

A RESIDENCE FOR TRION MOUNTAIN

by

Herschel Gray Walters

Thesis submitted to the Graduate Faculty of the
Virginia Polytechnic Institute
in candidacy for the degree of

MASTER OF SCIENCE

in

ARCHITECTURE

APPROVED:

APPROVED:

Louis A. Pardue
Director of Graduate Studies

Clinton H. Cowgill
Head of Department

John W. Whittemore
Dean of Engineering

George P. Frazer
Major Professor

June 1953

Blacksburg, Virginia

168274

"Lyrically expressed, a
building of proper design
may answer a question that
is asked by the setting . . ."

Richard Joseph Neutra

ACKNOWLEDGEMENTS

The author wishes to express his appreciation to the entire architectural faculty for their guidance through the past five years. Without the background created by their efforts this thesis could not have been completed.

Deep appreciation is given to Professor George Preston Frazer, chief critique, for his invaluable guidance and assistance in the preparation and development of this thesis.

TABLE OF CONTENTS

Title Page	1
Acknowledgements	3
Table of Contents.	4
Presentation Drawings List.	5
Introduction	6
Thesis Objectives.	8
Section I - Research	
Architecture and the Residence.	9
Planning for Living	12
Basic Family Needs.	14
Section II - The Design	
Site Selection	26
The Framing System.	29
The Design	31
Section III - Presentation	
Drawings	41
Appendix	
Bibliography.	50
Vita	51

PRESENTATION DRAWINGS LIST

Plot Plan

Floor Plans

Elevations

Wall Details

Door Details

Perspective From Pool

Aerial Perspective

Living Room

I N T R O D U C T I O N

I N T R O D U C T I O N

The complexities of contemporary living offer many and varying obstacles to the designer of modern domestic structures. Patterns of living are as flexible as the waves on a stormy sea, so must patterns of buildings constantly change and meet the demands of society.

We are living in a worldwide spread of technological and industrial civilization paralleled by migrations from cities. Upon the contemporary architect and builder rests the great responsibility of insuring the success of such a movement. They must have the technical qualifications, and they need the emotional ability to inspire the world. Their responsibility is ever enduring, but ours will be a grateful society if a sincere attempt is made to provide homes to fit the actual requirements of modern living.

The essentials of living, such as security, happiness, and comfort must be constant reminders to the designer that thru his creative imagination he is serving the needs of the family. Our buildings must reflect the dynamic features typifying our age. Contemporary architecture cannot be truly expressive without the use of contemporary materials ——— Aluminum, Steel, Plastics, Glazed Materials. The use of a contemporary structural system and modern collaterals shall be a major objective of this thesis. Every effort will be made to utilize the resources

I N T R O D U C T I O N

and potentialities of the new materials which modern industry has put at the disposal of the architect.

Serenity will be the keynote to the whole. Nature is not to be denied, on the contrary, the building must be complimented by the landscape, the house must be so well integrated with the site that it becomes its natural foil. The house must "fit" the land if it is to have aesthetic value. A "response" can be achieved only by interlocking the house with the natural forms of the site.

It is the purpose of this thesis to design a mountain residence expressive of modern day living; one which will accommodate the requirements imposed by the family and meet the functional, aesthetic, and technical requirements of our age.

THESIS OBJECTIVES

THE S I S O B J E C T I V E S

THIS THESIS HAS THREE OBJECTIVES

First, to present the findings of an investigation made to determine the conditions of the selected mountain site and to familiarize myself with family living requirements.

Second, to employ these findings in an organized design to satisfy all architectural and family requirements.

Third, to present a detailed design of the residence which shall be designated "A Residence for Tryon Mountain".

SECTION I - RESEARCH

ARCHITECTURE AND THE RESIDENCE

Since buildings must be designed for use, restrictions of some sort or another are an inseparable part of architecture. The conditions imposed by the site, the requirements of the owner, and the limitations of the budget are restrictions in a sense. When we speak of an architect's "solution," we are referring to the problem presented by these restrictions.

Although architecture without restrictions is inconceivable, too many restrictions can easily stifle it. Up to a certain point, restrictions may actually be beneficial, as a challenge to the architect. But where the restrictions are so severe that they dictate the design of the building, they may be fatal to architecture.

In residential design the deadliest of all restrictions is an insufficient budget. This in itself is a serious obstacle, but normally not insurmountable. It is the indirect effect that is most to be feared. When the owner must borrow heavily in order to build, the resale value of his house becomes all important. In such a case the design of the house is often determined, not by the architect, and not by the needs of the owner, but by the mortgage lender's idea of its resale value.

ARCHITECTURE AND THE RESIDENCE

It is beyond the scope of this thesis to set forth the wrongs inherent in the building industry of today or to crusade for their correction. The challenge is how to overcome these obstacles and use our resources wisely. A house must produce more than mere shelter and comfort for a family's physical needs ——— it must also provide for their emotional well-being ——— it should be a delightful, stimulating place that never becomes monotonous. Oversimplicity results in monotony, we need variety in our houses as well as our lives. There are many means of introducing variety into domestic architecture; the interplay of angles, lines and surfaces, changing ceiling heights, imaginative use of materials, lighting innovations, and color. However, it is to be remembered that while this variety is a necessity, it must accomplish a harmonious blending which is so often lacking in the modern idiom. Let us remember, too, that the architecture ——— not the furnishings ——— of a house should dominate.

The fact is that now and then an architect has the good fortune to be able to carry an architectural idea through to fulfillment without having to compromise on any essential point. If the architect is competent and knows what he wants to say, the result will be interesting

ARCHITECTURE AND THE RESIDENCE

architecture ——— if what the architect has to say is important, the result may be great architecture.

PLANNING FOR LIVING

The home, if it is to be a setting for healthful living, must provide a physiological environment which regulates illumination, moisture, sound, temperature, and ventilation and, also, an environment which promotes emotional security and insures privacy for the family and for the individual.

The attainment of these fundamental objectives is contingent on selection and development of the site for a dwelling to fit the particular family, and the proper construction and equipment of the dwelling. The members of the family can naturally put their leisure hours to better use in a roomy house than in an overcrowded one.

It would be impossible to establish exact standards of space requirements and their ultimate arrangement because of the many variables that exist. Among these would be listed climatic and regional conditions. For example, additional storage space for seasonal clothes and equipment may be necessary in cold regions, as would be space for heating equipment. Houses in southern regions may have a negligible area for this purpose and may be completely void of heating facilities. Requirements also vary with locations; urban, suburban, or rural.

PLANNING FOR LIVING

Regardless of location or orientation, adequate space is the most vital challenge which a house design has to meet. During the past half century, our progress in sanitation, heating, ventilation, and in improved household equipment has been revolutionary. In that same period, however, we have been retrogressing to an almost equally phenomenal extent. Normal and happy and fruitful family life is possible without modern plumbing and deep freeze equipment. It is not possible without a reasonable modicum of space. As stated by C. E. A. Winslow, chairman of the Committee on the Hygiene of Housing, "I suspect if our grandfathers, if they saw such of the construction of the last few years, would find its gadgets a poor recompense for the space to turn around in."

We too often find the word "economy" being associated with "closeness in expenditure; excessive frugality; stinginess; niggardliness." That better defines "parsimony." "Economy" means "the management of domestic affairs; the regulation of household matters, especially as to expense." It is not sound economy to reduce the size of the dwelling below the point where efficient management of the household is a possibility.

BASIC FAMILY NEEDS

ADEQUACY

Attempts to achieve economies have tended to reduce the size of the American home to a minimum. Rooms are overcrowded by people and space is overcrowded by possessions and equipment; Edith Elmer Wood was long ago moved to write:

"The tendency to pare down room sizes to the minimum in which it is possible to put the necessary furniture, preserve a passage for one-way traffic, and have air enough to escape asphyxiation is a false economy. Our modern life contains all too much tension at best. One should be able to move about freely — not have to navigate with care between a series of obstacles in fear of stepping on someone's toes, upsetting a work basket, or knocking over the baby's toys. It should be possible for a couple of friends to come in and find chairs without part of the family climbing out on the fire escape to make room for them. If we were trying to breed a race of neurosthenics, it seems to me this is precisely the sort of environment we would devise."

Perhaps her wording is a little strong and over emphatic, but we must realize that the more restricted the available space, the more skillful must be its organization. Efficient planning may enhance the usability of limited space, but it cannot be a substitute for reasonable dimensions. The Federal Housing Administration (1947) notes that "many supposed savings made through reduction of room sizes are actually expensive when judged in terms of rentability and income." Unequipped

BASIC FAMILY NEEDS

space, needed for moderate enlargement of a crowded plan, costs less per cubic foot than the basic space whose cost has absorbed the heavy expense of heating and plumbing systems.

Usable floor area varies with the shape of a room and the location of doors, windows, radiators and other structural features; and space standards must be based on use. A home is efficient only if it accommodates furniture and equipment, activities, circulation and storage, and its true measure of adequacy is the possibility for smooth functioning of family life. Houses designed merely in terms of specific rooms and cubic contents are wholly unsatisfactory.

HOUSEHOLD ACTIVITIES

The adequate home comprises sufficient space, with proper facilities, for all family functions, and the starting point for design of any dwelling is consideration of the activities of family life. Certain of these are self-evident, yet to design the house merely in terms of such labels as "bedroom," or "kitchen," is to miss the mark. The visualization of food preparation or sleeping is not enough. It is possible to sleep in a bed provided by a Pullman, but additional space is necessary in a bedroom for dressing, storage of clothing, etc.

BASIC FAMILY NEEDS

An interesting design approach is offered by John Callender in the Pierce Foundation Introduction to Studies of Family Living:

" . . . one result of a basic analysis of family living is that it becomes impossible to draw a sharp line of distinction between house, equipment, and furniture. As an example, consider a very simple operation such as a woman applying cosmetics while seated at a dressing table. First, the space actually occupied by the woman as she goes through the motions of performing the operation must be provided, plus space for seeing her face in a mirror, and for seeing the various implements and materials she uses. Next, essential equipment must be provided; first, a surface (dressing table) for supporting the various articles used in the operation, located in proper relation to the seated body, next, a surface for supporting the body in a seated position (chair), a space to keep articles when not in use (drawer, shelf, or cabinet), finally, a device for reflecting the image of the face (mirror). In addition to the space and equipment, the proper environment requires control of moisture, ventilation, light, sound, and sanitation. The psychological environment requires control of privacy and consideration of the general appearance and impression of the space and equipment, this includes the chair and dressing table as necessary "equipment," but the walls and roof, supplied only to control moisture, heat, and privacy, are classified as "environment." This procedure of beginning with the human body and wrapping around him the required space, equipment, and environment represents an approach radically different from the usual one of beginning with four walls and a roof and then subdividing this shell into rooms, which are later "furnished."

The requirements of the individual and of the family as a group are never static. Standards set without reference to changing family needs are too inflexible.

BASIC FAMILY NEEDS

To the joint activities of two people at the start of the family cycle may be added the diversified activities of the period of an infant in the household, followed by early school days, adolescence and young childhood.

