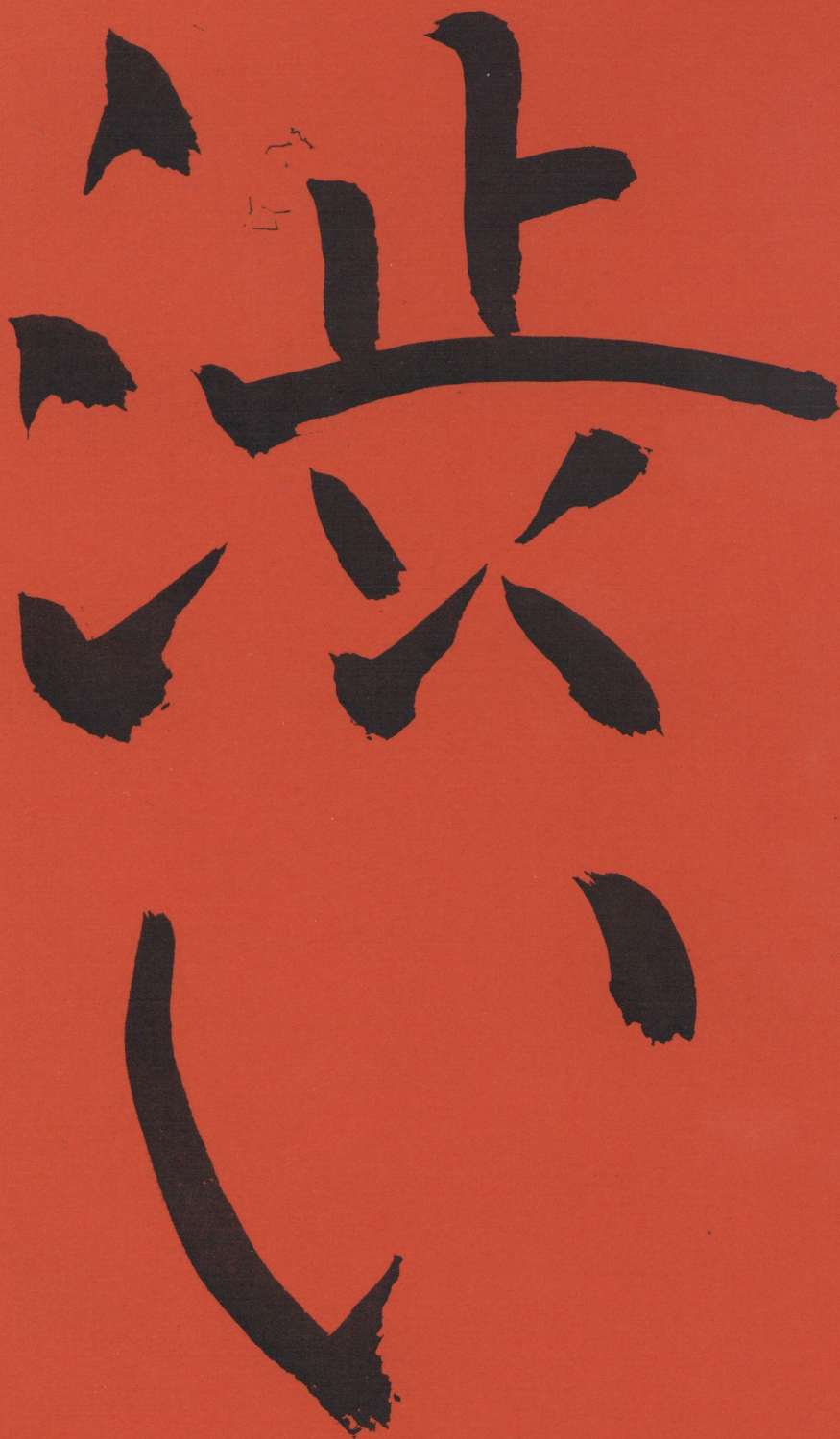




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PRINCIPLES OF JAPANESE DESIGN  
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PRINCIPLES OF JAPANESE DESIGN

by

Grant Gustafson

An undergraduate thesis submitted in partial fulfillment  
of the requirements for the degree

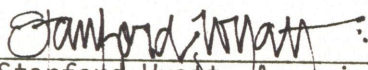
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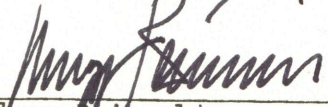
Bachelor of Architecture

in

Architecture

Approved by:

  
Stanford Wyatt, Associate Professor  
Thesis Advisor

  
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Montana State University  
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June 10, 1978



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## Acknowledgements

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and most importantly

to my father and mother and family  
for their never ending confidence and love.  
Without them my achievements would be  
meaningless.



SHIBUI, THE JAPANESE METHOD FOR ANALYSIS  
AND APPRAISAL OF BEAUTY, OFFERS GREAT RICHNESS  
TO WESTERN CULTURE IF WE CHOOSE TO UNDERSTAND IT.



SHIBUI:

UNOBTRUSIVE AND UNOSTENTATIOUS

SIMPLE, WITH AN ECONOMY OF LINE AND EFFORT;  
NOT COMPLICATED

MUST HAVE DEPTHS WORTH STUDYING, AFTER FIRST NOTICED

MUST BE FITTING EXPLOITATION OF THE NATURE OF THE  
MATERIAL AND THE METHOD

SHOULD NOT BE SHINY OR NEW LOOKING

PATTERNS NOT REGULARLY PLACED, OFTEN UNFINISHED,  
CREATING INTERESTING SPACES

IF APPLIED TO COLOR SCHEME, THE LARGE AREAS OF COLOR  
SHOULD BE DARK, RICH AND UNOBTRUSIVE, BUT THERE  
SHOULD BE A SMALL SHARP ACCENT COLOR SOMEWHERE TO  
GIVE ASTRINGENCY AND INTEREST

INTRINSICALLY GOOD (CAN EVEN BE RICH)

THE ESSENCE OF CONTROLLED UNDERSTATEMENT IS AIMED  
TO PRODUCE TRANQUILITY

A FEELING OF MODESTY AND HUMILITY IS NECESSARY  
IN STRIVING FOR SHIBUI

SHIBUI! A mysterious, quiet,--deep in the Oriental Soul beneath  
the Oriental surface,--fruit of experience ages older than any culture  
the Occident yet knows. These United States could crawl on suppliant  
knees to breathe its spirit and be ennobled by it. Nothing in our gift  
can equal this in theirs--this treasure of the humble seeking reality.

Louis Sullivan



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## INTRODUCTION

### 1

Today in architecture, we are faced with shifting attitudes and myriad complex ideologies. This is taking place in a period labeled by critics as post-modernism, super-mannerism, and pluralism. Still feeling the aftershock of austere environments created from the doctrines of the modern movement, architects are returning once again to a design involving humanism. While society treasures antiques and demonstrates nostalgia for ornate things now gone, designers wittily combine disparate historical elements into a not-so-complete whole. Others attempt to shock the unobservant public into seeing their work by utilizing curious shapes, bright colors, and tricks of perception and reference. Theories abound which convincingly rationalize new modes of thought and 'discoveries'. Many of these prognosticators blank out essential requirements of Architecture with no sense of guilt. Architecture is not alone in its general confusion of values; all the arts and even some aspects of society share this state. The profession in general plods along adhering to its traditional goals of service and good business, eager to incorporate images from periodicals into 'progressive' buildings.

In every age, there is a set of values in architecture which are rich and enduring; now is a time when these values are clouded. As a designer, one must have an understanding of these essential values and principles, so that those things which are transient in nature may be regarded as such. In an attempt to reinforce the basis for my own value system, I have chosen to study the aesthetics and design philosophy of the



Japanese people, who over 1200 years have developed a lasting conception of beauty. This beauty deals with all aspects of life and is rooted in Zen Buddhism.

The first part of this paper outlines principles of Japanese design. The second part describes ways in which these ideas might be included into American architecture. And the third explains and illustrates my own exploration through design of built form.



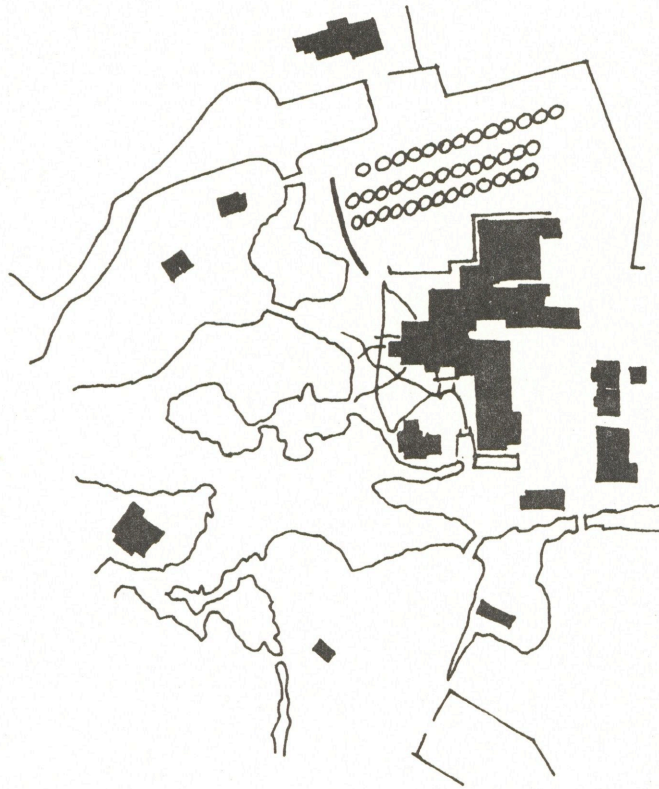
## PART ONE

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### ASYMMETRY

The Japanese attempted to emulate nature in their architecture. Symmetry as it exists in nature is largely interior and discontinuous. Most of what we can see in nature is irregular and asymmetric. Asymmetrical arrangement is respectful of nature. The Japanese have been more interested in discovering the order in the face of nature than in accomplishing an ideal in an imperfect world. Nature is the source.

