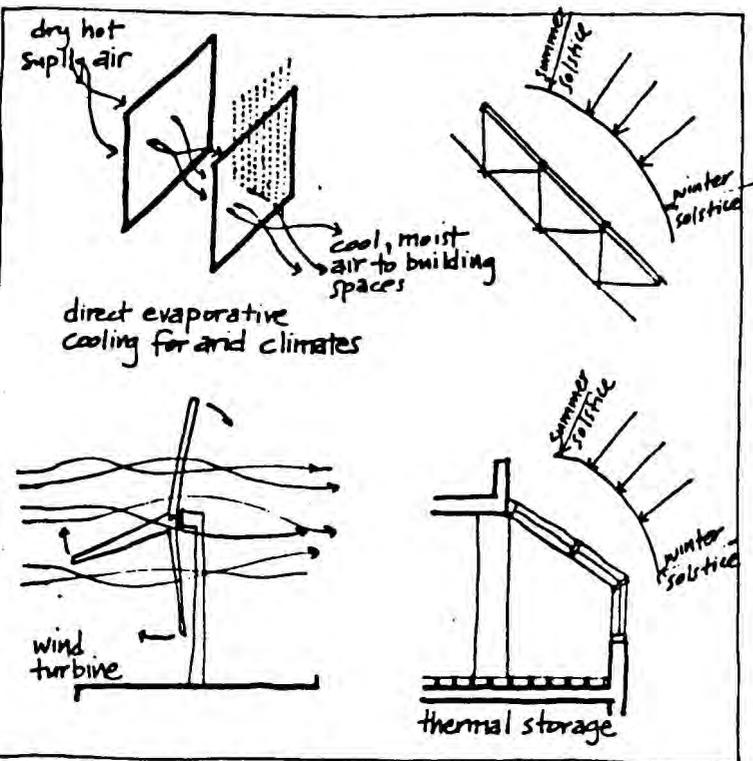


SOLAR AND WIND PROTECTION

Solar and Wind Protection

The use of mother nature to solve some of these problems can be as simple as planting a tree. Deciduous vegetation such as trees can be planted and used as wind barriers in prevailing wind directions. They can also be effectively used as solar shading devices when properly placed, such as on the south side of the facility. Usually, careful placement of a structure can utilize natural land forms to protect from strong prevailing winds. (*In Nature's Arms*, p.72) Since land forms are few and far between in the scope of my project it may be possible to use existing building masses to accomplish the same thing. Simple louver or sun shading devices such as awnings may also be used in order to protect interior spaces from direct solar gain. (*Pyramid of the Sun*, p.84) Fabric awnings will however be avoided because of the high prevailing winds.

Thesis Design Responses

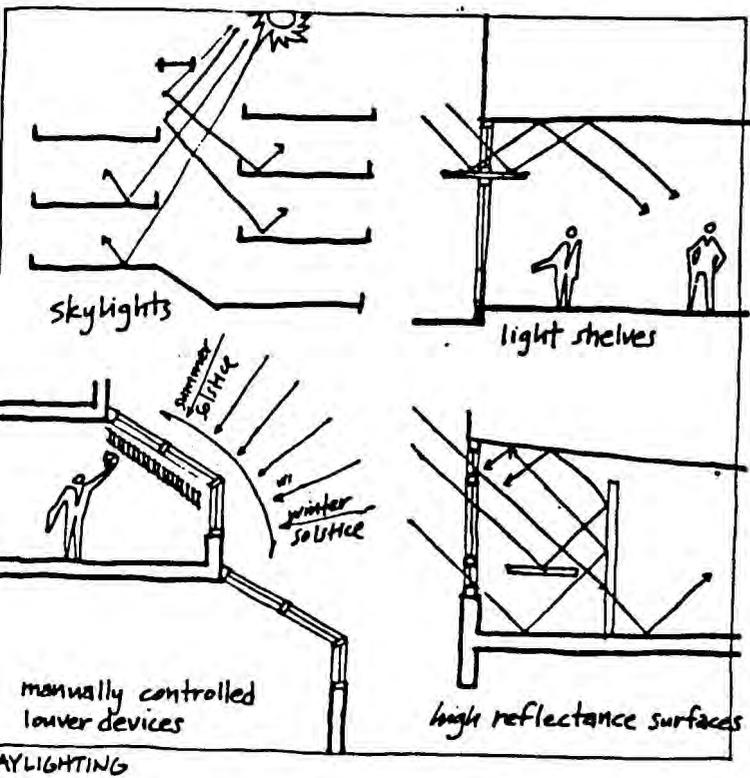


RENEWABLE ENERGY SOURCES

Renewable Energy Sources

Perhaps one of the greatest renewable energy sources available to Lubbock is that of the wind. Windmills or wind turbines could be used to supply alternate electricity to the facility at peak operating levels. Another great resource in Lubbock is the sun. Water walls could be used in front of large windowed spaces to store the sun's heat during the day and then distribute it into the interior spaces in the evening hours. These should be situated so that they take on little use during the summer months and greater use during the winter. The air in Lubbock is hot and dry and could be altered to be cooled for interior use through the use of a passive direct evaporative cooling system. (*Centre of the Earth p.52*)

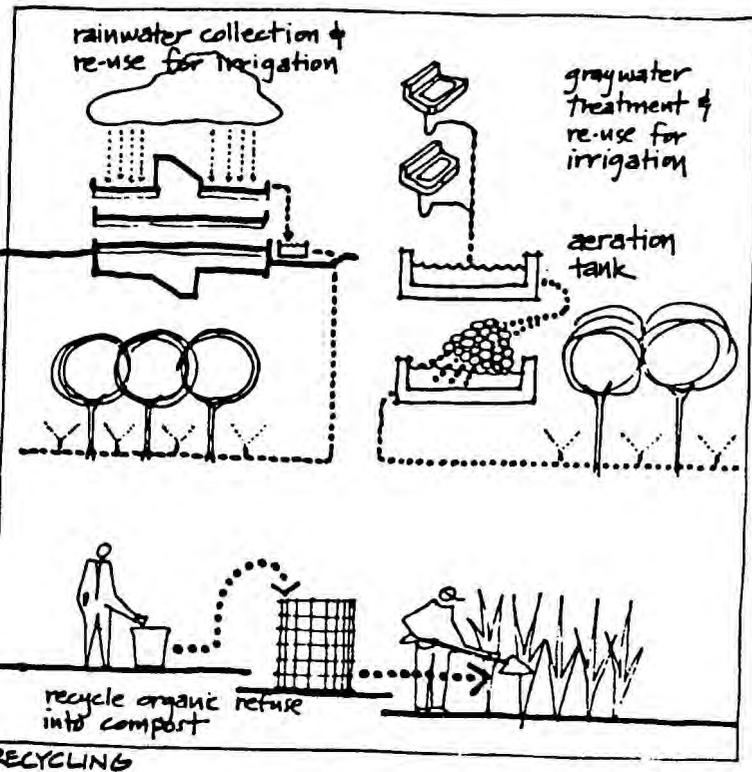
Thesis Design Responses



Daylighting

Since Lubbock is built outward rather than upward it is possible for nearly all buildings to be lighted naturally and be able to control the amounts of daylighting to which each structure is exposed. The most widely recognized are clerestories which are usually mounted high and can be hard to control without mechanical manipulation. (*Urban Oasis*, p.66) High mounted windows will use light shelves and scoops to reflect the light into the chosen space. (*Power Plant*, p.76) When this is attempted it becomes necessary to make sure that wall, ceiling, and floor surfaces are light in shade and color in order for the effect to work properly. (*Urban Oasis*, p.63) The amount of light entering any given space can be controlled by manually adjusted louvre devices which could simply come in the form of blinds or mini-blinds.

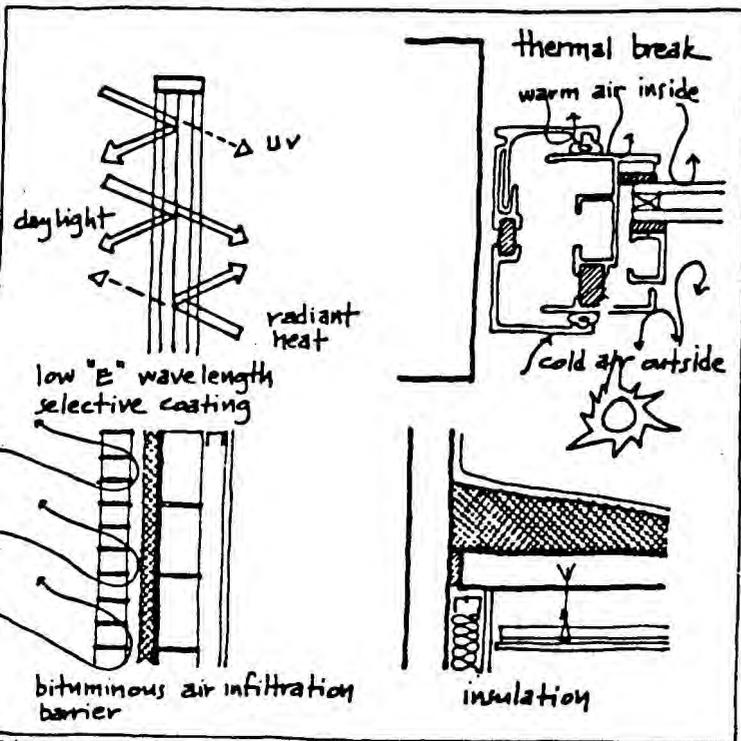
Thesis Design Responses



Recycling

There are many uses for what may have been considered years ago to be just simply waste. For instance, rain water may be collected and used to irrigate surrounding vegetation. This is as simple as collecting the rain water into a holding tank and then pumped through a simple irrigation system. Graywater may be captured and treated in order to also be used for irrigation. It is possible for many of these systems to actually release cleaner water than what it takes from the site. (*Centre of the Earth, p.56*) Waste materials, such as organic refuse may be recycled and turned into useful composts. (*The State of Sustainability, p. 72*)

Thesis Design Responses

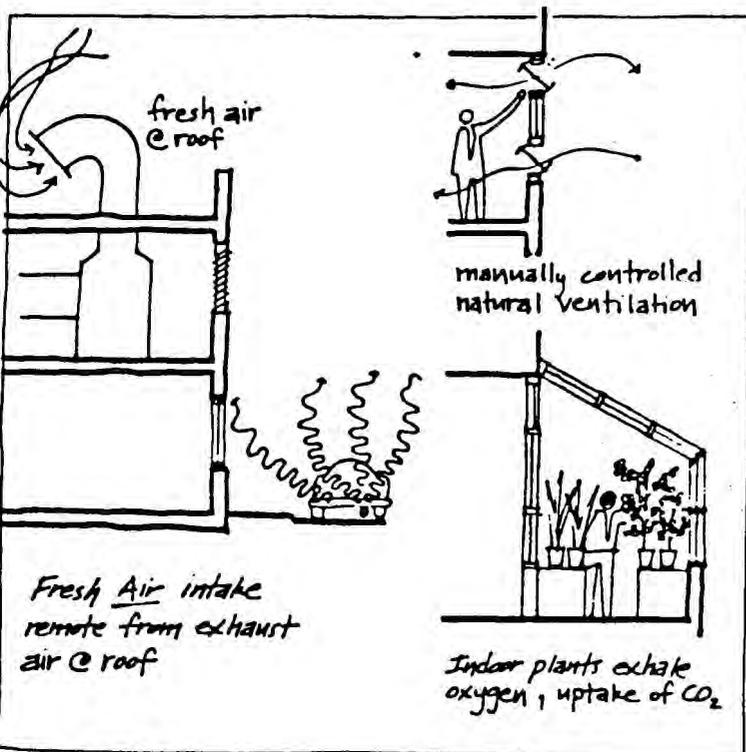


HERMAL ENVELOPE

Thermal Envelope

This is where a great amount of energy savings can take place. Windows should be coated with low "e" wavelength film in order to allow daylight to still enter through the window and keep as much ultraviolet light as possible out of the interior spaces. This also keeps as much radiant heat as possible from escaping from the space. (*Practicing What They Preach, p.87*) Simpler methods include the use of bituminous air infiltration barriers such as air spaces, and also adequate insulation for the interior of the building. Thermal breaks in the facades will also allow warm air to stay inside and keep cold air outside or vice-versa. (*In Nature's Arms, p.73*)

Thesis Design Responses

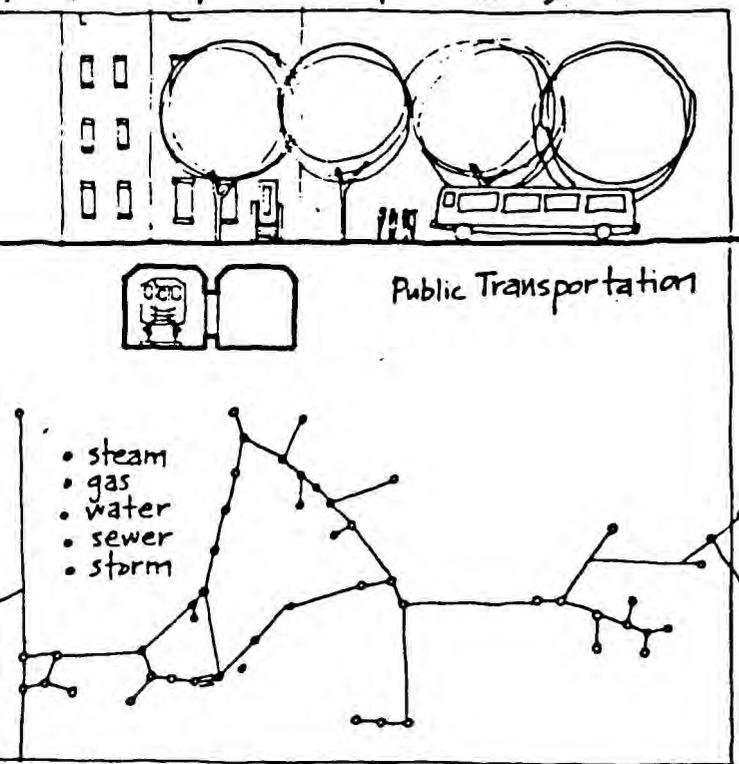


AIR QUALITY

Air Quality

Ventilation will follow ASHRAE standards of not less than 15 to 20 cfm per person. Interior materials must be chosen carefully as to reduce the chance of indoor pollutants. These can be caused by off-gassing from carpet, paint, wallcoverings and adhesives, and ceiling tiles. These can be overcome by maximizing the flow of outside air through the HVAC system to ventilate the space, and maximize exhaust systems in order to purge pollutants. Other activities such as printing, smoking, cooking, and food preparation should be isolated in their own space with a dedicated air handling system providing one pass of filtered outside air to reduce the exposure. (*Indoor Ecology*, p.121-122) Manually controlled ventilation will be provided in all spaces through the use of operable windows. Indoor vegetation will be provided at all opportunities for the intake of carbon monoxide. (*The State of Sustainability*, p.72)

Thesis Design Responses

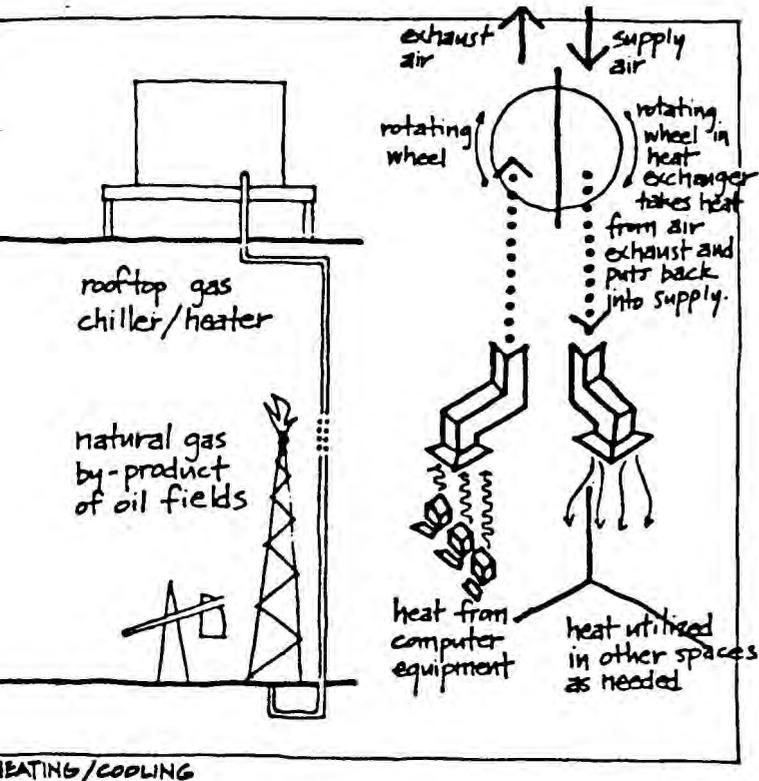


SITE SELECTION

Site Selection

The site chosen will be one where a low environmental impact will be made unless it is a positive one. The site will be in close proximity to public transit routes in order to help in the conservation of fossil fuels. An area of pedestrian activity will be chosen in close relation to various necessities in order to facilitate pedestrian activities. The site in order to have small environmental impact will be in close proximity to all necessary utilities such as steam, gas, water, and sewer. This will allow for existing utilities to be used without wasting energy to run new lines. (*Pyramid of the Sun, p.82*)

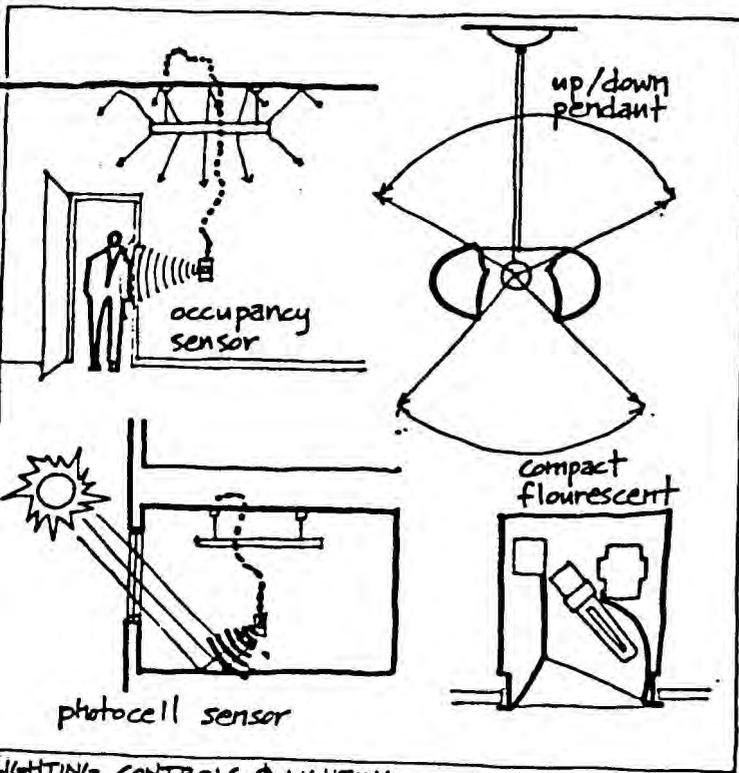
Thesis Design Responses



Heating and Cooling

In this area much energy may be saved also. The use of rooftop gas chillers and heaters may be used to increase efficiency. Natural gas and by-products from the surrounding Lubbock fields may be used as an alternative energy source. In the case of my facility the heat which will be generated from areas such as the laundry room and kitchens may be captured, recycled through the system, and then may be utilized in other spaces throughout the facility. Passive solar heating may also be used to heat the structure. Wood burning fireplaces will be used as alternate heating sources, for which adequate ventilation will have to be required. (Centre of the Earth, p.57)

Thesis Design Responses



LIGHTING CONTROLS & LIGHTING

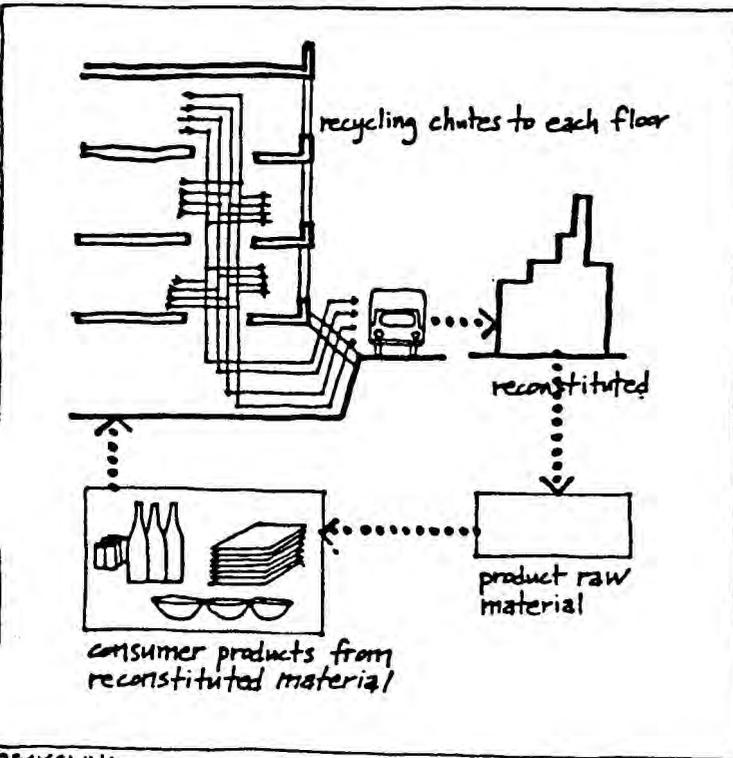
Lighting Controls and Lighting

Modern technology today is providing all types of ways to conserve the amount of lighting we use, therefore, the amount of energy we use. Occupancy sensors are one way to control lighting. Sensors will be placed in areas deemed necessary where wasteful lighting may be going on. These are activated when movement is detected in any given space. Photocells can also control lighting. These are installed in rooms, and when lighting drops below specified levels additional lighting is activated to compensate. One of the most efficient ways to light the interior spaces will be through the use of low wattage fluorescent lighting. These fixtures will be T8-type tri-phosphor-coated fluorescent tubes. These will be enclosed by mirrored parabolic fixtures in order to cast even light. The phosphor coating warms the light so it appears to be closer to daylight. The fixtures will be controlled by a single electronic ballast in order to consume less electricity. (*Practicing What They Preach, p.87*)

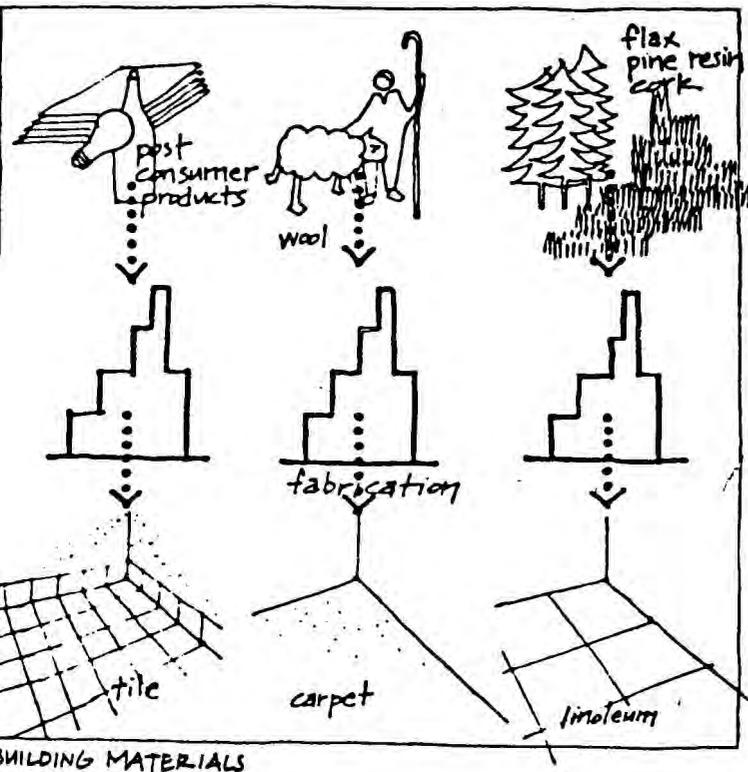
Thesis Design Responses

Recycling

Encouragement of recycling within the facility is a good way to increase environmental awareness among the inhabitants. Recycling chutes could be made available on each floor which would empty into various containers in or near the garbage room. These materials, such as glass, aluminum, and paper, could then be delivered to a major recycling plant where they could then be reconstituted into raw materials. The material would then be turned into consumer goods and products. From this point after they have been purchased, the process begins all over again. (*Urban Oasis*, p.66)



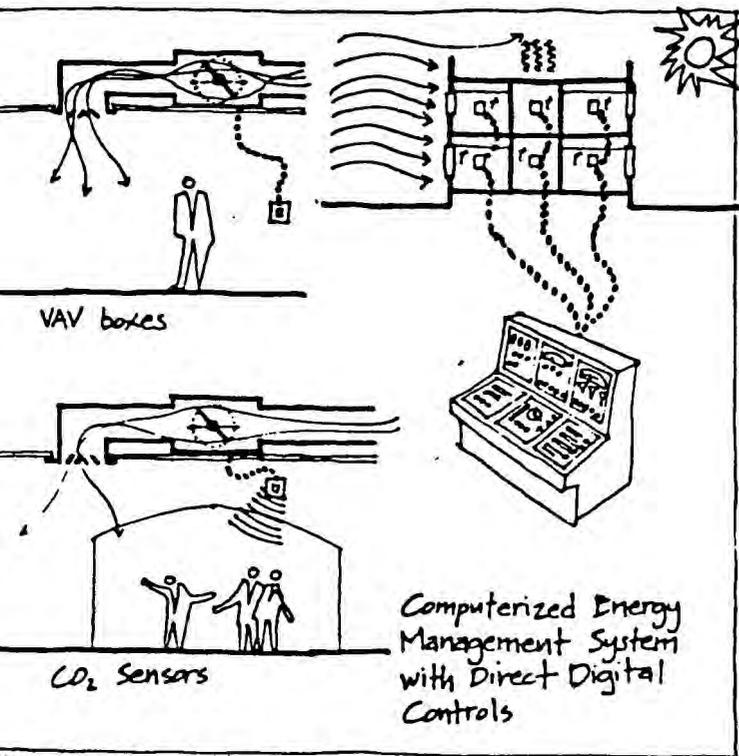
Thesis Design Responses



Building Materials

The materials with which we construct our buildings perhaps has one of the greatest impacts on the environment. Energy is expended at almost every step in the life cycle of any given material: 1) the process of obtaining the natural materials to make a product; 2) the distribution of those materials to factories; 3) manufacturing of the product; 4) the dissemination of product information; 5) the distribution of products to job sites; 6) the construction process; 7) the operation of the completed building; 8) the disposal or reuse of the material. (*The State of Sustainability, p.75*) For these reasons it is necessary to choose materials carefully. Wood and masonry will be the majority of materials used because of their availability in and close to Lubbock. Steel should be avoided for the most part because of the cost of its transportation to the city and the environmental damage that is caused in its fabrication. Floor materials will consist of tile, made from post consumer products; carpets made of high wool content for its low off-gassing characteristics; and linoleum made from sustainably harvested wood by-products that would have otherwise been simply discarded as waste. All windows should be high performance rated for their energy saving characteristics. (*Urban Oasis, p.66*)

Thesis Design Responses



HVAC CONTROLS & DISTRIBUTION

HVAC Controls and Distribution

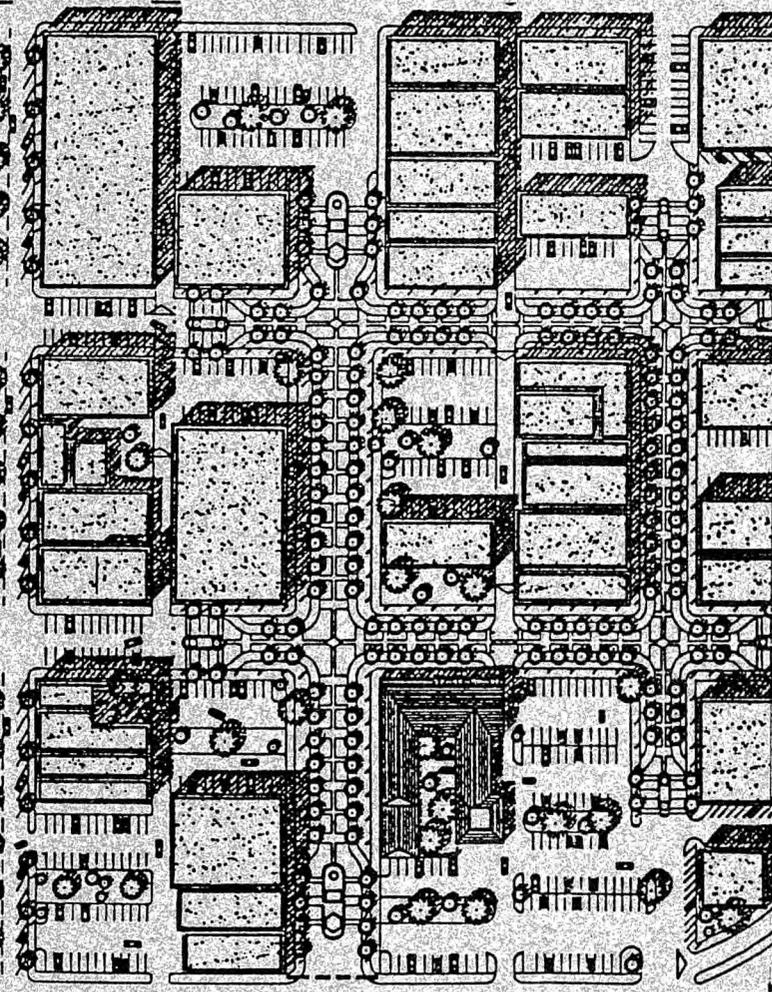
Large amounts of energy can be saved through sensible designs of mechanical systems and their controls. It is possible to connect the HVAC and related systems to a computerized energy management system with direct signal controls. This would enable all systems to be controlled from a particular point and with a greater amount of accuracy than traditional systems. An additional room for this equipment would be required. VAV boxes could be installed in each room to control the amount of air being allowed into any individual space. These could even be linked to the computer to enable these units to be activated for short periods of time during holidays when the facility is more likely to be vacant, and times during the day when students are at class. Carbon Monoxide sensors should be installed in rooms to alert occupants of dangerous pollutant levels. (*Practicing What They Preach, p.87*)

Thesis Design Responses

Sources

1. **Blueprint For Green Architecture.** Edward Gunts, Architecture. (Robert J Kleisch, June 1993.) pp47-50
2. **Centre of the Earth.** Vernon Mays, Architecture. (Robert J. Kleisch, June 1993.) pp.52-56
3. **In Nature's Arms.** Heidi Landecker, Architecture. (Robert J. Kleisch, June 1993.) pp.70-73
4. **Indoor Ecology.** Marc S. Harriman, Architecture. (Robert J. Kleisch, June 1993.) pp.121-123
5. **Power Plant.** David Moffat, Architecture. (Robert J. Kleisch, June 1993.) pp. 74-79
6. **Practicing What They Preach.** Michael J. Crosbie, Progressive Architecture. (Penton Publishing, March 1993.) pp. 84-89
7. **Pyramid of the Sun.** Justin Henderson, Architecture. (Robert J. Kleisch, June 1993.) pp. 82-85
8. **The State of Sustainability.** Mark Alden Branch, Progressive Architecture. (Penton Publishing, March 1993.) pp. 19-20
9. **Urban Oasis.** Donald Albrecht, Architecture. (Robert J. Kleisch, June 1993.) pp. 74-79

Contextual Issues & Design Responses



Contextual Issues

- **Existing Site Conditions**
- **Project Location**
- **Climate**
- **Scale**
- **Existing Traffic**
- **Parking**
- **Soils and Geography**
- **Setbacks**
- **Lighting**
- **Signs and Graphics**
- **Design Idiom**

Contextual Issues & Design Responses

Existing Site Conditions

The district as it stands today is an array of warehouses which once flourished in the past with businesses. The businesses however have gone the way of the doe-doe and have left the endangered plot of land with a subtle feeling of abandonment. There however, is a great deal of uncovered possibilities here. Some successful businesses remain such as the Depot Restaurant, Beer Garden, The Warehouse and Stubb's Barbeque has recently returned to the historic district.

The location of the housing project must be carefully considered because of the demands which will be faced and the strains which will be placed on the apartment complex. In deciding on the exact location of the project it has been deemed necessary to view the future development of the surrounding environment as a definite reality and also to use this information as an additional anchor to open as well as to define many questions which must be answered in programming this project. After interviews and several sessions with talking with concerned parties about the district it has been a great help in determining the best location for a student housing project of this type.

Contextual Issues & Design Responses

Project Location

The location chosen is the city block which is bordered on the north by 17th street, on the south by 18th street, on the west by Avenue H, and on the east by Avenue G. The location will provide ample proximity parking for the residents, easy access to bus routes which run to and near the University campus. The existing district will provide a buffer zone between the facility and the rather noisy Interstate 27. The site is not located in the center of the district but closer to the perimeter to enable easy access by both residents and their visitors. There are several interesting buildings in this context which may be drawn upon to carry out a smooth design transitions and many features which may be architecturally played upon.