When the children leave home, again there are the activities of two people, but in old age and retirement.

Consideration should be given every household activity with respect to its frequency, its time, whether or not it requires privacy and whether or not it is a fixed or floating activity. There is no question about the use of bedrooms for sleeping, but numerous household routines are not so specifically located, and individual habits are governed by such factors as cultural patterns and economic status. Sewing or ironing may be done in the kitchen, dining space, bedroom or in a utility laundry room. The telephone may be placed in almost any room, but a telephone in the living room interrupts other conversations. Space should be allocated to facilitate the performance of each activity.

Family life is patterned in daily, weekly and seasonal cycles, and occasional activities, such as care of the sick, are frequently overlooked. It should be unnecessary to move any heavy furniture often for cleaning or other purposes. Certain seasonal chores, such as tending

BASIC FAMILY NEEDS

the furnace in winter or gardening in summer, become daily activities during a particular period of the year. Space for their performance, or storage for the tools required, should meet the same standards of convenience as other daily activities.

Such infrequent activities as sorting and storing seasonal clothing, canning and preserving and hanging screens or storm windows require special equipment which demands considerable storage space. Shifting furniture and making up a studio couch for an occasional overnight guest is satisfactory, but as a nightly occurrence is bothersome. Space may be considered as adequate for special and occasional activities if it can be made available by shifting minor furniture and if there is no conflict with essential activities.

Advocates of multi-purpose rooms often evade the necessity for privacy. A desk in the recreation space may not be used for study in the evening because of a radio or an unexpected guest. The same room may be used for several activities only when privacy and quiet are not required if they occur simultaneously. It is good space economy to group casual reading, conversation and listening to the radio, which need not be compatible.

BASIC FAMILY NEEDS

The dining table may be used for playing cards, or a dining room as an extra living room. If the kitchen is also used for dining, it must be large enough to accommodate a dining table and essential circulation. If a bedroom serves not only for sleeping, dressing and clothes storage, but also for study or play, additional floor area must be provided for the appropriate furniture and the space necessary for its use.

Most activities require attendant storage space, too often neglected by modern designers. The house is the repository for all family possessions, even if seldom or never used.

HEATING, LIGHTING, AND VENTILATION

Space must be provided for a heating plant installation, for storage of fuel and for storage and removal of wastes from combustion when a solid fuel such as coal or wood is employed. The space can be greatly reduced when gas or oil is used, and the handling of wastes is eliminated.

The necessity for reasonably uniform heat distribution to all parts of the house influences its general design. The temperature of each individual room should be capable of control to meet the needs of its occupants, without interfering with conditions in other rooms.

BASIC FAMILY NEEDS

It is just as important to provide for summer cooling as for winter heating. Air movement is the most important factor in summer comfort, and provision for cross ventilation in the individual rooms, or through ventilation between rooms, or both, is essential for a livable summer environment. Choice of window type is of great importance: windows which provide automatically for free entrance of cool air at the bottom and exit of warm air at the top have definite advantages. For purpose of circulation, windows should be placed as near the ceiling as other considerations permit.

The kitchen stove is the only important atmospheric threat to the household. Cooking odors may be, and often are, objectionable, and the moisture generated during cooking deposits on walls and windows. Therefore, either a properly designed hood and gravity exhaust or a fan exhaust should be provided.

Adequate daylight is essential in every room, and some rooms should have direct sunlight. The amount of illumination is closely related to the size and proportions of the room. Basically, window areas should equal at least 13 to 17 per cent of local floor area, although such a formula is very incomplete. Location of the window is as important as its area.

BASIC FAMILY NEEDS

Houses built without rigid economic limitations and in attractive locations, tend to have more and more ample window spaces. This trend emphasizes the need in all homes for balancing the desire for stimulation and contact against the desire at other times for relaxation and withdrawal. Furthermore, large window areas increase the difficulty of summer cooling. Provision for admitting sunlight when desired must be matched by regulation of excessive daylight when a quiet and peaceful atmosphere is preferred, and for this purpose curtains have advantages.

SANITATION AND HEALTH

Facilities for sanitation and healthful living cannot be over-emphasized. Their importance cannot be broken down to any specific requirements and certainly no minimum standards. Health protection in the home involves not only sanitary facilities, exclusion of vermin and control of contact infection, but also sanitary food handling and conditions favorable to sleep and rest.

For protection against the spread of intestinal diseases, basic sanitary facilities should provide for an ample supply of safe drinking water. Bathrooms should be equipped with appropriate washing facilities and a toilet of sanitary design.

BASIC FAMILY NEEDS

Household cleanliness is facilitated by types of floors and other surfaces which are readily cleaned, and sufficient circulation space to permit cleaning around heavy furniture. Storage space for cleaning utensils should be ample in amount and conveniently located. The two story house should provide such space on both floors.

Mosquitoes, fleas, lice or other vermin may be the carriers of communicable diseases. Exclusion of rats is assured by adequate construction and the elimination of areas, below the floor or elsewhere, which may harbor rodents. Flies and mosquitoes, however, must be controlled by screens, and doors, and windows so designed that the screens may be easily installed and properly operated. Considerable storage space is needed for screens not in use.

The majority of communicable diseases are spread by direct contact from person to person. Such contact cannot be regulated except by eliminating overcrowded conditions and isolation of the ill. Any sleeping room which contains two beds should be large enough to allow at least three feet between beds.

The manner in which food is handled is influential in prevention of illness. Inadequate provision for refrigeration of fresh foods not only limits the diet but

BASIC FAMILY NEEDS

allows spoilage. Unsatisfactory kitchen design and equipment make proper handling of food difficult. Space allotment for food preparation and preservation must incorporate:

- 1) a refrigerator large enough to hold perishable food for the entire family between customary marketing intervals;
- 2) other food storage facilities adequate in type and amount, in relation to marketing habits, to insure the necessary variety in diet;
- 3) adequate cooking facilities;
- 4) design of all food storage, food preparation, cooking and dish washing equipment and work spaces so that they may be readily kept clean.

The house is not only a place to live but a work place, involving some sixty hours of housework every week in the average American home as reported by the Committee on the Hygiene of Housing, 1939. Room arrangement which minimizes fatigue is of importance, as is provision of the proper tools. Space allotment and space relations as they influence the conduct of ordinary household tasks deserve as careful planning as an assembly line in a factory. Proper circulation between rooms will greatly reduce the number of steps necessary for the daily routine.

BASIC FAMILY NEEDS

ACCIDENT PROTECTION

Although home safety depends in considerable part on factors beyond the designer's control, ample space and proper planning will contribute to a substantial reduction in accidents. Sufficient readily available storage space will help keep toys or dust mops out of passageways or off stairs. Adequate storage space, well within reach, in the kitchen will reduce the number of falls. Pious instructions to mothers to store poisons away from inquisitive youngsters are meaningless if medicine cabinets are too small, without locks or low enough to be reached by children. If rooms are large enough, with sufficient wall space, furniture need not project into circulation areas to offer collision hazards.

Detailed studies have been made on the percentage of accidents per room or per household activity, but here I will consider only certain fundamentals in the over-all house plan that should be emphasized as a basis for safety.

- 1) the general plan for circulation within the house;
- 2) storage spaces of adequate amount and proper design;
- 3) adequate light in all parts of the house including closets;
- 4) stairways should not be too steep and should have

BASIC FAMILY NEEDS

proper proportions in dimensions of risers and treads (satisfactory values are 7 to 7.5 inches for the risers and 10 inches for the treads, in any case these values should meet the requirements that the sum of the tread and riser equal 17 to 18 inches and the angle of the slope be between 30 and 36 degrees);

- 5) there should be no change in level between adjacent areas.

SECTION II - THE DESIGN

S I T E S E L E C T I O N

The design of any building, commercial or domestic, begins with the selection of the site. This fact is not always realized by the prospective builder and, as a result, the requirements for a good site are often not given the consideration they deserve.

The selected site for this problem is located high on the south side of Tryon mountain and commands a panoramic view in a wide swinging arc from southeast to southwest. The sloping site is heavily wooded, accenting the view across a valley to an opposing mountain range. One of the aims of this design will be to exploit the dramatic view afforded by this site which is 3200 feet above sea level in the western part of North Carolina.

The rugged terrain offers some interesting orientation problems. In order to take advantage of the low rays of the winter sun all major rooms will open to the south. This could be achieved in many ways, but one of the following two methods will probably be employed: staggering the desired solar rooms at multi-levels along the slope or raising the entire living and sleeping area to a second level. No overhang is to be employed to control the sun's rays in these areas. This will give full

S I T E S E L E C T I O N

advantage of winter sun rays, while summer rays will be controlled by full length white curtains. The white curtains are specified for maximum reflectivity.

The prevailing winds from the northwest are controlled somewhat by a higher peak in that direction, but this is not a sufficient windbreak to the point that we can disregard it completely. Some means must be conceived for protection against winter winds.

Soil conditions present a grading problem, since there are several outcroppings of large boulders on the site. However, every effort will be made to use these natural obstacles with the building so that they will be part of the design.

The entire mountain side is heavily wooded with large live oaks and full dogwoods. Large clusters of laurel and rhododendren are plentiful and offer beautiful color during the early winter months.

Drainage should not be a major problem with the steep slope to the south. A small creek has cut thru the soil and rocks about 50 yards east of the house site. Here a small waterfall among the laurel thickets offers a delightful setting for a picnic or barbeque area. Just west of this area is a plot easily adopted to a swimming pool of moderate size. Both of these areas on the same level are about 15 feet below the house level, therefore,

S I T E S E L E C T I O N

they do not obstruct the view from the house, yet they have full advantage of overlooking the valley below.

An all weather road winds through the mountains and can be entered at a point 250 yards from the site. The road leading to the house cannot enter this main road directly, it must follow the contour of the land to a great degree. School bus service is also offered by the mountain road.

THE FRAMING SYSTEM

The framing element chosen for the mountain residence is a Great Lakes Steel Corporation product called "Stran-steel." The distinctive feature of stran-steel is the nailing groove — an exclusive patent. This plus its adaptability to fireproof construction make it the logical material for a quality residence which is to be built away from public fire protection service.

The nailing groove is found in all stran-steel joists and studs — because of it, economical and permanent steel construction can be applied to the residence. The groove is made by welding two pieces of specially formed steel together. In the case of the joist, for example, two channel sections, specially formed, are welded back to back, as shown in some of the drawing details in the presentation section of this thesis. The small space remaining between these pieces is just large enough to admit an ordinary nail. Driven in this groove, the nail is curved to the profile of the specially formed channels, and clinched in a grip of steel, utilizing a holding power not possibly duplicated by wood. In this manner collateral materials are attached directly to the steel framework by the ordinary hammer and nail method.

THE FRAMING SYSTEM

It is a precision framing material, insuring correct fit and eliminating "casual" construction methods. The frame can be assembled with speed and accuracy, quickly making ready for wiring, piping and the attachment of all collateral materials. In this respect, stran-steel permits complete freedom of design. It provides free scope in the choice of collateral materials, both nailable and non-nailable, therefore, it is particularly well suited to modern construction methods.