Simplicity of form is strengthened when surrounded by a structure of asymmetry.



### MITATE:

The discovery of new beauty and value in things previously ignored or overlooked and the functional adaptation of such things in new forms or settings.



## LIGHT

Soft, modulated lighting effects are most desired; direct lighting, with its sharp-edged shadows is harsh and unsympathetic. The Japanese house provides much opportunity for modulation. Interiors usually have a low level of lighting to aid the feeling of sombreness and sedateness. The play of shadows from vegetation on the opaque wall screens are enjoyed. Japanese works of art must be viewed with a low level of light.

## SILENCE

Silence is long-term serenity, quiet, tranquility, composure, sobriety, calmness. Silent spaces are not seen with the eye; they are felt with the heart. Silence should oppose noisiness. All too often, noisiness makes us forget silence. Architecture of silence must be pure. Within pure forms there must be multiplicity of meaning. Silence and emptiness of space possess vast powers of suggestion, stimulating the imagination and sharpening perception: 'silence like a thunderbolt'.

## EMPTINESS

One of the basic paradoxes of Buddhist thought: only through form can we realize emptiness. Emptiness is thus considered not as a concept reached by the analytical process of reasoning, but as a statement of intuition or perception.

To Zen painters, space was as real as solids. Space, though empty was never vacant, for out of emptiness or the void came all of life.

Laotse claimed that only in the Vacuum lay the truly essential. The reality of a room, for instance, was to be found in the vacant space enclosed by the roof and walls themselves. The usefulness of a water pitcher dwelt in the emptiness where water might be put, not in the form of the pitcher or the material from which it was made. Vacuum is all potent because it is all containing. In vacuum alone, motion becomes possible.

## INCOMPLETENESS

Incompleteness of composition obscures the total revelation upon first view. There is left an element of mystery. It has a capacity to suggest through restraint.



In leaving something unsaid, the beholder is given a chance to complete the idea and thus a great masterpiece irresistably rivets your attention until you seem to become actually a part of it. A vacuum is there for you to enter and fill up to the full measure of your aesthetic emotion.

Its meaning includes recognition of the delights of the hidden, the partially revealed, the unsatisfied and the unresolved. Mist, shadow, forest, thicket please in possessing such elusive qualities.

#### SABI

Sabi is descriptive of beauty born of age and natural decay, something which is rusty, tarnished, lonely. Sabi gives tranquility and serenity. The passage of time effects a ripening, maturing, and patina rather than the deterioration of things from a state of perfection. The sabi look is produced by the natural progression of events, the relentless march of time.

In man, the observance of such beauty stimulates a sense of gentle melancholy, loneliness, and acute consciousness of the ephemeral quality of life and beauty. Through erosion, natural discoloration, the scars of age and weather, trees and stones acquire a grace, demonstrate a mutability born of vulnerability to natural forces. They are precious guarding in their configuration and color the fossil imprint of life.

"Time is kind to things, but unkind to man."

#### WABI

Wabi means humble--humble by choice, not by necessity. It means normal, wholesome, healthy--no overdoing. In design, it means nothing is overemphasized or extravagant or exaggerated. It can also mean desolate, forlorned, abandoned.

It is "not to be in the fashionable society of the time." To be poor, that is, not to be dependent on things worldly--wealth, power, and reputation--and yet to feel inwardly the presence of something of the highest value, above time and social position.

"The Japanese does not wallow in matter for the love of it. It is at all times subservient to an idea. For him matter exists only as a symbol of spiritual truth, and to use it unconscious of the truths which it expresses is what constitutes bad taste."

Antonin Raymond



## LIKENESS IN SPIRIT

"Painting is to paint, to estimate the shapes of things and really obtain them, to estimate the beauty of things and reach it, to estimate the reality (significance) of things and grasp it. One should not take outward beauty for reality; he who does not understand this mystery will not obtain the truth, even though his pictures may contain likeness.

Likeness can be obtained by shapes without spirit; but when truth is reached, spirit and substance are both fully expressed. He who tries to express spirit through ornamental beauty will make dead things."

Ching Hao

## PERFECTION OF TYPE

In nature, it is the finest of species: cherry, plum, maple, pine and bamboo, chrysanthemum, peony, and iris.

In painting, identical subjects are limitlessly repeated just so that each effort has its subtle differences in rendition.

In architecture, buildings are not held to be sacred. The Japanese have no conscious for tearing down buildings even only 20 years old, including their temples. Temples will be constantly rebuilt exactly as they were. The spirit, rather than the matter, is the important idea.

"Develop an infallible technique, then place yourself at the mercy of inspiration."

K. Tange

## ZASHIKI--THE ROOM

The room, in the common dwelling, embodies the Japanese attempt to create paradise, cosmic image, a microcosm of the world. The Zashiki becomes an image of the larger world in the incorporation of related elements of many sizes; of the inert and the animate; of the individually distinguishable, but uncountable, of the hidden and partially revealed; and of the implication of infinity. The visual containment of the room is more a function of its ceiling and hung wall than of its enclosure. Ceilings are hung at varying heights so as to give interior spaces pleasing proportions, little dependent on the whole of the building or on its exterior configuration. They are detailed to appear weightless, the true structure is concealed. There is no absolute correlation between inside and outside.



## JOINERY

Joints are made to appear effortless and inconsequential.

## TWO DIMENSIONALITY--FRONTALITY

The Japanese culture possesses a highly cultivated use of line. Calligraphy provides the root for this. Painting is influenced by calligraphy. Architecture shows influence of painting and calligraphy in its asymmetry and in the intent to be viewed from a fixed point, as in painting.

The Japanese interior is defined and articulated by exposed columns, beams, purlins, window frames, sills and mullions in part structural and in part applied or decorative. These members are so sized and arranged as to create patterns of considerable sophistication in terms of discontinuity, direction, thickness and density of line.

The floor, walls, and ceilings are treated as a succession of planes. Cubic mass is not considered. The roof (shelter) rests upon a structural framework.

## MOVEMENT

Movement is cultivated in appearance rather than in fact. That which is organized spatially is intended to be measured and negotiated by the eye but not by the foot. One finds in the Japanese dwelling carefully organized perspectives to be appreciated from stationary viewpoints. When the viewpoint is moved, variety is encountered in shifting patterns but not in the manipulation of space or the plastic development of form.

## PATH

The path in the Japanese garden is meant to be seen rather than used. Movement along these paths is disjointed and difficult. The interior of a Japanese house has no inscribed path or circulation core. From any room there are a variety of entrances or exits.

## HORIZONTALITY

Horizontal lines or flat surfaces were preferred to evoke tranquility. From a fixed position in the interior, there was an unending horizontal vista of the garden. The horizon was never visible.



## SCALE

Scale was intimate, anti-monumental, and based upon horizontality, modulated by the repeating proportion of the tatami mat. A large mass was highly articulated, broken up, or avoided. A small living space was required; interiors were not cluttered with furnishings to make it a seemingly larger space.

## SYMBOLISM

Symbolic forms were isolated and usually derived from nature, both physically and spiritually. Kami, or spirits, are recognized and revered in trees, stones, mountains, and the sea. While they are felt present in all things, they are seen to reveal themselves especially and most significantly in extraordinary phenomena: ancient or unlikely trees, stones of exceptional size or configuration.

## COLOR

Large areas of color should be dark, rich and unobtrusive, but there should be a small sharp accent somewhere to give astringency and interest. All shibui colors look well in combination with natural materials: wood, reed, straw, bamboo, growing plants. Those used in the largest ratios are on the darkening side--sober and dignified. Sparkle may occur in small flecks. Flat, uniform colors are not as interesting as textured colors. If painted, there is the mark of use and wear that creates texture and two-tones. Sheen, not shine is desired, as sheen produced two shades of one color--two-toned iridescence that moves and changes, giving depth.

## PATTERN

Pattern is small in scale, recessive, and nondominant, even though some are quite complex. It is used in lesser ratio than the plains. The patterns may be unfinished and broken, or there may be several overlapping each other, like several melodies being developed simultaneously in a piece of music, with one being more conspicuous and audible.

## TEXTURE

Texture is frequently stressed, as a product of the nature of the material. In the example of an oil painting, texture of the canvas would be brought into play rather than covering it with oil paints.



## FOUNDATION

The building must be set lightly upon the ground so as to make a minimal intrusion. Stone buildings set too heavily upon the ground.