Perhaps the most important aspect of working in the Depot District is the presence of its dominance in the downtown area and its pseudo-historical character.

Although the district does have some historical significance and perhaps just simply the hype which has been placed on this project is the fact that it will not be necessary to adhere to strict preservationist codes as well as the historic viewpoints which are placed on preservation projects. This will in turn rather open up many possibilities to explore the sustainability of the buildings located in the vicinity and the sustainability of the context as a whole.

The present location of planned redevelopment will produce an ideal local for the project. It is close to Texas Tech for the students while giving them the

Contextual Issues & Design Responses

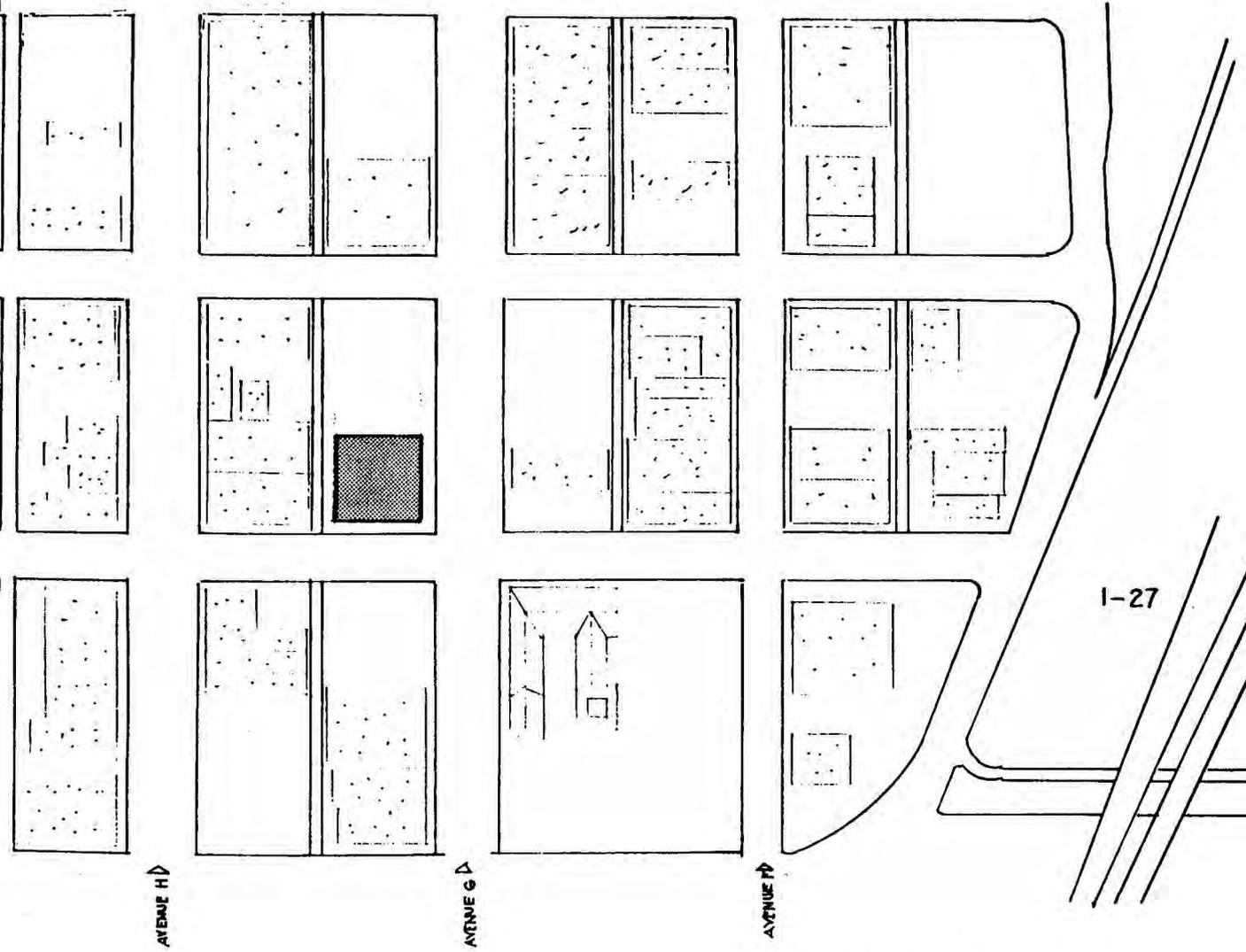
Project Location

freedoms which are not permitted in on campus housing.

Its proximity to I-27 is ideal because it provides the students easy access to destinations in southwest Lubbock. They can expect about a 10 minute drive to South Plains Mall, the airport, and even to the strip of purchase alcoholic beverages. These combinations make the Depot District the ideal site for such a student housing project.

Contextual Issues & Design Responses

Project Location



 Project Location

Scale: 1"=200'-0"



Contextual Issues & Design Responses

Aerial Photo Map

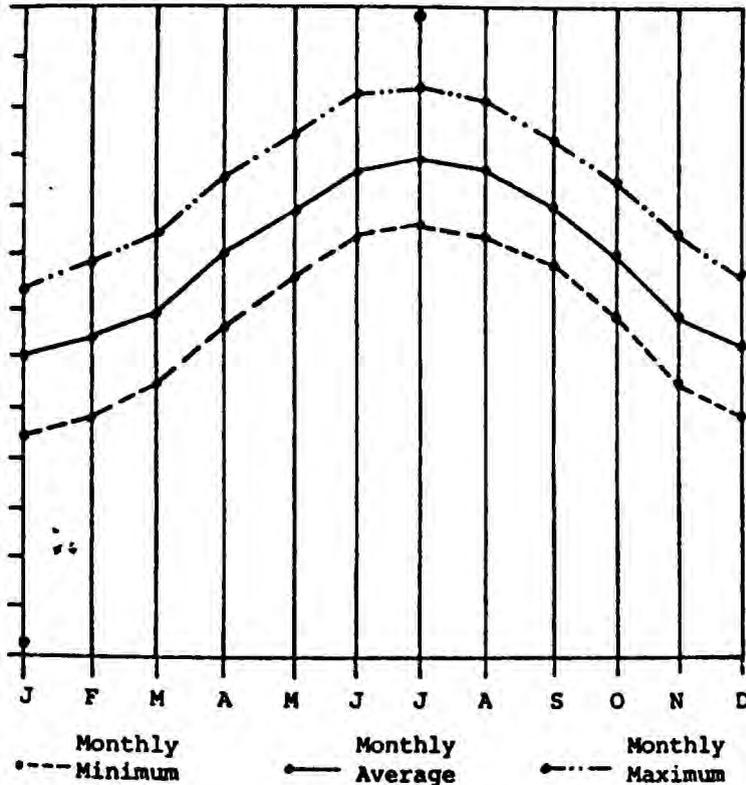


Contextual Issues & Design Responses

Climate

The climate in Lubbock, Texas is semi-arid and mild, and is transitional between temperate conditions to the west and the humid climate to the east. Cool nights and warm days are predominate and there are low levels of relative humidity. The majority of the annual precipitation occurs during the months of May, June, and July. The record for maximum rainfall in a 24 hour period was 5.85 inches was recorded on October 19, 1981. Mean average rainfall for Lubbock is 18.41 inches with the recorded lowest of 8.7 inches in 1917. The highest recorded amount of rain was 40.5 inches in 1941. The rainfall comes during thunderstorms during the spring and the summer, resulting in excessive downpours, which creates a rapid runoff that erodes the soil. Many of these storms are accompanied by high winds, hail and on occasion tornadoes. Hail which lands in the area range from the size of grapefruit to pea size. Lubbock does not experience extended periods of cold weather. During the winter season Lubbock recieves an average of 15.11 inches of snowfall. The maximum recorded amount is 16.3 inches in a 24 hour period. Although it sounds like a great amount for this region it usually does not stay on the ground for more than 3-4 days. However, in 1983 it was recorded that 20 inches of snow fell and remained for more than 21 days.

During the year Lubbock exoeriences on an average an extremely pleasant climate. During the Spring there is a variety of weather being that the warm and cold weather follow one another. There is also the



Contextual Issues & Design Responses

highest probability for strong winds and intense sand storms.

The summer season is very pleasant because the average daily temperatures are near 94 F. The temperature cools to 60 F and night and during early morning hours. July records the highest temperatures during the year of 79.9 F. The record temperature was recorded in 1980 at 109 F. Seventy nine days of Lubbock summer season recorded a temperature high of 90 F or greater. Lubbock has a high mean annual temperature averaging at 59.7 F.

Lubbock has a fairly low relative humidity, however this does not accurately describe the amount of moisture in the air. This is due to Lubbock's 12 hour swing which ranges from 75% at 6:00 am to 40% at 6:00 pm.

Lubbock's prevailing winds are southwesterly from November to April, and southerly from May to October. The wind speed averages about 13 miles per hour, but may rise to as high as 300 miles per hour during tornadoes. Frequent sand storms in the spring and early summer make visibility difficult. (*Local Climatological Data Annual Summary*)

Response

The building must be able to stand up to the elements of its given context. All windows will be no less than 1/4 inch insulated glazing with insulated frames. All wooden doors will consist of sustainably harvested woods. the exterior envelope of the building will also be design ed to

Contextual Issues & Design Responses

withstand the elements. Treatments should not be used or treated with any chemical which could bleed into the surrounding environment. Materials for the exterior will consist of masonry construction and nontoxic exterior finishing systems. Steel should be avoided on the exterior of the building but if used, it should be A36 weathering steel.

Contextual Issues & Design Responses

Scale

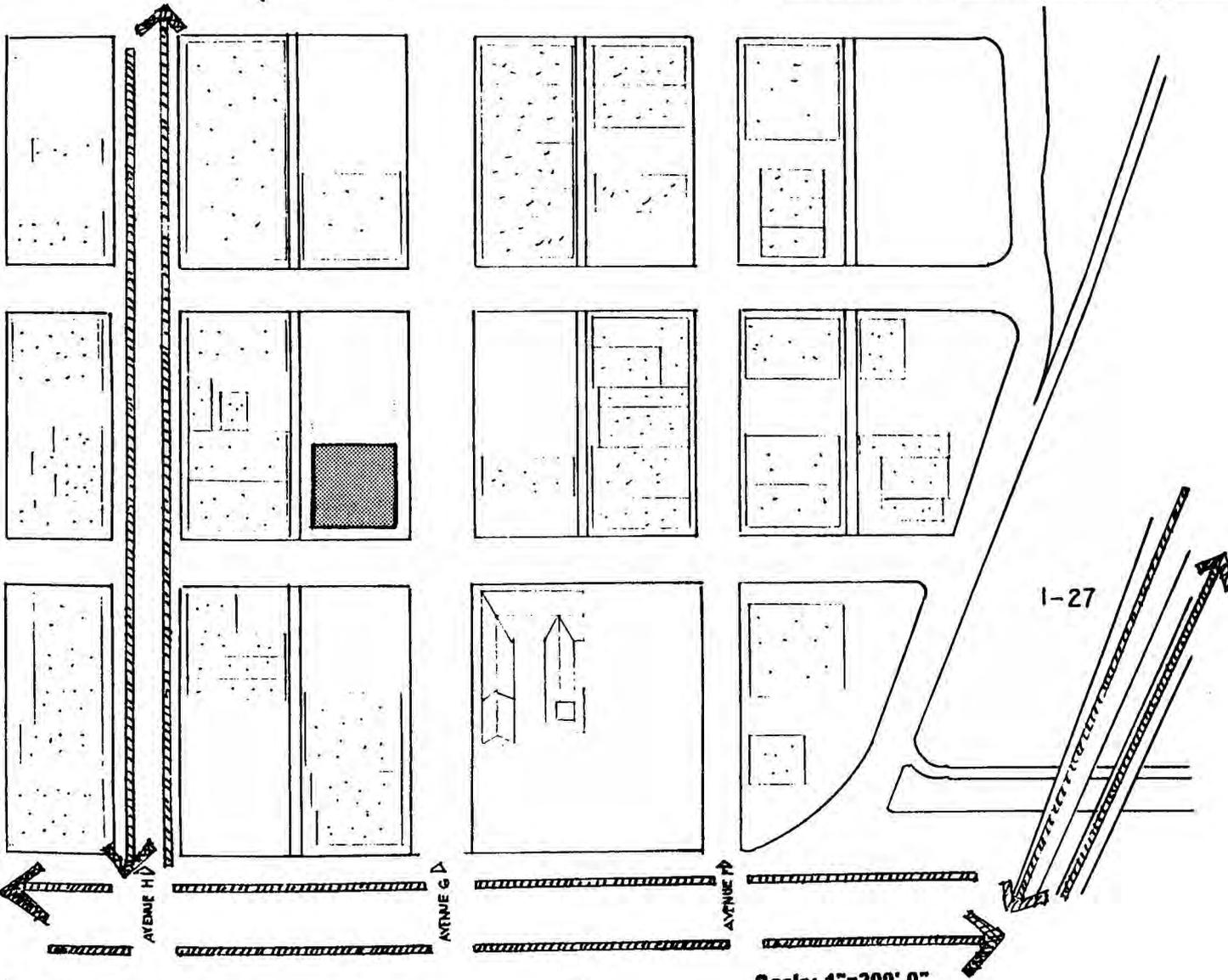
New Construction in the area must be sensitive to the surrounding environment. An effort should be made to create buildings which will complement the scale and design idioms of the surrounding environment and buildings. It is important for the success of the project that and the coming redevelopment of the area that projects take on a more human scale instead of making Lubbock another city of faceless skyscrapers which are devoid of ornament or meaning.

Response

The facility must take into account what is presently in its immediate surroundings and plan for the new development as well. The project will not exceed nor overpower with its scale any existing buildings in the Depot District. It has also been necessary to examine the plans for redevelopment of the area. The maximum height of the building will not exceed a 50' height regulation and will not consume more than half of the city block upon which it is located. (RTKL).

Contextual Issues & Design Responses

Traffic



Scale: 1"=200'-0"



Project Location

Contextual Issues & Design Responses

Parking

Parking in downtown Lubbock is a major problem. The main issue being cost. This is due to downtown land values and the existence of separate garages and lots, a fee is usually required to park in these places. There is also a perception that parking in the suburbs is free. One may not pay directly in suburban office and retail centers, but this is usually compensated for and included in space rental costs. In reality, one actually does pay for parking in the cost of goods and services from businesses in suburban centers.

Another issue which arises is one that there is not enough parking, There is, but the problem is in the distribution of the parking as it is related to direct destinations and major concentrations of employment. The supply has in fact increased faster than the employment rate. The problem occurs in the location and supply of parking for visitors to downtown and for new office development within the core. On street parking in the area of the district and downtown is free, but the amount of off-street parking is not well signed or located well enough to be convenient and attractive to visitors and shoppers. *(City of Lubbock)*

Response

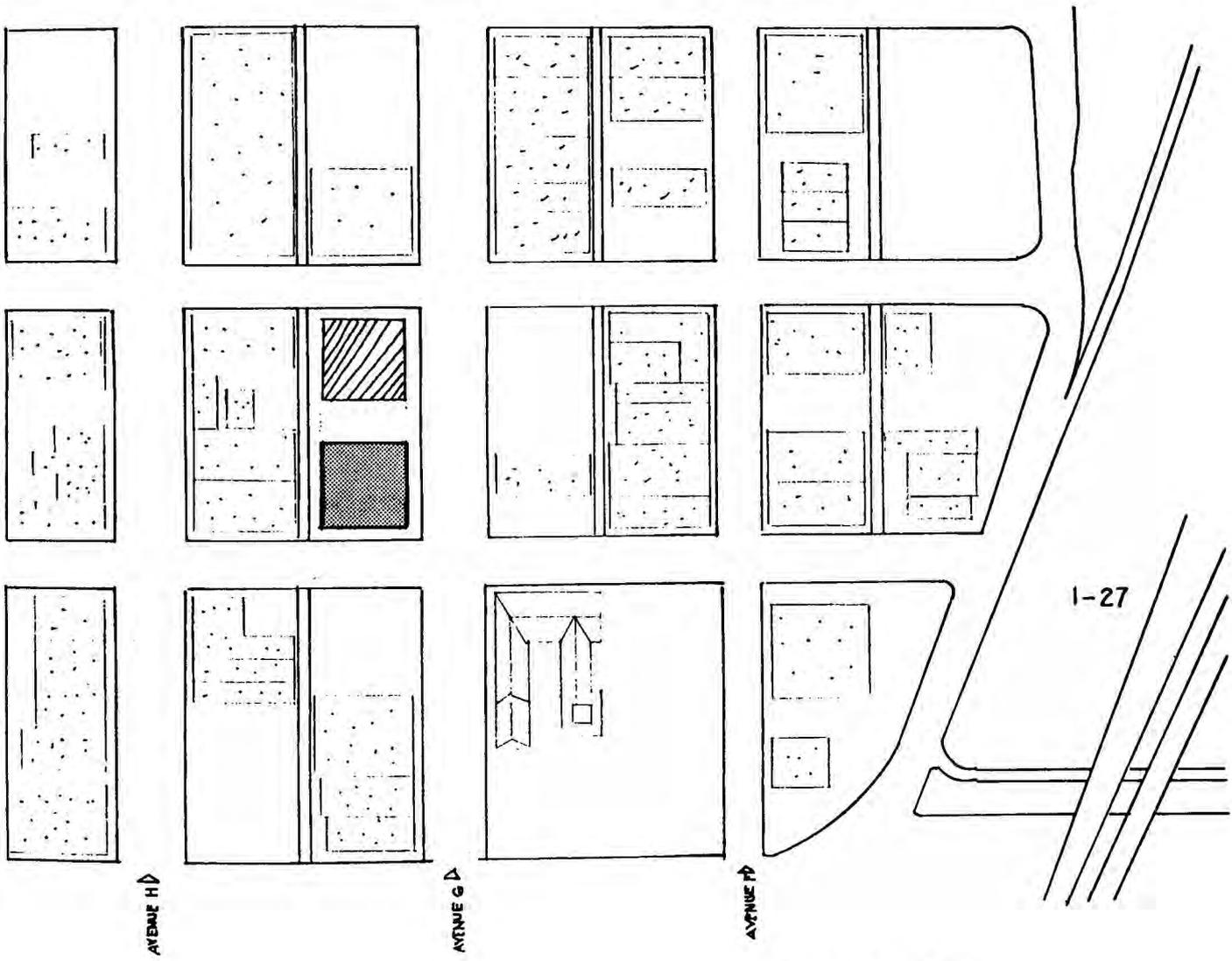
Parking for the facility will be provided at street level in a secure area immediately to the north. Garage parking would only simply increase the size of the facility and since ample parking is already located here it does not

Contextual Issues & Design Responses

seem necessary. The location of the parking is on the perimeter of the site and will give easy access to and from the facility. Each resident student will be allowed their own assigned parking space, the cost of which will be combined into their rent costs. A provision for 15 % landscaping of the lot will be made to encourage such further actions. Security of the lot must be secure but due to the nature of upcoming development it must also be as unobtrusive as possible. Low perimeter walls (low enough to sit on) will be used to accomplish this, which may also facilitate a seating area on the street level. Adequate lighting for security must also be provided for the parking area as well as into the facility. The amount of parking will be dictated by the square footage of the building. (1 space for every 300 sq. ft. of the Gross area. Estimated No. of spaces = 35) *(City of Lubbock)*

Contextual Issues & Design Responses

Parking



 Project Location

 PARKING LOCATION

Scale: 1"=200'-0"



Contextual Issues & Design Responses

Soil & Topography

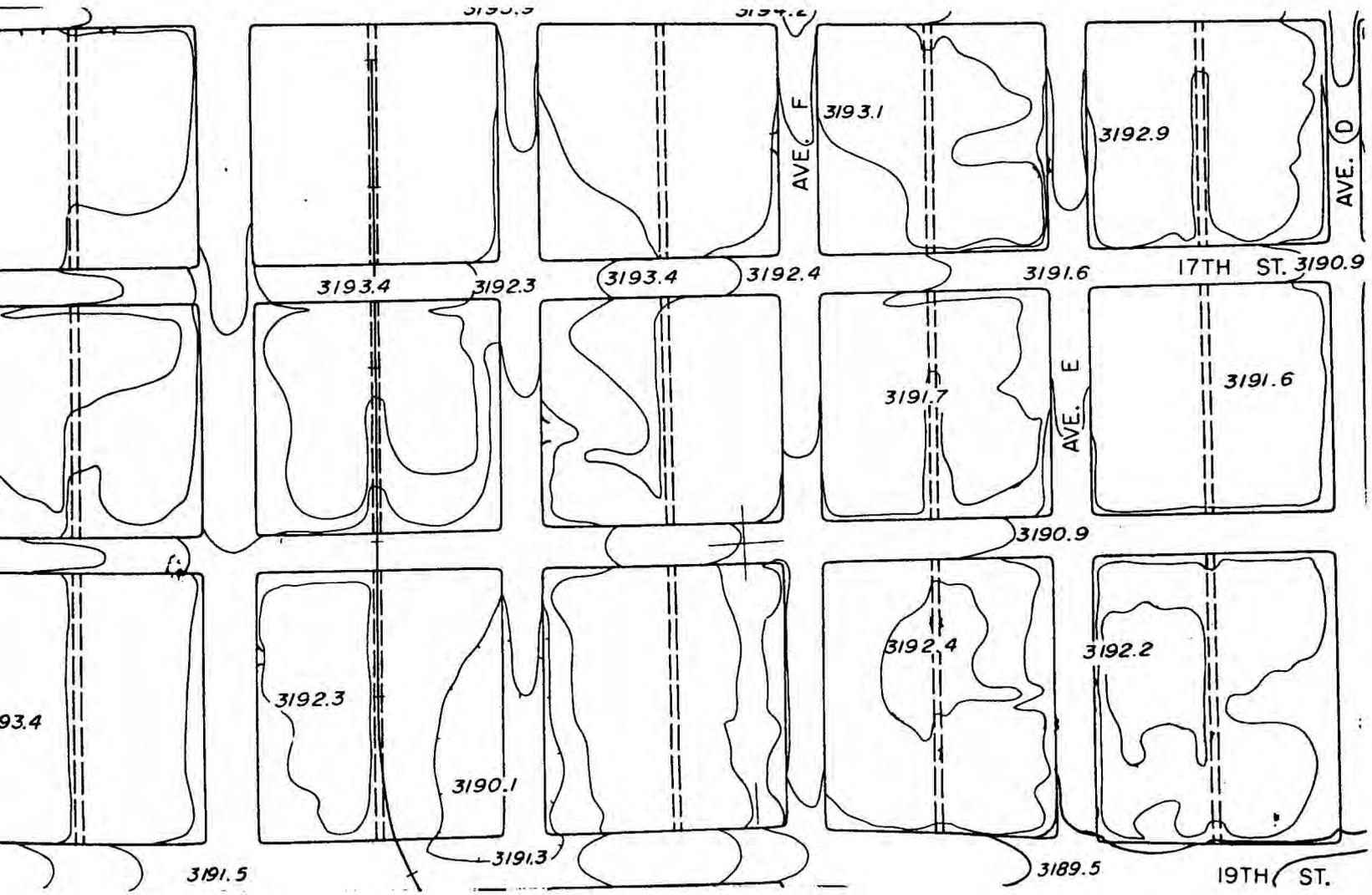
The county of Lubbock is covered with Amarillo fine sandy loam, with a %0-1 slope. This level, deep soil rests on the uplands which cover irregularly shaped areas that range from 10 to 200 acres. The major portion of Lubbocks surface consists of windblown sand which reaches a depth of 25 feet in some areas. Lubbock has been characterized under the Amarillo Acuff unit by the U.S. Soil Conservation Service. For the most part the land is well drained with a slow run-off surface. Since the soil is considered to have moderate permeability, and water absorption capacity is high, there is little chance water erosion.

Response

Due to the simple nature of the soil, construction of the facility upon it will not be a problem. The site is for the most part flat and therefore will require little or no grade changes in order to enter or circulate within the building. The existing area has no drainage problems. (*U.S. Department of Agriculture*)

Contextual Issues & Design Responses

Topography



Contextual Issues & Design Responses

Setbacks

While there is no ideal building setback which is appropriate for the entire downtown area or an entire street length, a uniform and well defined street wall is a desirable condition in the downtown core in order to define the street and create comfortable pedestrian spaces. The setbacks can vary from street segment to street segment, depending on the width and cross section of the street. However, the existing street space and grid pattern should be respected

Response

The position of the front facade on major streets will be critical to the spatial quality and scale of the upcoming development pattern. An attempt will be made to establish a "mandatory facade line" along major streets with high volumes of pedestrian traffic. The building will have windows on all four sides. On the upper stories the building will step back in order to provide a street wall. The stepback will be a minimum of twenty feet. The corners of the building at the intersections of major streets are vitally important to the image of the district. Attention will be given to the buildings form at these corners. The building must not be set too far back at the street level. A deeper setback however, at major intersections may be used to give a certain sense of importance to these locations. This can also be accomplished at major pedestrian areas. (*New Town Downtown*)

Contextual Issues & Design Responses

Lighting

The lighting of a building in any given downtown area must be used to give a clear hierarchical direction to the motorist and also to the pedestrian. It must distinguish areas where pedestrians gather and also where they will have the clear right of way over vehicular traffic.

Response

There should be a limited range of lighting fixtures and hardware used. Special lighting should be used in order to accent the design of the facility itself. The lighting will reveal the edges, cornices, roof forms and other architectural features, such as sculpture and landscaping. The building will be lighted at night with the use of neon or argon tubing attached to the building form in conjunction with uplights and/or spotlights. Lighting will be used to identify the major portals to the facility. *(New Town Downtown)*

Contextual Issues & Design Responses

Signs and Graphics

Signage on buildings can be used to clarify the provision of private and public information. If it is not controlled this can lead to a random and competing profusion of information which can confuse communication and cause visual blight. Good signs and graphics help to energize the environmental atmosphere of a particular area or district.

Response

The facility will be allowed one projecting and one attached facade sign. Any projecting signs will have a minimum clearance of 8 feet above grade. Facade signs will be used at the first floor level and will not obscure any significant architectural elements. Awnings and canopies may also be used as advertisement, but verbage should not exceed 30-50% of the surface area. Window signs will be located at the first floor and will not exceed 30-40% of the window area. *(RTKL, p.76)*

Contextual Issues & Design Responses

Design Idiom

The many architectural styles which are found in downtown Lubbock reflect the growth of the town and the vitality of its distinct subdistricts. New infill buildings and less than historic buildings should be evaluated in terms of how well they relate to their surrounding context as well as in terms of their individual design. Each building should be judged by its own qualities, not by its age.

Response

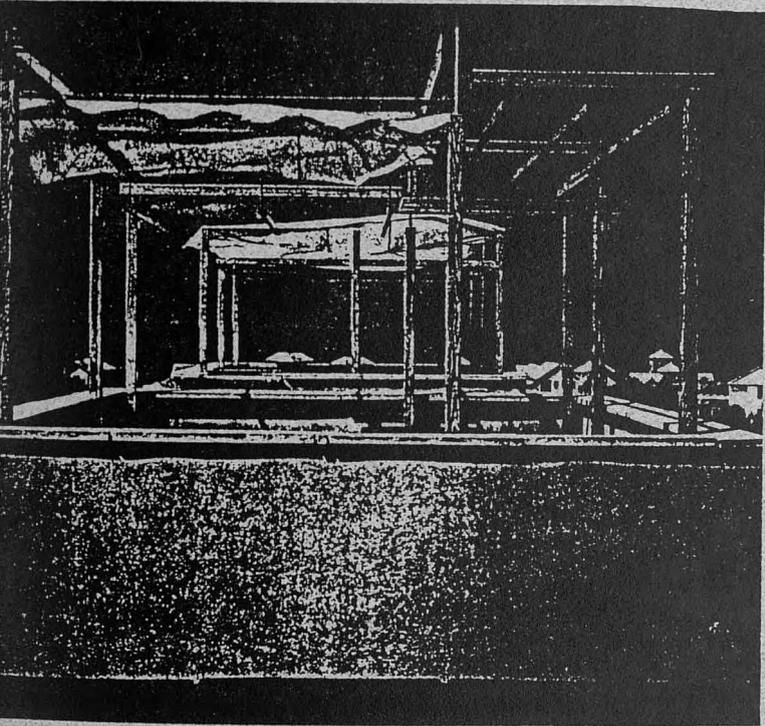
The building will be designed with an expressed base, shaft, an accentuated top, and will have well defined building entrances. What is seen up close at the base of the buildings (the street-level storefronts, doorways, canopies, arcades) and what is seen from a distance (skyline profile) are the most critical design features to be controlled. Window openings on street fronts will not be greater than 70% nor less than 30 % of the facade area in order to avoid making it a glass box building and having blank wall facades. A variety of window proportions will be used to avoid horizontal or vertical banding. Avoid banding through the use of highly contrasting colors. This can have the effect of changing the apparent scale of the building, creating an optical illusion that makes the building jump out of its setting. This can result in a disjointed appearance in the line of buildings on a single street or city block. (RTKL, p.66)

Contextual Issues & Design Responses

Sources

1. City of Lubbock Community Planning Department, David Buckberry
2. Local Climatological Data Annual Summary and Data for Lubbock, Texas; 1992
3. New Town Downtown. Andrea Oppenheimer Dean, Architecture. (Robert J. Kleisch, December 1991.) pp. 56-60
4. Redevelopment Plan for Downtown Lubbock. RTKL, (March 1989) pp. 6-66
5. U.S. Department of Agriculture, soil survey of Lubbock County, Texas

Facility Program



Facility Program Issues

- **Privacy**
- **Safety**
- **Convenience**
- **Circulation**
- **Noise Control**
- **Lighting**
- **Materials**
- **Mechanical System**

Activity Analysis

Apartment

Entering the apartment. In inclement weather it should be possible to take off and put away outer clothing at the entrance, to store umbrellas and boots to prevent dirtying the floors of other rooms and to put down packages

Entering with groceries or leaving with garbage. Connection between entrance and kitchen should be as direct as possible, preferably through the entry hall and the living space. A secondary entrance directly into the kitchen solves this problem.

Deliveries. It should be possible to accept and pay for packages without having the deliverer enter the living space.

Passing from bedroom to bathroom. It should not be necessary to cross the living space. Ideally, one should not be seen from the living space at all.

Passing from kitchen to bathroom. This should be done , if at all possible, without crossing the living space.

Serving from kitchen to dining room. Service should be as direct as possible without crossing any other spaces, excluding if necessary, the entry hall.

Facility Program

Activity Analysis

Ideal circulation criteria are provided by proper planning of the rooms around the core of the apartment, which consists of the entry hall and the bedroom corridor. In fact, a well planned apartment can be divided into two zones, the living zone and the sleeping zone, separated by the entry hall.

Neither this simple geometric division is always possible. Corner apartments, walk-ups, and row houses often require a functional compromise to achieve economy.

As important as the relation of one room to another is the provision for daylight and fresh air. Ideally, every room in an apartment should have exterior exposure to light and air. This however, may not always be possible. In this case, spaces such as bathrooms, kitchens, and dining rooms are handled as interior spaces. This can easily be handled because building codes allow bathrooms and kitchens to be mechanically ventilated, because an inside dining alcove is really an extension of the living space, and because the kitchen can be situated to borrow light from the living or dining room. Thus the apartment plan is divided into outer and inner zones. Therefore, units with double exposure, duplex walk-ups, exterior gallery type buildings, and apartments which are located on the corner can have kitchens and dining rooms in the outer zone without difficulty.

Facility Program

Spatial Requirements/Characteristics

Space: Entry (Foyer)

Activity: Activities here involve entering, exiting, and deliveries to the apartment. This space should be large enough to provide a feeling of welcome into each apartment. Some noise control must be provided in these spaces as the activity could become noisy if the participants are talking. It is important that this space give some means of identity to those who inhabit the apartment.

Minimum areas:

Units with	Net Sq. Ft.	Usable Sq. Ft.	Gross Sq. Ft.	No. per Apt.	Total No.
1 BR	15	20	24	1	6
2 BR	19	25	30	1	9
3 BR	23	30	36	1	12

Furniture: None

Lighting: Lighting will play a major role in this space as it will help to ensure a feeling of security. Movement sensors will also be used in these spaces.

Facility Program

Spatial Requirements/Characteristics

Space: Living Room

Activity: The living room should allow for group activities as well as individual relaxation: entertaining, reading, writing, listening to music, and watching television. It should be separated from the main circulation pattern of the apartment. It must be flexible enough to allow for various furniture arrangements and for the extension of the dining activity when the occasion demands. Under certain conditions it should also accommodate alternate activities such as study or music. Since the living room is usually the largest and most impressive of all rooms in the apartment, it should be situated so that it is visible from the entry hall.

Minimum area:

Units with	Net Sq. Ft.	Usable Sq. Ft.	Gross Sq. Ft.	No. per Apt.	Total No
1 BR	123	160	192	1	6
2 BR	131	170	204	1	9
3 BR	138	180	216	1	12

Furnishings:

One couch; 3 ft. 0 in. by 6 ft. 10 in.