THE DESIGN

PROGRAM

Overcrowding is a misuse of space: a small two bedroom unit may be adequate for two or three adults, but no dwelling with insufficient room for the family to be housed can offer a satisfactory environment, however sound its construction or complete its mechanical equipment.

Various methods and criteria have been used to establish space and occupancy standards. Current specifications used in legal codes may designate the number of cubic feet of air space per person; define overcrowding in terms of persons per room; control occupancy in reference to sleeping arrangements; prohibit roomers and lodgers; or indicate room areas and minimum dimensions. This body of regulations is unwieldy because it has been evolved in varying places over long periods of time, for different reasons. The concept that housing requirements stem from the needs of the occupants provides a sounder approach to attainment of adequate living space.

What people do and what they desire in a fixed situation are not necessarily conclusive, and the findings may merely mirror undesirable design rather than over-all space deficiency. The amount of space essential for our particular household seems a good basis on which to

THE DESIGN

establish the needed space allotments.

The family consists of four members; the owner, his wife, a boy seven years old and a girl six years old. Since the house is to be framed with his product, the client has placed no limit on the use of this material. However, the framing system must not be overly complicated, as much fabrication will be done on-the-job. Presently, there are two automobiles in the family. Both parents are in their early 40's.

REQUIREMENTS OF THE FAMILY

Recreation

Father reads, studies, and has much correspondence

Father hunts and fishes

Mother enjoys art work

Formal and informal entertainment

Parents and children swim

Hobby and study facilities for children

Dressing area for bathers

Sanitation

No sewage line available for sewage disposal

Water must be got from well

Individual baths desirable

Home incinerator for garbage disposal

THE DESIGN

Storage

Closets should be spacious
General storage area a necessity
Storage for garden implements
Entrance closet

Transportation

School bus passes nearby
Parents each have automobile

Heating

Heating unit in basement

Service

Self service house

From the preceding data the following areas were decided upon:

Master bedroom

Two children's bedroom

Play area

Quiet living area

Noisy recreation and entertainment area

Dining area for the family and two guests

Kitchen

Heater space in basement

Storage as ample as possible

Baths

THE DESIGN

Work shop

Laundry and utility

Storage for garden implements

Incinerator

Swimming pool

Dressing rooms for swimming pool

Two car carport

Terraces for dining and sun

THE DESIGN

THE HOUSE

The Living Room

One of the fundamental objectives of the home is to provide satisfying family life. This has been the objective in the placement and design of the living area. The curtain wall between this space and the kitchen provides an excellent plane for hanging paintings or other works of art which receive desirable natural lighting from the glass wall on the south and east sides of the room. Gooseneck lamps of free standing design may be introduced on the book shelf for dramatic artificial lighting.

While not an integral part of the living area, the dining room is accessible without passing through any doorways. This feature offers an added feeling of openness when the sliding panels of glass disappear into the kitchen wall.

The seating arrangement shown in the floor plan offers only one possible means of taking advantage of the scenic wonder offered by the sharp mountain peaks beyond the valley. The terrace can be used for viewing the art of nature from the finest vantage point on the mountain range.

In addition to the warm air outlets a fireplace has been introduced to supplement the heating system because

THE DESIGN

of the large window areas of the room. A bit of nature is introduced by backing up the modern fireplace with a wall of native stone which literally floats in a wall of glass.

The Studio

The floor to ceiling glass panel allows maximum natural lighting which is essential for studio activity. Large storage areas have been provided in the form of low cabinets and ceiling hung units. The cabinet tops offer work surfaces for carving and modeling. The 40 inch surface on the west side of the room offers enough space for very large peices of art work without the danger of toppling to the floor. Though it is not an isolated unit of the house, the studio is surrounded by walls and entered through a door, thus offering the necessary quiet and privacy for concentrated work.

Children's Bedroom

A playroom has been integrated with the children's sleeping area, and careful consideration has been given to the eventual separation of the boy and girl. Adequate storage closets have been provided in the play area as well as the sleeping and study quarters. This will simplify clothes storage when the single space is partitioned into two separate rooms; one for the boy and one for the girl.

THE DESIGN

The beds have been placed away from all walls and provide for peripheral circulation of the room. Floor outlets provide electricity for desk lighting and bed lamps. Toys may be stored in the closets provided adjacent to the play area.

Master Bedroom

The master bedroom has been planned to accommodate twin beds and retain its spaciousness. The beds are backed up with shelves and low storage cabinets for miscellaneous articles and magazines. Two chairs have been provided to prevent constant use of the beds for other than sleeping purposes. Ample closet space is provided in the sleeping area along with drawer space for the man's clothing. The dressing room houses the woman's garment storage space, and the separation wall offers an excellent surface for a full length mirror with desirable back lighting.

The Study

The study is provided with a desk and drawer space for letter writing and necessary business correspondence. The room can be easily transformed into a guest room. For this purpose a single bed and a storage closet has been provided. These facilities in addition to the private bath will allow it to function also as a sick room.

THE DESIGN

Kitchen and Dining

The kitchen has been strategically located for receiving groceries from the garage under a covered walk. Adjacent to the kitchen entrance is located the deep freeze unit and refrigeration compartment. The L-shaped counter offers efficient and smooth functioning food preparation. Both the main dining area and the summer dining patio are easily serviced from the kitchen. The dining room is provided with a table with seating capacity adequate for the family and two guests. The patio and interior dining areas are separated only by a glass wall which disappears into the kitchen wall giving additional openness.

Laundry and Utility

The laundry has been combined with the work shop in a room beyond the dining patio. This area forms a buffer unit between the garage and the house. The service area for clothes drying is located just beyond the covered entrance to the laundry.

Storage closets for garden and lawn implements are provided under the car port shelter. The home incinerator for garbage disposal has also been included in this service area for convenience to the kitchen, which is accessible by a short covered walk.

THE DESIGN

The Basement

The basement was conceived from the first stage of planning because of the extremely irregular contours. The partial basement has been layed out as an extention of the ground that supports the main floor of the house, thereby causing very little excavation. The basement recreation room may serve as a cool and plessant living area in the summer months and the projecting bedroom wing above offers a shaded outdoor sitting and dining area. The high windows provide light and cross ventilation for the entire area.

Mechanical Equipment

The heat room is conveniently located in relation to the stairs with no cross circulation through the recreation room. Adjacent to the heat room is located dressing rooms to accommodate bathers for occasional swimming parties.

An oil burning furnace and forced warm air heating system was chosen. The warm air can be conveyed through the structural system as shown in drawing details. The fuel for the furnace will be piped under ground from the service area by gravity flow. The system may be used as a cooling agent during the warm summer months.

THE DESIGN

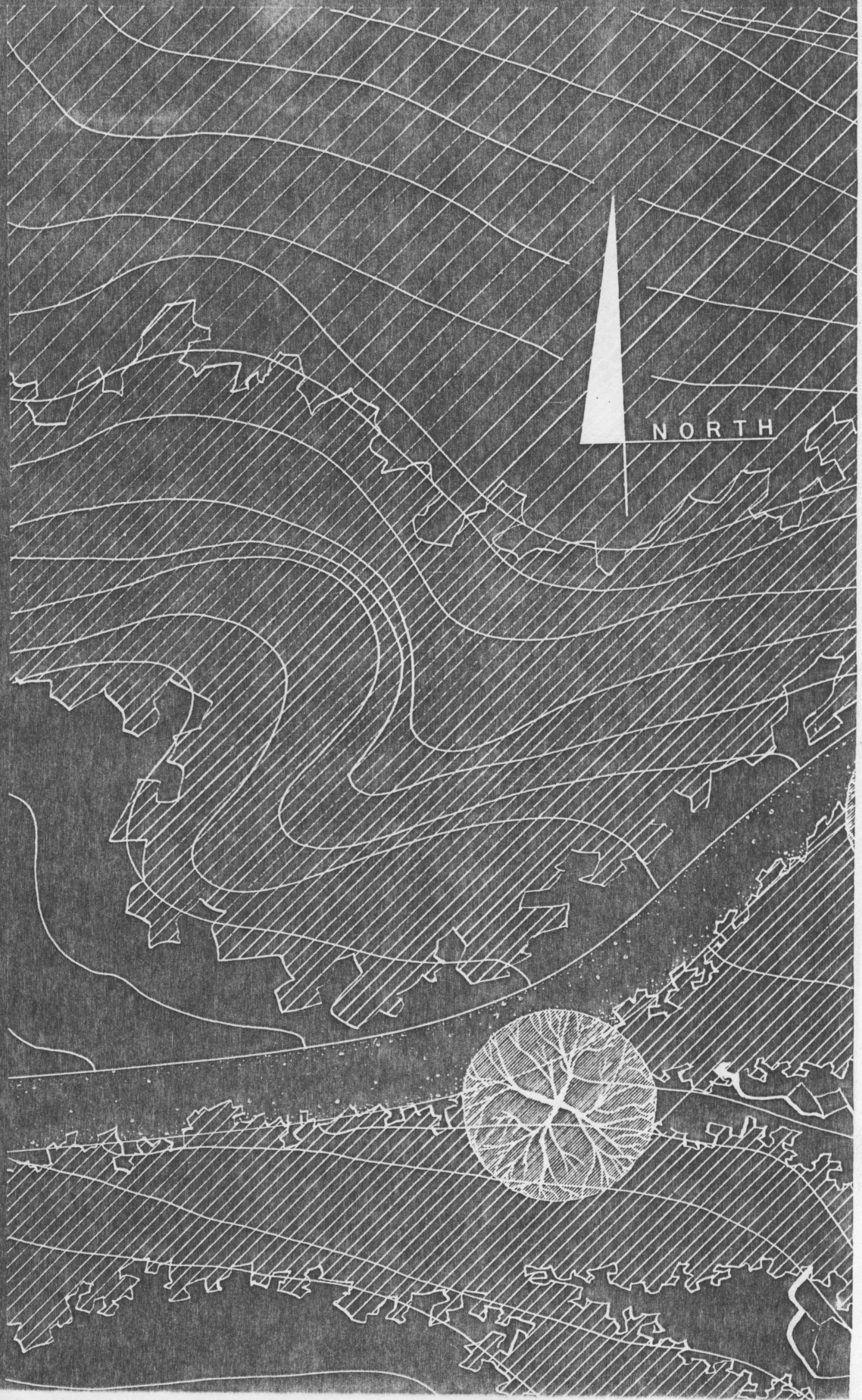
Relation of the House to the External Environment