## EXTERIOR WALLS

Seldom does a wall meet the ground at  $90^{\circ}$ . Some walls are battered; others curve into the ground at their base. The top of the wall is rarely allowed to describe a line against the sky. It is sometimes roofed with tile or wood shingles, and sometimes planted with trees, bushes, or grass. Japanese walls, thus, contrive in some measure to preserve the character of a natural phenomenon, a cliff or outcropping.

## FUSUMA--INTERIOR PARTITION

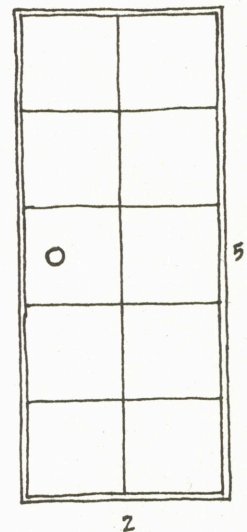
Fusuma are sliding interior partitions made of a latticework wood frame covered with heavy opaque paper. Some are plain, some are decorated, all are the same size. It creates for much flexibility, space articulation, and an "open plan". Uniformity in fusuma helps to create order.

## SUDARE

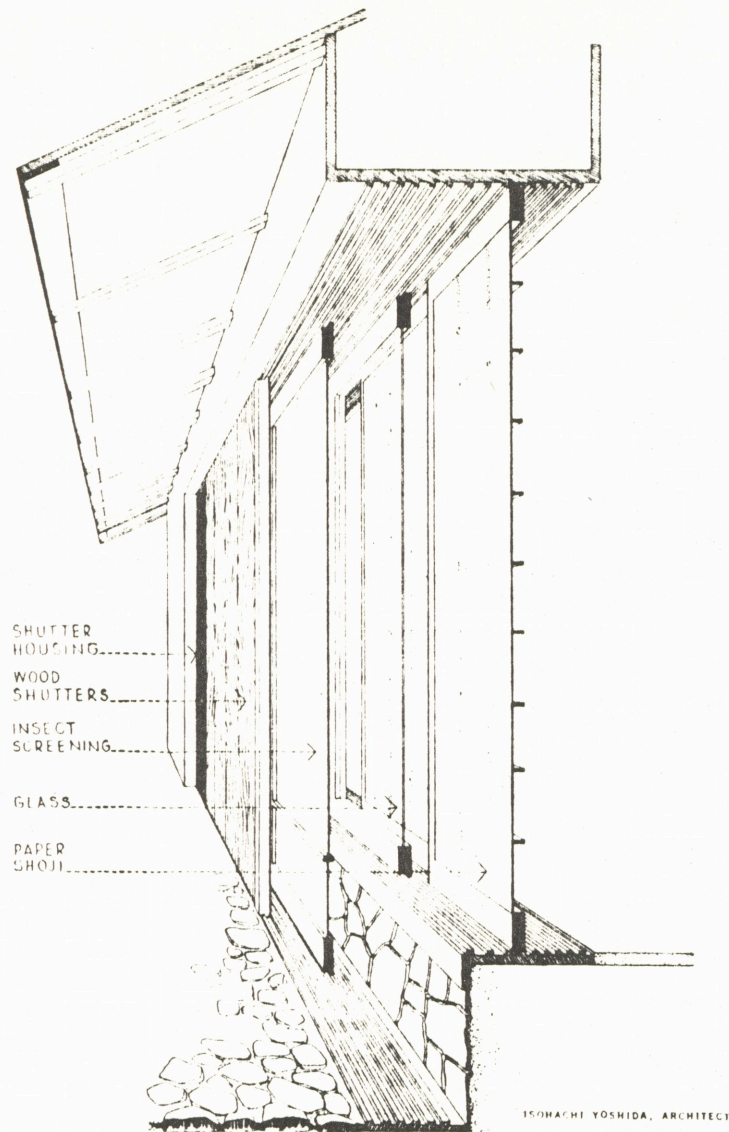
Sudare are horizontal roll-up bamboo blinds made of thin bamboo strips which allow air to flow, control light, view, and spatial flow. They are comparable to our drapes, yet made from a material of nature.

## KAGAMI--MIRRORS

Kagami are treasured in shrines as symbols of beauty reflecting as they do in their face the image of nature.