Two easy chairs; 2 ft. 6 in. by 3 ft. 0 in.

(one chair for one bedroom)

One desk; 1 ft. 8 in. by 3 ft. 6 in.

One desk chair; 1 ft. 6 in. by 1 ft. 6 in.

One table; 1 ft. 6 in. by 2 ft. 6 in.

60 in. between facing chairs or couch

24 in. where circulation occurs between furniture

30 in. in front of desk

36 in. for main traffic

60 in. between television and seating

Facility Program

Spatial Requirements\Characteristics

Finishes: The space will use light colors on the walls, ceiling, and floors to enhance reflective performance. The floors will be carpeted with high wool content carpet in order to prevent off-gases. Non-toxic paints and water based stains will be used as well as high performance windows with double glazed, gas filled units, with low conduction edge spacers, and insulated frames.

Lighting: Since much emphasis is placed on the living area the lighting here will accent the design of the space. Artificial lighting will be provided for by the orientation of fenestration and clerestories where possible. Artificial lighting will be both fixed as well as movable units to ensure flexibility for the occupants needs.

Facility Program

Spatial Requirements/Characteristics

Space: Dining area

Activity: This space is where the students will take their meals and entertain guests. This space will probably take the form of an alcove located directly off of the living room. Although it would create a larger building perimeter, it is preferred that it be located near a windowed area. On occasions where large groups of diners may need to be accommodated it should be possible to expand this area into the living room without having to move large objects of furniture.

Minimum area:

Units with	Net Sq. Ft.	Usable Sq. Ft.	Gross Sq. Ft.	No. per Apt.	Total No.
1 BR	77	100	120	1	6
2 BR	77	100	120	1	9
3 BR	85	110	132	1	12

Furnishings:

One bedroom, two persons; 2 ft. 6 in. by 2 ft. 6 in.

Two bedrooms, four persons; 2 ft. 6 in. by 3 ft. 2 in.

Three bedrooms, six persons; 3 ft. 4 in. by 4 ft. 0 in. for 4 ft. round

Dining chairs; 1 ft. 6 in. square

Finishes: Since this room will be in close proximity to the living area the finishes will match those of the living room.

Lighting: Lighting will be provided by a single overhead fixture and also since it will be located near a windowed area, natural lighting will be provided as well.

Facility Program

Spatial Requirements/Characteristics

Space: Kitchen

Activity: This space will provide for efficient food preparation, storage, and service. To accomplish this requires careful planning. Storage space normally provided in cabinets or utility closets can be expanded by the addition of shallow pantries: floor to ceiling shelving behind hinged doors. When the kitchen is part of the combined kitchen-dining or kitchen-living room, the food preparation and cooking space should be screened from the dining or family area to allow additional activities with some sense of privacy. In planning kitchens, the basic sequence of refrigerator-sink-stove, starting from the door and progressing toward the serving eating areas, should be observed. The method of connecting the dining room or alcove, pass through the door, needs special attention. Well planned kitchens in an inner zone should borrow daylight from the living or dining space to make working conditions in the kitchen a more pleasant experience. Kitchens with exterior light will be preferred.

Minimum area:

Units with	Net Sq. Ft.	Usable Sq. Ft.	Gross Sq. Ft.	No. per Apt.	Total No.
1 BR	46	60	72	1	6
2 BR	54	70	84	1	9
3 BR	62	80	96	1	12

Facility Program
Spatial Requirements\Characteristics

Fixtures (Counter tops):

No. of Bedrooms	1	2	3
Minimum Lin. Frontages			
Sink	24	24	32
Countertops Each Side	18	21	24
Range or Cooktop Space	21	24	30
Countertop Each Side	18	21	24
Refrigerator Space	30	36	36
Countertop Each Side	15	15	15
Mixing Countertop	30	36	36

Storage area:

No. of Bedrooms	1	2	3
Minimum Shelf Area (sf)	30	38	44
Minimum Drawer Area (sf)	6	8	10

Lighting: The majority of the lighting will be provided by natural lighting. Overhead task lighting will also be provided by low wattage T-8 fluorescent tube lamps. The lighting will be controlled manually and also automatically by wall mounted movement sensors.

Finishes: Surfaces will be made to be low maintenance and easy to clean. surfaces will be light in color to make the most of available light. Floors will be covered with linoleum.

(Housing)

Facility Program

Spatial Requirements\Characteristics

Space: Bedroom

Activity: The main activity which takes place here is sleeping. Each bedroom should have enough space for double occupancy at a minimal scale. In addition to this there must be enough space for a chest of drawers, desk, chairs or chair, night table, and possibly even space for a small entertainment center where a television or a small stereo might be enclosed, and also a bookcase where books may be kept out of the way from the rest of the apartment.

Minimum area:

Primary Bedrooms					
Units with	Net Sq. Ft.	Usable Sq. Ft.	Gross Sq. Ft.	No. per Apt.	Total No.
1 BR	92	120	144	1	6
2 BR	92	120	144	1	9
3 BR	92	120	144	1	12

Secondary Bedrooms					
Units with	Net Sq. Ft.	Usable Sq. Ft.	Gross Sq. Ft.	No. per Apt.	Total No.
1 BR	69	90	108	0	0
2 BR	69	90	108	1	9
3 BR	69	90	108	2	24

Furnishings:(varying)

Two twin beds; 3 ft. 3 in. by 6 ft. 10 in.

One dresser; 1 ft. 6 in. by 4 ft. 4 in.

One chair; 1 ft. 6 in. by 1 ft. 6 in.

Queen size bed; 5 ft. 0 in. by 6 ft. 10 in.

King size bed; 6 ft. 6 in. by 7 ft. 0 in.

42 in. at one side or front of bed for dressing

6 in. between side of bed and side of chest

36 in. in front of chest of drawers

Facility Program

Spatial Requirements\Characteristics

24 in. for circulation path

22 in. on one side of bed for circulation

12 in. on least used side of double bed; the least used side of any other size bed can be placed against wall except in rooms which will be occupied by the physically impaired.

Finishes: This space will be carpeted with high wool content non-off-gassing carpet. Walls will be painted in neutral colors in order to allow students to decorate his or her own space. Colors will be limited to lighter shades and colors in order to enhance light performance in the space.

Lighting: These spaces must be on the perimeter along a windowed surface to meet code requirements. Therefore, spaces can be naturally lighted with ease. Fixed, energy efficient lighting will be provided in the ceiling while task lighting will be dictated by each of the different students needs.

(Housing)

Facility Program

Spatial Requirements\Characteristics

Space: Bathroom

Activity: This space involves grooming, showering, using the restroom, and even relaxing in a hot shower or bath. It is necessary to ensure some measurements be taken to ensure privacy. The bathrooms should be adjacent or close to as possible to ensure privacy. They should be out of the line of site from visitor areas such as the living room and the entry. This will help with privacy as well as isolate the noises which can be associated with these spaces.

Minimum areas:

Primary Bathrooms					
Units with	Net Sq. Ft.	Usable Sq. Ft.	Gross Sq. Ft.	No. per Apt.	Total No.
1 BR	46	60	72	1	6
2 BR	46	60	72	1	9
3 BR	46	60	72	1	12

Secondary Bathrooms					
Units with	Net Sq. Ft.	Usable Sq. Ft.	Gross Sq. Ft.	No. per Apt.	Total No.
2 BR	46	60	72	1	9
3 BR*	62	80	96	1	12

* Size of secondary bathrooms based on double or shared occupancy.

Finishes: Wall and floor materials will be acid resisting and moisture proof. Floor will be a non slip surface. Upper wall areas may be plastered or painted to reduce condensation and noise. All partitions will be materials which are easily cleaned and can be maintained at a minimum cost.

Furniture\Equipment: Each bathroom will be equipped with its own lavatory, toilet, and shower-bath tub combination.

Facility Program

Spatial Requirements\Characteristics

Lighting: Energy efficient task lighting will be used. Main areas for illumination are the mirrors, toilets, and showers. Concentration of light in these areas may encourage cleanliness.

Safety: All sockets and electrical fixtures will be ground fault protected.

Acoustics: Sound within, and leaving the restroom should be controlled through wall design. Measures should be taken to prevent sound transmission through the ceiling and A/C ductwork. An acoustical ceiling should be provided. All pipes should be insulated for sound.
(Housing)

Facility Program

Spatial Requirements\Characteristics

Space: Closets and Storage

Activity: The amount of activity which takes place in these spaces is minimal however, enough space must be allotted for for the moving of larger objects in and out of the facility as well as storage from the apartment and vice-versa.

Minimum areas:

Type of Closet	Net Sq. Ft.	Usable Sq. Ft.	Gross Sq. Ft.	Total No.
Guest Closet (In or near entry hall)	10	13	16	27
Utility Closet (In or near kitchen)	3	4	5	27
Pantry (In kitchen)	18	24	29	27
Linen Closet (In bedroom hall)	2	3	4	21
Master Bedroom Closet (In bedroom)	15	20	24	27
Second Bedroom Closet (In bedroom)	12	16	19	24
General Storage Closet (In entry or balcony)	6	8	10	27

Furniture: None

Lighting: Overhead task lighting is required.
(Housing)

Facility Program

Spatial Requirements/Characteristics

Space: Balconies and Patios

Activity: The main activities which take place here are relaxation, entertainment, and also cooking meals on open grills. These spaces must have enough space to be functional as well as having a certain amount of privacy.

Minimum areas:

Units with	Net Sq. Ft.	Usable Sq. Ft.	Gross Sq. Ft.	No. per Apt.	Total No.
1 BR	38	50	60	1	6
2 BR	62	80	96	1	9
3 BR*	77	100	120	1	12

* Rooftop patios for the 3 bedroom units will be provided as opposed to balconies.

Furnishings: Furniture will be at the discretion of the residents and will probably take the form of weatherproof patio furniture (tables and chairs).

Lighting: Lighting will be provided by weather proof fixtures in order to provide safety and to aid in the function of the spaces.

Safety: Railings of not less than 36 inches height will be provided around the patios to ensure safety for the residents.

(Housing)

Facility Program

Spatial Requirements\Characteristics

Space: Laundry

Activity: Here, students are given space to wash their clothes. Because of the kind of machinery involved in the process it is usually rather noisy, therefore, this room must be isolated so as to control noise. This can be accomplished through built-up, insulated construction. This will be a communal activity and washer/dryer units will not be located in each individual apartment. Because of the amount of heat which can be generated in this activity there must be adequate consideration given to ventilation. This space must be easily accessible to residents and secure from strangers and non-residents.

Minimum area:

	Net Sq. Ft.	Usable Sq. Ft.	Gross Sq. Ft.	Total No.
Laundry Room	192	250	300	1

Furniture\Equipment:

8 industrial washing machines

4 industrial dryers

2 folding tables; 4ft. 0 in. by 5 ft. 0 in.

Lighting: Task lighting will be provided for the space also to help with security of the space. Since there is need for ventilation it may be possible to locate this space on the perimeter to allow for this as well as to provide natural lighting.

Facility Program

Spatial Requirements\Characteristics

Space: Garbage Room

Activity: This is where garbage will be disposed of by the residents as well as the administration offices. It is also where the garbage will be picked up by the maintenance personnel and taken to a city disposal dumpster. This will require it to be at street level and have access from inside the facility and access to the exterior of the building. It should be sealed and constructed properly in order to prevent odors and smells from escaping into the facility. There will be made available recycling bins for aluminum, glass, and paper.

Minimum area:

	Net Sq. Ft.	Usable Sq. Ft.	Gross Sq. Ft.	Total No.
Garbage Room	154	200	240	1

Furniture\Equipment:

3 Recycling bins; 6 ft. 0 in. by 6 ft. 0 in.

Lighting: Lighting will be provided here by low wattage fluorescent fixtures for task lighting.

Facility Program

Spatial Requirements\Characteristics

Space: Administration

Activity: This activity is responsible for assuring that all activities associated with the complex run smoothly. The responsibilities associated with this office include, counseling, public relations, accounting, record keeping, and word processing. There are several people who have interaction with this office. There will be a complex director, a single person to perform part time clerical duties and the residents of the complex. There should be a requirement for easy access to the office work area. To make the space functionally productive it must be as spacious as well as being an unnecessarily cluttered work environment.

Minimum areas:

	Net Sq. Ft.	Usable Sq. Ft.	Gross Sq. Ft.	Total No.
Main Entry	192	250	300	1
Main Office	92	120	144	1
Restroom	62	80	96	1

Furniture:

Main Entry Space

Casual seating, chairs; 3 ft. 0 in. by 2 ft. 0 in.

Couch; 7 ft. 0 in. by 2 ft. 6 in.

Reception desk; 5 ft. 0 in. by 2 ft. 6 in.

Main Office

Casual seating, chairs; 3 ft. 0 in. by 2 ft. 0 in.

Couch; 7 ft. 0 in. by 2 ft. 6 in.

Coffee table; 2 ft. 0 in. by 4 ft. 0 in.

Desk; 6 ft. 0 in. by 2 ft. 6 in.

Chairs; 1 ft. 6 in. square

Facility Program

Spatial Requirements\Characteristics

File cabinets; 1 ft. 3 in. square

Lighting: Lighting here should reflect the quality of the space as it will make the first impression on the general public as they visit the facility. Since it is a work space adequate task lighting must also be provided.

Facility Program

Spatial Requirements\Characteristics

Space: Mail Room

Activity: In this space activities consist of the delivery of the mail by the postal service, and the receiving of the mail by the residents. This area requires access by postal personnel, administrative personnel, and the residents. Since this space must be made available at all hours of the day there is a definite need for security in the immediate area. This space will be located in the entrance foyer of the facility which will be locked after administration office hours.

Minimum areas:

	Net Sq. Ft.	Usable Sq. Ft.	Gross Sq. Ft.	Total No.
Mail Room	77	100	120	1

Furniture: None

Lighting: Lighting will be fixed overhead lighting and will be used for security purposes. Motion sensors will be used here for security and also to minimize energy use in the space.

Facility Program

Spatial Requirements\Characteristics

Space: Mechanical

Activity: This space holds all necessary equipment to perform heating and cooling of the structure. This space must be secure from the residents for their safety and accessible only to maintenance personnel.

Minimum area: This square footage is based upon 10% of the Net Sq. Ft. of the total facility and will be determined in the space summary.

Facility Program

Spatial Requirements\Characteristics

Space: Janitorial Closet

Activity: Because of the size of the facility the janitorial duties will be taken up by an outside company. However, storage space will be provided for materials and cleaning supplies.

Minimum areas:

	Net Sq. Ft.	Usable Sq. Ft.	Gross Sq. Ft.	Total No.
Janitorial Closet	92	120	144	1

Furniture: 1 Industrial sink for janitorial use

Lighting: Lighting provided here will be provided for by simple fluorescent task lighting.

Facility Program

Space Summary

Spaces	Total No.	Net Sq. Ft.	Usable Sq. Ft.	Gross Sq. Ft.
1 Bedrooms	6 (639 sq.ft. ea.)	2949	3834	4601
2 Bedrooms	9 (863 sq. ft. ea.)	5975	7767	9320
3 Bedrooms	12 (1044 sq. ft. ea.)	9637	12528	15034
Laundry Room	1	192	250	300
Garbage Room	1	154	200	240
Administration	1	346	450	540
Mall Room	1	77	100	120
Janitorial Closet	1	92	120	144
Retail Space	1	12308	16000	19200

Total		31730	41249	49499
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Circulation	20% of Net Sq. Ft. 31730		6346
Mechanical Room	10% of Net Sq. Ft. 31730		3173
Net Sq. Ft.			31730

Total Facility			41249
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Facility Program

Total Project Incomes

Total Units Sq. Ft. (Apartments)						
	Net Sq. Ft.	Usable Sq. Ft.	Gross Sq. Ft.	Unit Cost (per mo.)	No. of Units	Income (per mo.)
1 Bedroom	492	639	767	\$445.00	6	\$2,670.00
2 Bedroom	664	863	1036	\$525.00	9	\$4,725.00
3 Bedroom	803	1044	1253	\$655.00	12	\$7,860.00
Total						\$15,255.00
Total Yearly Income						\$183,060.00

Total Sq. Ft. (Leaseable Retail Space)						
	Net Sq. Ft.	Usable Sq. Ft.	Gross Sq. Ft.	Mo. Cost (per Sq. Ft.)	No. of Units	Income (per mo.)
Retail Space	12308	16000	19200	\$1.20	1	\$23,040.00
Total Yearly Income						\$276,480.00

Facility Program

Cost Analysis

	Square Feet	Cost
Retail Cost (\$53.45 per sq. ft.)	16000	\$855,200.00
Building Cost (\$85.80 per sq. ft.)	33499	\$2,197,534.40
Land Value (\$7.00 per sq. ft.)	39200	\$274,400.00
Site Work (%5 of Cost)		\$109,876.72
Const. Loan Cost (%7.5 of Cost)		\$164,815.08
Contingency Cost (%5 of Cost)		\$109,876.72
Parking (110 cars)		\$330,000.00
Total Project Cost		\$3,931,826.20

Total Project Income (per yr.)	\$459,540.00
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Project Payback In Years	8.6
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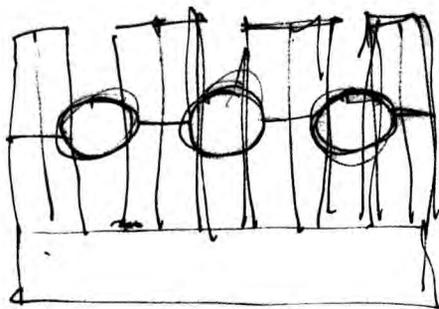
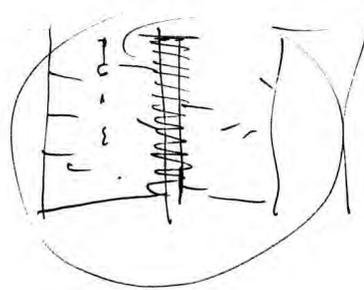
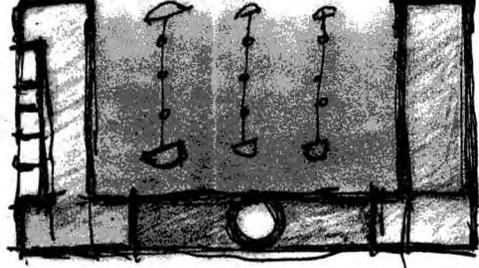
Facility Program

Sources

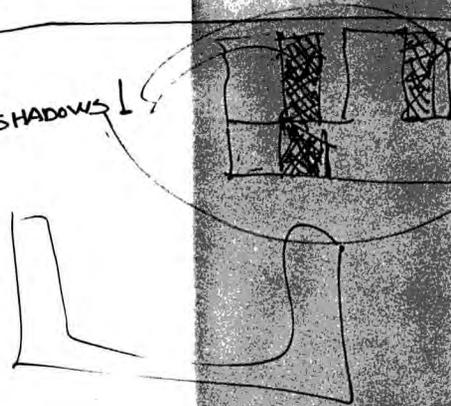
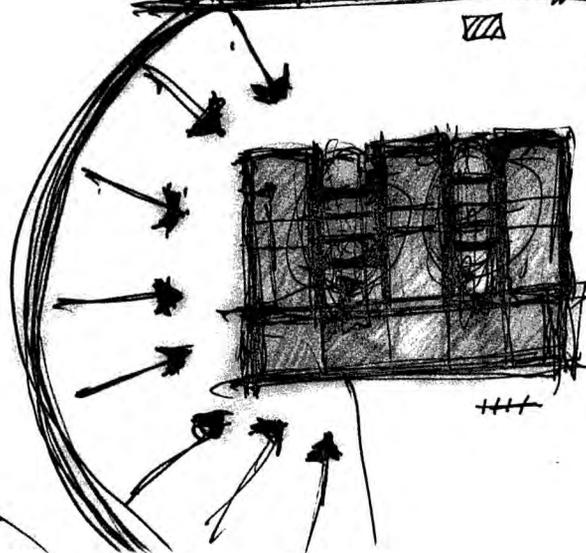
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2. Macsai, John., Housing. (John Wiley & Sons Publishing, New York. 1990.) pp. 21-47
3. Means and Averages Cost Guide, (1992)

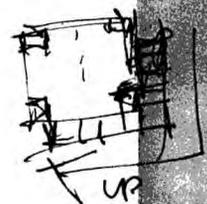
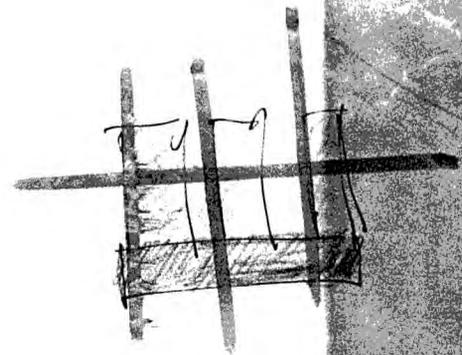
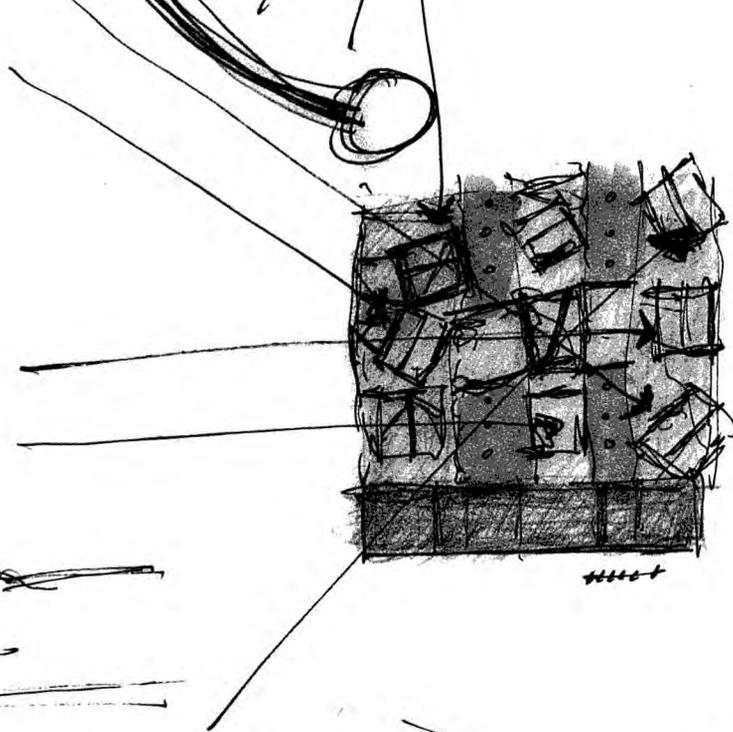
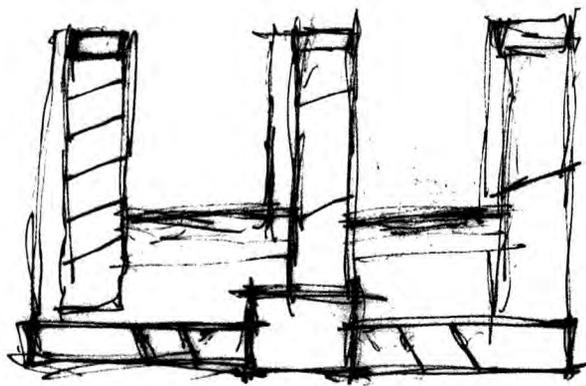
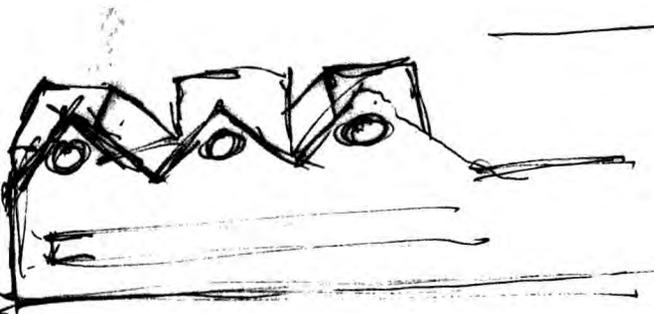
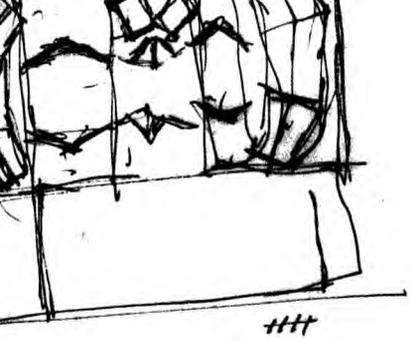
*Figures in cost analysis courtesy of Gardsky's Corporate Offices, (Bill D'Allessandro)

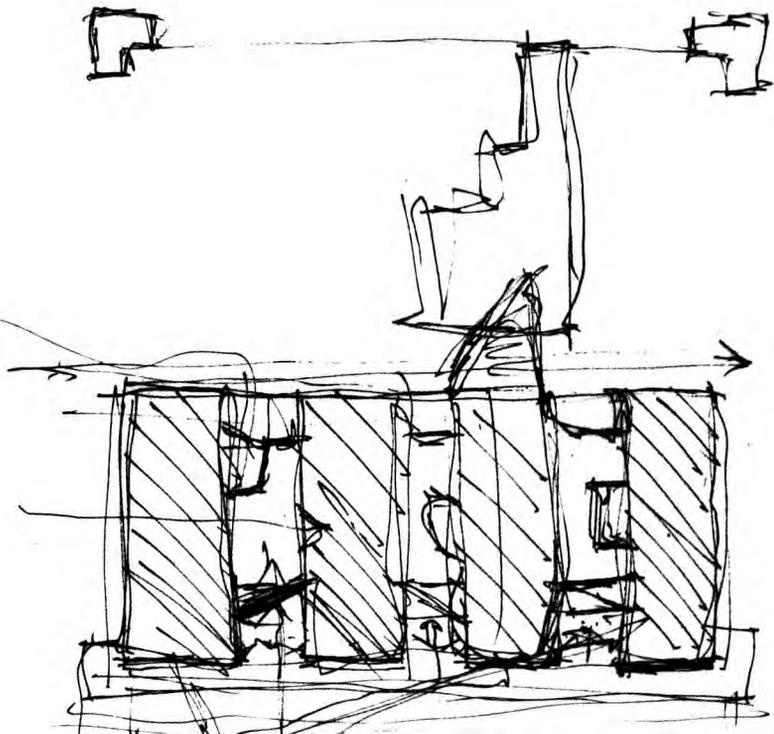
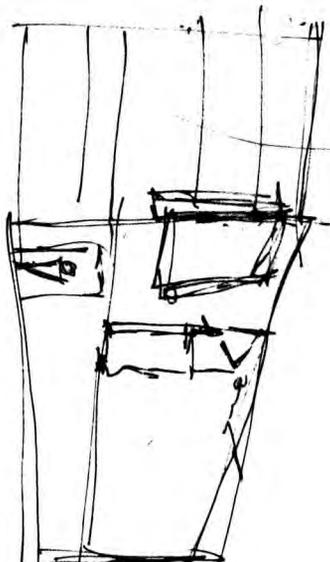
Process Documentation

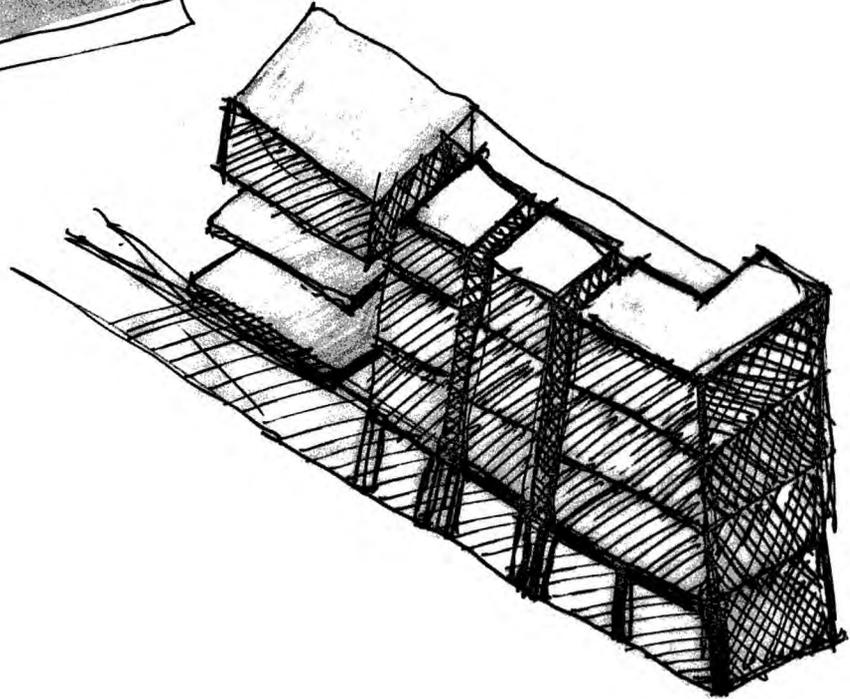
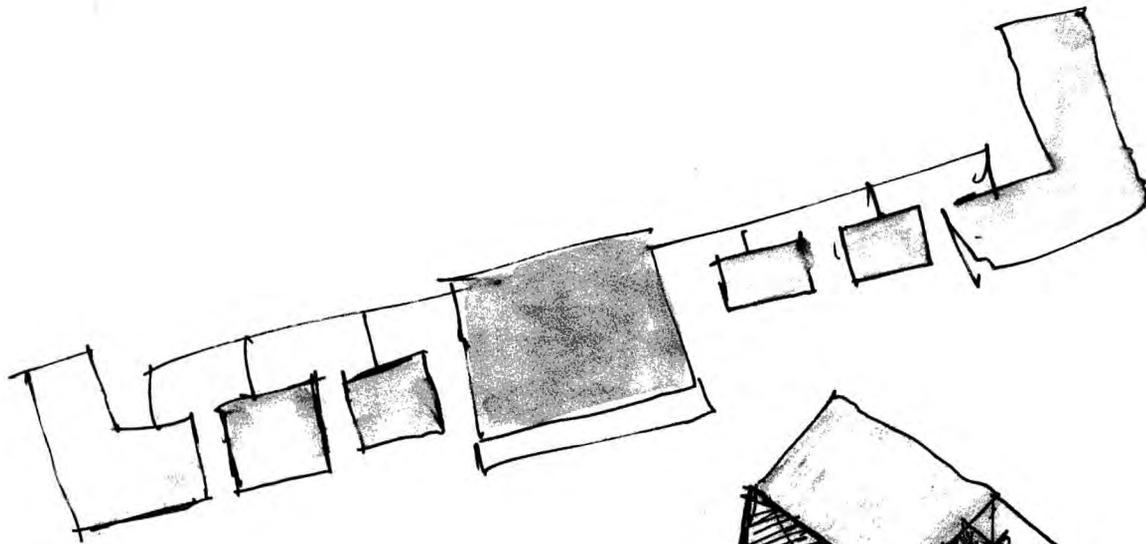


WATCH FOR SHADOWS ↓







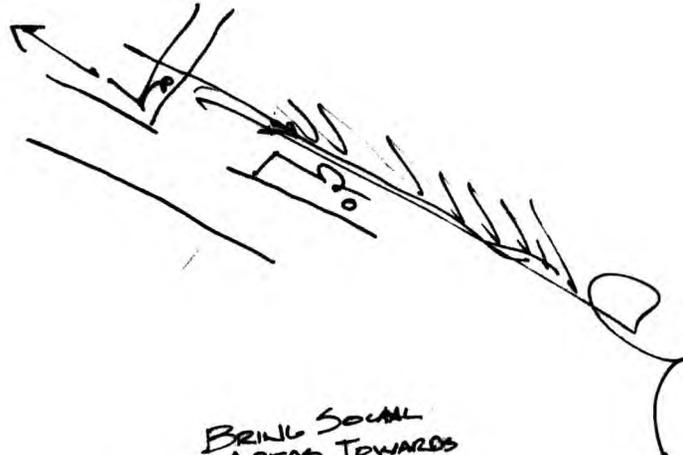


LOFTS

- SOCIAL ORGANIZATION
- LIMITED BUILDOUT
- ESSENTIAL SPACES

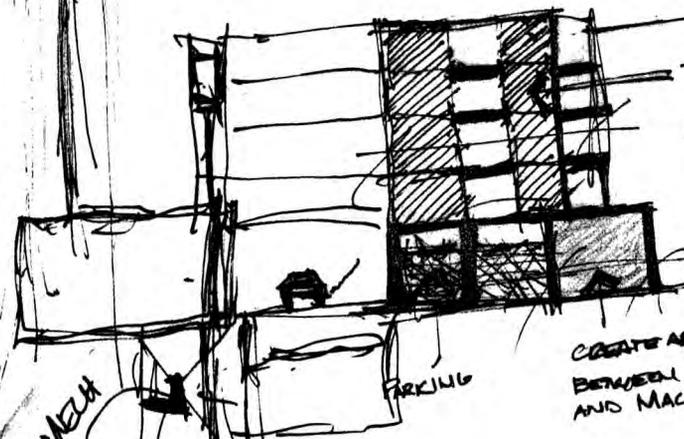
SH ADDRESS

TRAVEL / MORE ACTIVITY

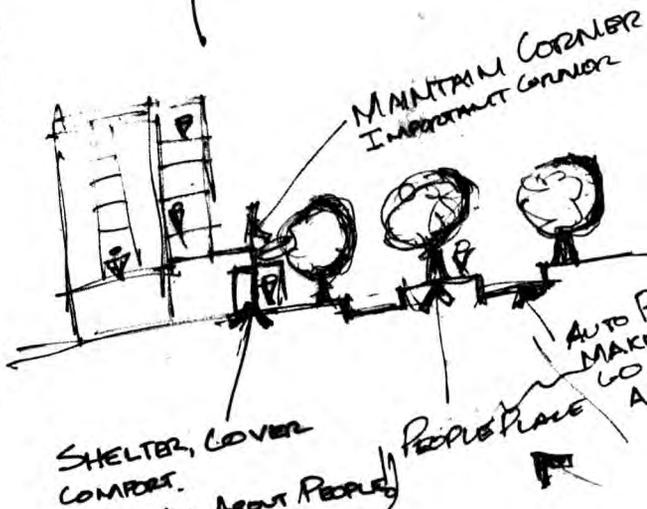


BRING SOCIAL AREAS TOWARDS A SOCIAL AREA. (THE STREET)

TAKE PRIVATE AREAS AWAY FROM A MORE SOCIAL AREA



CREATE A BARRIER FOR PEOPLE BETWEEN PEOPLE/STREET SPACE AND MACHINE SPACE.