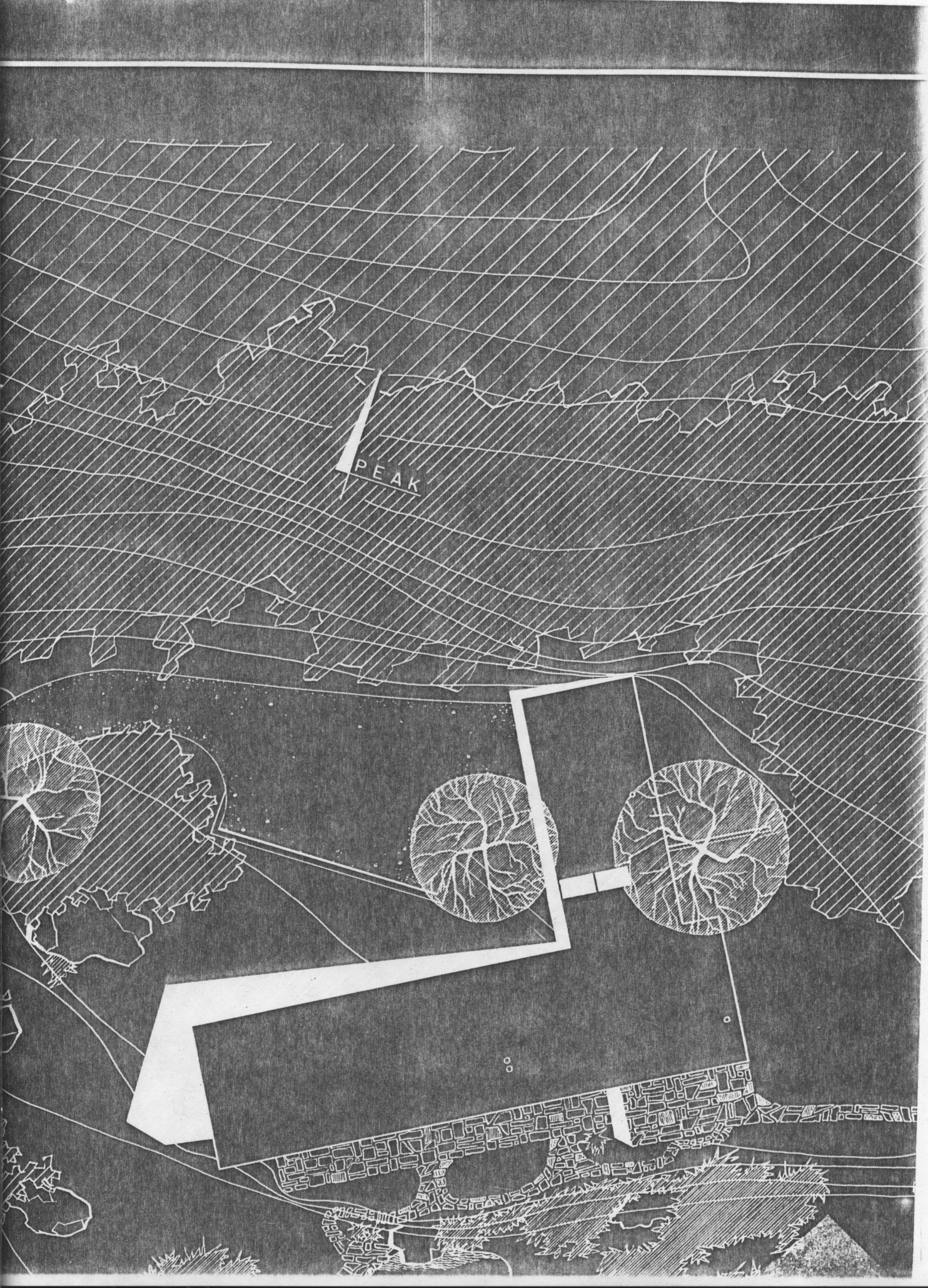
The house is part of a larger environment, and adequate living facilities have been supplemented by outdoor living areas. Outside activities are as important as those enclosed by four walls. In planning the house, every consideration was given to the physical surroundings which influence the well-being of the household at every point. This includes outdoor lounging space, dining area, space for drying clothes, for gardening, for automobile parking, and for outings for swimming parties and picnicking. All are planned in conjunction with the interior layout of the house. Sunny areas have been provided for winter living and shade for outdoor summer dining. Ample outdoor recreation and relaxation has been provided for both adults and children. This outdoor space, easily accessible and controlled by the family itself, is a basic essential for healthful living.

The main floor of the house is literally suspended in nature. Every major room overlooks the valley and mountain range beyond. The pedestal-like structure lifts the house above the mountain greenery, and the miracle of glass allows the observer to capture nature and all its wonders.