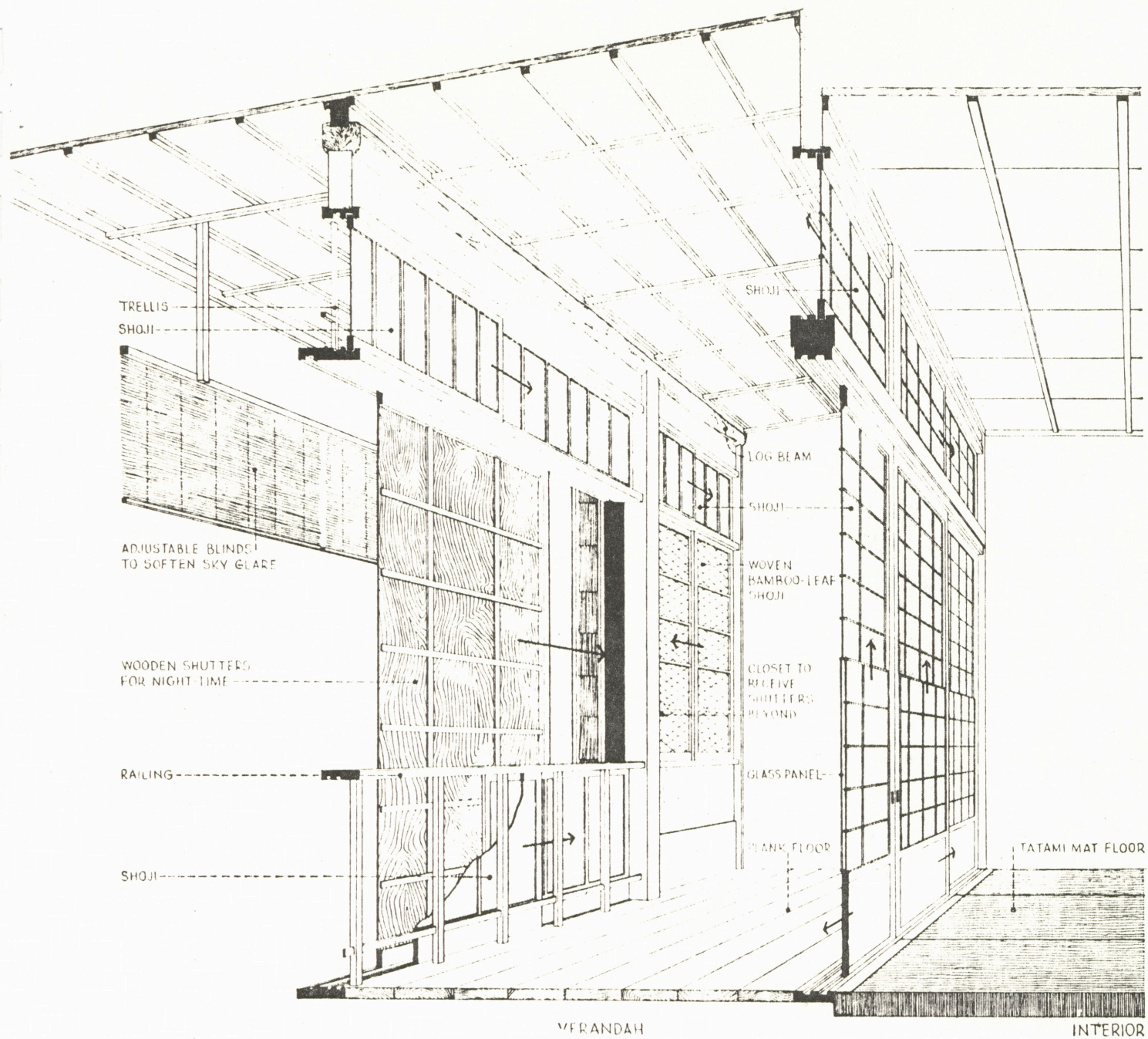




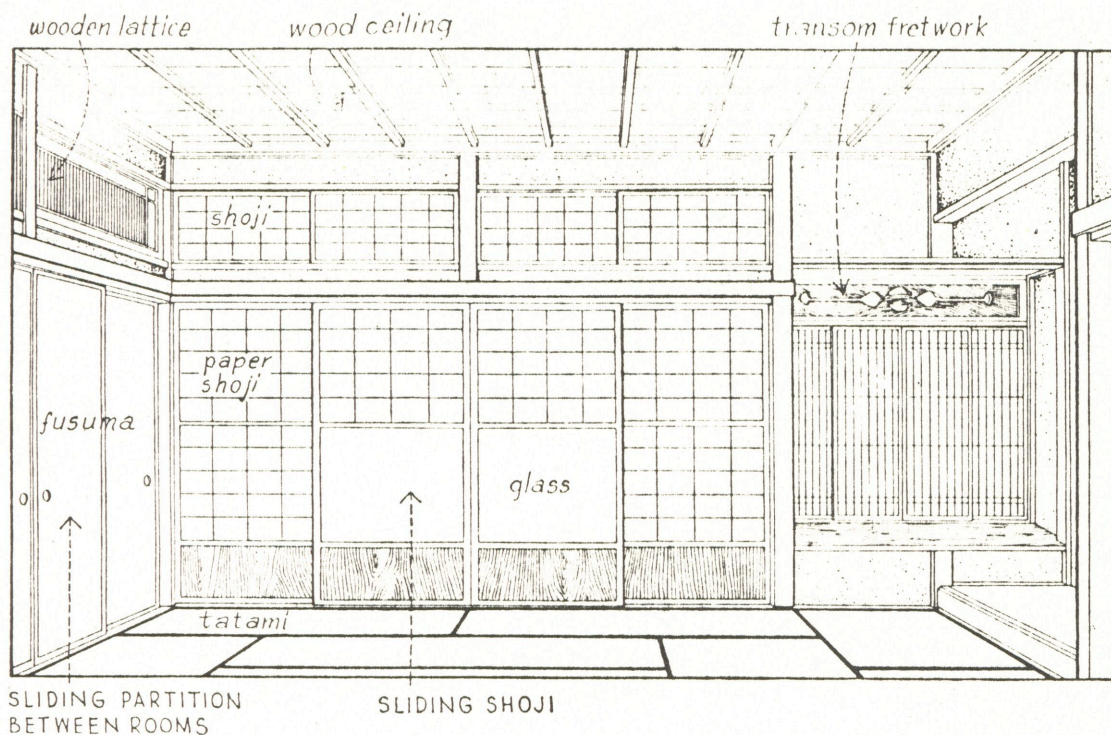


This interesting and versatile detail is one that could very easily be used in the United States, especially in climates with great weather variation. It has much to recommend it because all the units move out of sight when not wanted.









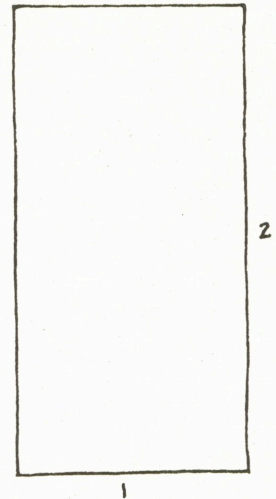
The complexity of the Japanese house does not reveal itself easily. As a matter of fact, many travelers come away feeling it is very simple. It is any-

thing but that, as this drawing of a typical interior shows. Many different materials, some in rather small pieces, have come together to produce the total effect.



## TATAMI

Tatami are rectangular rush covered floor mats approximately six by three feet in size and about two inches thick; the edges on the long sides are bound by cloth strips. Their proportion is in harmony with fusuma. The tatami has provided the governing module for every enclosed space since the beginning of Japan's recordable history.



NOTE: The preceding has been paraphrased from many sources (please see bibliography).



## PART TWO

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The following discussion is a correlation of the preceding thoughts with Western design philosophy.

It is not possible to discuss concepts of the Japanese without some understanding of their religious beliefs. Allan Watts, who has written several books explaining Zen to Westerners, states, "Zen does not attempt to be intelligible, that is to say, capable of being understood by the intellect. The method of Zen is to baffle, excite, puzzle and exhaust the intellect until it is realized that emotion is only feeling about, and then it contrives, when the disciple has been brought to an intellectual and emotional impasse, to bridge the gap between second-hand, conceptual contact with reality, and first-hand experience. To effect this it calls into play a higher faculty of the mind, known as intuition or Buddhi, which is sometimes called the 'Eye of the Spirit'. In short, the aim of Zen is to focus the attention on reality itself, instead of on our intellectual and emotional reactions to reality--reality being that ever-changing, ever-growing, indefinable something known as 'life', which will never stop for a moment for us to fit it satisfactorily into any rigid system of pigeon-holes and ideas." <sup>1/</sup>

He also states, turn your attention to actual first-hand concrete experience and do not be misled by ideas and conceptions about it." <sup>2/</sup>

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<sup>1/</sup>Watts. The Spirit of Zen, p. 19.

<sup>2/</sup>Ibid., p. 30.

"Life is moving too swiftly to be approached tentatively and gradually, for while one makes elaborate preparations for Enlightenment, the immediate truth is slipping away all the time. The person who dallies on the edge of the stream wondering how best to take the plunge, testing the heat of the water with his toes, and thinking about how it will feel when he is in, soon gets into the habit of putting off the issue. The Zen disciple must walk quietly to the edge and slip calmly into the water without further ado, without allowing himself time to conjure up fears or anxious speculations as to what it will be like, or to find elaborate reasons as to why he should not get in at once." <sup>3/</sup>

The art of listening to music illustrates another attitude of Zen, "If one stops to consider one's emotional or intellectual reactions to a symphony while it is being played, to analyze the construction of a chord or to linger over a particular phrase, the melody is lost. To hear the whole symphony one must concentrate on the flow of notes and harmonies as they come into being and pass away, keeping one's mind continuously in the same rhythm. To think over what has passed, to wonder what is about to come, or to analyze the effect upon oneself is to interrupt the symphony and to lose the reality. The whole attention must be directed to the symphony and oneself must be forgotten." <sup>4/</sup>

Self discipline obviously is a strong part of Zen. Zen believes that the truth is revealed in ordinary life, perfectly clear for those who

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<sup>3/</sup> Ibid., p. 41.

<sup>4/</sup> Ibid., p. 54.



have eyes to see. "For the great treasure which cannot be had without so much sacrifice is not truth itself; that is to be found everywhere--with everyone and everything, whether its presence is realized or not; it is no more the property of wise men than of fools and lunatics, for the Buddha nature is common to all. The rare treasure is the capacity to see truth." <sup>5/</sup>

All of these things, if applied to architecture may be saying that a building must "speak for itself". Rarely is the designer readily available to describe his work; it should not be necessary. The designer has expressed himself through his creation; that is enough. One only needs to be a human being to appreciate a great building. This discourages the need for a supportive verbal rationale. There is no need for us to search for a New Way in architecture. We have the means necessary for great building at hand; it takes seeing, not talking; doing, not describing.

Zen ascribes an openness of mind to all things; *we-wei* is the secret of mastering circumstances without asserting oneself against them. "The skilled master of life never opposes things; he never tries to change things by asserting himself against them; he yields to their full force and either pushes them slightly out of direct line or else moves them right round in the opposite direction without ever encountering their direct opposition. That is to say, he treats them positively; he changes

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<sup>5/</sup> Ibid., p. 101.

them by acceptance, by taking them into his confidence, never by flat denial." <sup>6/</sup> By studying only those buildings or ideas which directly interest us, we will be severely limited in the understanding of our own creations. Acceptance of disparate elements makes possible the combination of those elements into a new variegated whole. This differs from eclecticism which is usually unreadable and ununified. Charles Jencks, in campaigning for a 'multi-valent' architecture, states, "Various parts, styles or subsystems (existing in a previous context) are used in a new, creative synthesis; these parts must be unified creatively for a specific purpose. (The composition) is variegated rather than homogeneous, witty rather than sombre, messy rather than clean, picturesque but not necessarily without a classical, geometric order (usually is made from several orders in contrast). <sup>7/</sup> This produces an architecture which communicates on many levels and which is highly flexible.

"Zen is an attitude towards life, and as such believes in using just the right amount of time, energy, and material required to achieve a given object--no more and no less." <sup>8/</sup> This is something which in design takes much practice, self-discipline, and experience. It seems to be rarely achieved, and rightly so, as it is extremely difficult. But when done, as most masters of architecture have, it results in a truly incredible work. Something of this nature appears to be effortless.

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<sup>6/</sup> Ibid., p. 37

<sup>7/</sup> Jencks. The Language of Post-Modern Architecture, p. 92.

<sup>8/</sup> Watts. The Spirit of Zen, p. 86.



A characteristic of Western culture is high regard for materialistic value. For the Japanese, matter is subservient to an idea, such as how it is used. They appreciated not so much the intrinsic value of the materials used, but the care and artistry with which they had been arranged. <sup>9/</sup> One of the most important things one can do as a designer to increase the quality of his architecture is to exert care in all aspects of work and life. The Japanese strongly believe that anything worth doing is worth doing properly. This care will most certainly be visible in the environments we create and hopefully will be felt and exuded by the builders and occupants.

In Part One, I have outlined attitudes and characteristics of traditional Japanese architecture. I shall now address them in application to design in Western culture.

ASYMMETRY: In order for a building to communicate meaning clearly, it should not be confusing, asymmetry can be extremely confusing. Symmetry lends itself to an ease of understanding, as Palladio has shown us, but it may become static, as is seen in various work of SOM and others. Asymmetry is less predictable and provides sustained interest if handled in such a way as to provide an order without resorting (as the Western mind does) to symmetry, color, and material balance, or identical shape; order is subtly achieved with the use of module, proportion, and balance of line, texture, and opposing shape. This method requires a delicate touch and is more difficult but is more sustaining of interest.

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<sup>9/</sup> Ibid., p. 113.

INCOMPLETENESS: This concept may be interpreted and used in many ways. Louis Kahn felt that the entrance to a building should be a bay of the building system left empty so that one could perceive how the building was structured. This may be seen in the Richards Medical Research Building, the Yale Center for British Art and British Studies, and the Kimbel Art Museum.