MAINTAIN CORNER IMPROVEMENT CORNER

SHELTER, COVER COMFORT. (ITS. ALL ABOUT PEOPLE)

PEOPLE PLACE

AUTO MAKE GO

ESTABLISH DOMINANCE
OF PEOPLE THROUGH
SUN

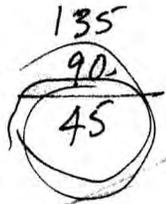
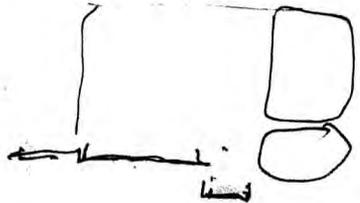
MEZZ

PARKING

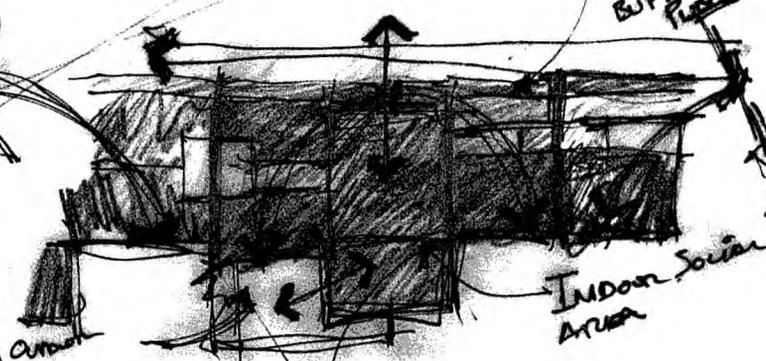
CREATE BARRIER FOR PEOPLE
BETWEEN PEOPLE/STREET SPACE
AND MACHINE SPACE.

SHELTER, COVER
COMFORT.
CITS. ALL ABOUT PEOPLE

PEOPLE PLACE



USE DEAD
AREAS TO CREATE
BUFFERS BETWEEN
PEOPLE AND ~~...~~



OUTDOOR
SOCIAL
AREA

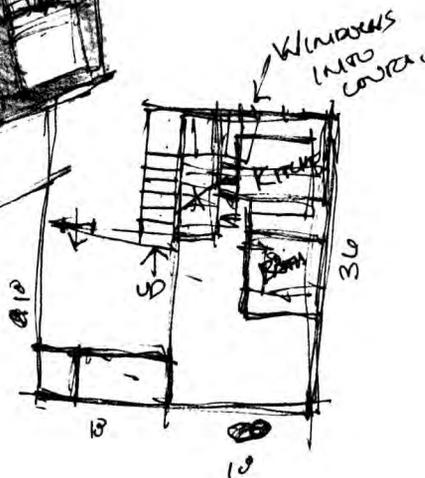
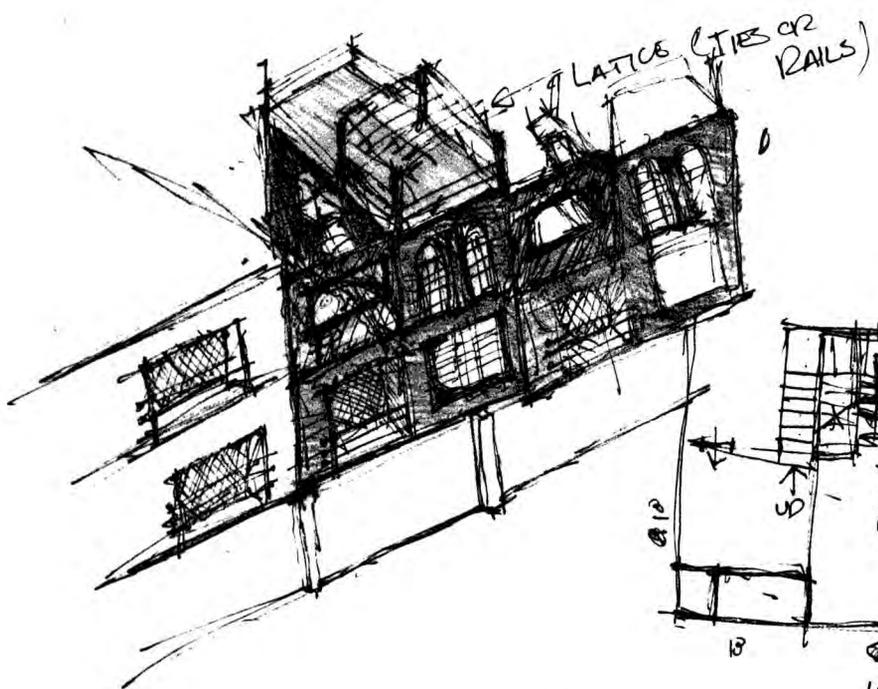
INDOOR SOCIAL
AREA

BRING THESE
SPACES TOWARDS
A SOCIAL AREA; THE STREET.

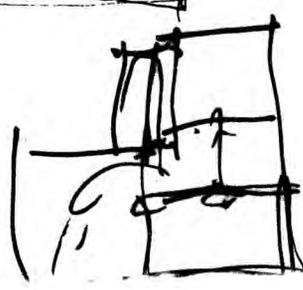
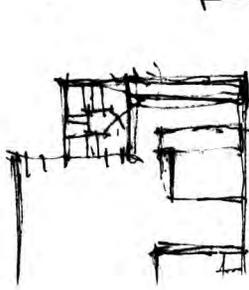
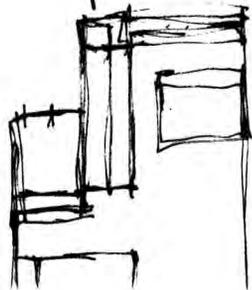
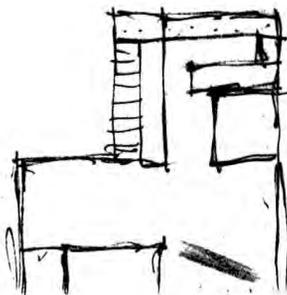
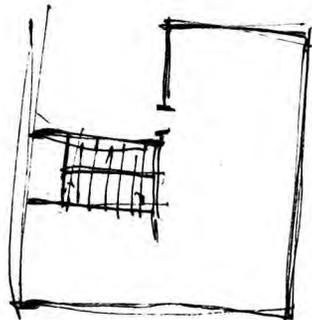
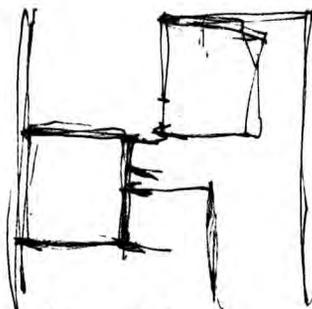
SOCIAL SPACE
BECOMES MORE
PUBLIC AND LOW
AS MORE PRIVATE
SPACES ARE FI
ABOUT AND AR
THEM.

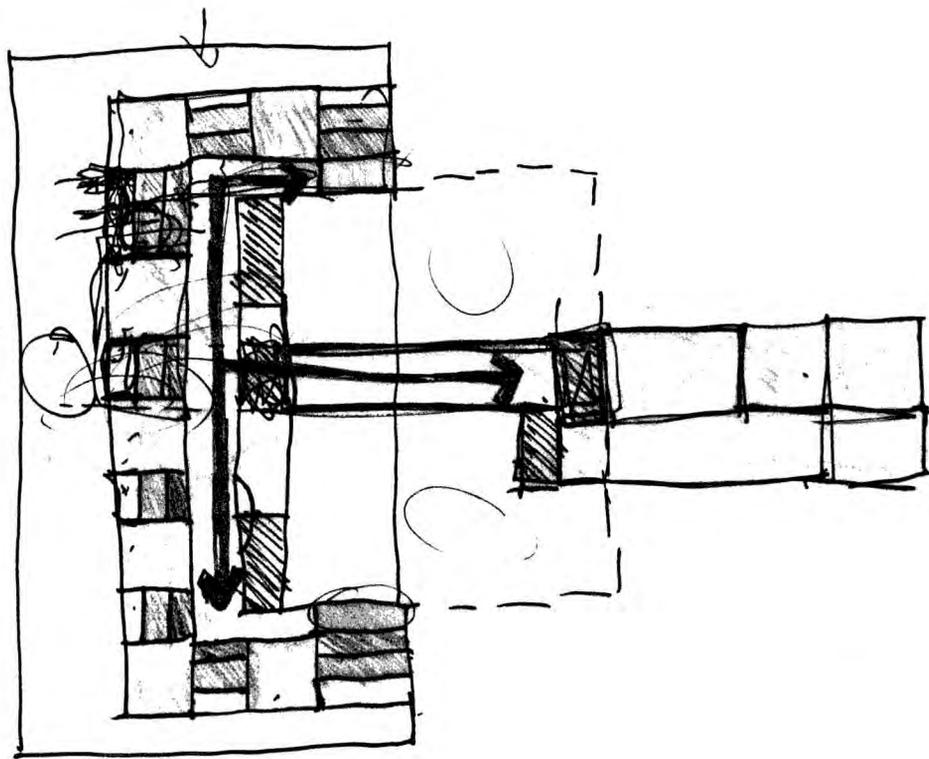
PEOPLE ACTIVITIES
(EX: TABLES, CHAIRS)
MACHINES



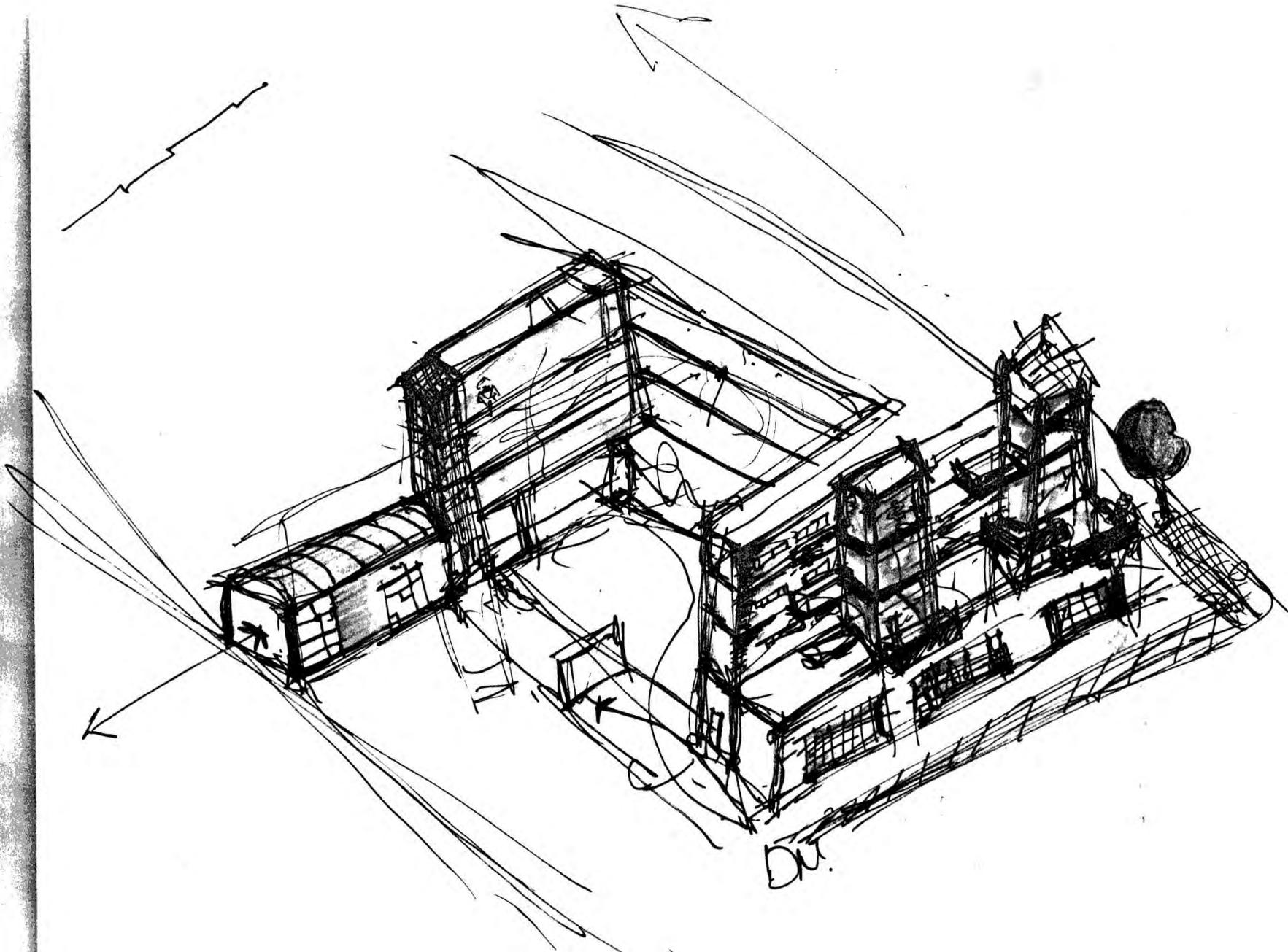


1180





0



DM.



PEOPLE - WALK, HOT DRINK;
↓
STREET

34)

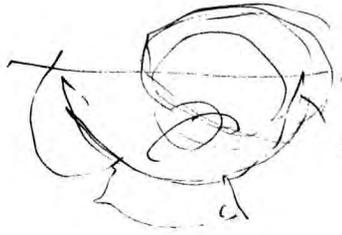
STUDENTS' SUBSTAIN?

- WITHIN - ?

- APARTMENTS
- PARTY ROOM
- PATIO(S)
- POOL (HOT TUB) AND/OR
- (PASS) YIELDING AREAS(A)

OUTSIDE

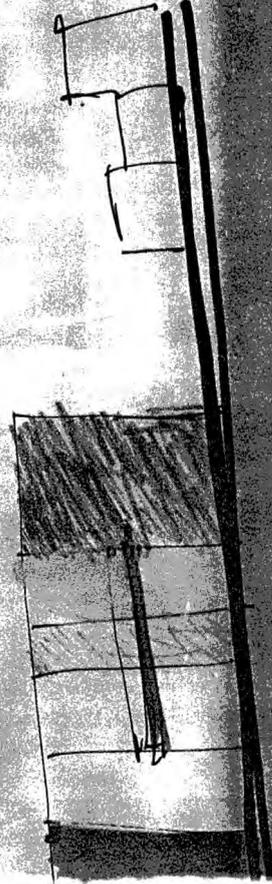
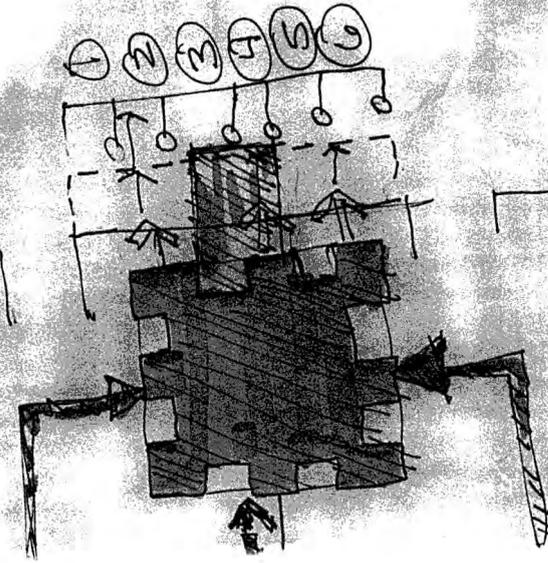
- CONNECTED RETAIL
- EXISTING BUSINESSES (DEPOT, STUD'S)
- STREET VENDING
- PUBLIC TRANSIT (BUS (CITY))
- TIRE STRIP (DO'S, CROSS KEYS)



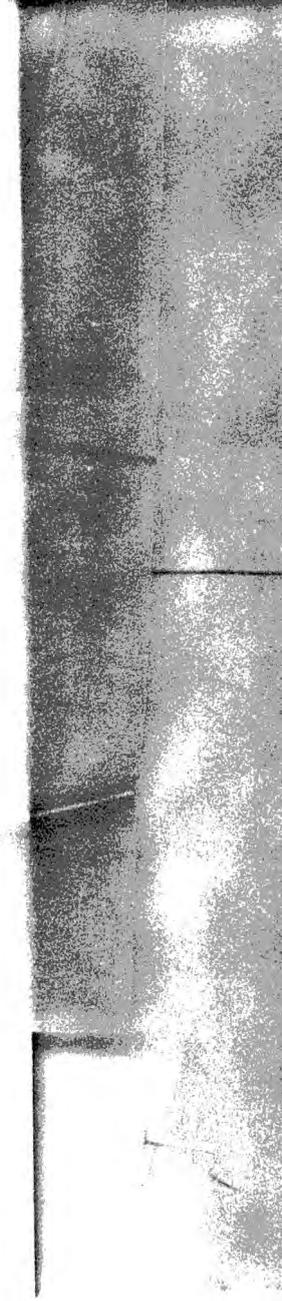
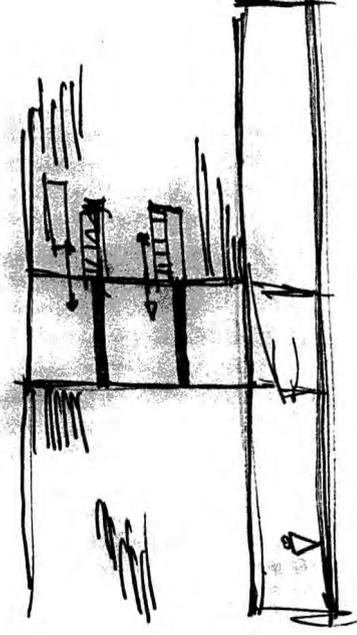
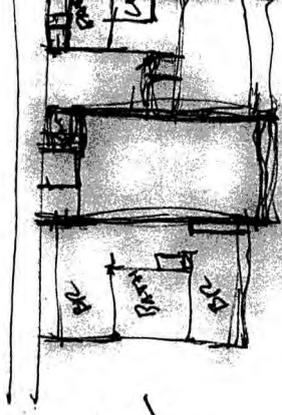
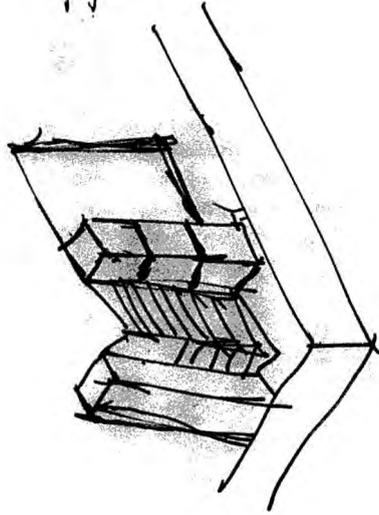
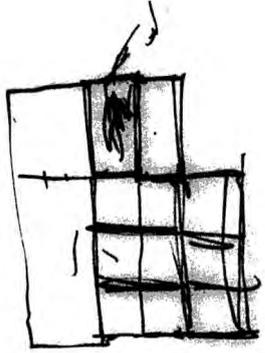
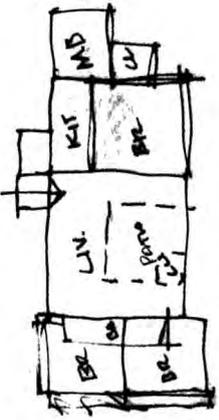
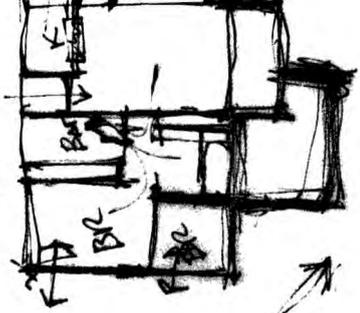
USE DESIGN TO ESTABLISH
SCALE, RHYTHM,
IDENTIFIABLE ELEMENTS,
AND RELATED ELEMENTS.

How?

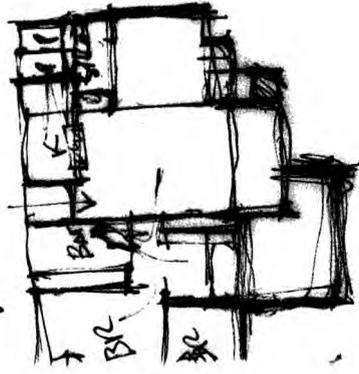
- MASS, VOID (CHANGES IN)
- MATERIALS (ORIENTATION, MATERIAL)
- FOOTPATH - SIDE, ORIENTATION
- VISIBLE DECK TO ESTABLISH RELATION BETWEEN STREET AND PEOPLE INSIDE.
- ORIENTATION OF INTERIOR SPACES
- VEGETATION.



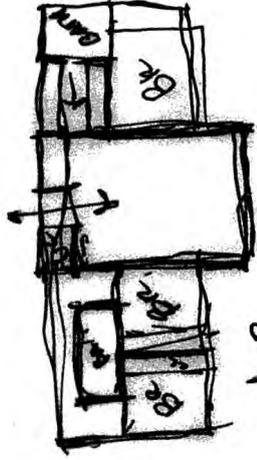
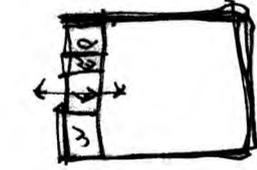
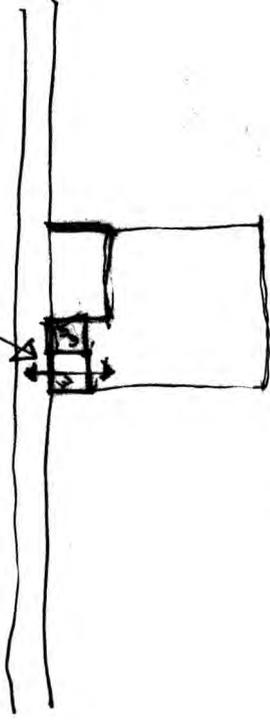
Minors of
Both Bedrooms



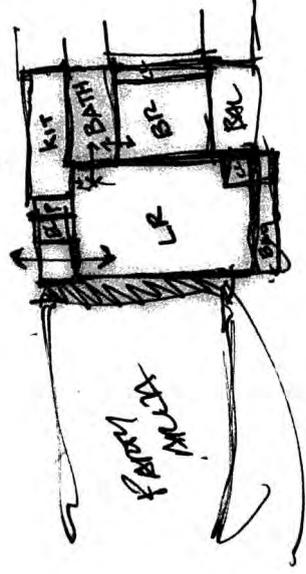
Windows of
Both Bedrooms



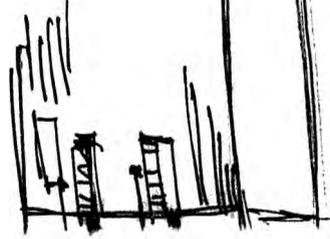
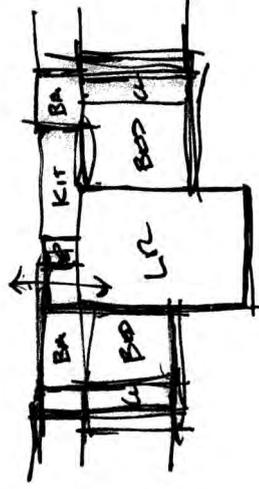
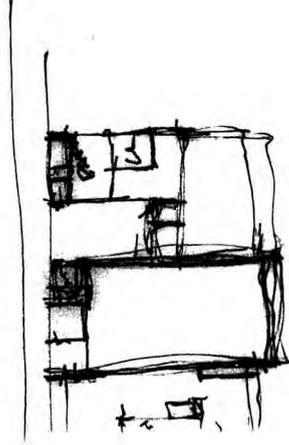
Columns

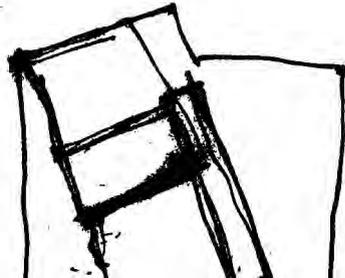
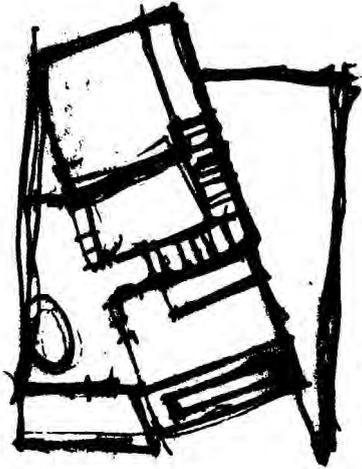
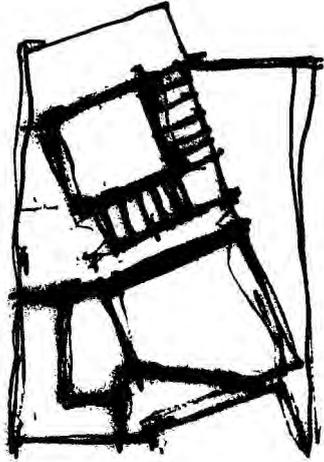
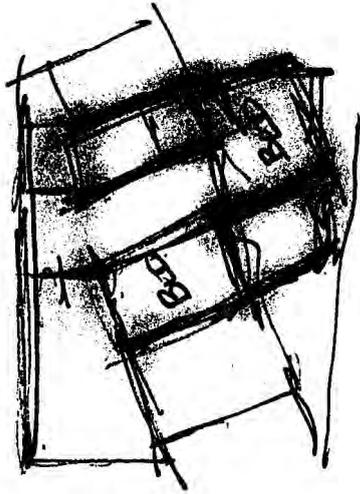


BR

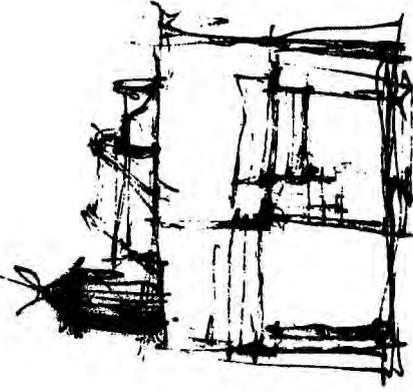


WALKER
PARK

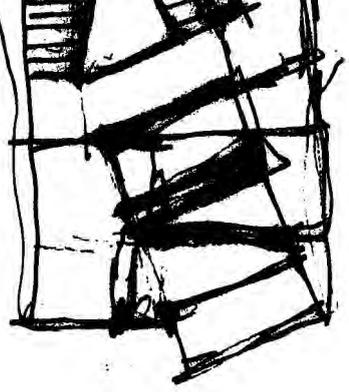
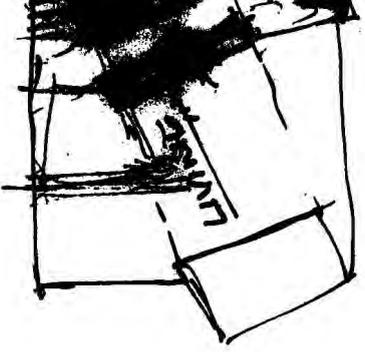




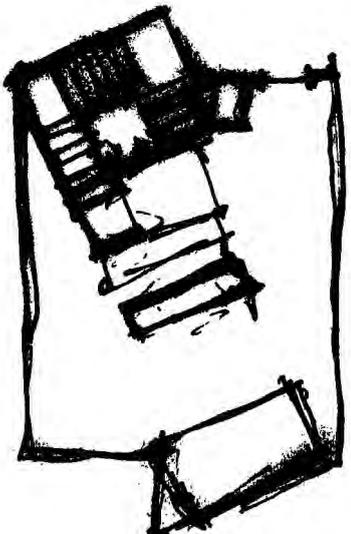
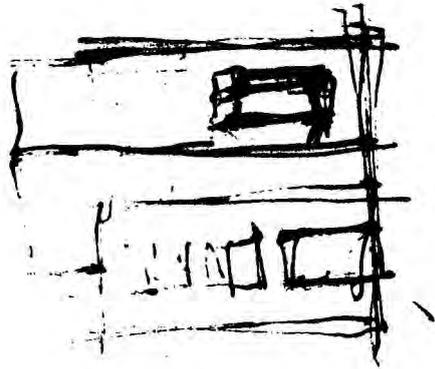
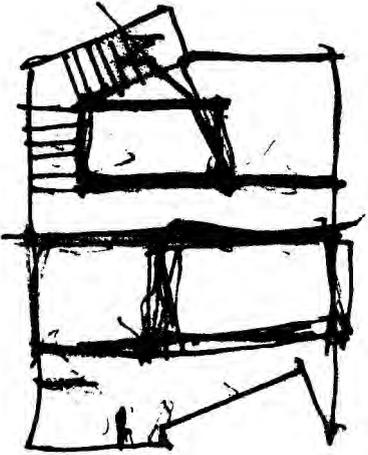
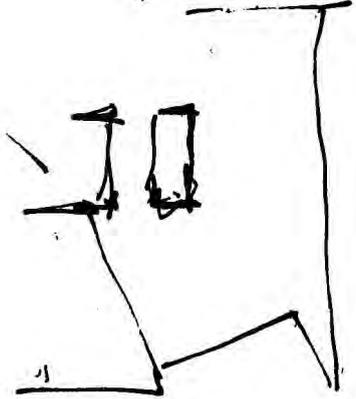
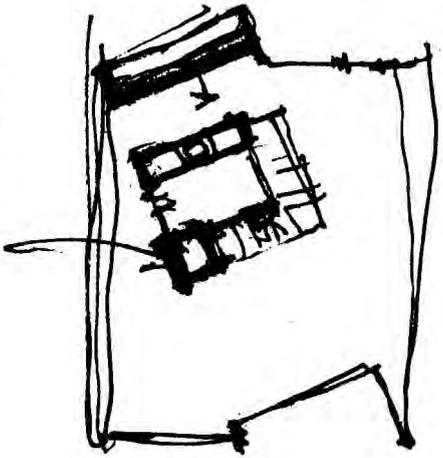
1. Apt