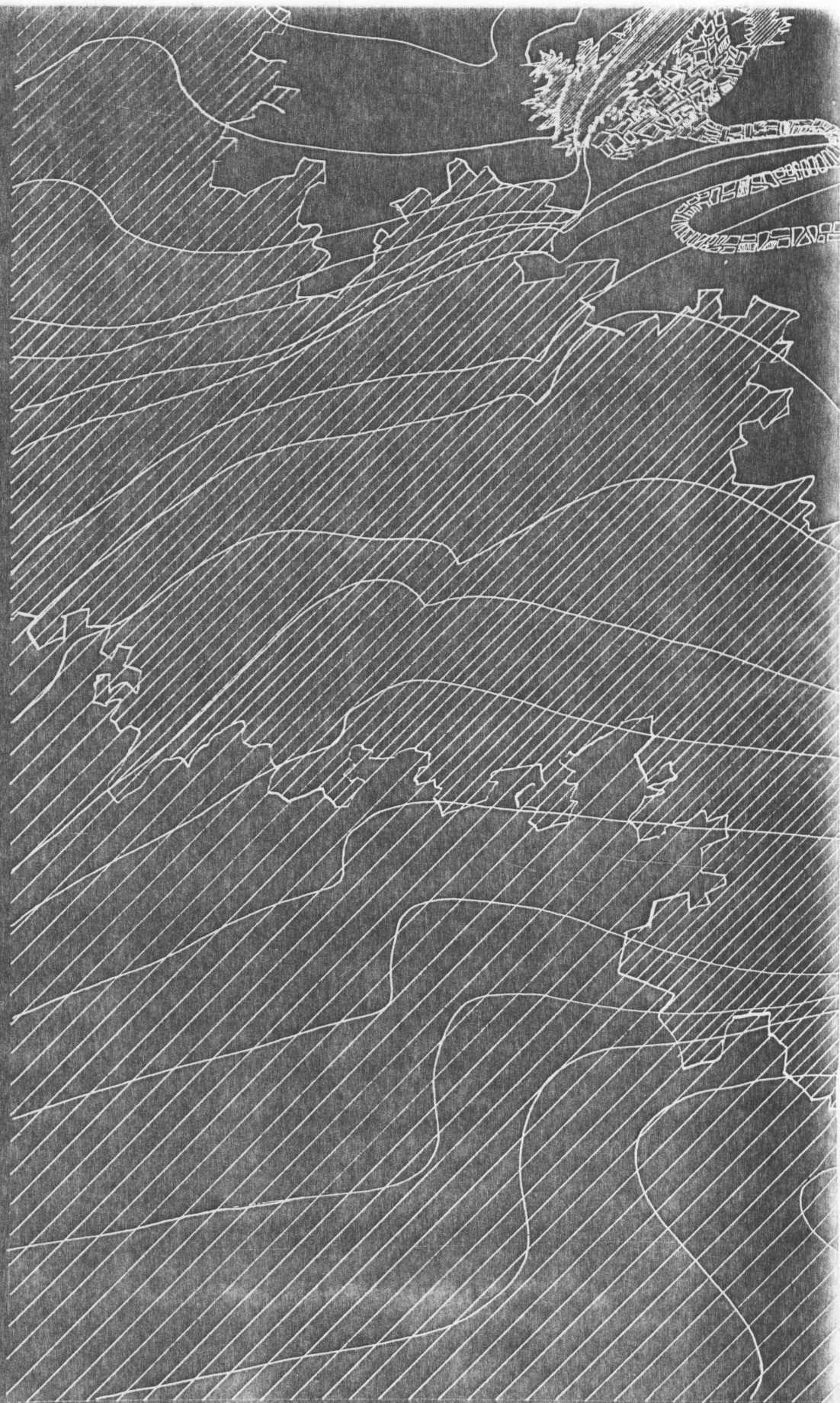
SECTION III - PRESENTATION

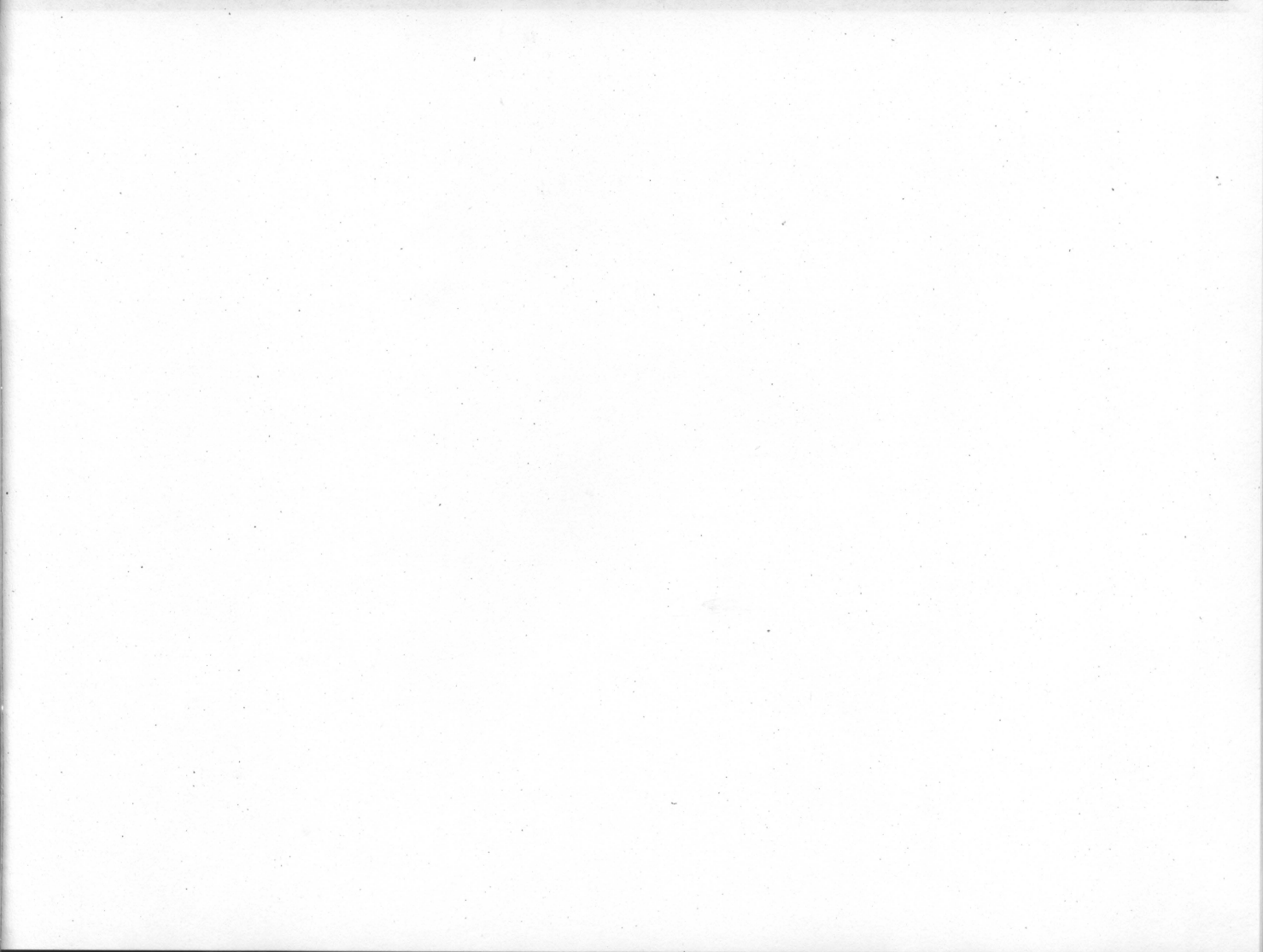
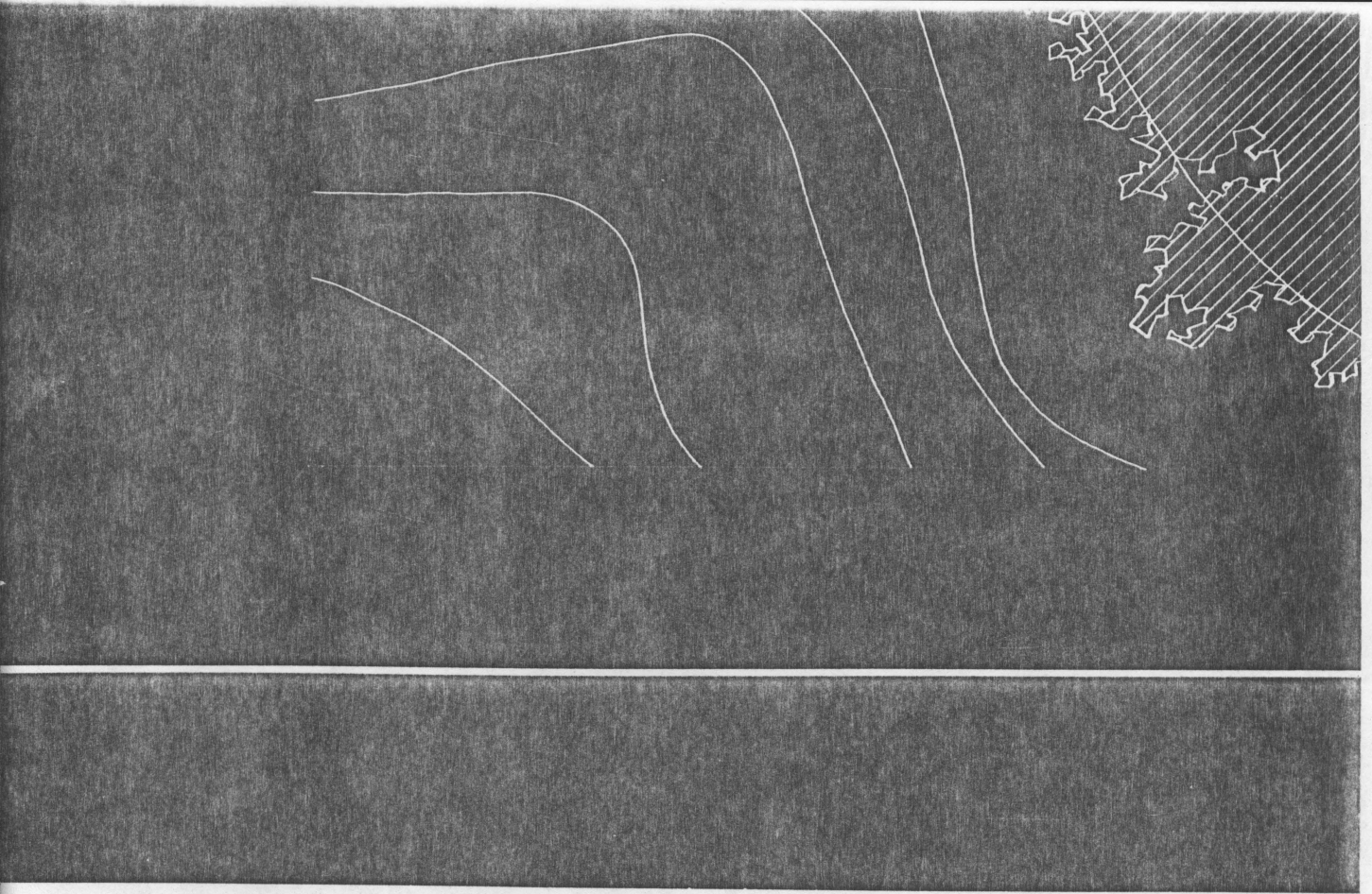
PLOT PLAN

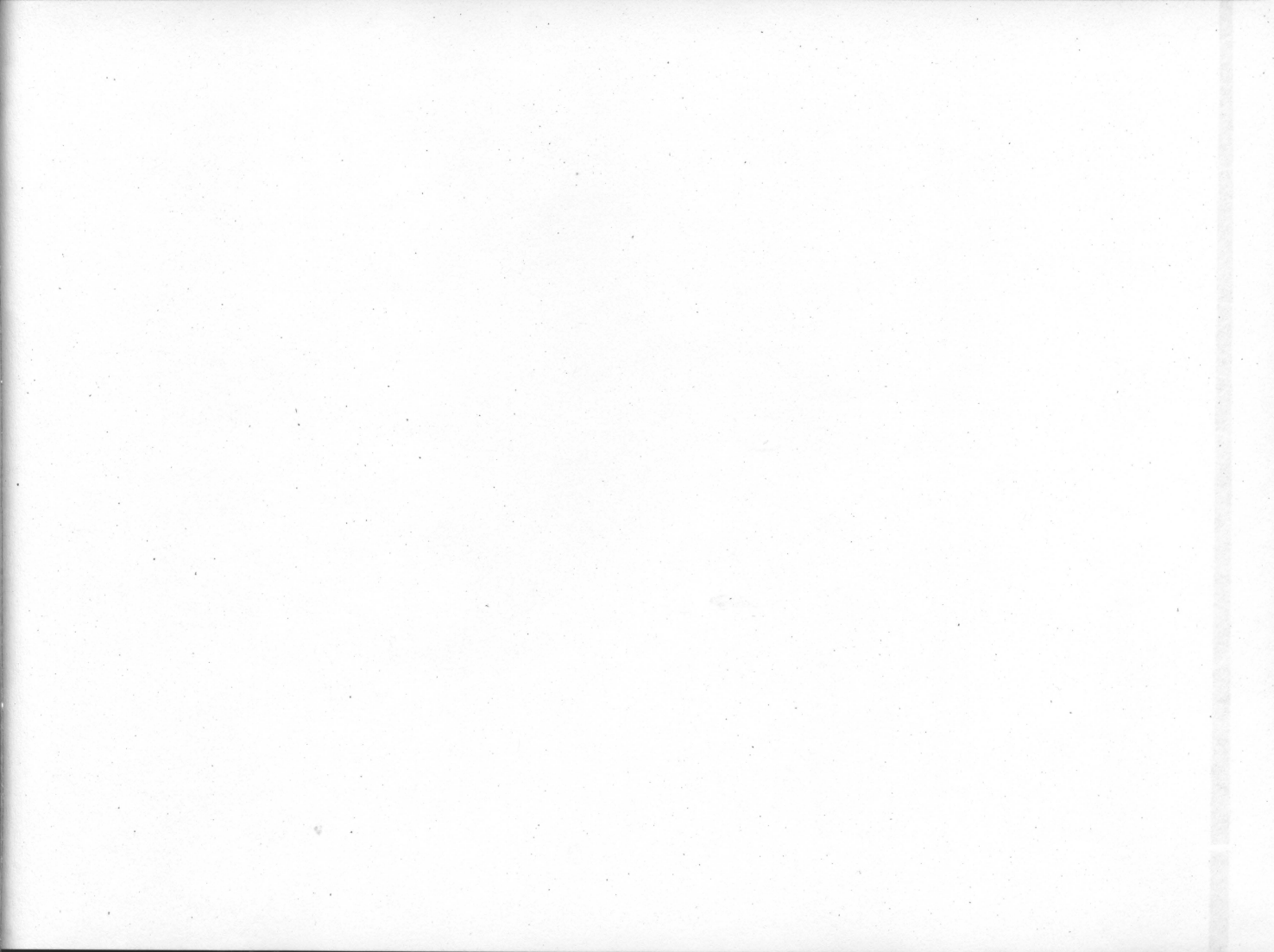
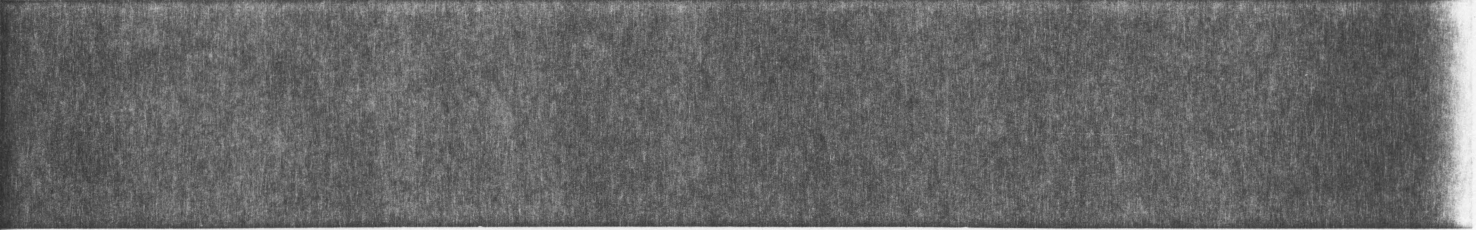
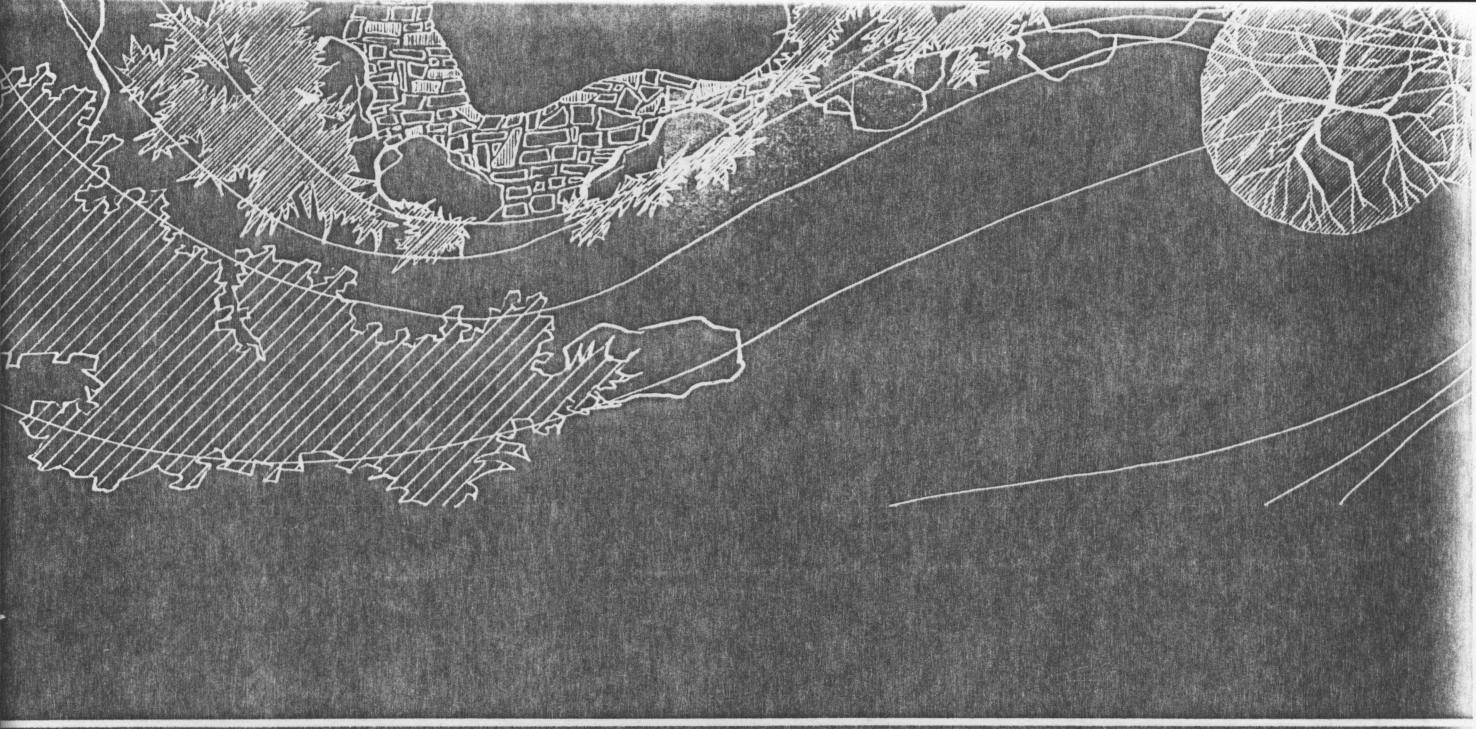