Kisho Kurokawa states, "Beauty is not created solely by the artist; it is completed by the citizens, the users, and the spectators who by so doing contribute to its creation." <sup>10/</sup> He utilizes industrialization, prefabrication, and capsulization to evoke participation; his architecture is often composed of systems which appear to be incomplete or readily expanded. It suggests extension/completion and adds an element of mystery.

EMPTINESS: This is closely related to incompleteness; however, it is to be treated as a design element in itself, just as mass is. Arnheim states that, "Perceptual emptiness can be described as a quality of an area whose spatial characteristics are not controlled by the surrounding objects." <sup>11/</sup> This feeling of emptiness may be felt in some of the vast, windswept urban plazas created by such architects as Ieoh Ming Pei who crusades for empty spaces and feels all buildings must be containers for handsome, useful emptiness where people can circulate, work or relax. <sup>12/</sup> The American

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<sup>10/</sup> Kurokawa, Kisho. Metabolism in Architecture, p. 24.

<sup>11/</sup> Arnheim, Rudolf. The Dynamics of Architectural Form, p. 21.

<sup>12/</sup> Prideaux, Tom. Biography, People Magazine, Feb 19 78, p. 100.



public does not share the oriental appreciation for so much empty space; we feel more secure with mass (example, furnishings) as opposed to the tranquility of emptiness. It must be carefully and appropriately used.

TWO DIMENSIONALITY: The consideration of volumetric mass in architecture has been an inherent part of Western thinking since Egyptian times. The Japanese have quite successfully introduced it into their modern architecture. The concept of an architecture based upon the manipulation of planes is by no means dead. Generally, work by the New York Five deals specifically with the layering of planar elements, the seed of which was provided by Gerrit Rietveld and the Dutch DeStijl movement. In contrast to Japanese traditional architecture, this work does seem to encourage movement through and between the planes. There is a great deal to be gained from studying the line in two-dimensional composition and mastering it as expressing the essence of shape.

PERFECTION OF TYPE: As explained in Part One, the perfection of type is a process which results in the very best of a particular thing; it becomes a model. Kurokawa has some of the most advanced thinking in terms of application: "The Japanese have never felt that the materials themselves have a sense of eternity. On the contrary, they are and always have been conscious of the spirit and philosophy beyond the materials and regard the form as an intermediary conveying that spirit and philosophy to human beings. The faithful reproduction of the Ise (temple) buildings

may be thought of as a ceremony through which the philosophy and spirit of the old buildings are transmitted into new spaces." <sup>13/</sup> He applied this as a root for his philosophy of Metabolism. Parts of the building which have different rates of change are separated so that those which wear out may be replaced without altering the idea or spirit of the structure.

Kurokawa has also adapted the tradition of the room as being a microcosm of the world in designing living capsules which plug in or out of a service core, each totally self-contained. Building for impermanence and change serves well in this mobile and transient society.

SABI: We can appreciate this concept of something possessing a beauty born of age and natural decay, but there is little we can do to incorporate it into architecture other than using materials which age gracefully: Cor-ten and galvanized steel, copper and other metals along with unfinished wood. Informal planting of vegetation may add to the effect. In this way, a building will, over time, acquire a character of its own, as the Acropolis has.

WABI: One cannot elaborate on wabi very much beyond the statements in Part One. Charles Moore, in discussing a particular building embodying the ideals of wabi, says, "These notions (wabi) are based upon the expectation that the humblest details of common life, and the objects

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<sup>13/</sup> Kurokawa, Kisho. Metabolism in Architecture, p. 33.



that pertain to it, can, after serious-minded study, undergo a transfiguration which lifts them into the highest and purest levels of art."

COLOR: The Japanese have discovered over many centuries that brightness of color in large amounts becomes tiring after one is initially exposed to it. Some parallels may be drawn here to superficial architecture.

Emerson describes it in another way in terms of poetry:

I require that the poem should impress me so that after I have shut the book it shall recall me to itself, or that passages should. And inestimable is the criticism of memory as a corrective to first impressions. We are dazzled at first by new words and brilliancy of color, which occupy the fancy and deceive the judgment. But, all this is easily forgotten. Later, the thought, the happy image which expressed it and which was a true experience of the poet, recurs to mind, and sends me back in search of the book. And I wish that the poet should foresee this habit of readers and omit all but the important passages. 14/

This conciseness of composition which Emerson expresses is natural to the Japanese aesthetic. An attitude which eliminates the insignificant emphasizes reality; the superfluous is understood as being just that. If we would with each creative act try to touch the soul of the subject and disregard the immediate impulses of our age, those things we do will have so much the more depth. The spirit will then prevail above all earthly things. That is beauty. That is shibui.

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14/ Kazin, Alfred, Editor. Emerson, p. 241.

## PART THREE

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Knowledge only of the principles and ideas outlined in Parts One and Two does not guarantee success in an application of those principles and ideas to one's own work. A long period of study is necessary to achieve full understanding.

To further my own study in this direction, I have chosen to design a building complex; this allows me to explore and demonstrate several uses of Japanese design concepts in Western architecture. To be true to this thesis, it should not be necessary to explain nor rationalize the design. However, as this project exists only on paper, I feel some verbal explanation is necessary to communicate my ideas.

### PROGRAM

Two concerns influenced my thinking in the composition of the program, in addition to the main concern of applying those principles I have studied. These were:

1. How does one provide a tie between two buildings separated by distance?
2. How does an urban site influence a building design as contrasted with the influence of a rural-natural site?

The resultant program calls for two sites and two building complexes which are affiliated. The purpose is the study, performance, and enjoyment of music. A site was chosen at the foot of the Beartooth Mountains, ten miles south of Red Lodge, Montana, on which would be located a music study camp. Sixty miles away, in Billings, Montana, would be located a



concert hall where the musicians come to perform. This coincided with a need for such a facility in the city of Billings. A tie was required between the two buildings, as was an individual response to each respective site.

#### SITES

The music study camp lies along a highway route to Yellowstone Park which would make tourist draw for outdoor summer concerts feasible. Magnificent scenery may be seen in all directions. The building area is relatively flat and bounded on two sides by Rock Creek and another smaller creek. A landmark dominates the site, Black Pyramid Mountain, which is pyramidal and almost symmetrical, dark, rugged and unvegetated. It proved to be a major concept-form determinant as was the range of mountains to the south, and the creeks.

A lot 140 feet by 200 feet in the central business district in Billings is the site for the performance hall. It is flat, bounded by two arterial streets, an alley, and a beauty school. Mature trees line the boulevard and two four-story buildings with simple massing lie across the street.

# PROGRAM

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## 1. MUSIC INSTRUCTION FACILITY

Instrumental Rehearsal Hall 2400 sq. ft.

To accommodate 100 participants, 24 sq. ft. per student; 400 cubic ft. per student; 14 to 18' ceiling height; no student should sit against the wall or stand within 7½' of ceiling; provide blackboards, projection screens; if risers are used, they should be 6-8" high and 60" deep. The back riser should be 120" deep. Less reverberation time is required for band than for orchestra.

### Practice Rooms

12 rooms of 65 sq. ft. each

Ensemble Practice Rooms 300 sq. ft.

2 rooms of 150 sq. ft. each

Classroom 500 sq. ft.

Storage 120 sq. ft.

instrument storage lockers and miscellaneous

Workroom 80 sq. ft.

instrument repair

Music Library 300 sq. ft.

including listening facilities

Faculty offices/studios 300 sq. ft.

for individual instruction, 3 @ 100 sq. ft.

Director's office 250 sq. ft.

Lounge and circulation space 650 sq. ft.



Toilets, custodial, mechanical spaces 800 sq. ft.

Elevator if required

Total square footage for music instruction facility 6500 sq. ft.

## 2. HOUSING FACILITY

Dormitory housing for 100 participants 12,000 sq. ft.

120 sq. ft. per participant, includes bath

Apartment housing for 20 participants and staff 4000 sq. ft.

200 sq. ft. per person

Practice rooms (included in music instruction facility)

Dining 600 sq. ft.

12 to 15 sq. ft. per seat

Food preparation 400 sq. ft.

Lounge 800 sq. ft.

Circulation 2000 sq. ft.

Total square footage, housing facility 21,400 sq. ft.

## 3. PERFORMANCE HALL

Stage 2000 sq. ft.

18 sq. ft. per player

Wings 2200 sq. ft.