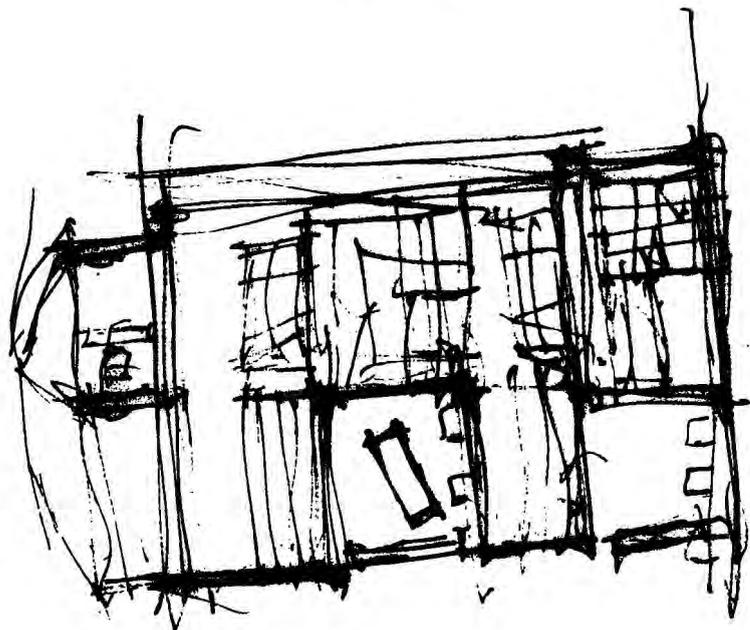


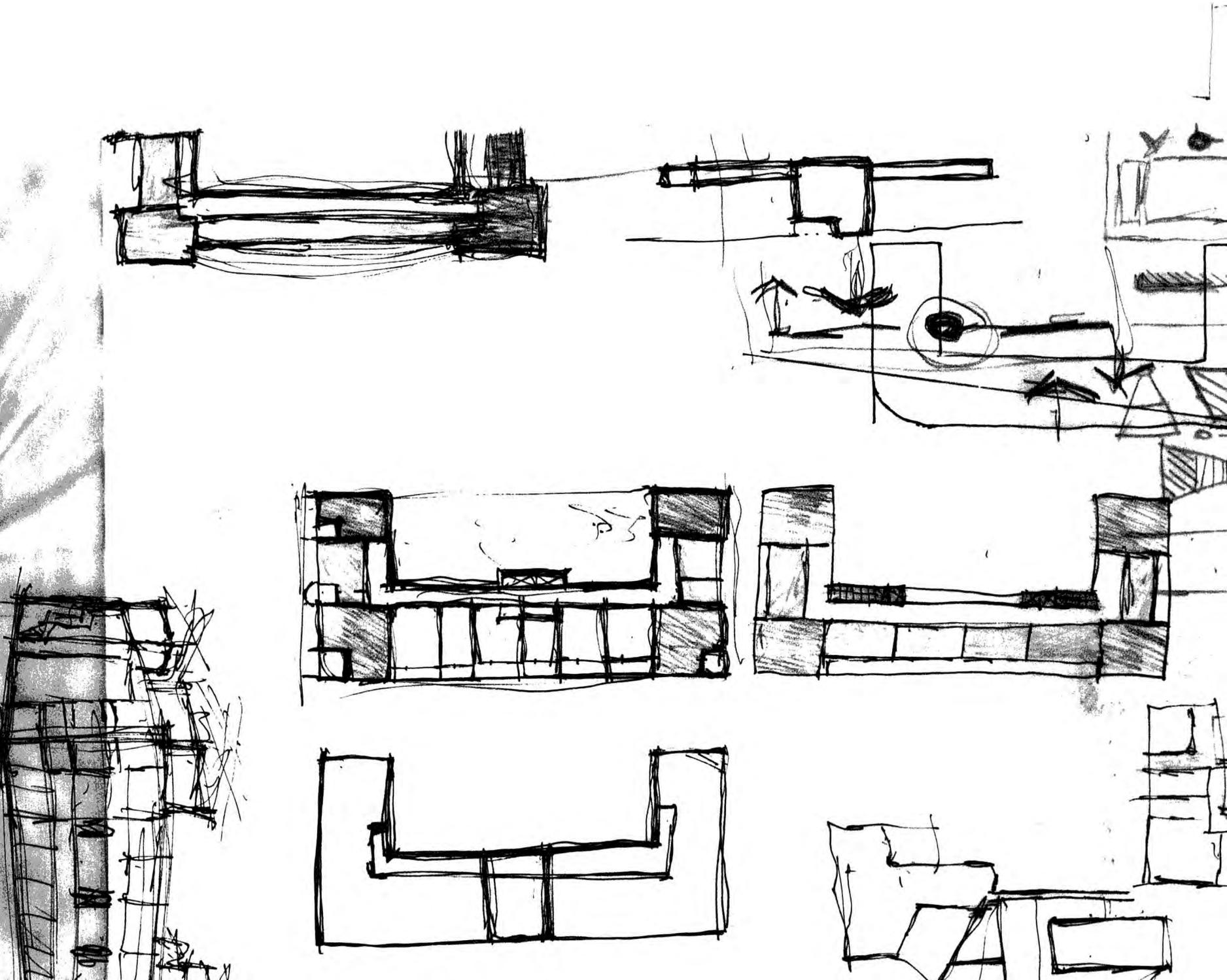
Second Floor



SERVICE



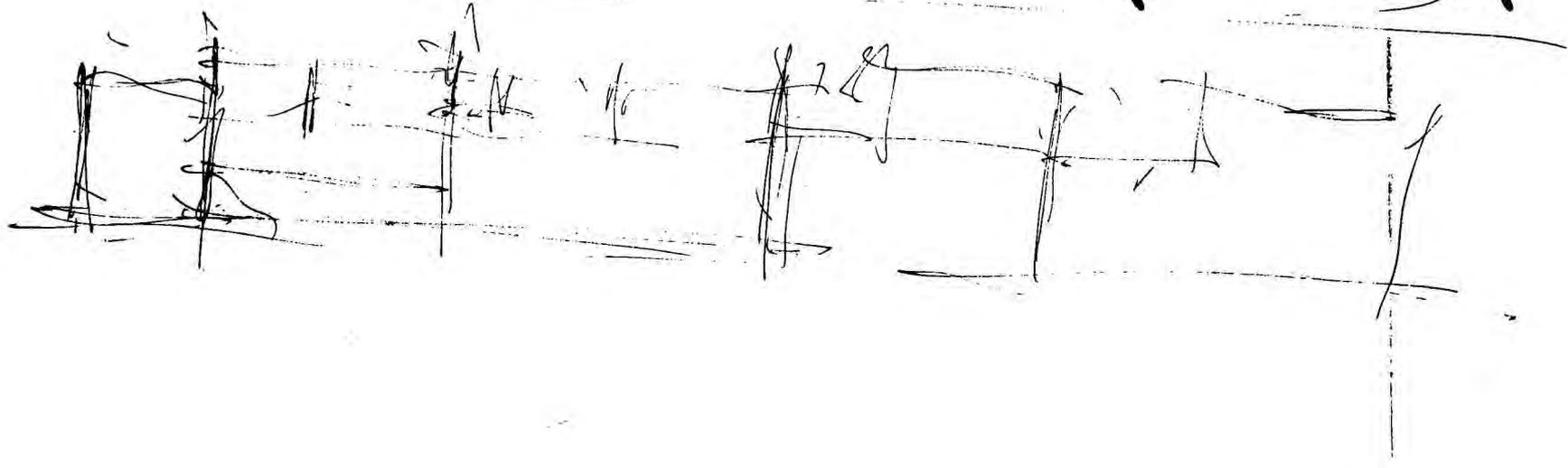
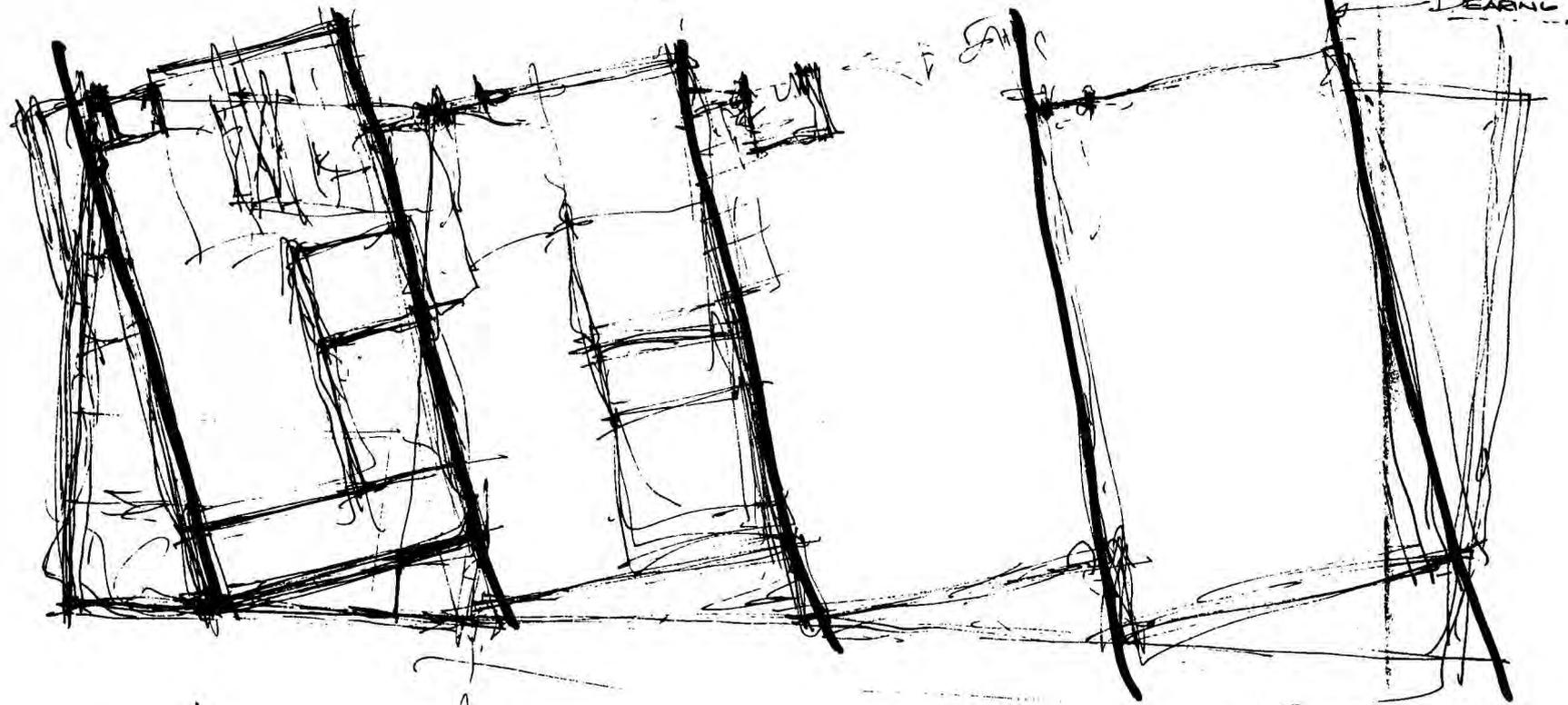


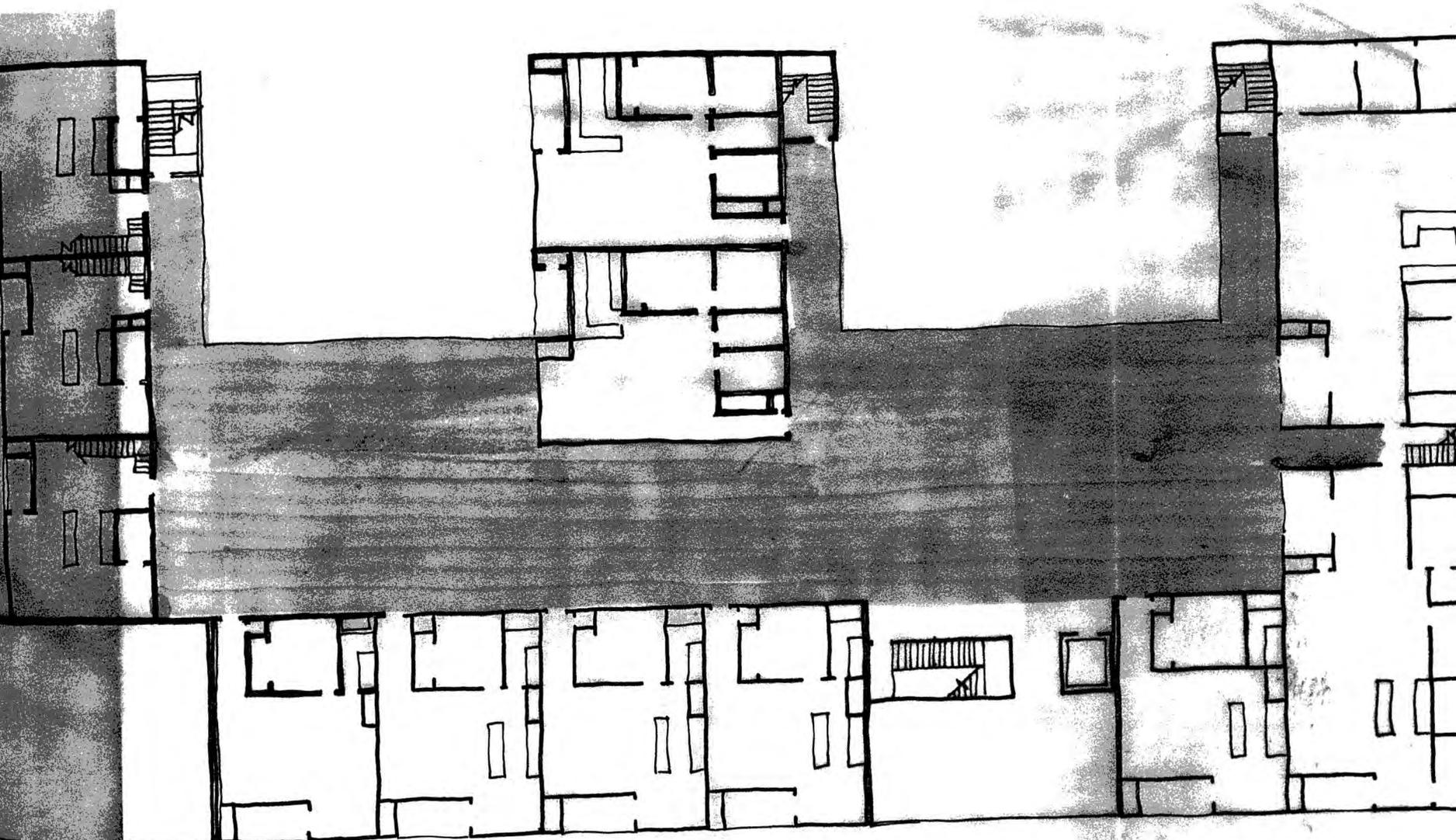


MAR.