PEAK







P L O T P L A N

SCALE 0 10 20 30 40 50



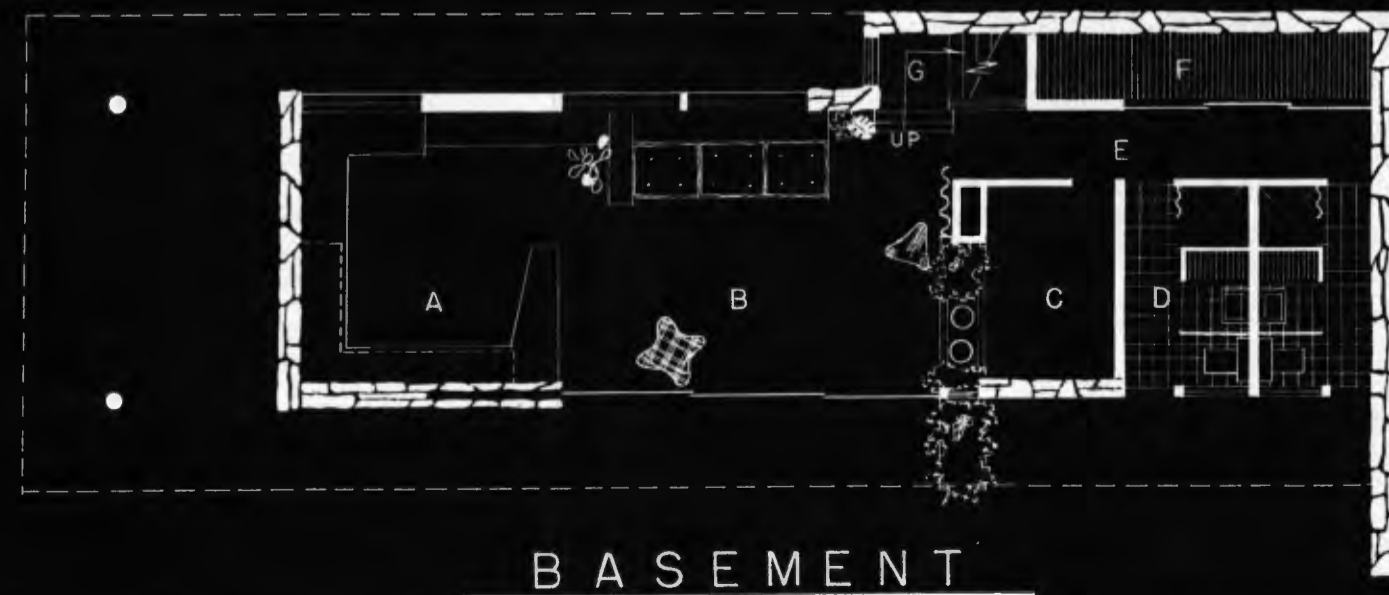
FLOOR PLANS

FLOOR PLANS



FLOOR PLAN

- A - ENTRANCE
- B - VESTIBULE
- C - DINING AREA
- D - KITCHEN
- E - LIVING AREA
- F - STUDIO
- G - PLAY AREA
- H - CHILDREN'S BEDROOM
- J - MASTER BEDROOM
- K - DRESSING
- L - STUDY
- M - HALL
- N - STAIRS
- O - DINING PATIO
- P - UTILITY
- Q - CAR PORT
- R - INCINERATOR
- S - SERVICE YARD & GARDEN
- T - TERRACE
- U - PARKING

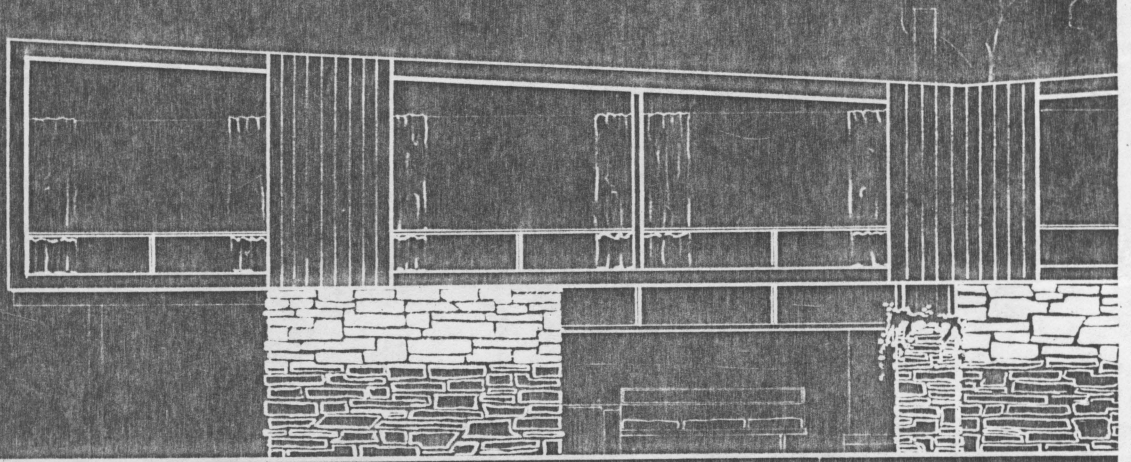


BASEMENT PLAN

- A - KITCHENETTE & BAR
- B - RECREATION & ENTERTAINMENT
- C - HEAT ROOM
- D - BATHERS' DRESSING
- E - HALL
- F - GENERAL STORAGE
- G - STAIRS

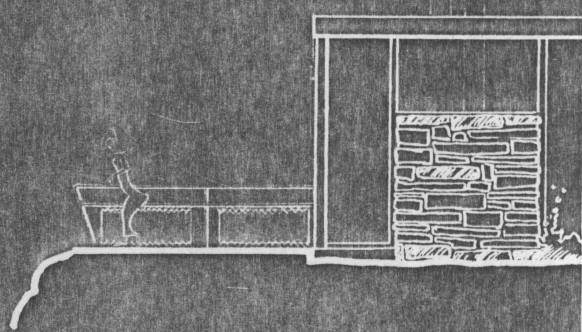
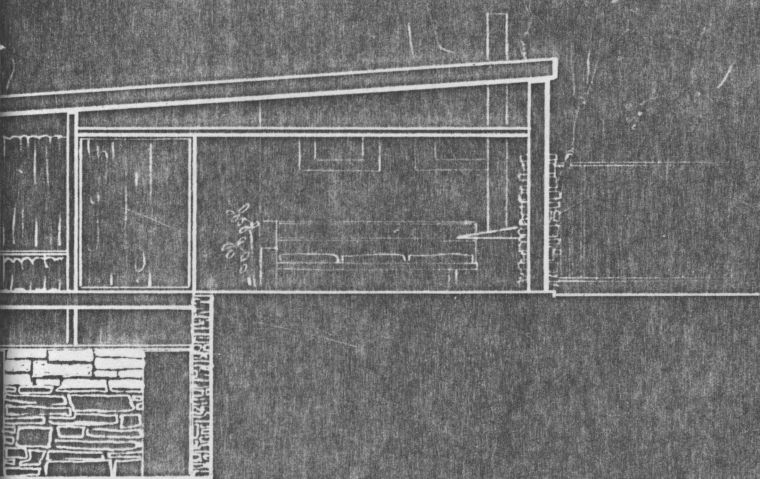
SCALE 0 5 10 15 20 25