1/2 size of stage + 10% each depth  
should be 75% of width of proscenium  
arch opening

|                                               |                |
|-----------------------------------------------|----------------|
| Auxilliary room for practice, dressing        | 2,000 sq. ft.  |
| Service area, storage                         | 1,000 sq. ft.  |
| Box office, broadcasting and projection booth | 200 sq. ft.    |
| Loading dock                                  |                |
| Auditorium, 1,200 capacity                    | 9,000 sq. ft.  |
| Toilets, custodial, mechanical space          | 750 sq. ft.    |
| Lobby                                         | 1,600 sq. ft.  |
| Circulation                                   | 600 sq. ft.    |
| Total square footage, performance hall        | 10,350 sq. ft. |
| Square footage for all three facilities       | 47,250 sq. ft. |

#### Additional Notes

##### Parking requirements

Facilities 1 and 2 65 spaces

Facility 3 600 spaces

Living units should also double as a hostel for the use of skiers or other similar

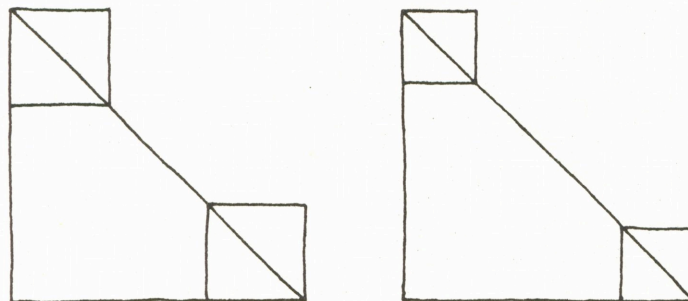
Reverberation time in performance hall to be 2 seconds at 100 Hz, 2.3 seconds at 100 Hz.



## THE DESIGN

## Music study camp concepts:

1. An ordering system as a tie between the music study camp and the concert hall (corresponding to the idea of the tatami mat system): rather than to use an obvious system such as a grid of squares or triangles, I chose to use a shape. This shape took its basic form from the practice room which I deemed to be a foundation for the study of music. The practice room was a major generator of form. Out of the need for nonparallel walls and flexibility-manipulation of shape, the two-dimensional shape is thus:



This shape may be seen in varied forms in the lobby and side aisles of the concert hall and in the practice rooms.

2. Closed/open corresponding with work/rest: the music study camp is composed of two buildings. One houses sleeping, dining and relaxing. The other shelters the study of music; it is centralized, formal, articulated, and inward. Few openings look upon the site. The dormitory building is decentralized, simplified, and outward--expanding. Place is provided by views which are plentiful. The southern side is the

social side (circulation takes place here). An outdoor performance area is encircled by the buildings.

3. Focus: it appears that all is focused upon the practice building and the court which occupies the Center; the court contains emptiness. The true focal point is black Pyramid Mountain, directly behind and in line with the east-west axis of the complex.

4. Path: The Western idea of path is seen in the arcade which provides a dynamic exposure to the site. The Oriental concept of no-path is seen in the bowl where no direct path leads to the main entrance.

5. Sabi, a beauty born of age and natural decay: so that the buildings will acquire their own character over time, Cor-ten metal roofing is used throughout.

6. Incompleteness: one dormitory unit left empty, incomplete in which a stair is located and which also emphasizes the central axis. The arcade and circular berm fade into nothingness.

7. "Line as the essence of shape" is seen in the sweeping curve of the dormitory roof played against the rhythm of the receding mountains behind it.

8. Shibui colors of nature: gray of concrete and weathered wood, brown of finished wood, rust of steel.

#### Concert Hall Concepts:

1. Promenade: the lobby, stairs, and circulation areas as a place to be seen.



2. Side aisles: to support promenade, to insulate hall from street noise, and to act as a giant Helmholtz resonator.
3. A transition-breakdown in scale from the large mass of the concert hall space down to the pedestrian scale of the street.
4. High articulation as an expression of the function and in juxtaposition to the simplicity of the buildings across the street.
5. A diagonal entrance at the corner in line with the parking garage from whence most of the pedestrian traffic will be coming from.
6. Natural lighting with a view in but not so much out to the street.

#### FORM DETERMINANTS FROM TWO CONTRASTING SITES

The undisturbed site allowed much greater freedom. The scale and grandeur of the mountains dominate anything man could build. Competing against them is fruitless.

The urban site placed many restrictions upon the concert hall design. Limited area forced functions into certain locations and the grid street system created a strong boundary. Scale varies greatly as does imagery. Nature is recessive and difficult to find. Both sites were challenging and exciting to work with in their own respective ways.

#### CONCLUDING COMMENT

The design of these buildings does not utilize and explore as many principles of Japanese design philosophy as I might wish it to. The several principles I did work with proved to be complex enough, as did the program. The level of detail it has been carried to is less than desirable

due to the limitation of time in the design of so large a complex. My main objective, then is in the communication of those primary concepts and their valid application to architecture. I believe I have been successful here.

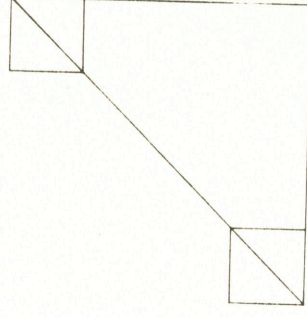
I am also now more able to perceive the essential values of architecture and to see beyond those things which are transient in nature; in this regard, the primary goal of this thesis as stated in the introduction has been fulfilled.



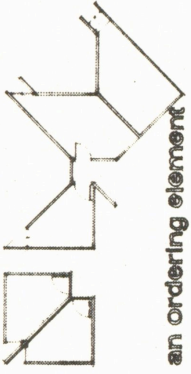
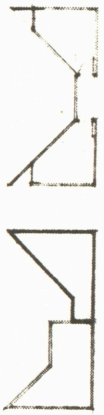
Shibui, the Japanese method for the analysis and appraisal of beauty, offers great richness to Western culture if we choose to understand it.

## A Music Study Camp with an affiliated Concert Hall.

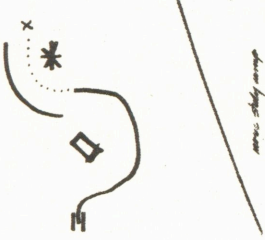
GRANT GUSTAFSON  
THESIS JUNE 6, 1978



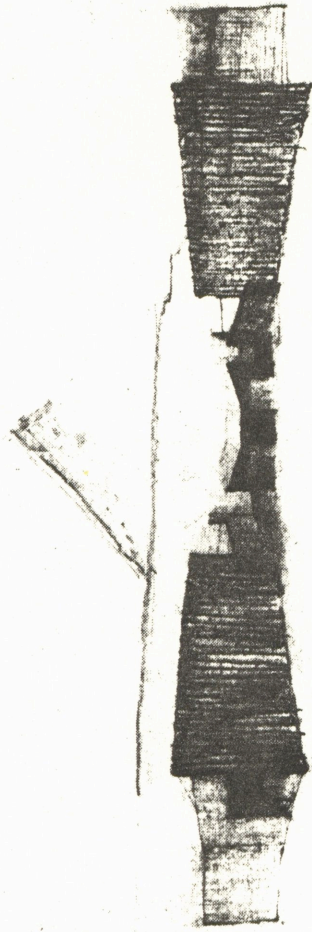
THE PRACTICE ROOM ....



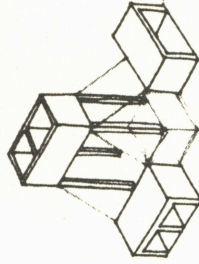
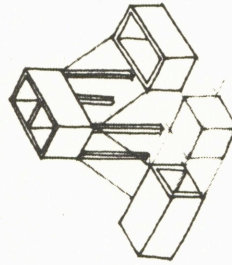
an ordering element