SALES

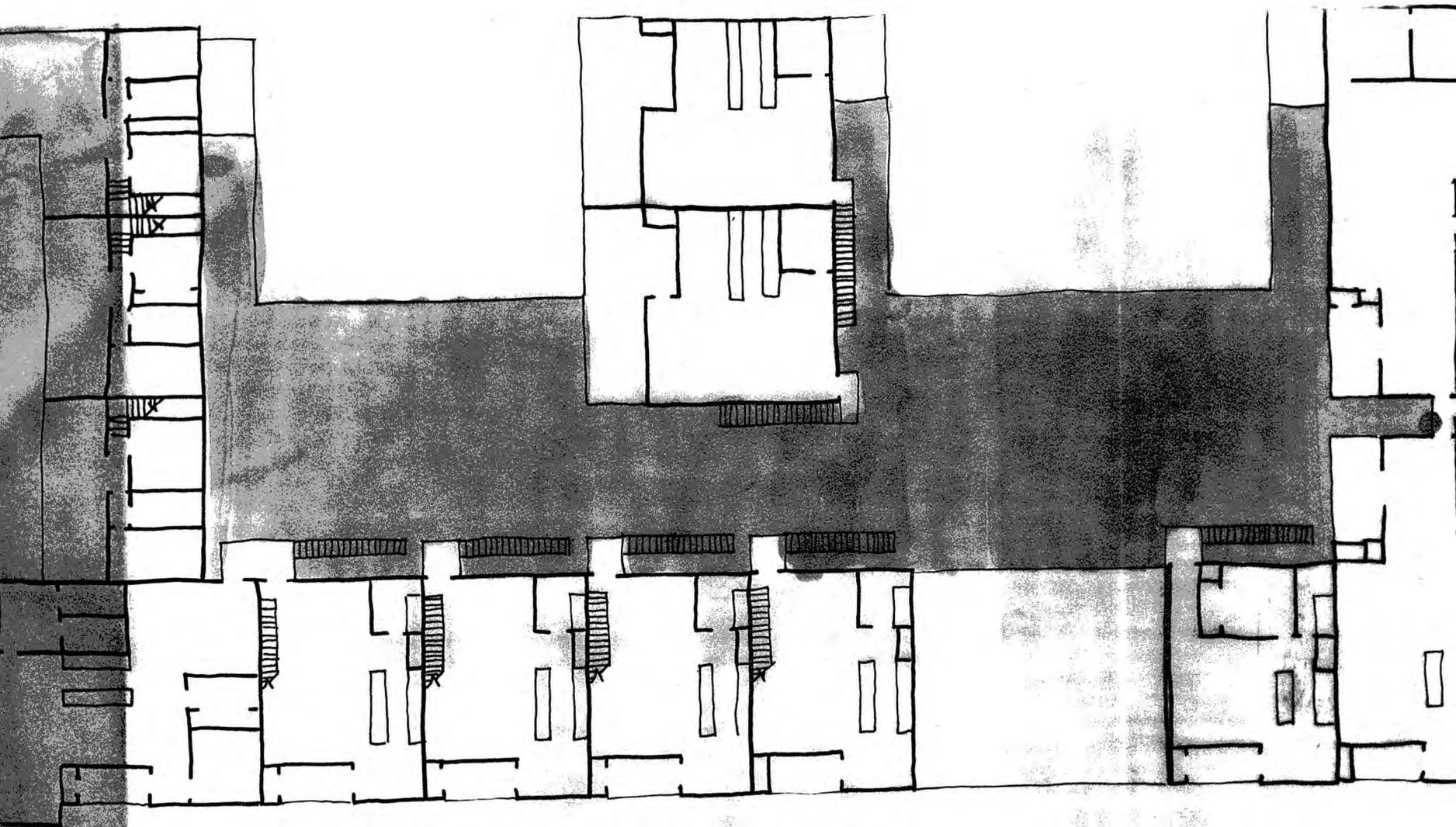
BEARING





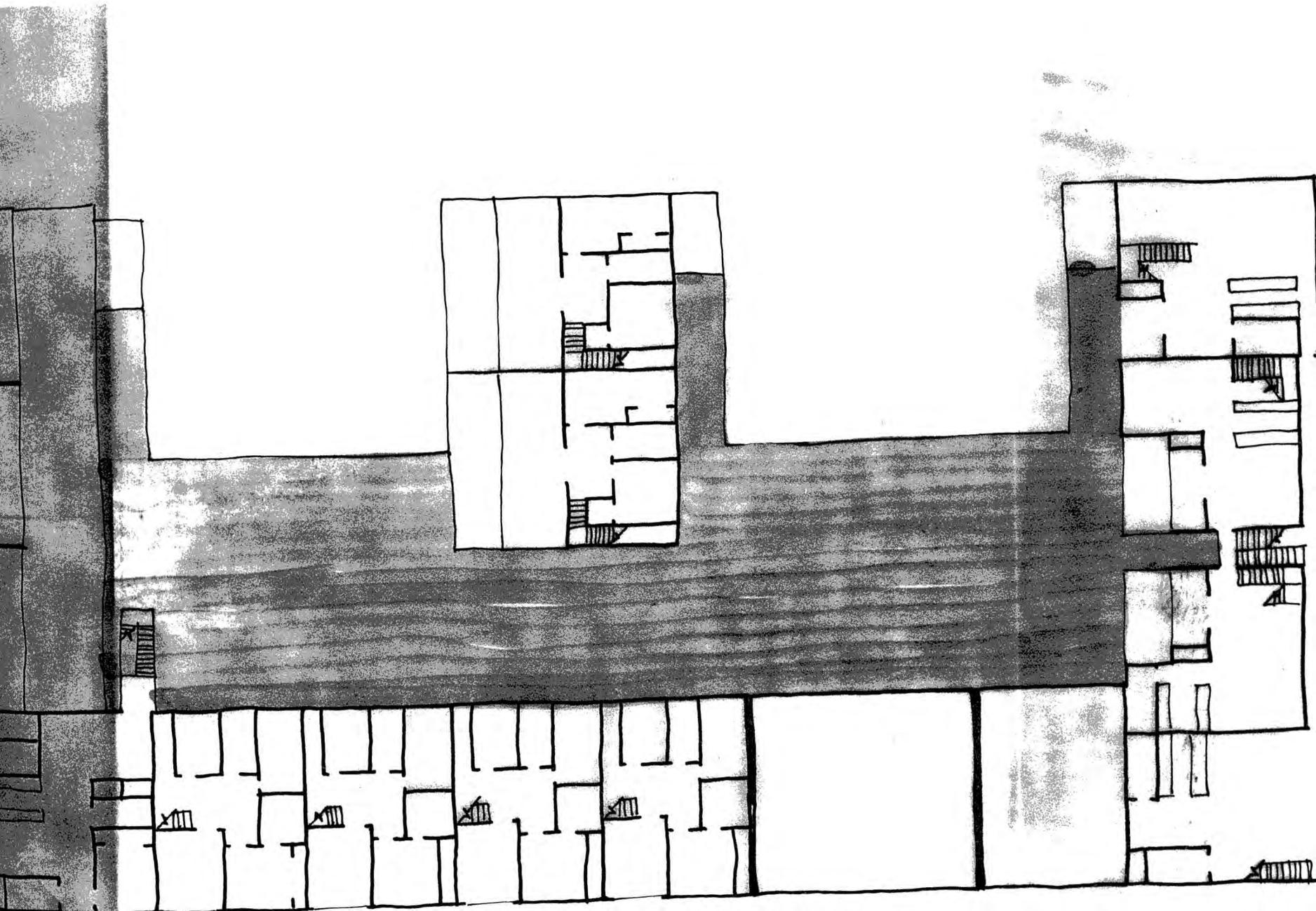
SECOND FLOOR PLAN

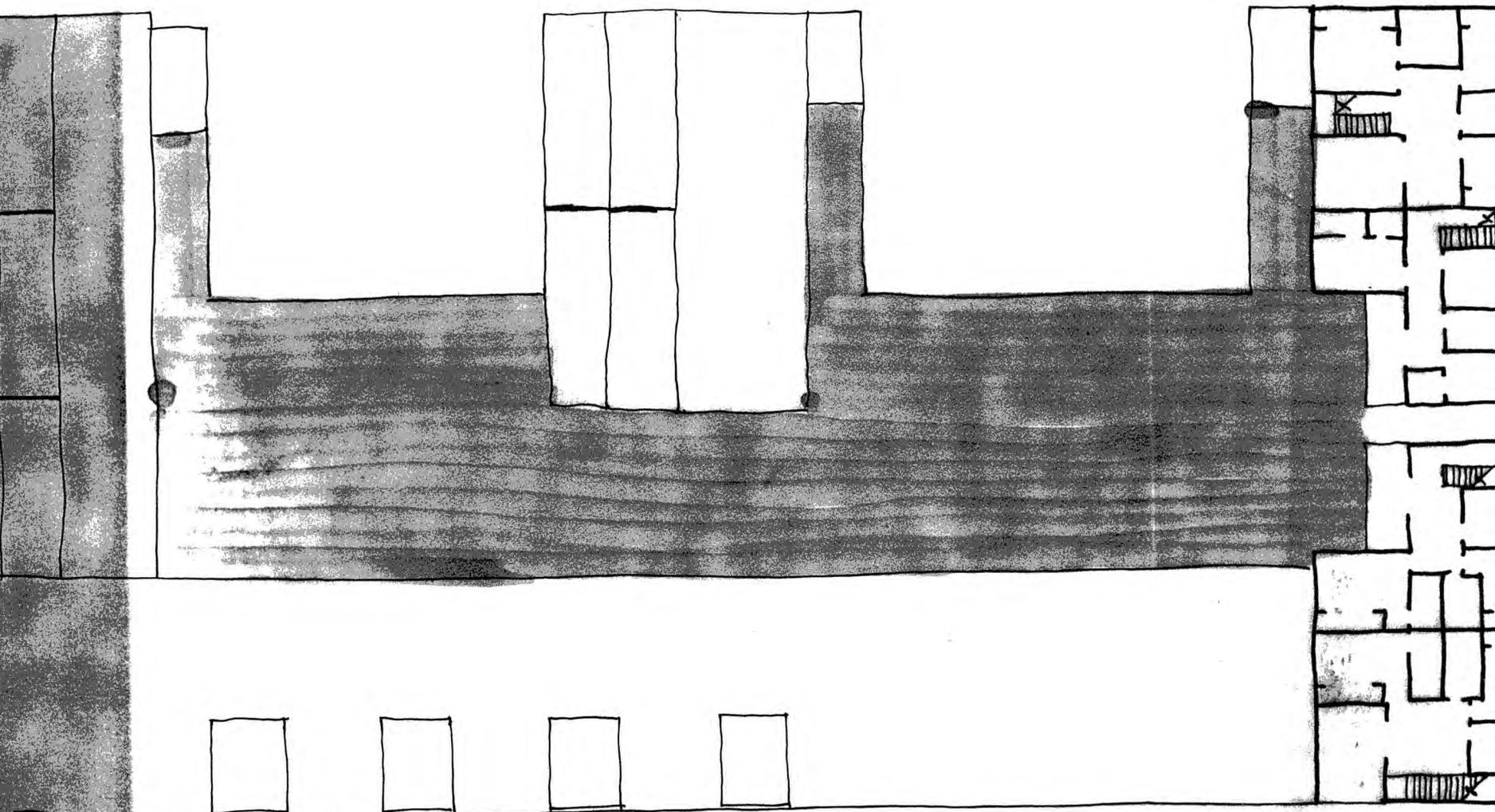




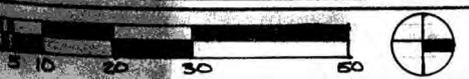
THIRD FLOOR PLAN

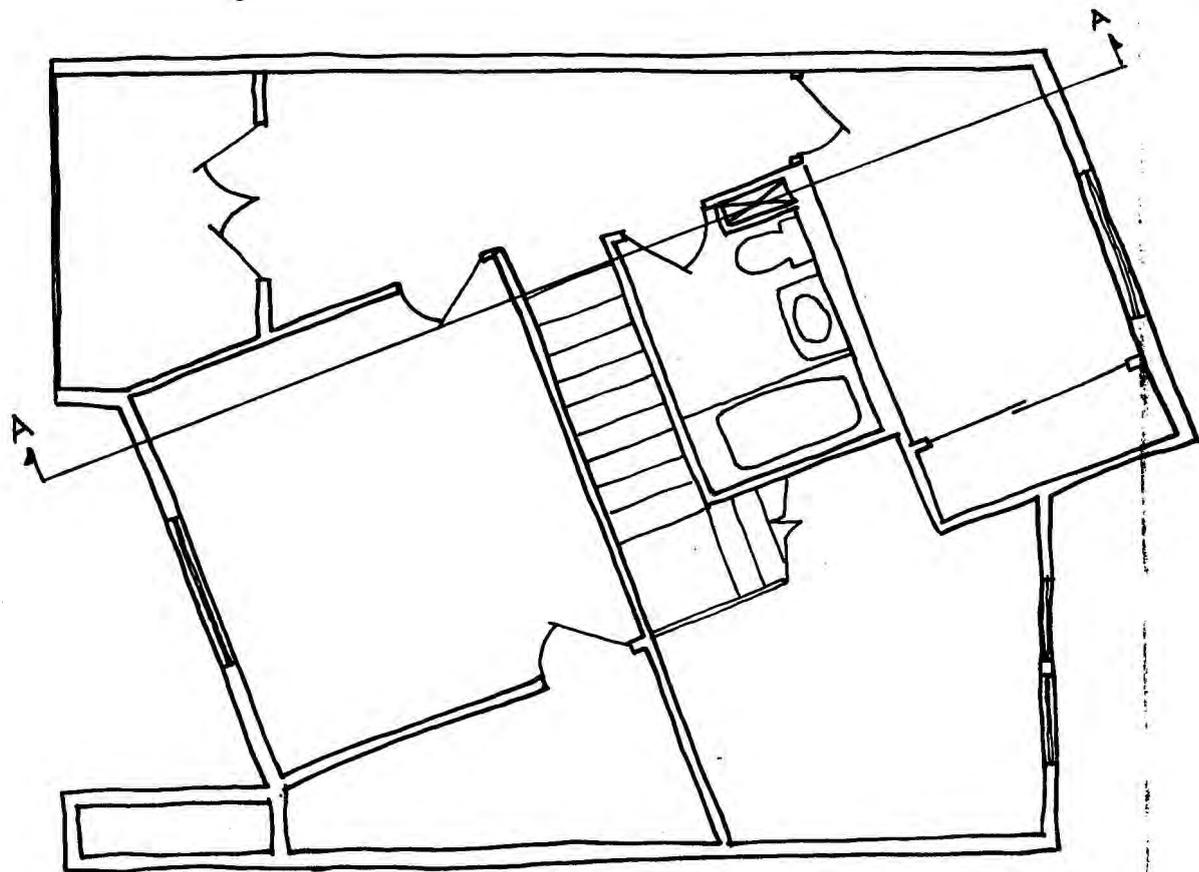




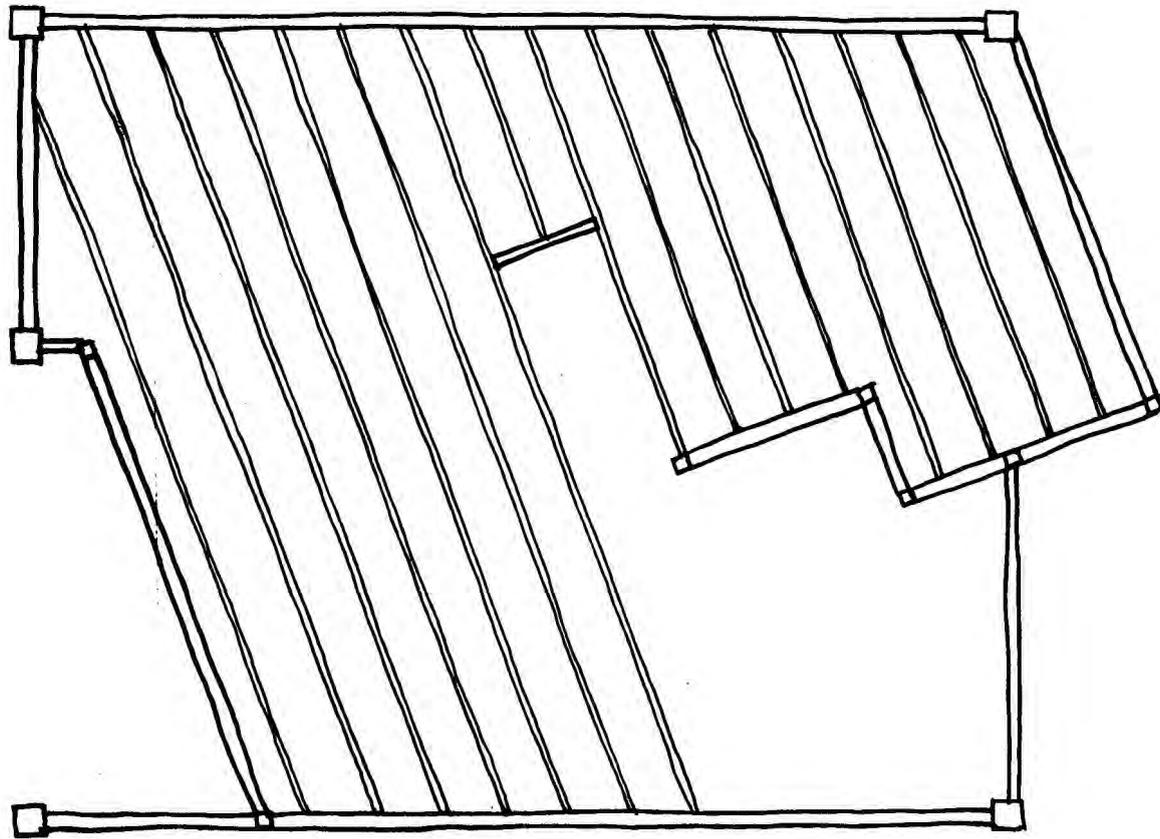


FIFTH FLOOR PLAN

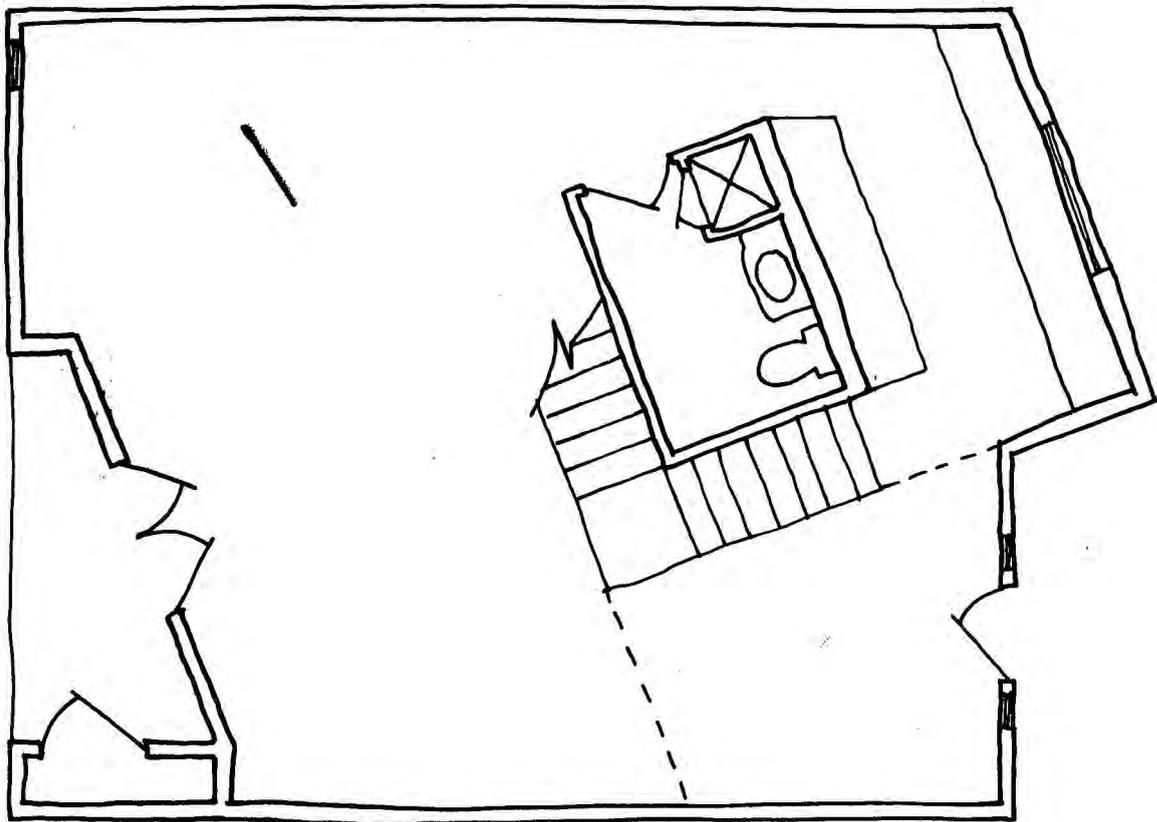




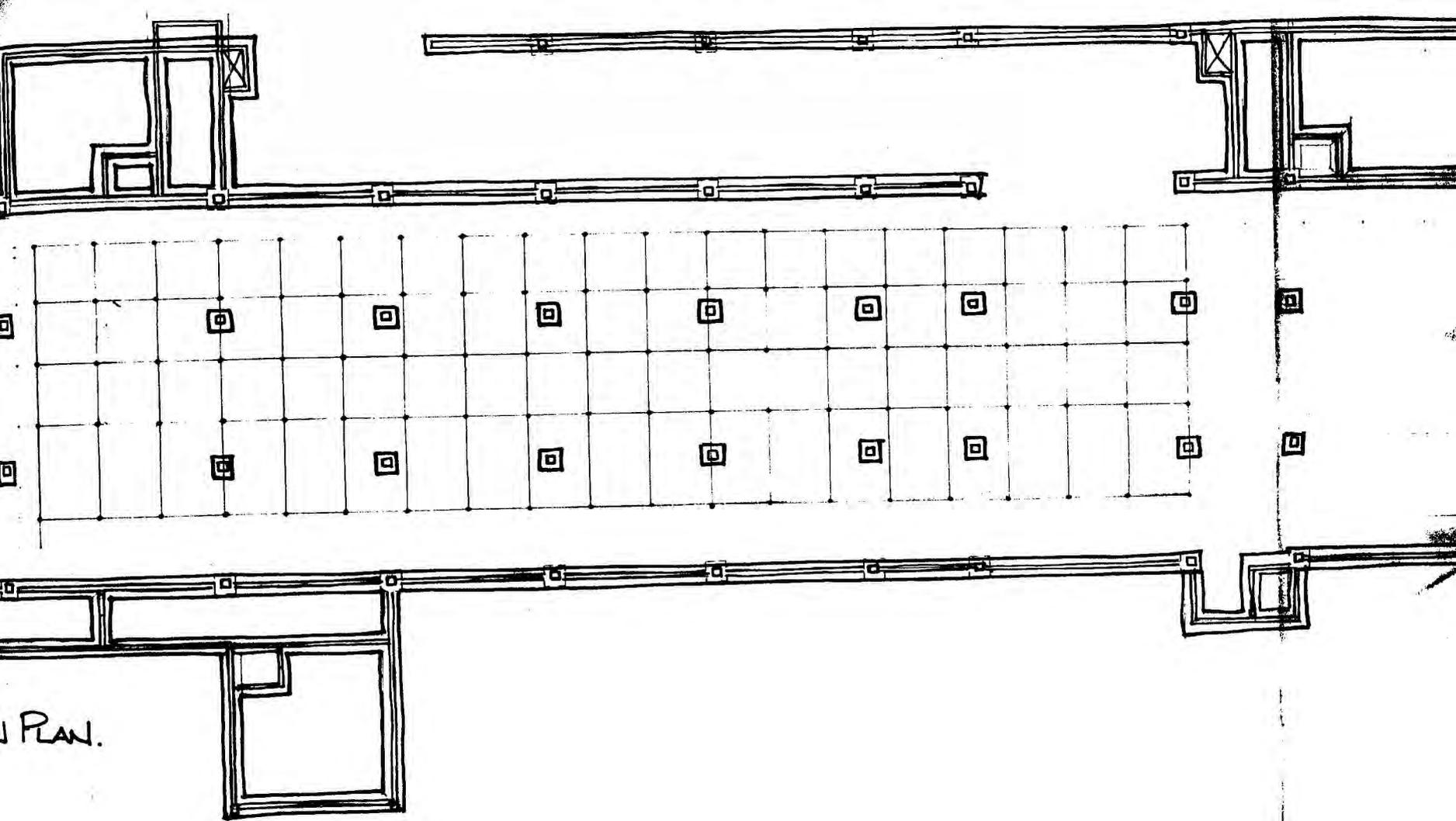
SECOND FLOOR PLAN → N



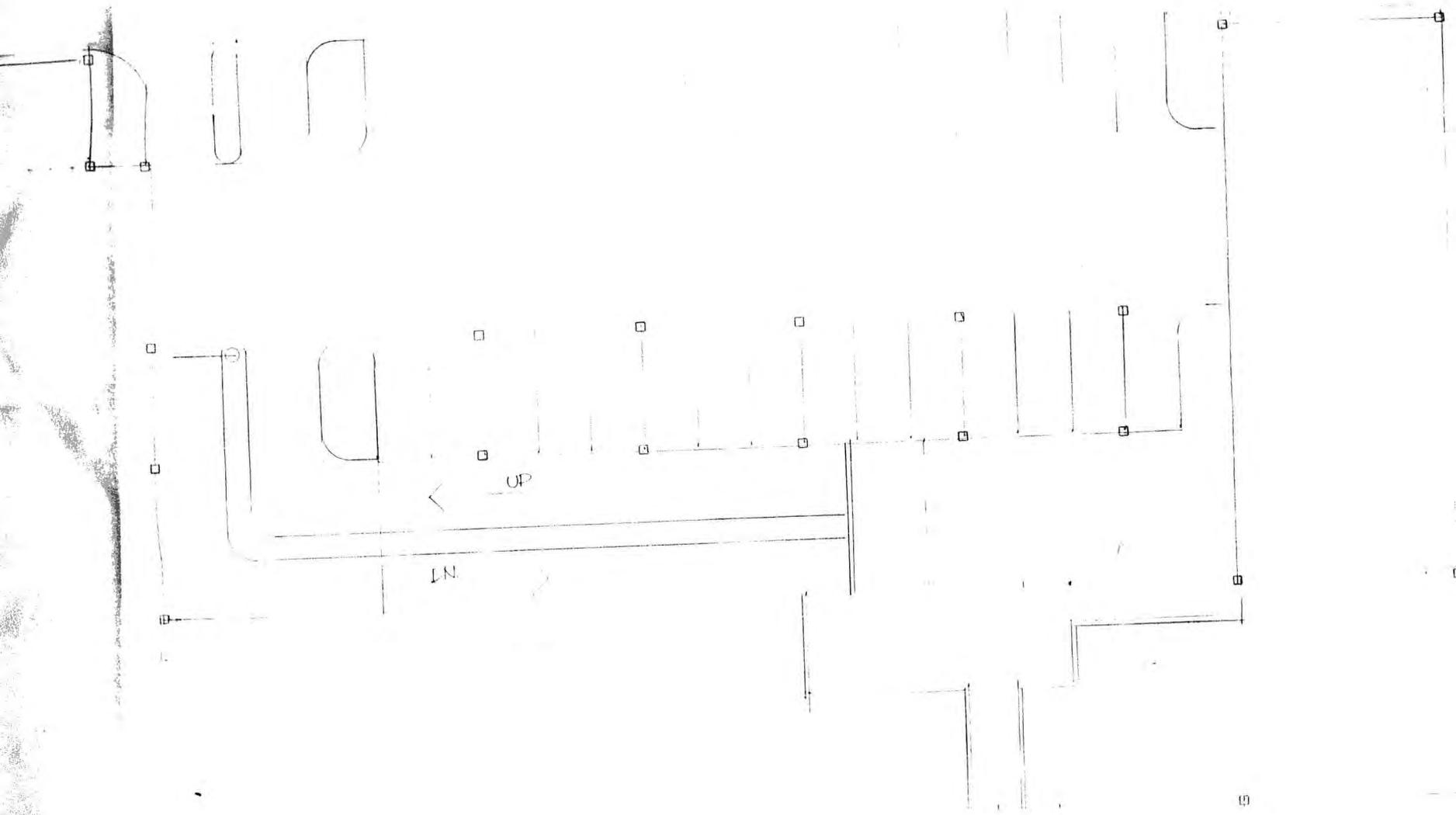
SECOND FLOOR
FRAMING PLAN.

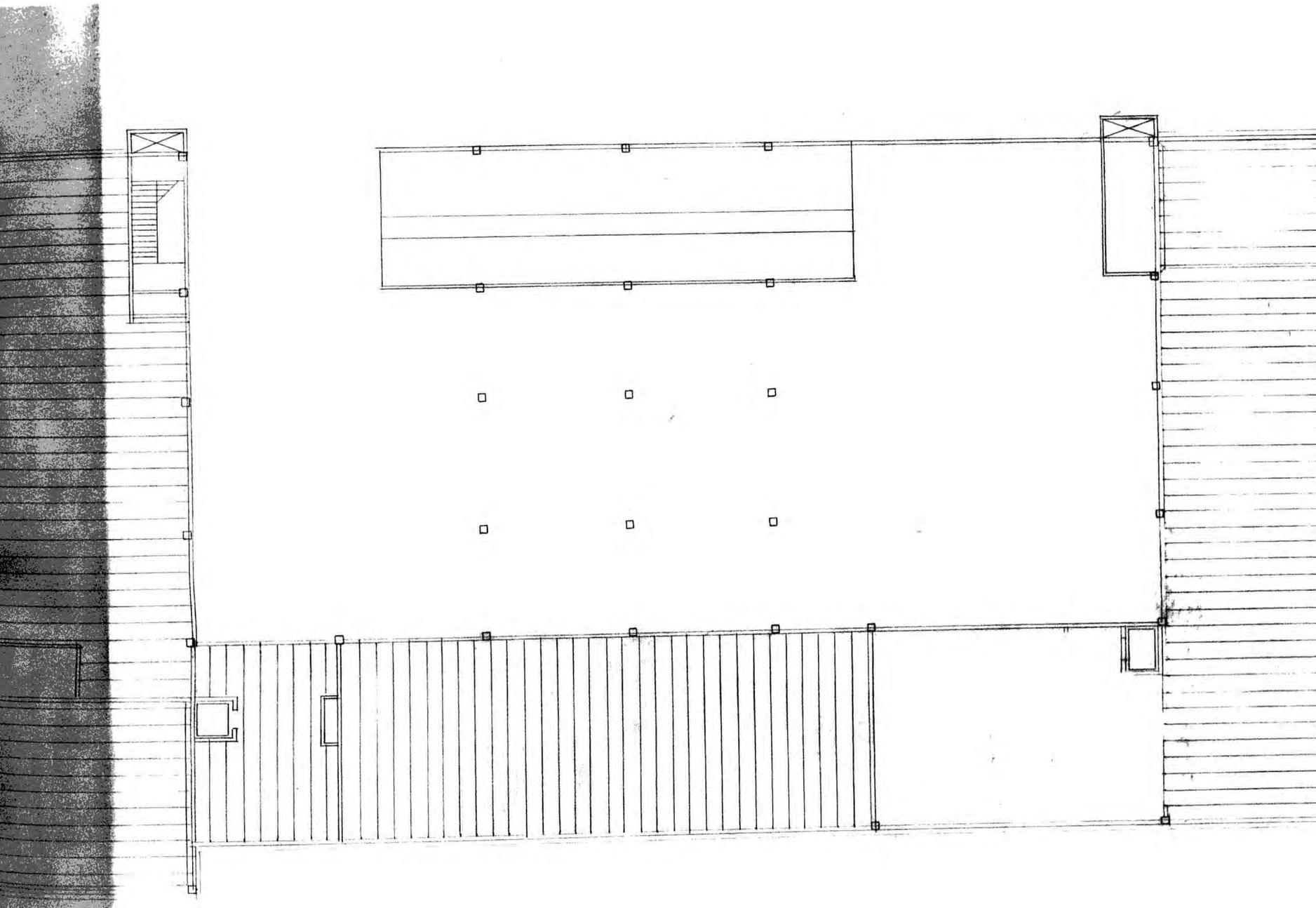


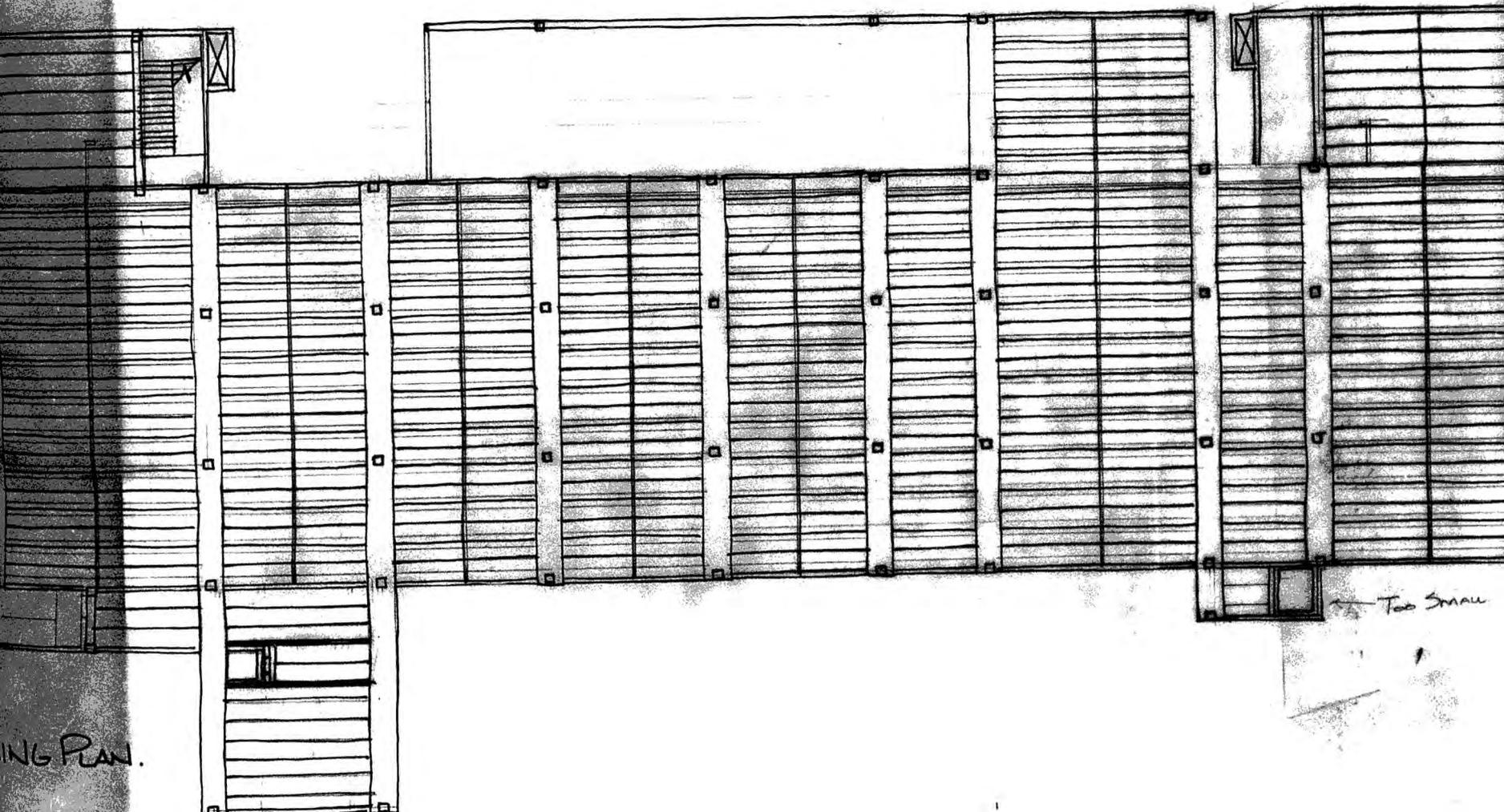
ST FLOOR PLAN. → N



PLAN.

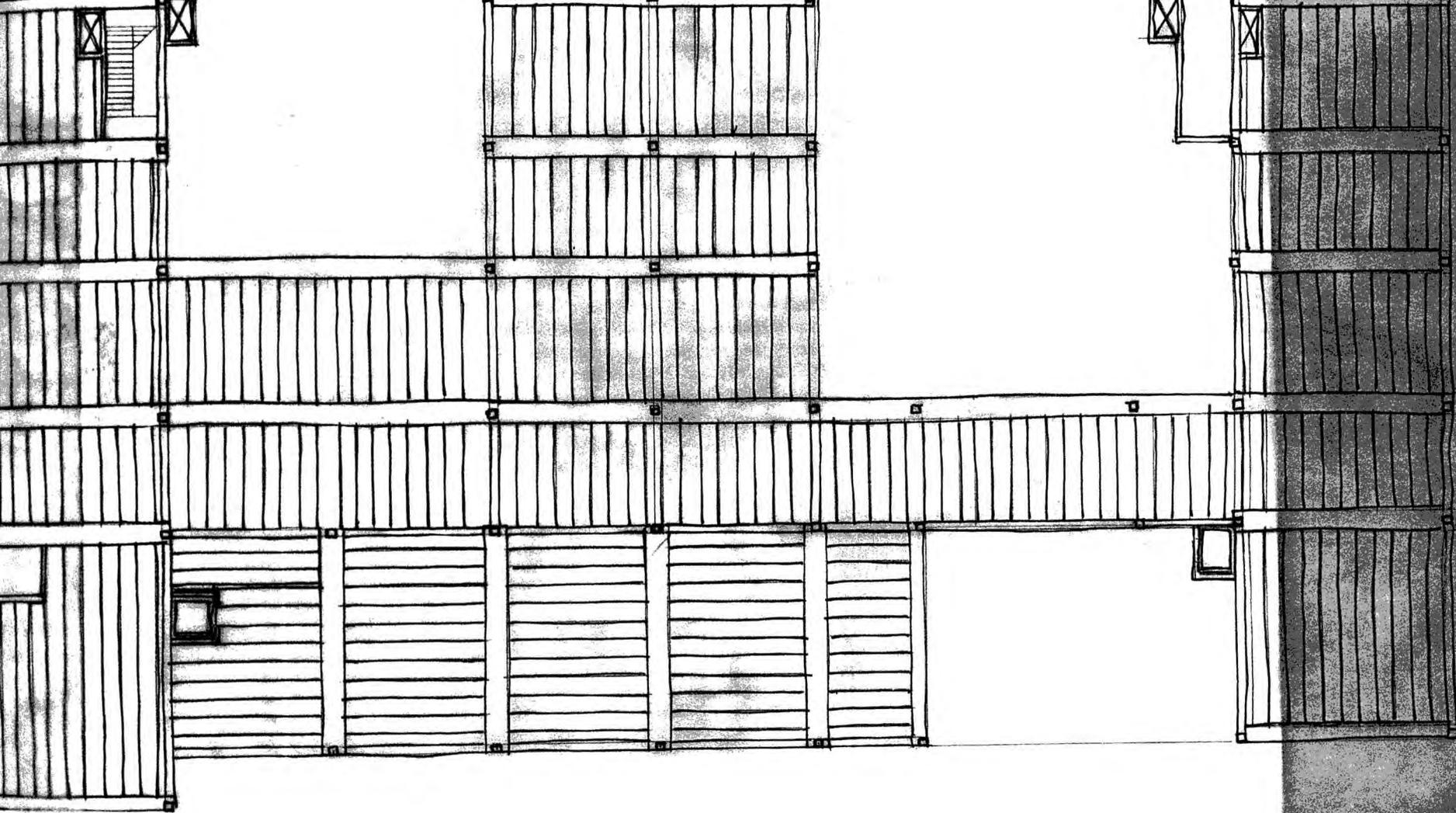




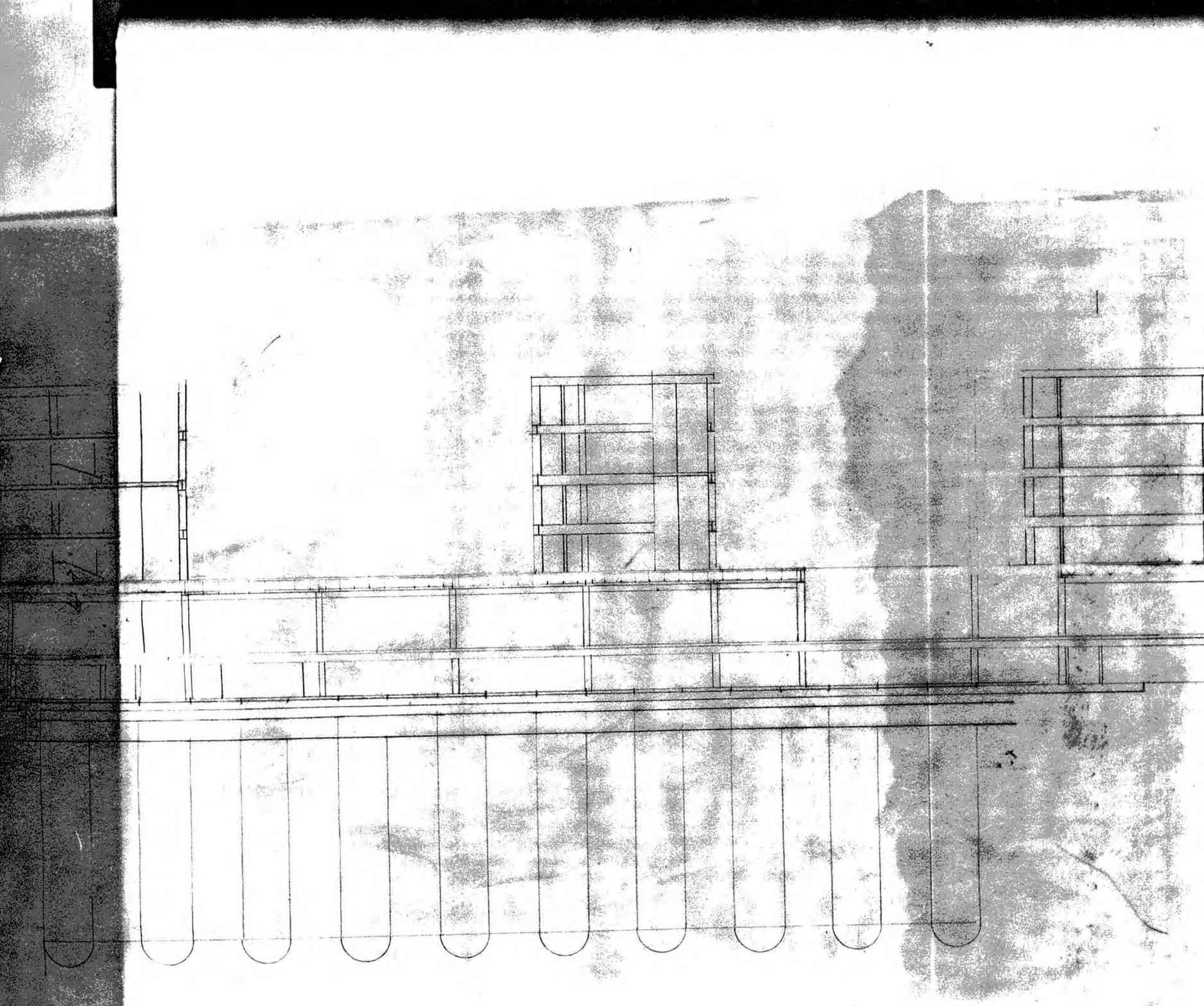


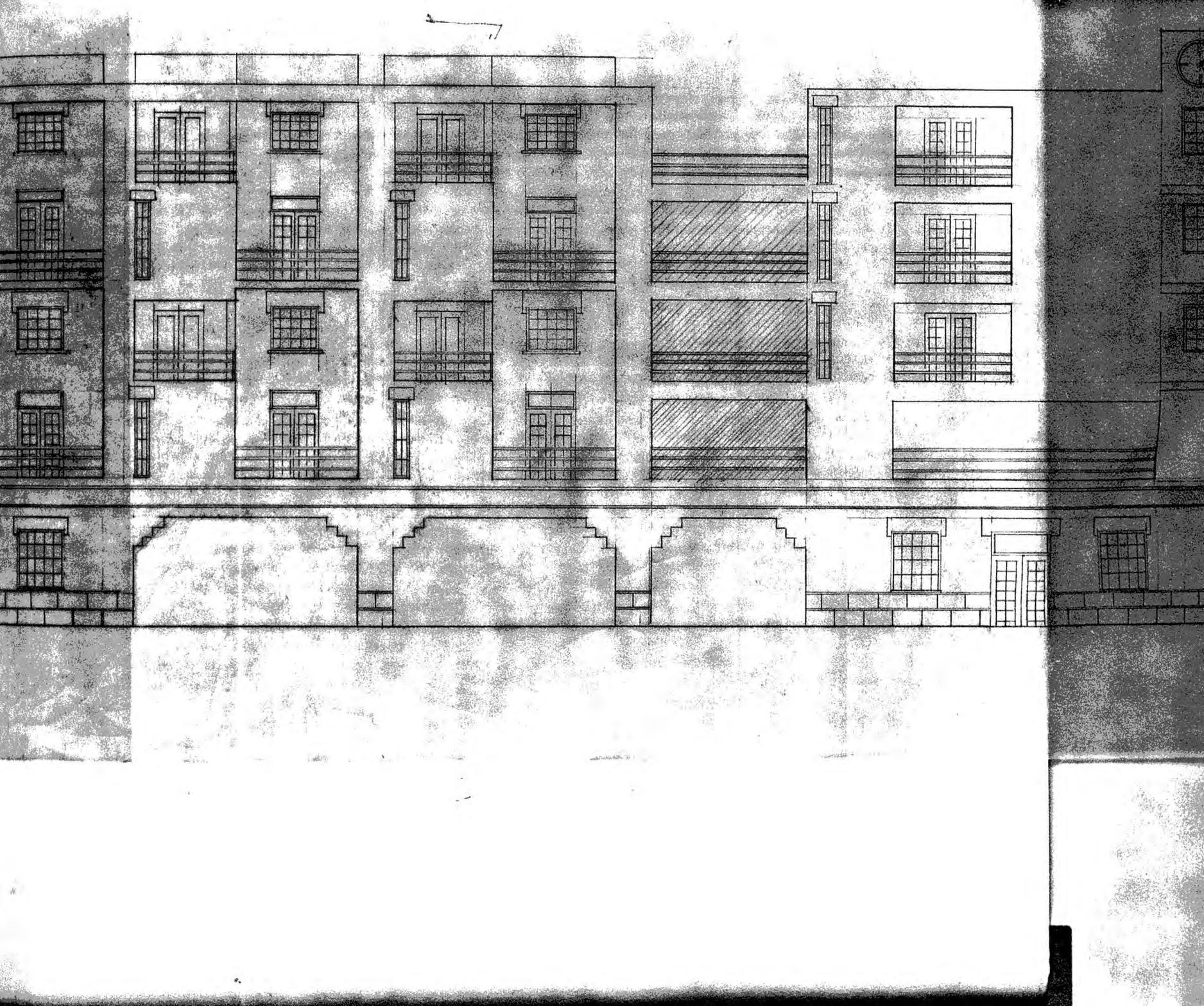
ING PLAN.

Too Small



AIL FRAMING PLAN →



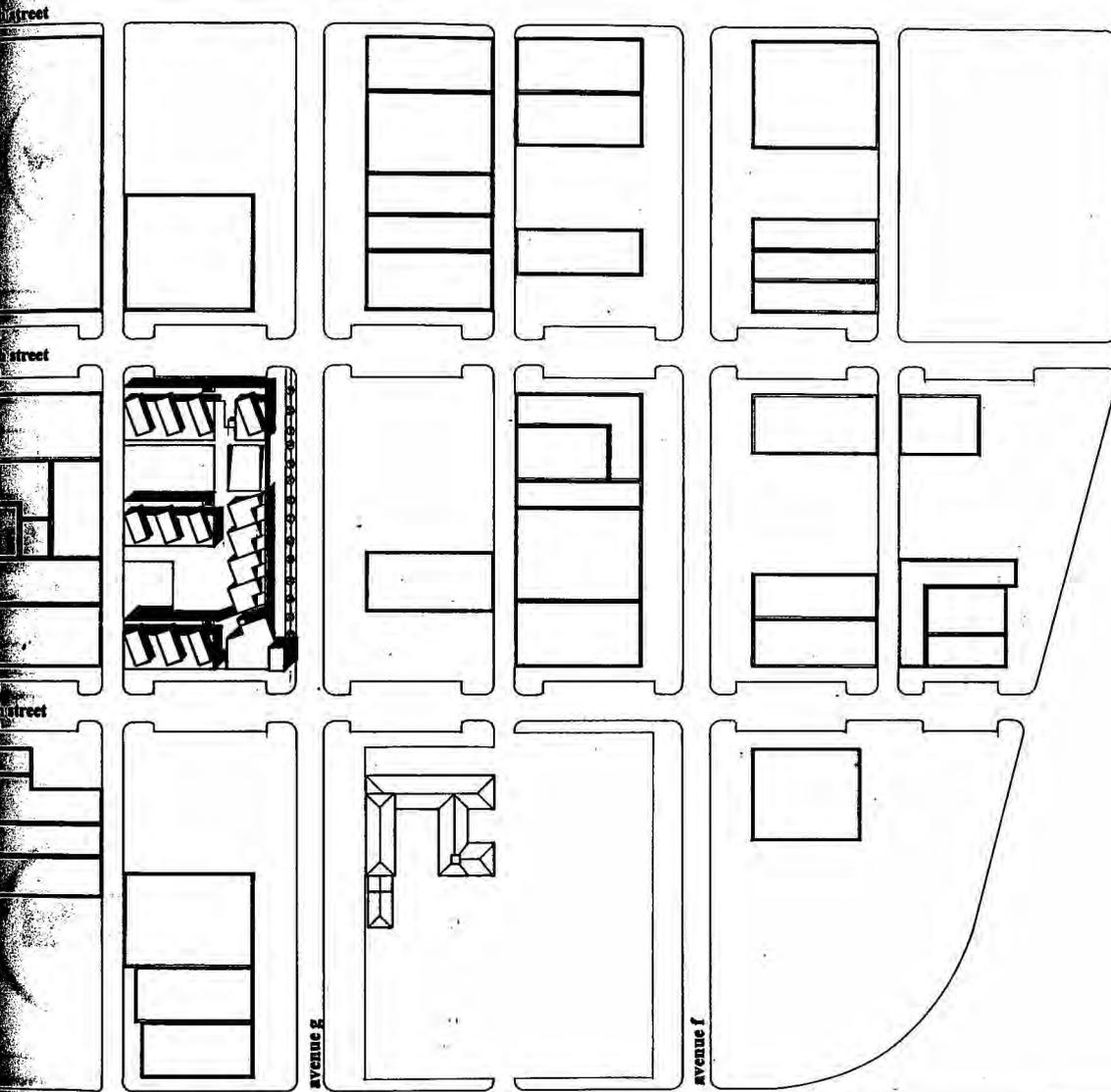


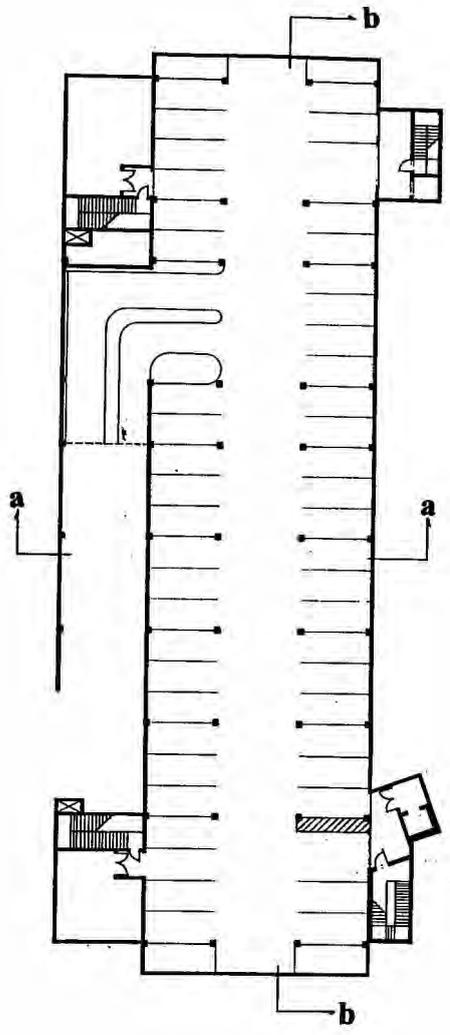
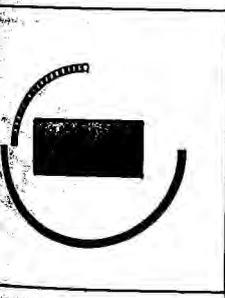
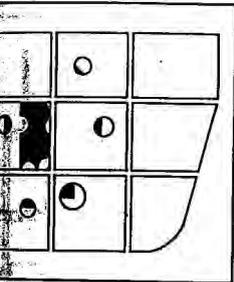
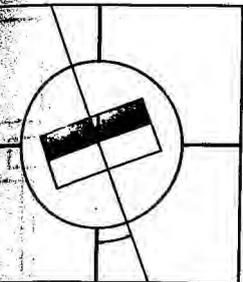
Thesis Documentation