E L E V A T I O N S



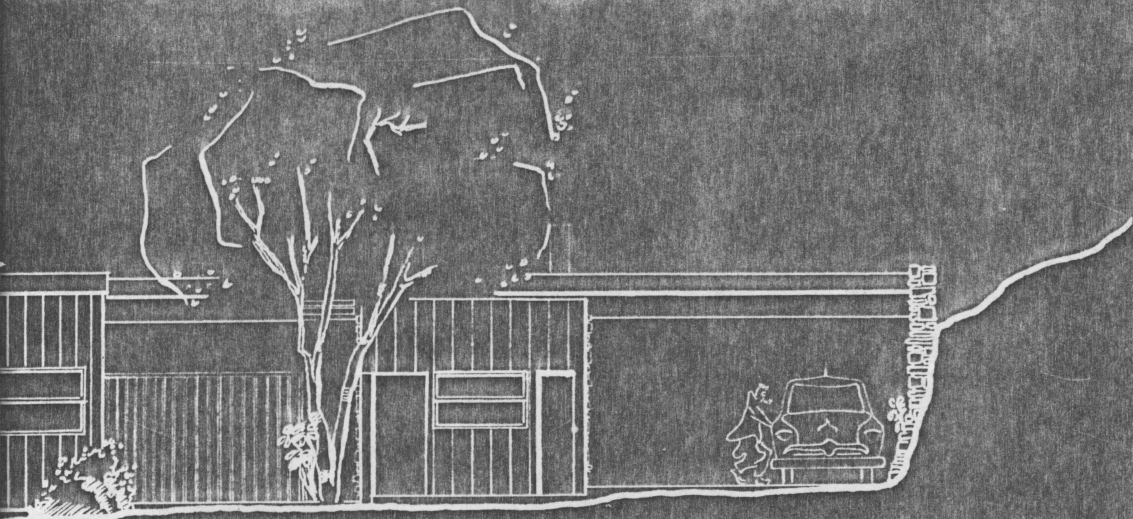
S O U T H E L E V



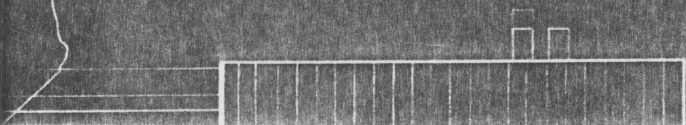


A T I O N

E A S T



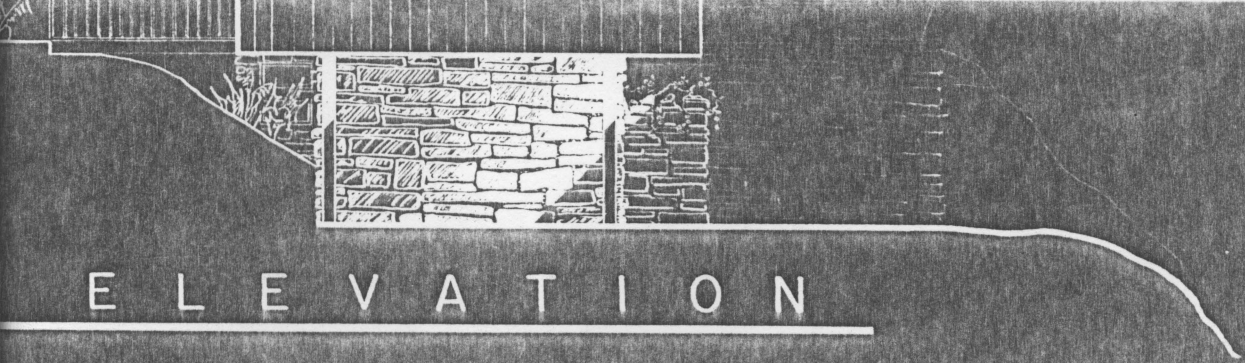
ELEVATION



S E C T I O N

A - A

WEST



E L E V A T I O N

SCALE 0 5 10 15 20 25

WALL DETAILS

WALL DETAILS

BONDED ROOF

FLASHING
SHEATHING

ROOF JOIST
BUILDING PAPER

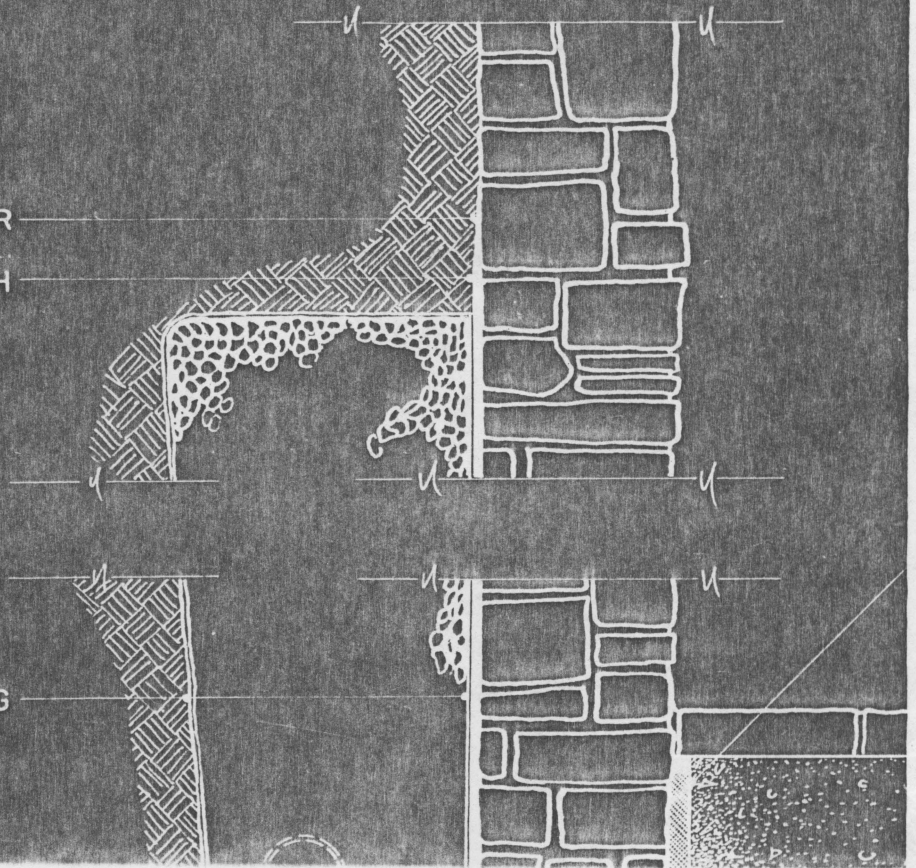
CHANNEL

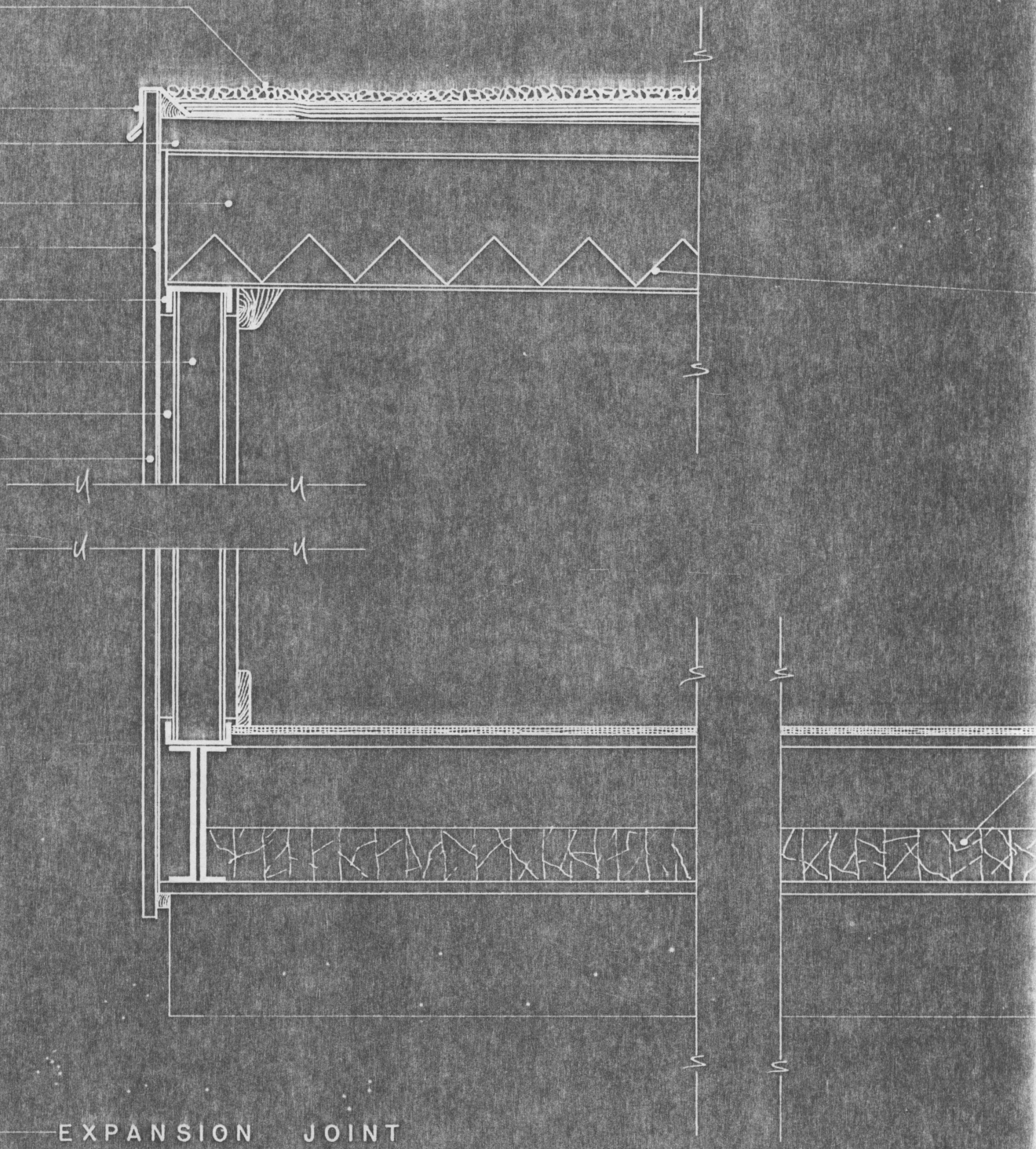
STUD
SHEATHING

SIDING

CREOSOTE
PRIMER
PITCH

PAPER LINING

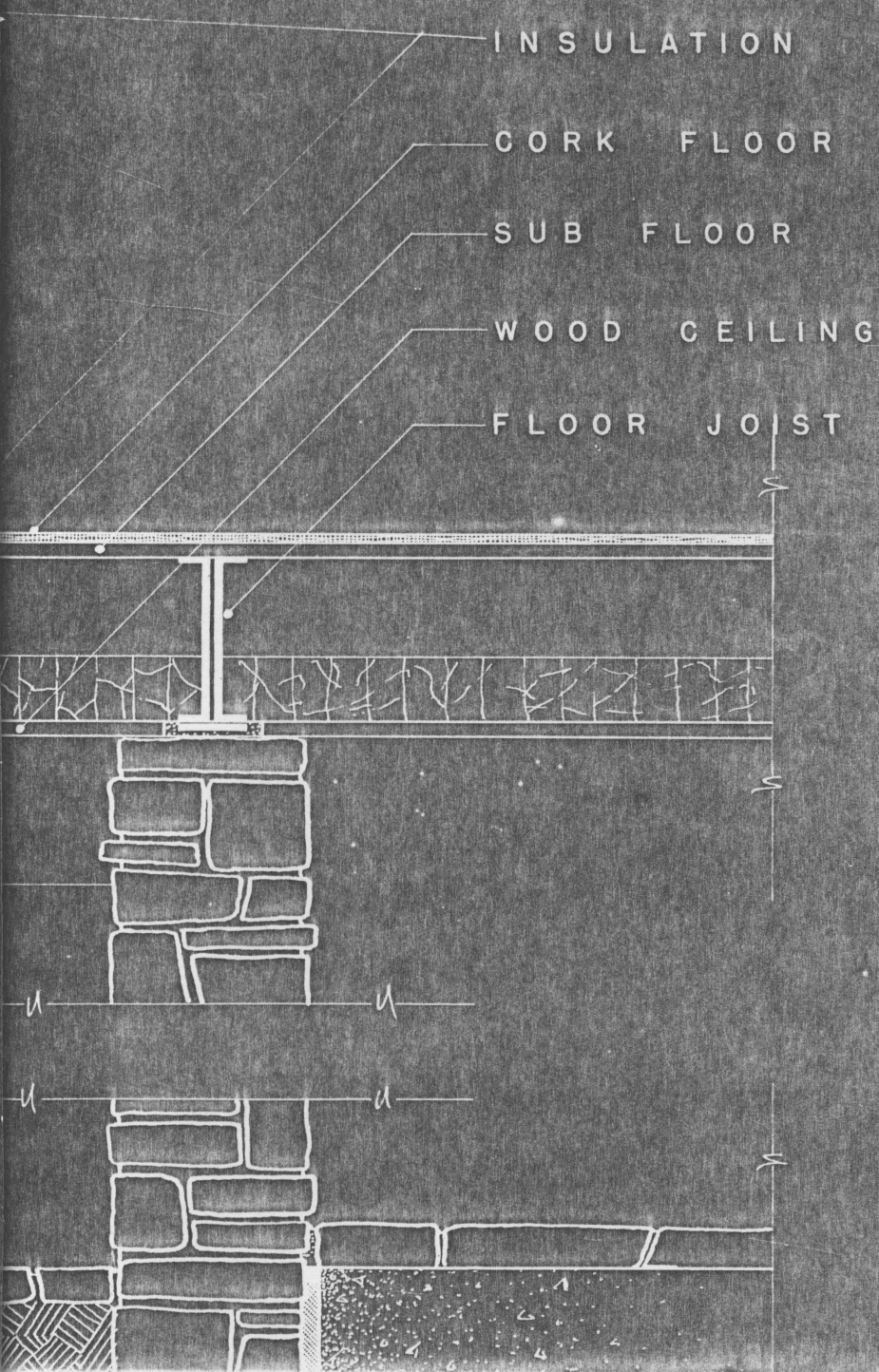




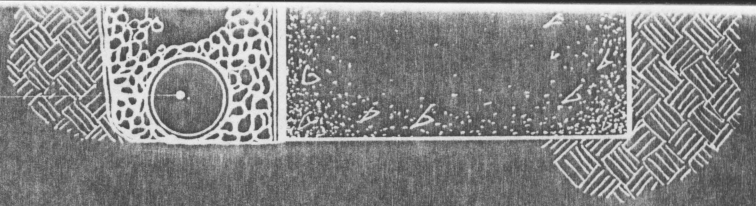
EXPANSION JOINT

STONE FLOOR

CONCRETE SLAB



DRAIN TILE



BASEMENT

DAMPROOFING

DETAIL

WEST



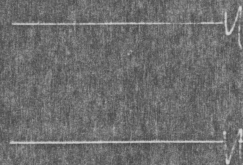
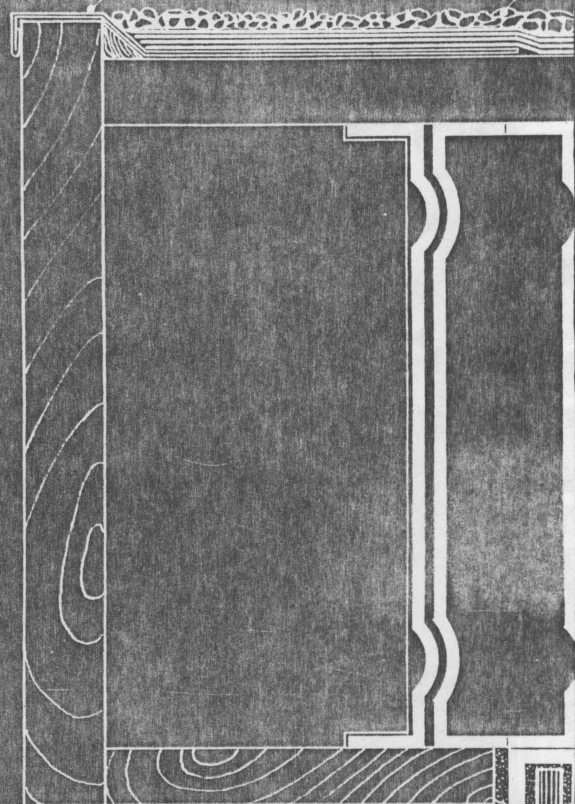
L SECTION

NO SCALE

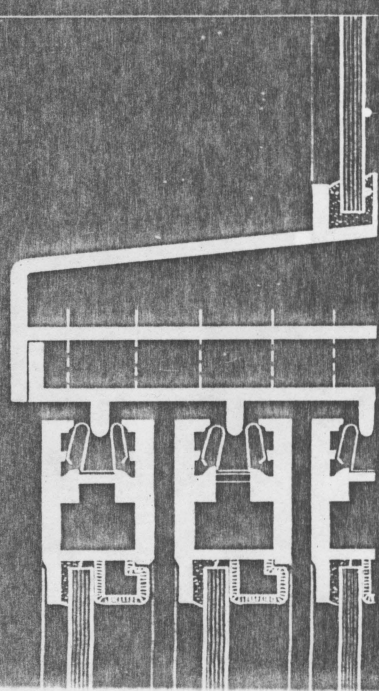
DOOR DETAILS

FLASHING

HEAD



TRANSOM

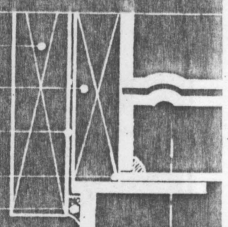


BONDED ROOF



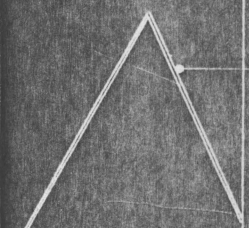
SHEATHING

SIDING
SHEATHING
BUILDING PAPER
BOLT STRIP
MASTIC



2-8" S-S JOISTS

INSULATION



CEILING

TINTED GLASS

MASTIC

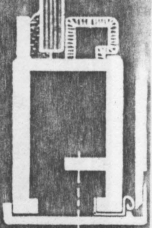
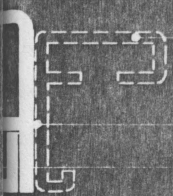
CURTAIN HANGER

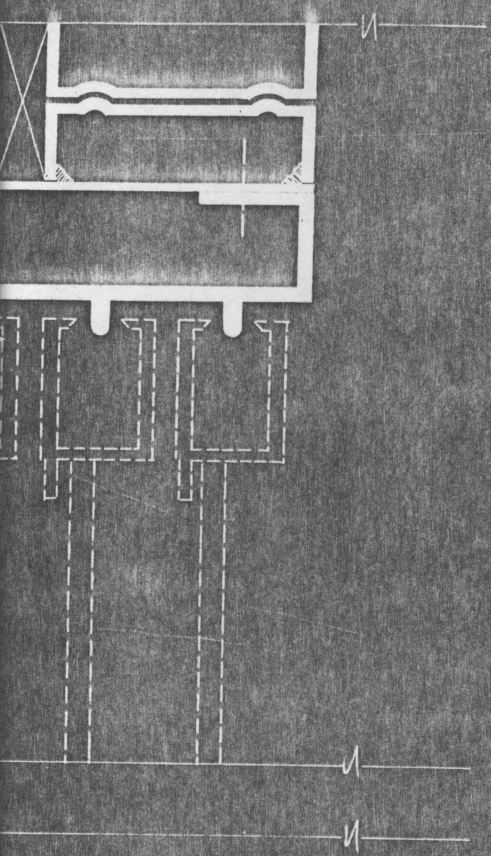
TRANSOM ROD

DEFLECTION ADJUSTMENT

SLIDING DOORS

SPACER





J A M B