Depot District Student Housing

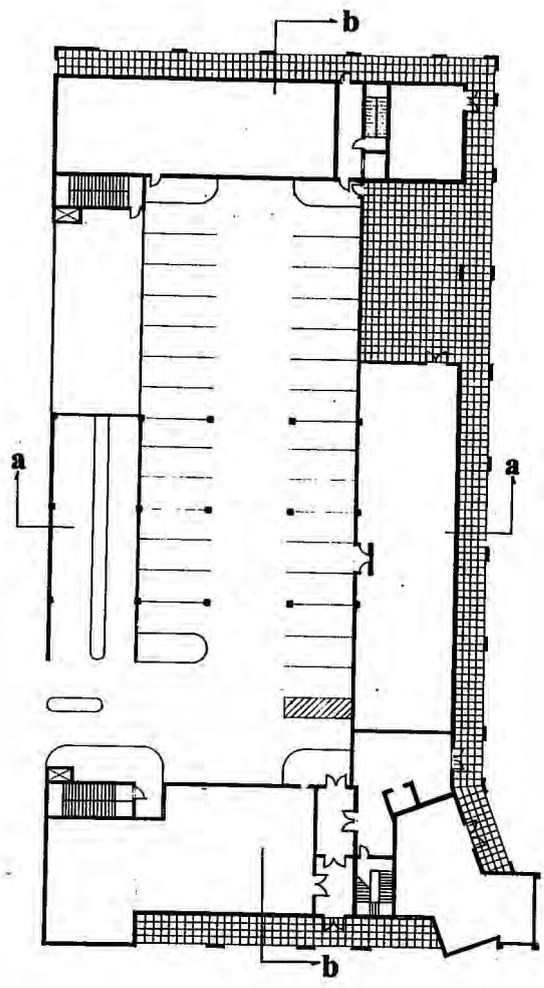
**A Sustainably Responsive Student Housing Project
for Lubbock, Texas in support of the Historic Depot District.**

R. Russell Roncarti
Thesis, Spring 1994

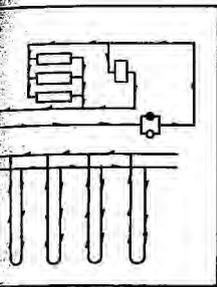




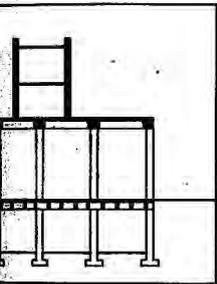
garage level
0 5 10 20 30 40 50 60 70 80 90 100



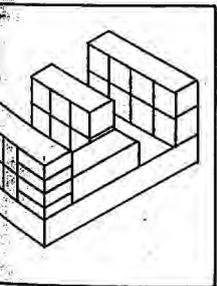
first floor -- retail
0 5 10 20 30 40 50 60 70 80 90 100



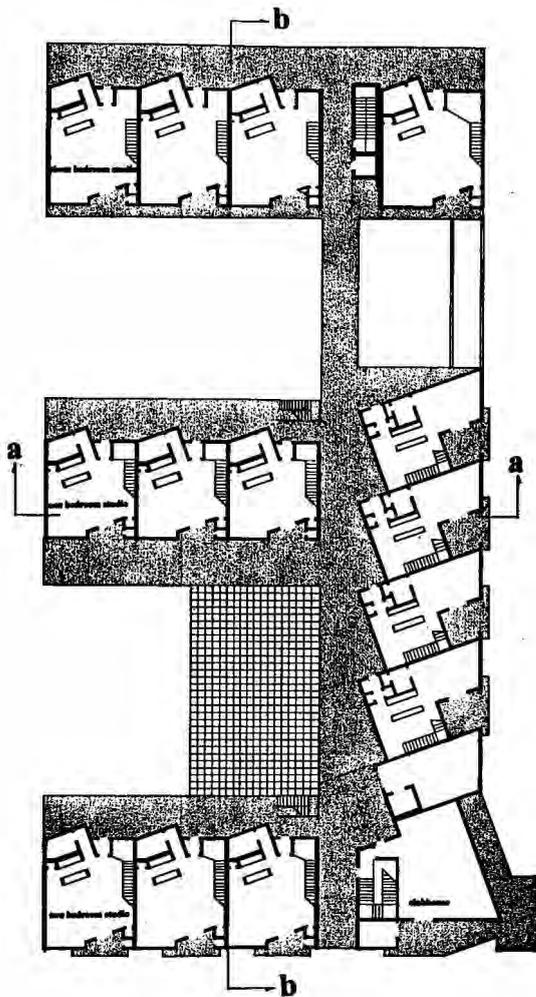
structural diagram



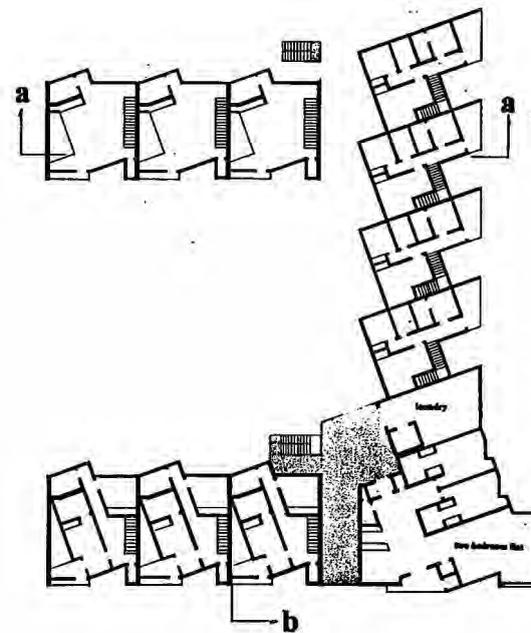
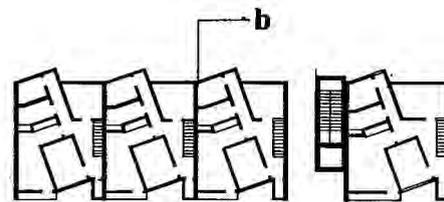
structural diagram



structural diagram

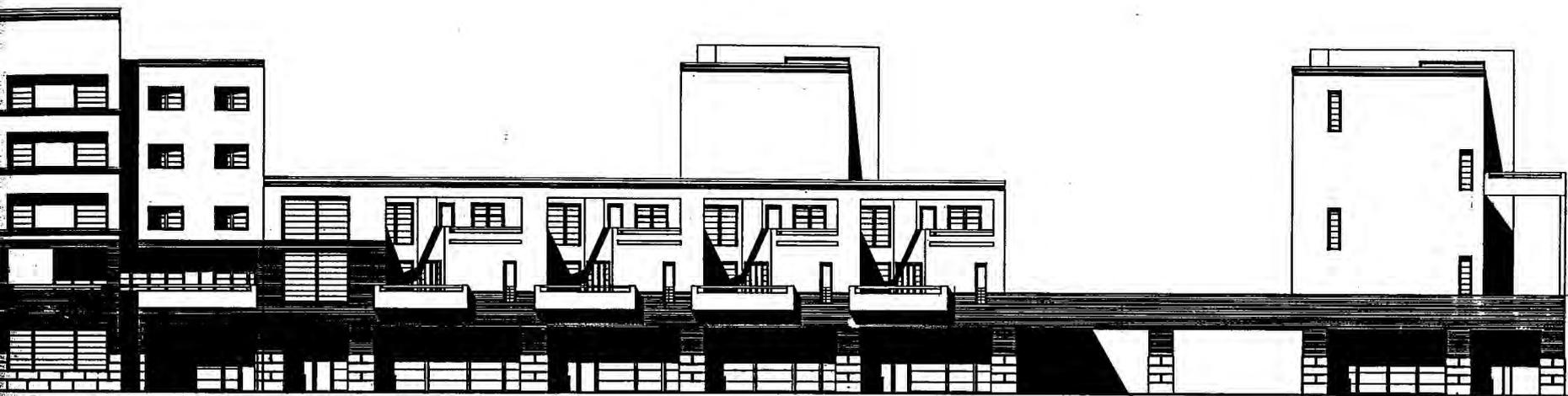


second floor -- residential

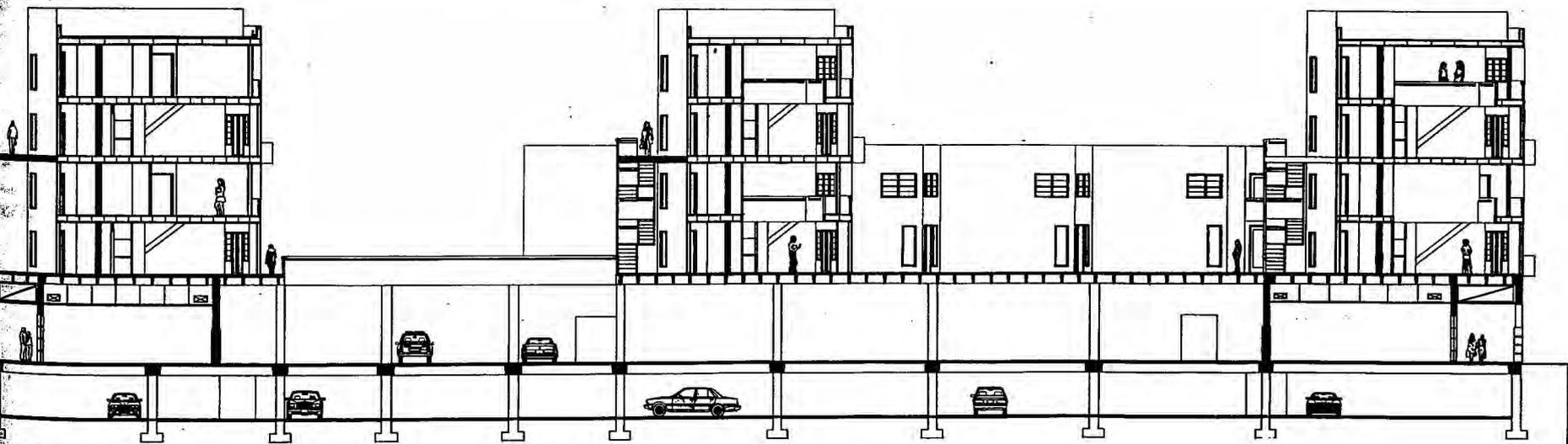
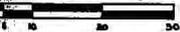


third floor -- residential





Street elevation

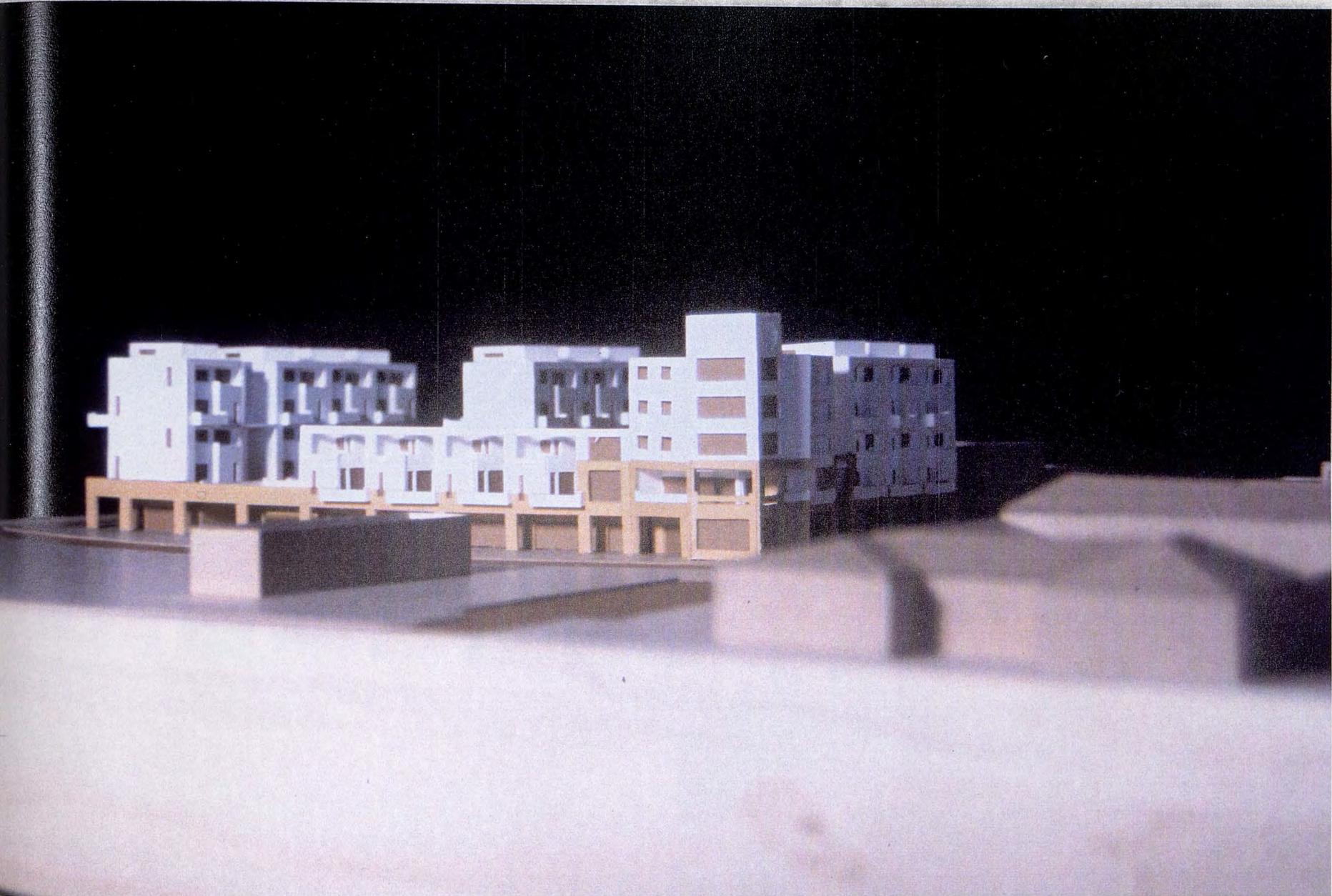


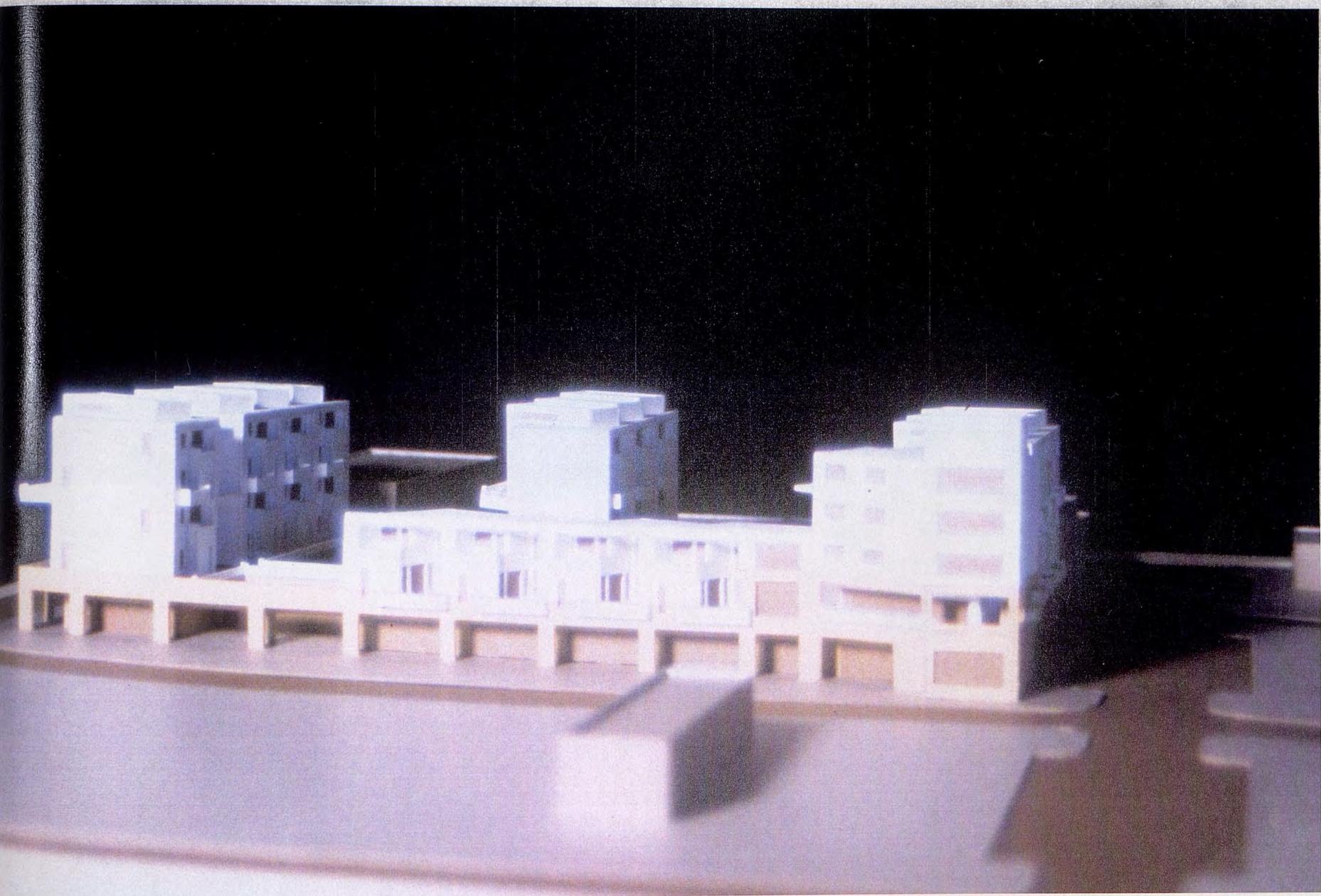
Section b-b

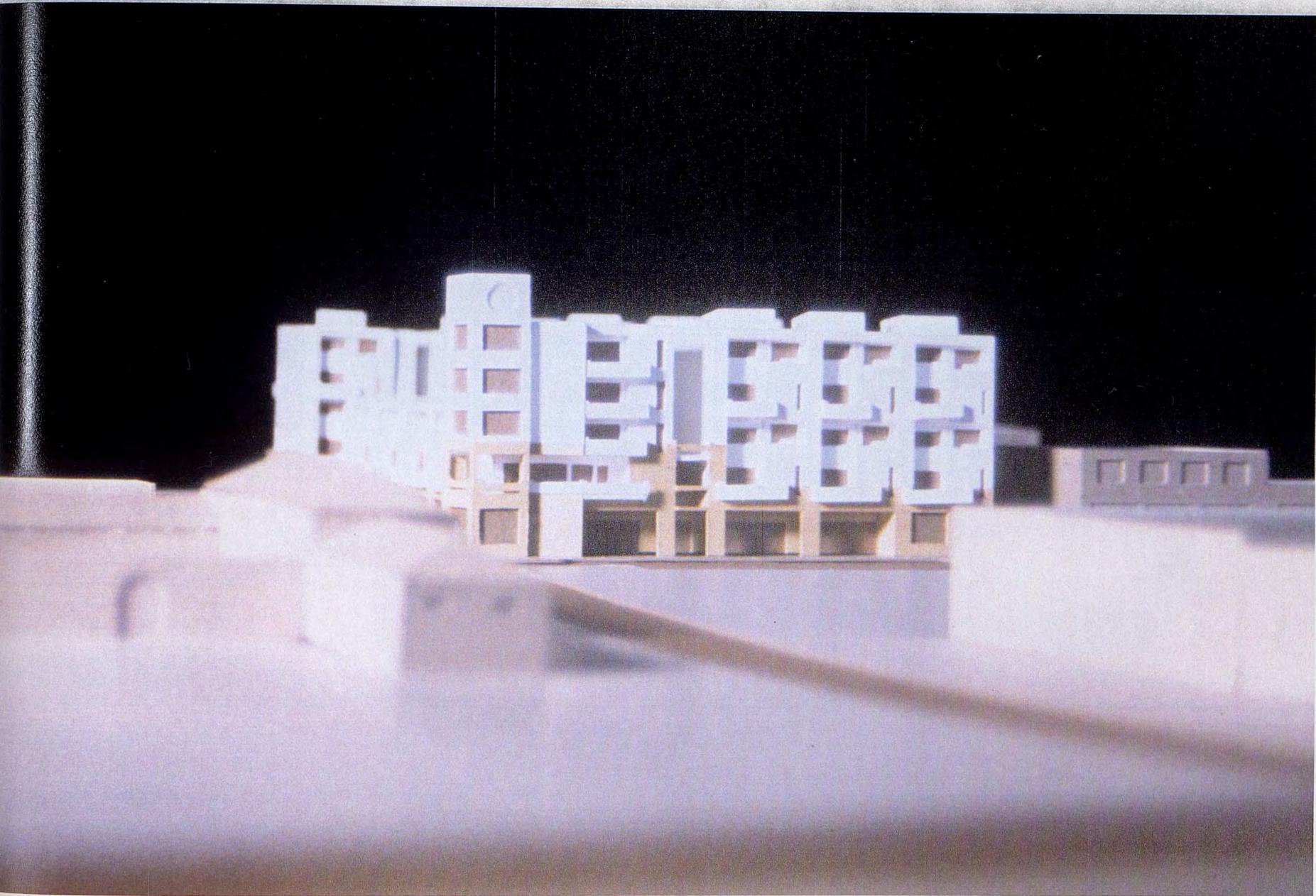


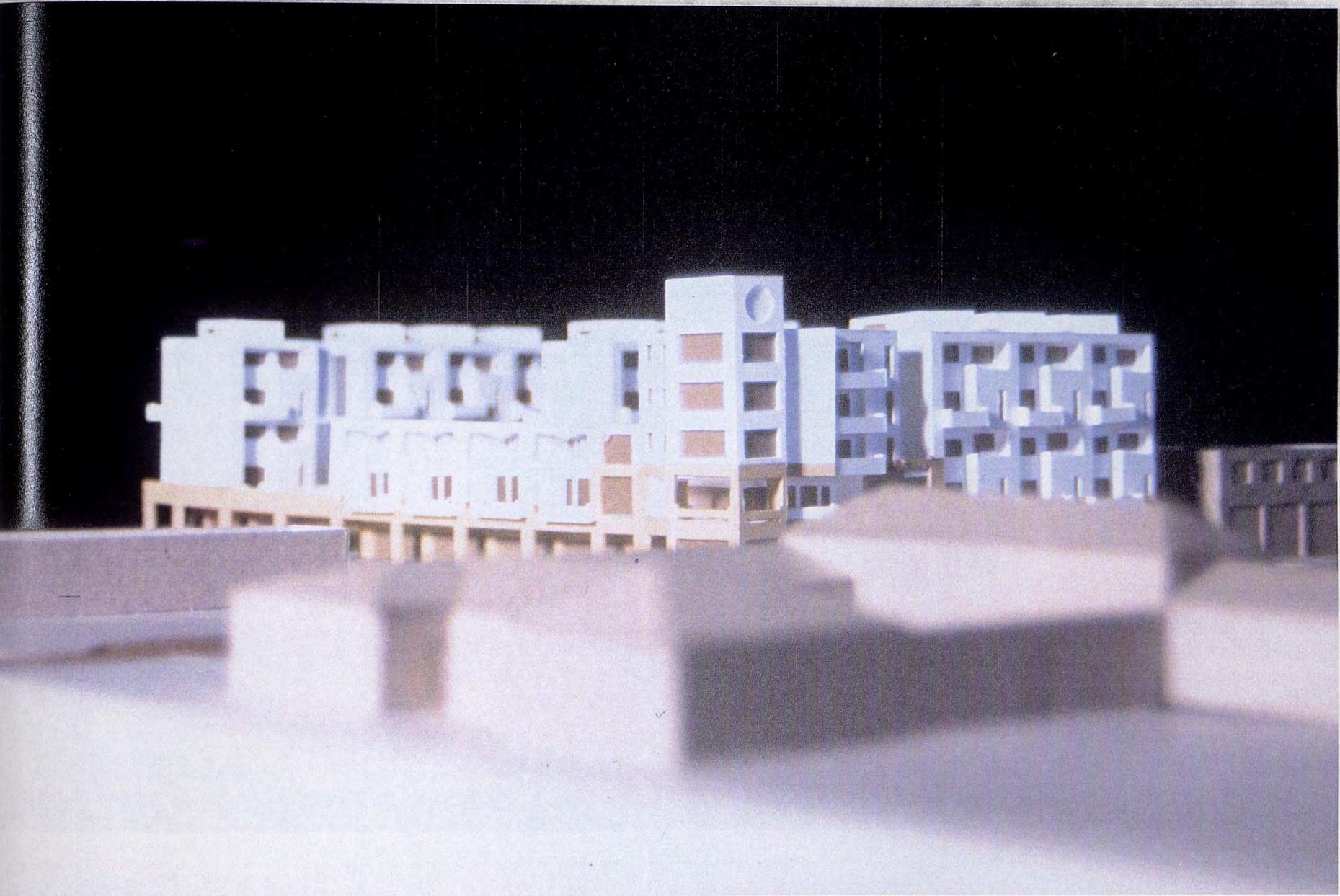


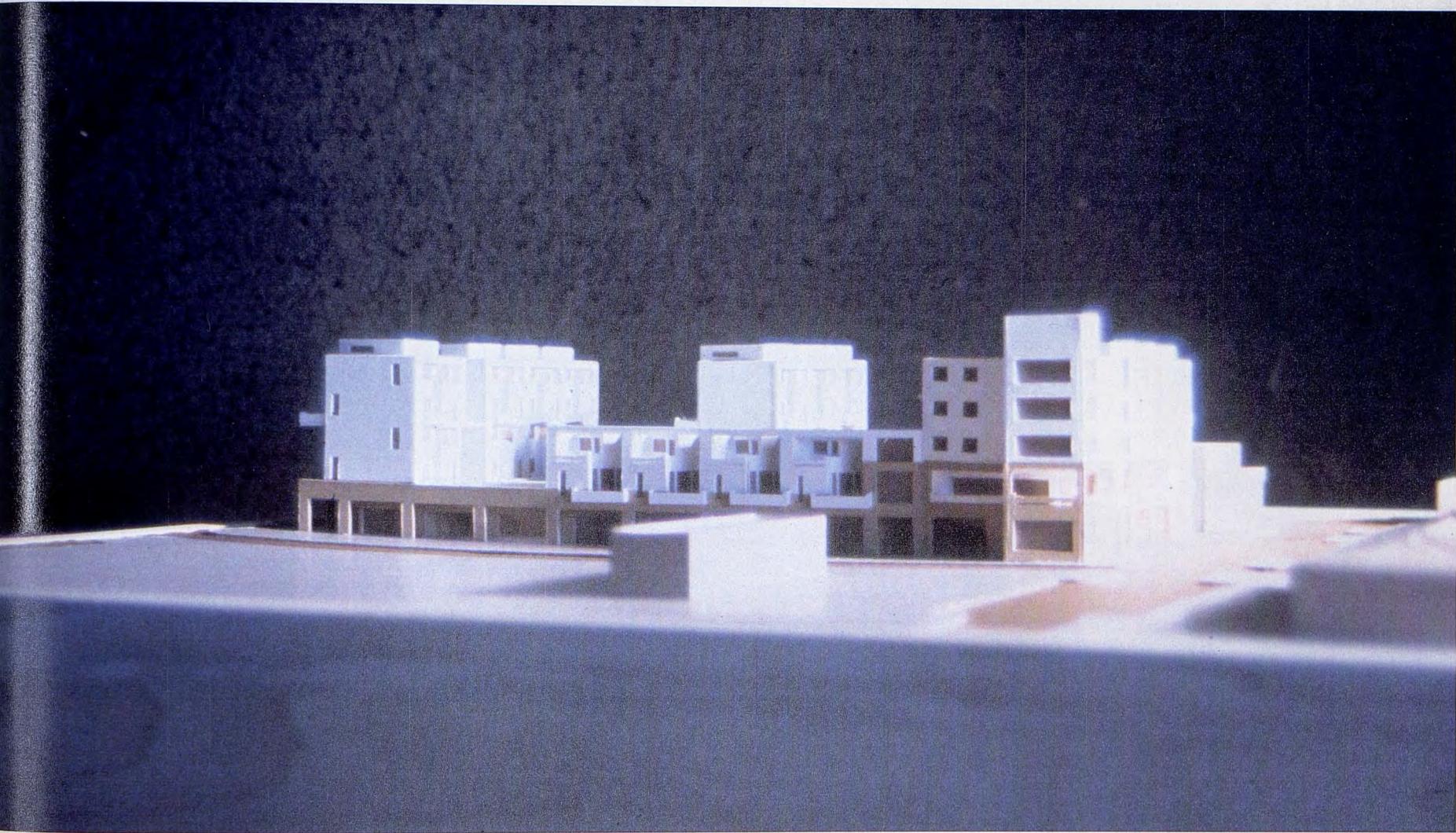
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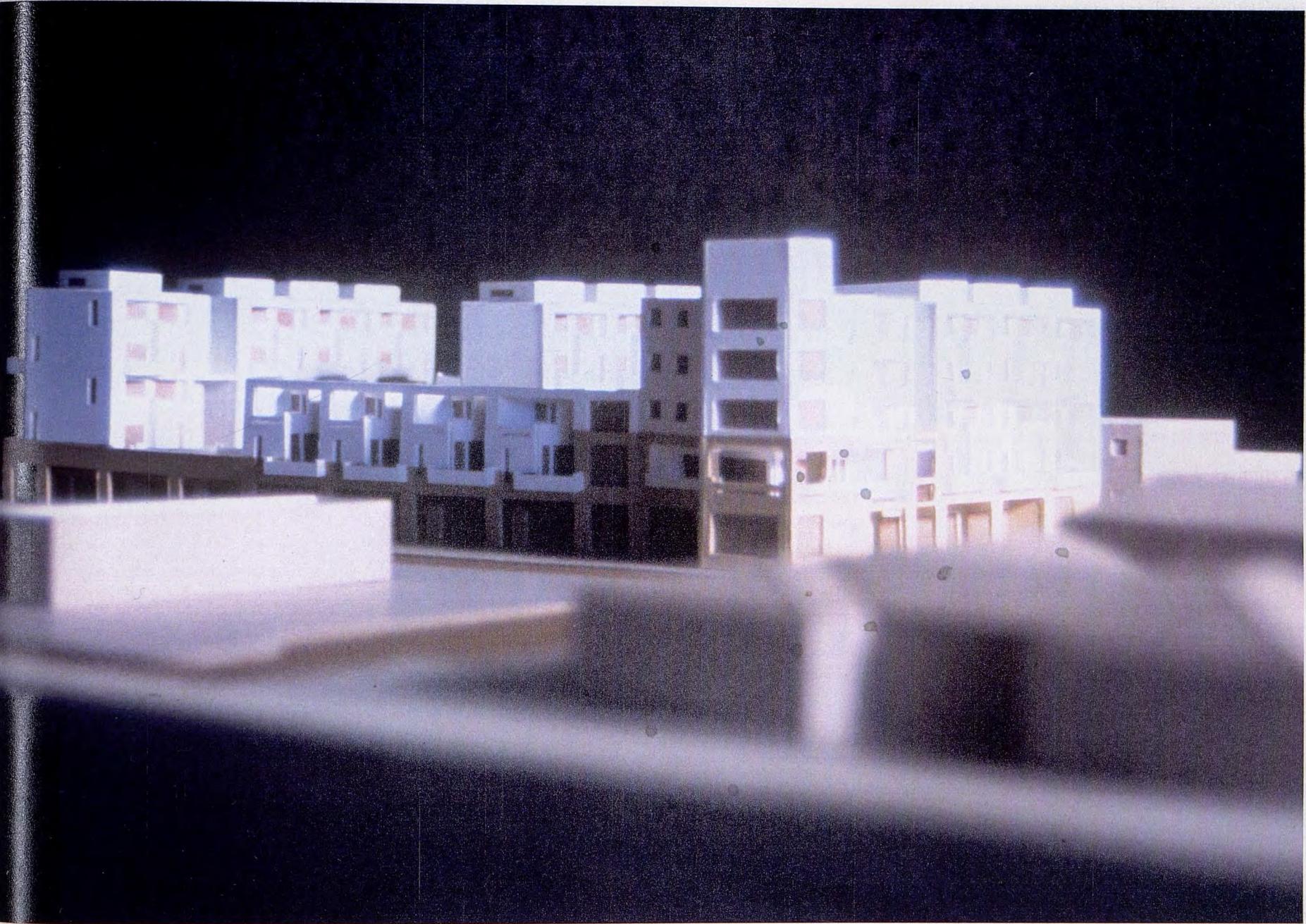