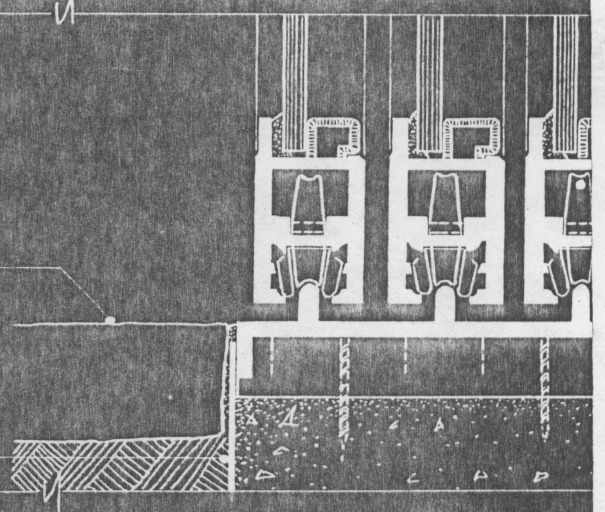
M E E T I N G S T Y L E

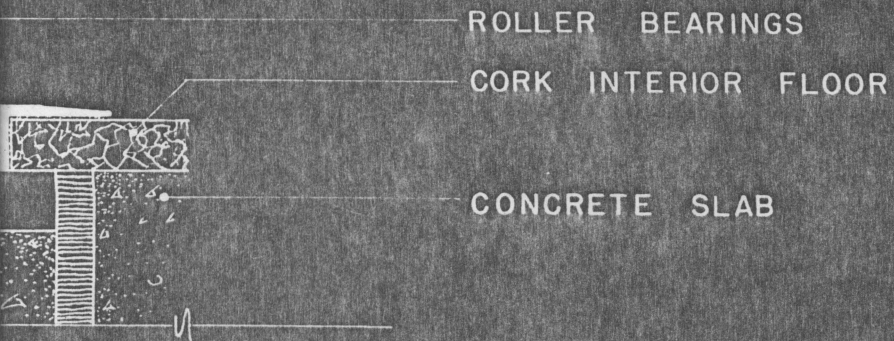


SILL

STONE TERRACE

PITCH





ING DOOR DETAILS

SCALE 0 1 2 3 4 5 INCHES



PERSPECTIVE FROM TOOL

PERSPECTIVE FROM POOL



A E R I A L P E R S P E C T I V E



LIVING ROOM



A P P E N D I X

APPENDIXBIBLIOGRAPHY

Books:

W. Boesiger,
S. Giedion,

Richard Neutra Buildings
and Projects. Switzerland:
Effingerhof A. G., Brugg,
1950.

Charles George Ramsey,
Harold Reeve Sleeper,

Architectural Graphic
Standards. New York: John
Wiley & Sons, Incorporated,
1947.

Maron J. Simon,

Your Solar House. New York:
Simon and Schuster, 1947.

Royal Barry Wills,

New Home for Today. New York:
Murray and Gee, Incorporated,
1947.

Planning the Home for
Occupancy. Chicago: R. R.
Donnelly & Sons Company,
1950.

Periodicals:

Architectural Record,

New York: F. W. Dodge
Corporation.

Volume 111, No. 5, May 1952

Volume 111, No. 7, July 1952

Volume 112, No. 4, Oct. 1952

Volume 113, No. 1, Jan. 1953

Volume 113, No. 2, Feb. 1953

Volume 113, No. 3, Mar. 1953

The Magazine Of
Building,

New York: Time Incorporated

Volume 95, No. 4, Oct. 1951

Volume 95, No. 5, Nov. 1951

Volume 1, No. 1, Jan. 1952

American Builder,

Chicago: Simmons-Boardman
Publishing Corporation.

Volume 72, No. 4, Apr. 1950

**The vita has been removed from
the scanned document**