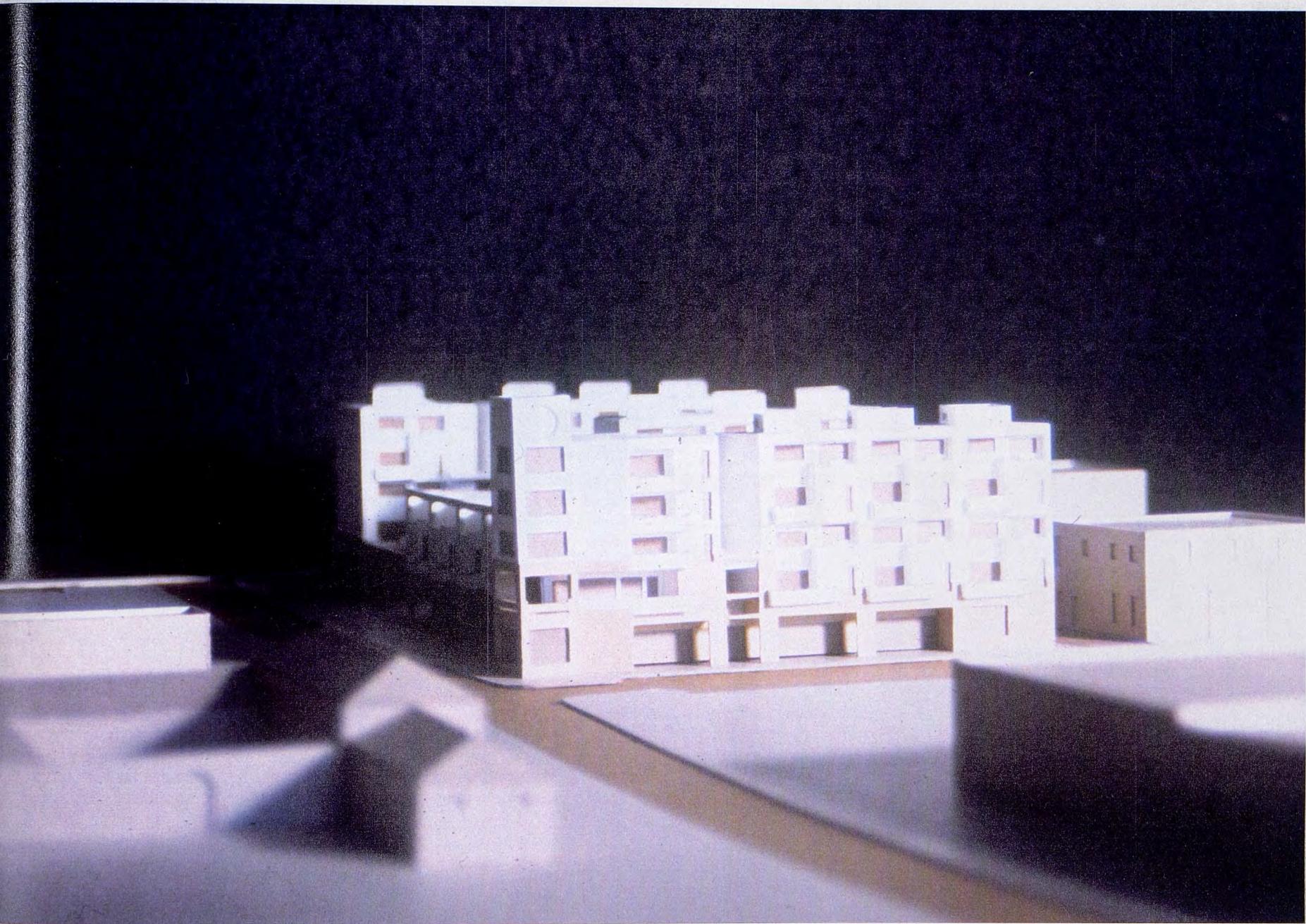


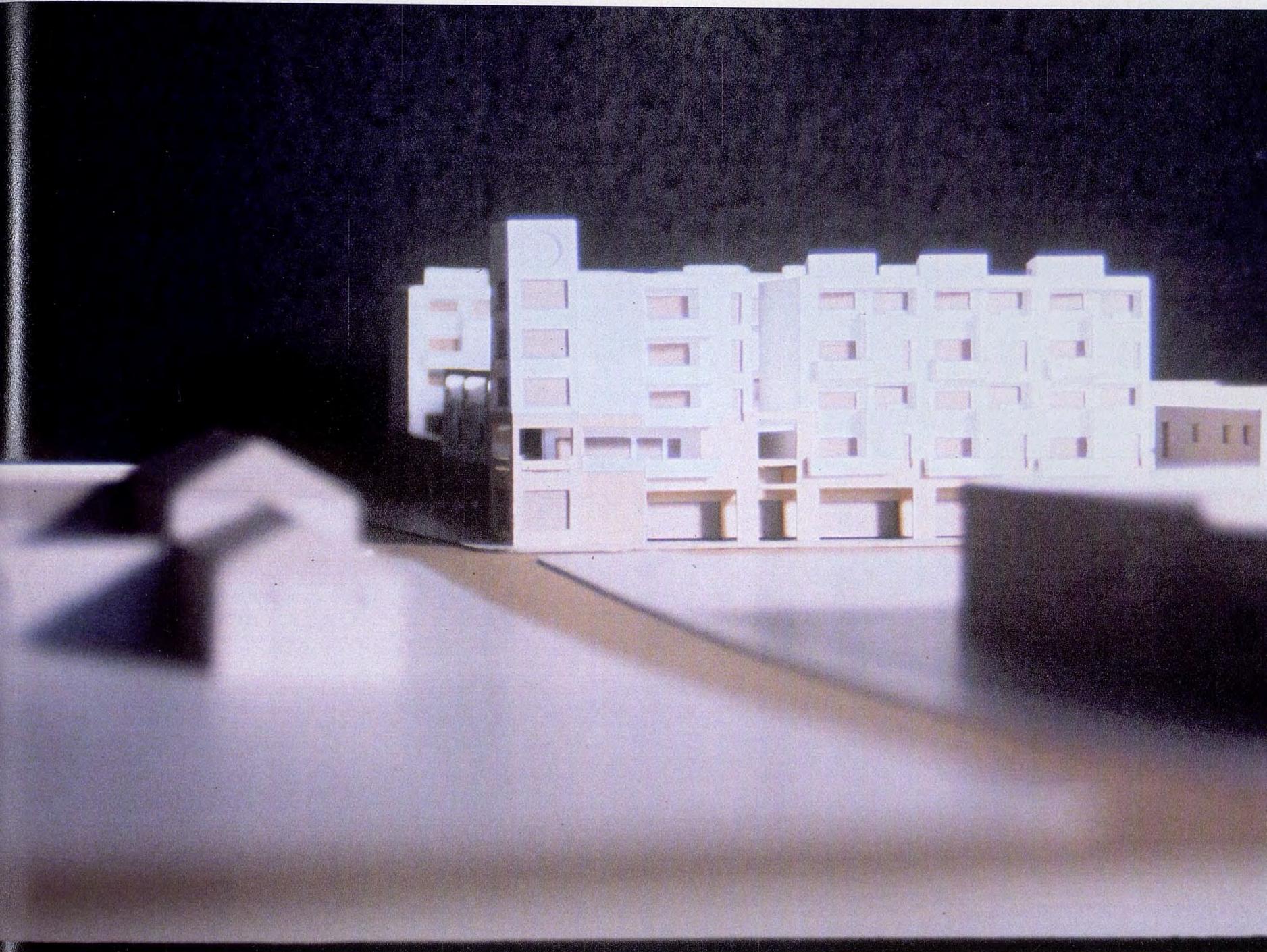


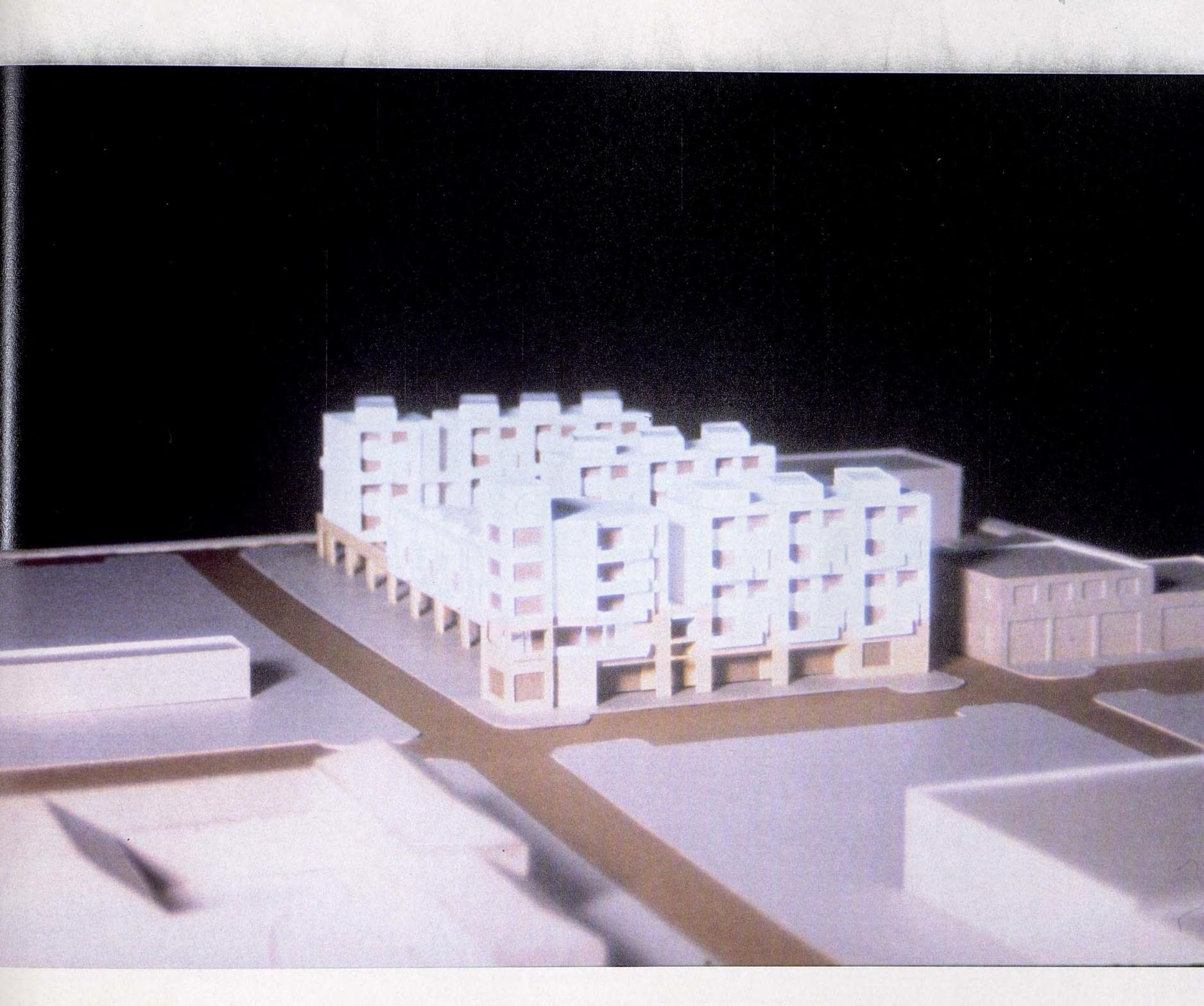


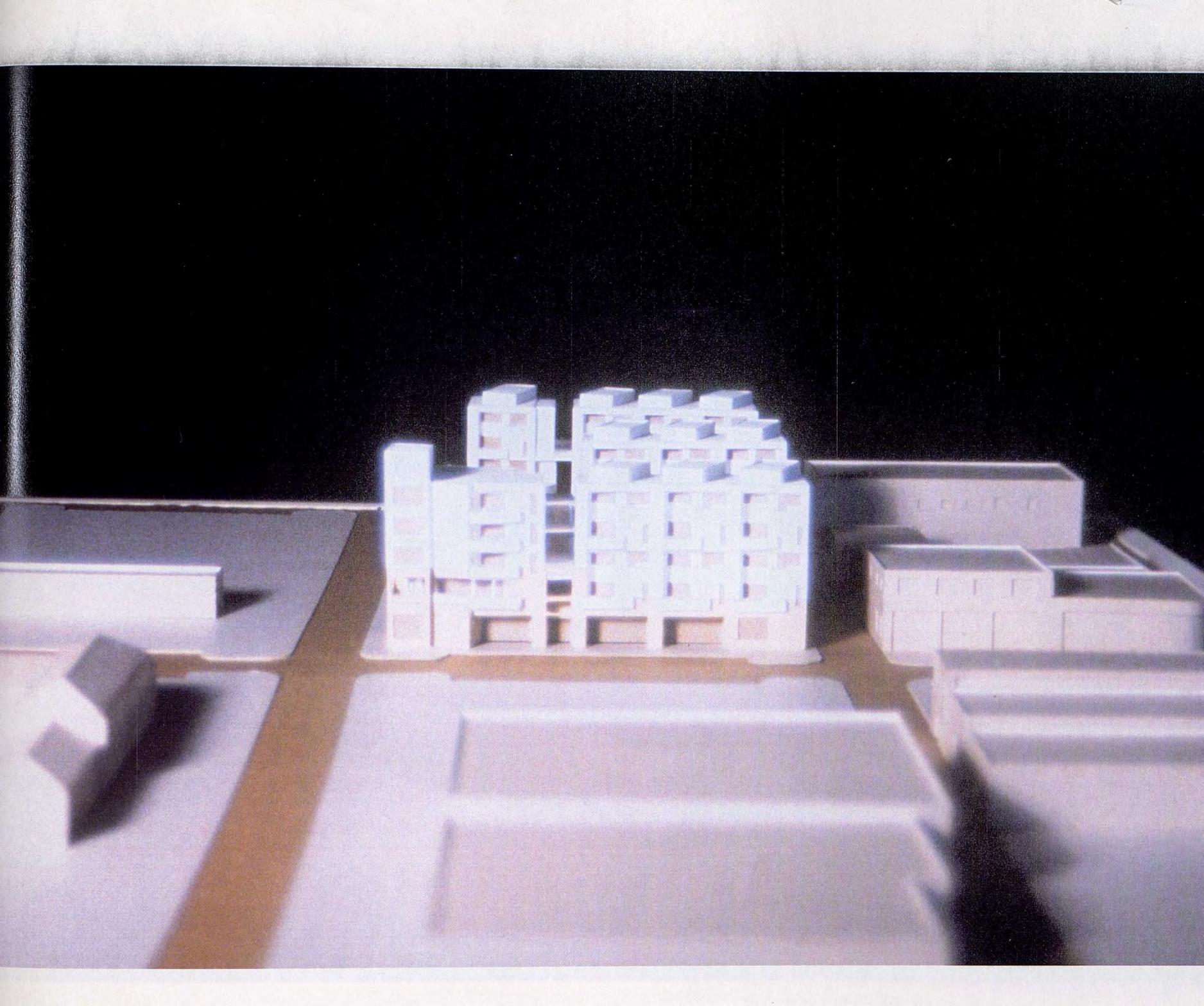


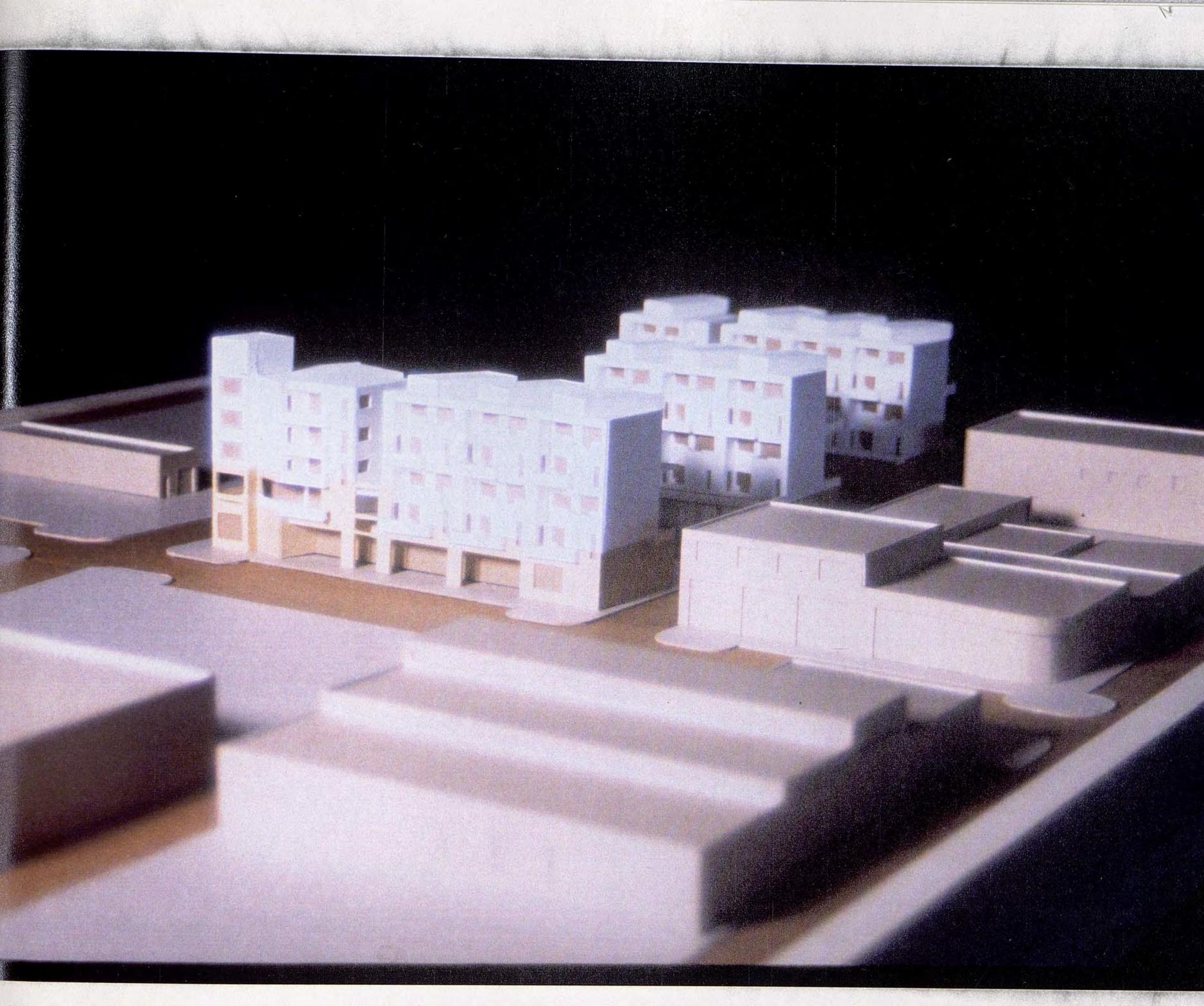


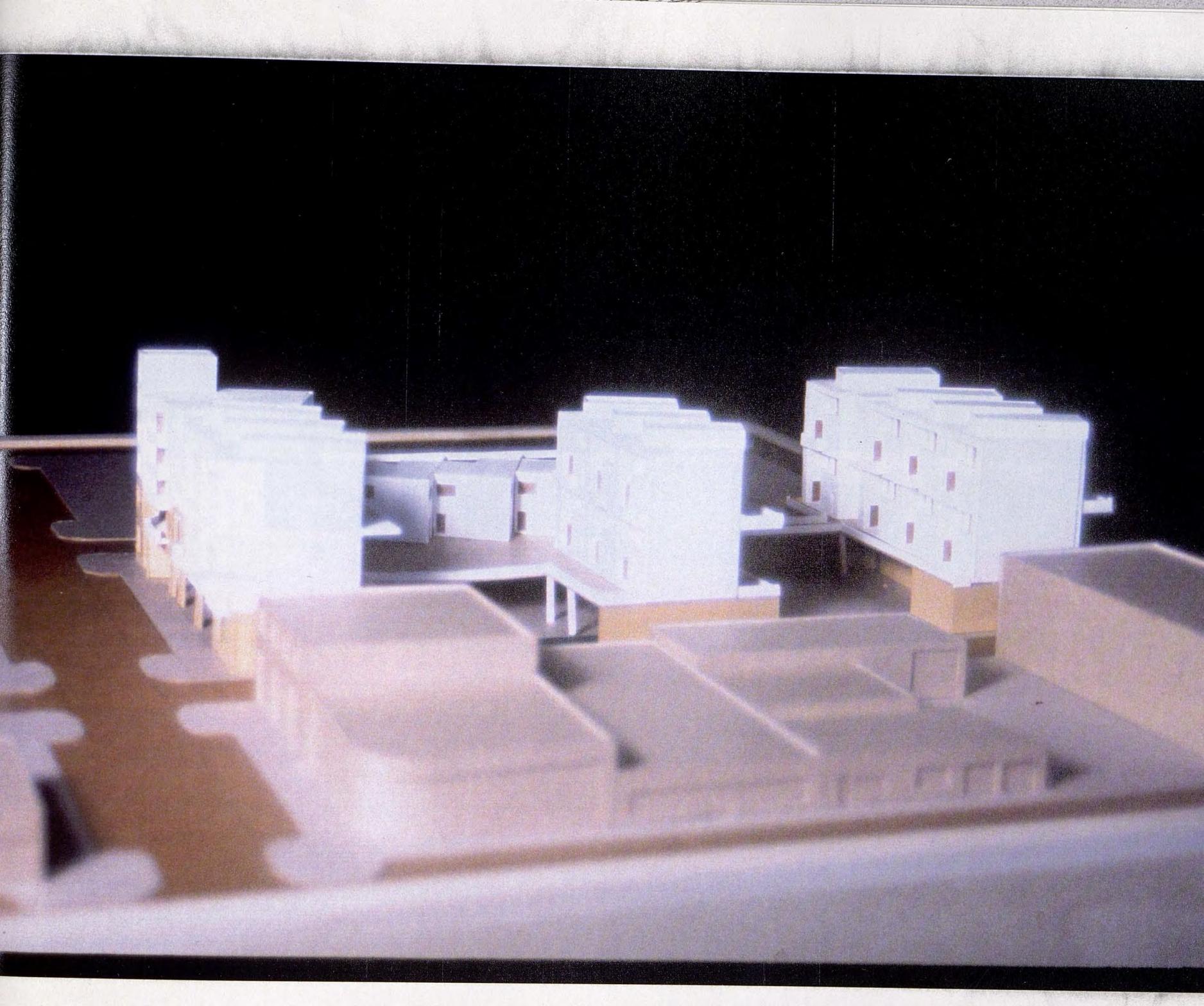


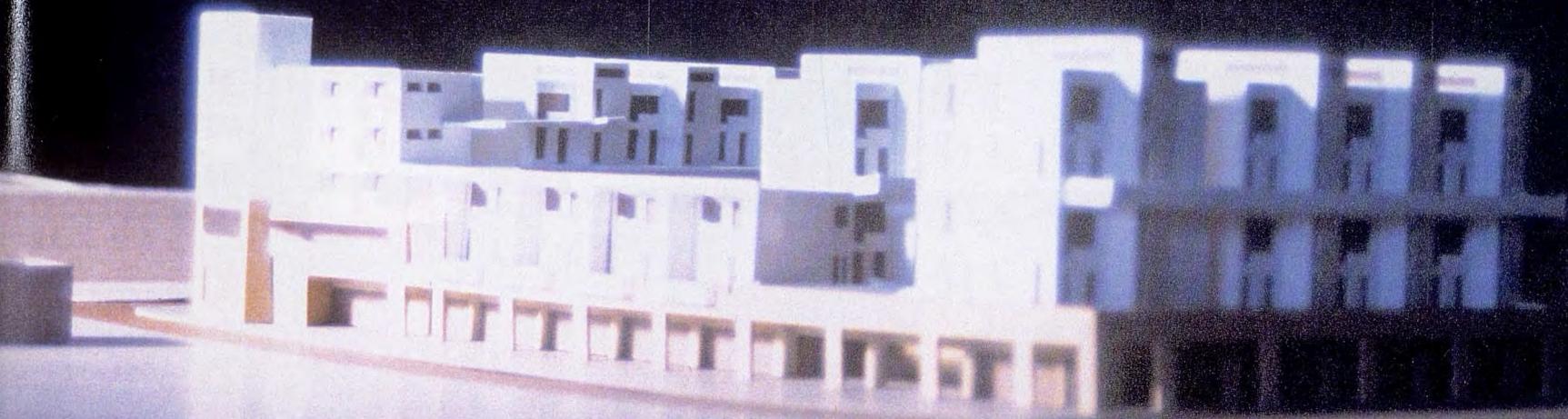


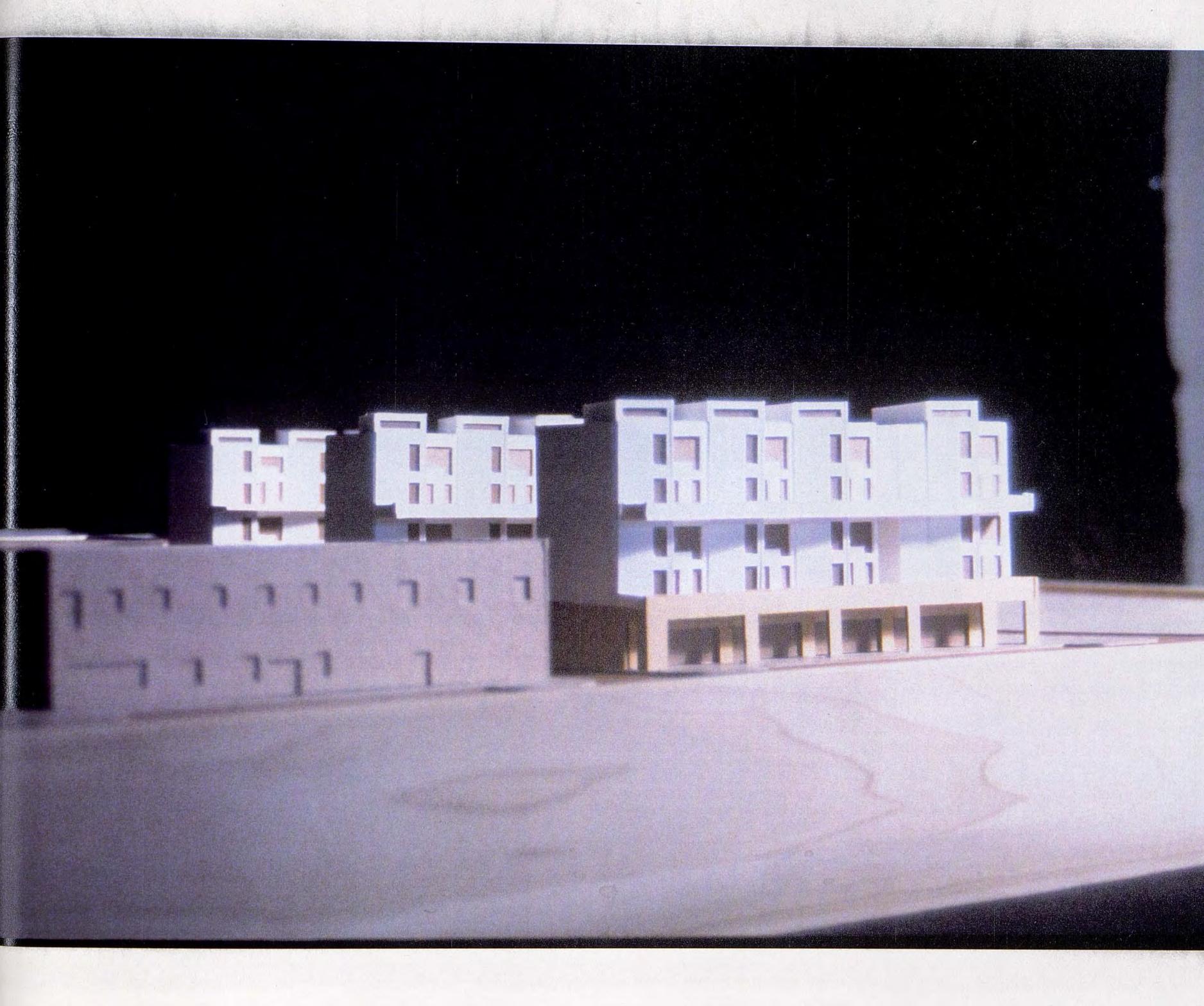


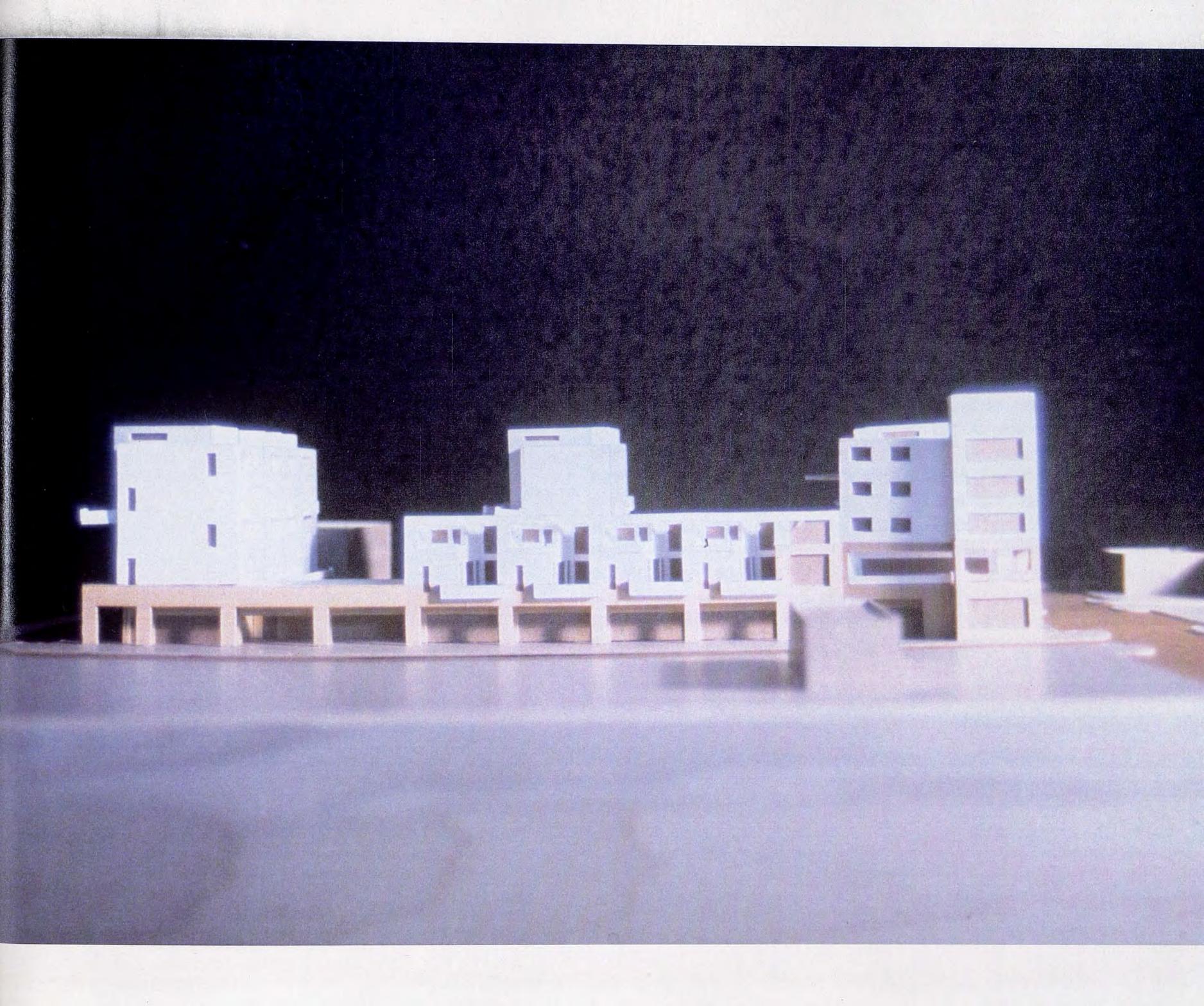












Conclusion

It would appear that this has come to an end. The program is done, the project appears to be finished, and documentation is complete. The topic of Sustainability is so broad, and encompasses almost every conceivable issue which applies to people, that somewhere amidst it all, it becomes very possible to not even see what is right in front of your face. That is what happened to me at midterm as some of the documentation will show. Sometimes it must be necessary to do an absolute wrong to find out what is right. The final design represents very basic design ideas which were overlooked in previous attempts. Some are, designing with the climate and with existing important buildings which exist in the present context. These ideas barely scratch the surface of Sustainability. Certainly, it is impossible to solve all of our questions pertaining to Sustainability in one single semester by a mere student. Perhaps the problems will never be solved.