music study group

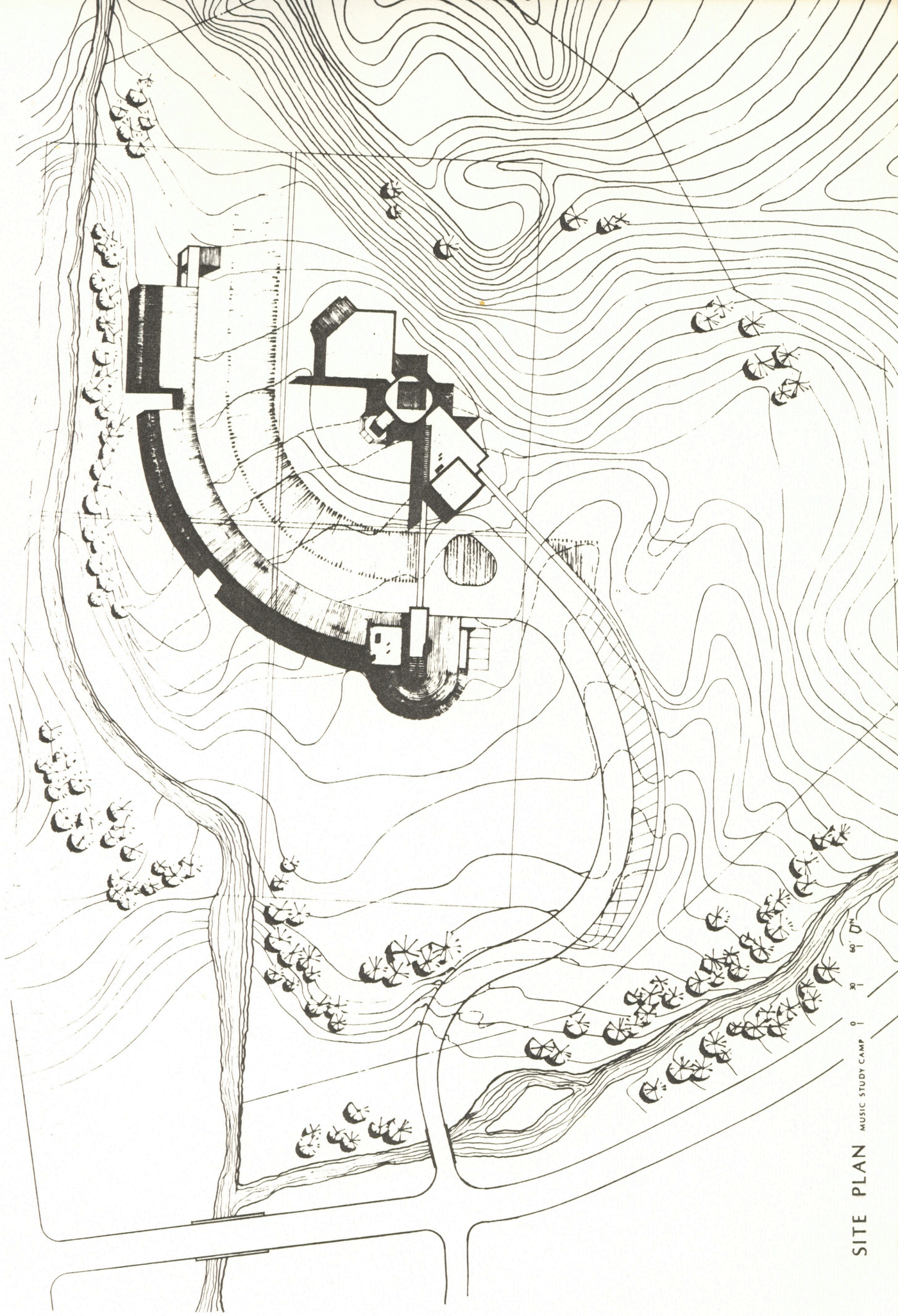


music building



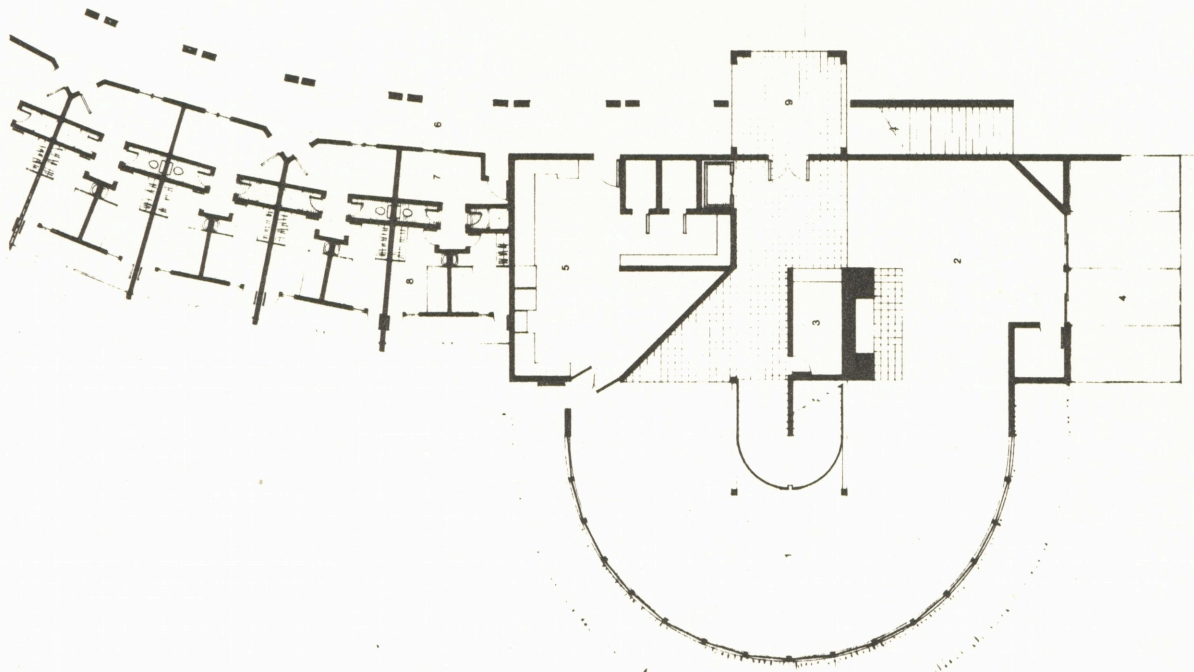
DESIGN CONCEPTS



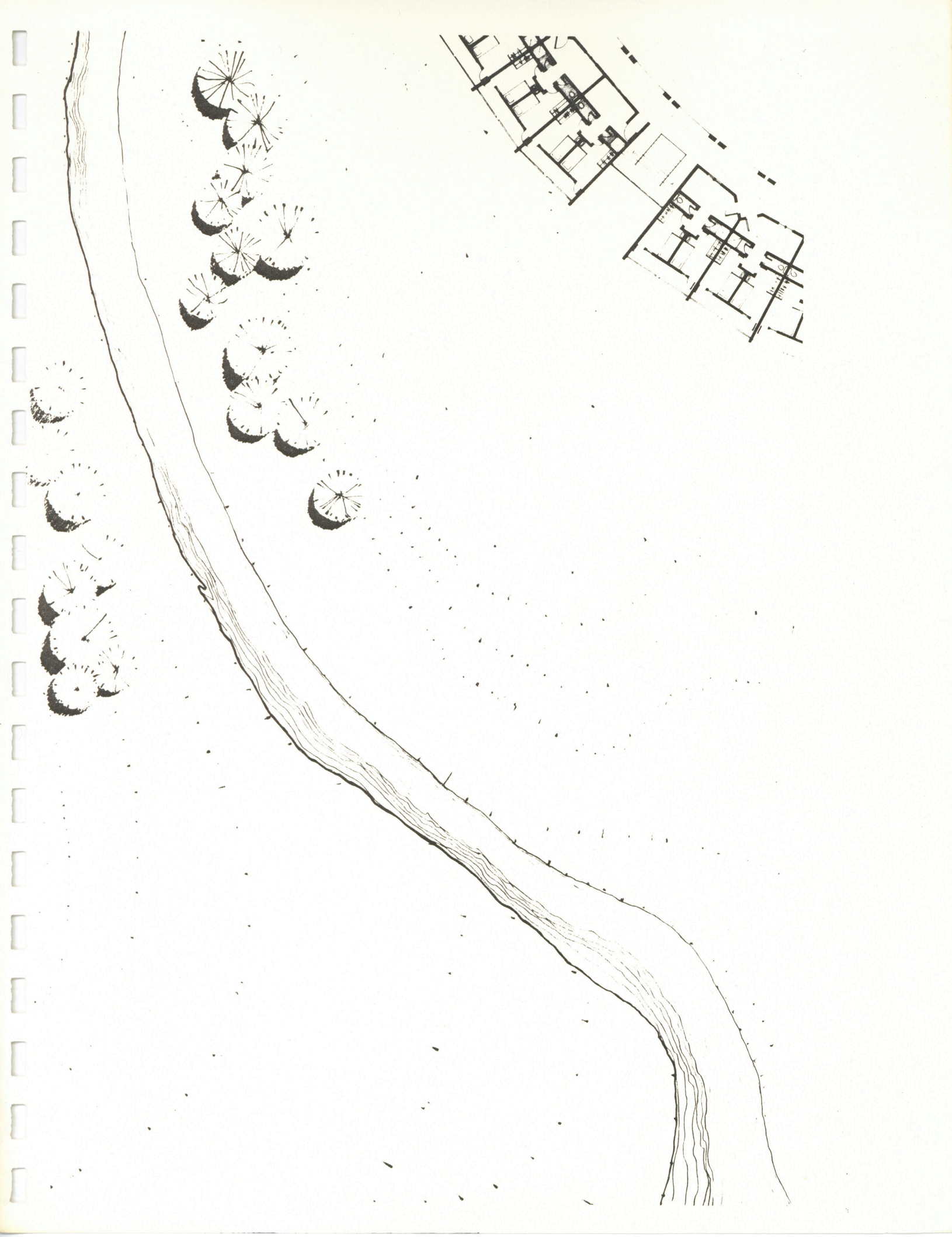


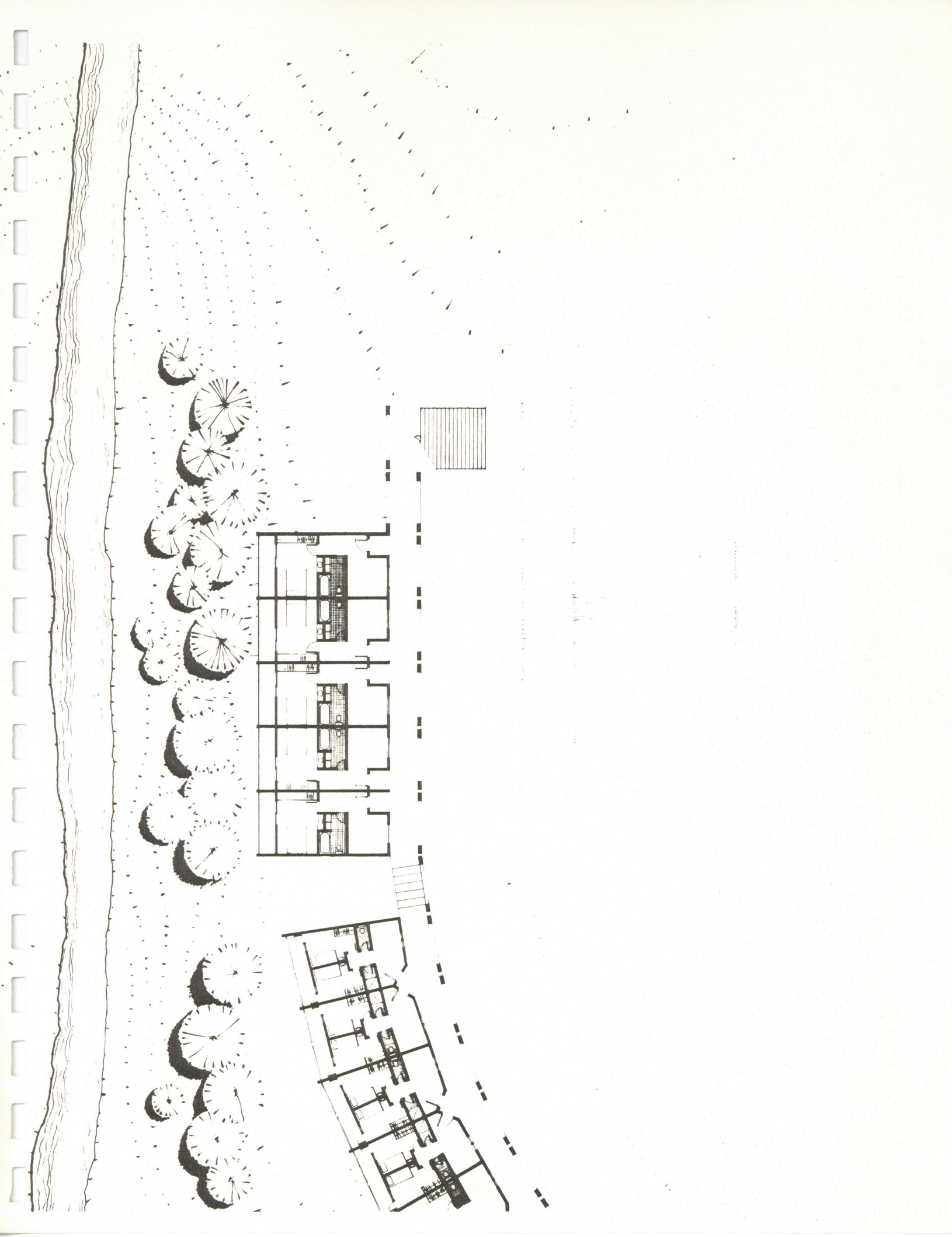
SITE PLAN MUSIC STUDY CAMP







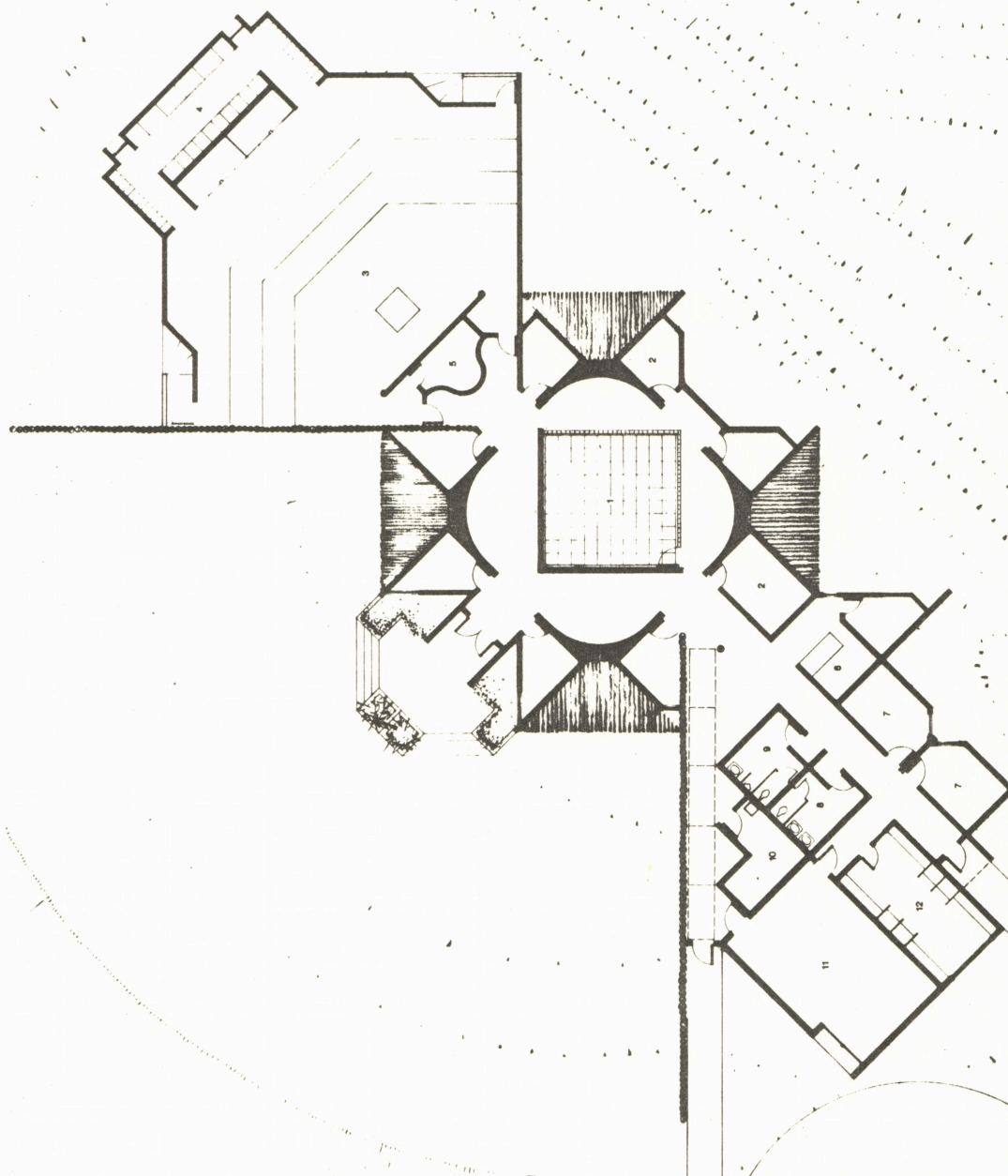




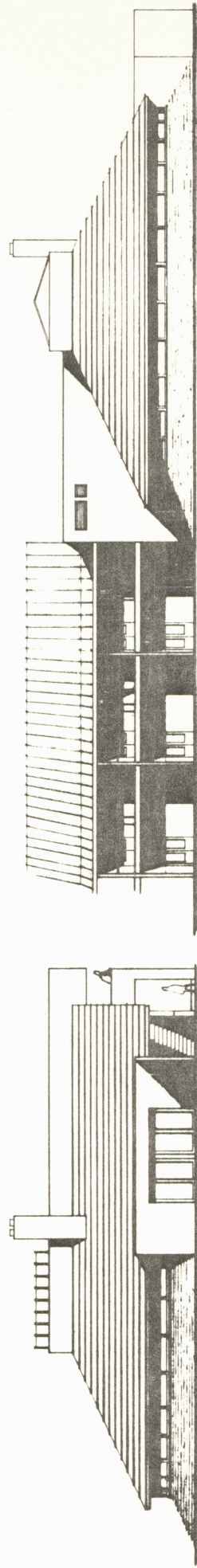


## PRACTICE BUILDING PLAN

□ 2 0 1 4 8

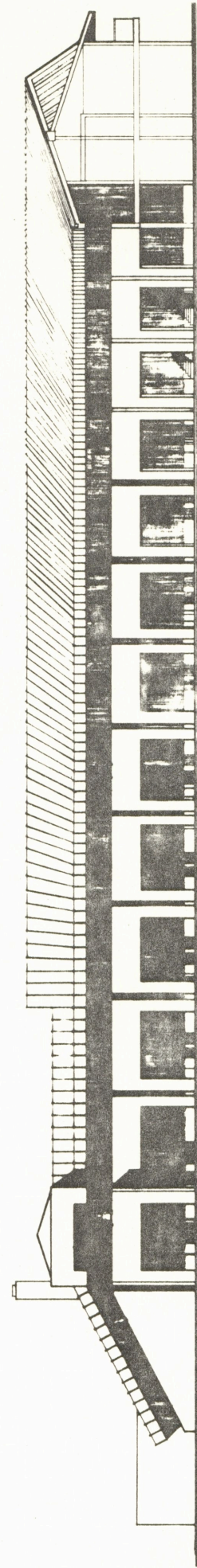


|         |                 |                   |                      |                      |                     |                |
|---------|-----------------|-------------------|----------------------|----------------------|---------------------|----------------|
| 1 COURT | 2 PRACTICE ROOM | 3 GROUP REHEARSAL | 4 INSTRUMENT STORAGE | 5 STORAGE            | 6 DIRECTOR'S OFFICE | 7 STAFF OFFICE |
| 8 DANCE | 9 HOMES         | 10 MECHANICAL     | 11 CLASSROOM         | 12 LISTENING LIBRARY |                     |                |



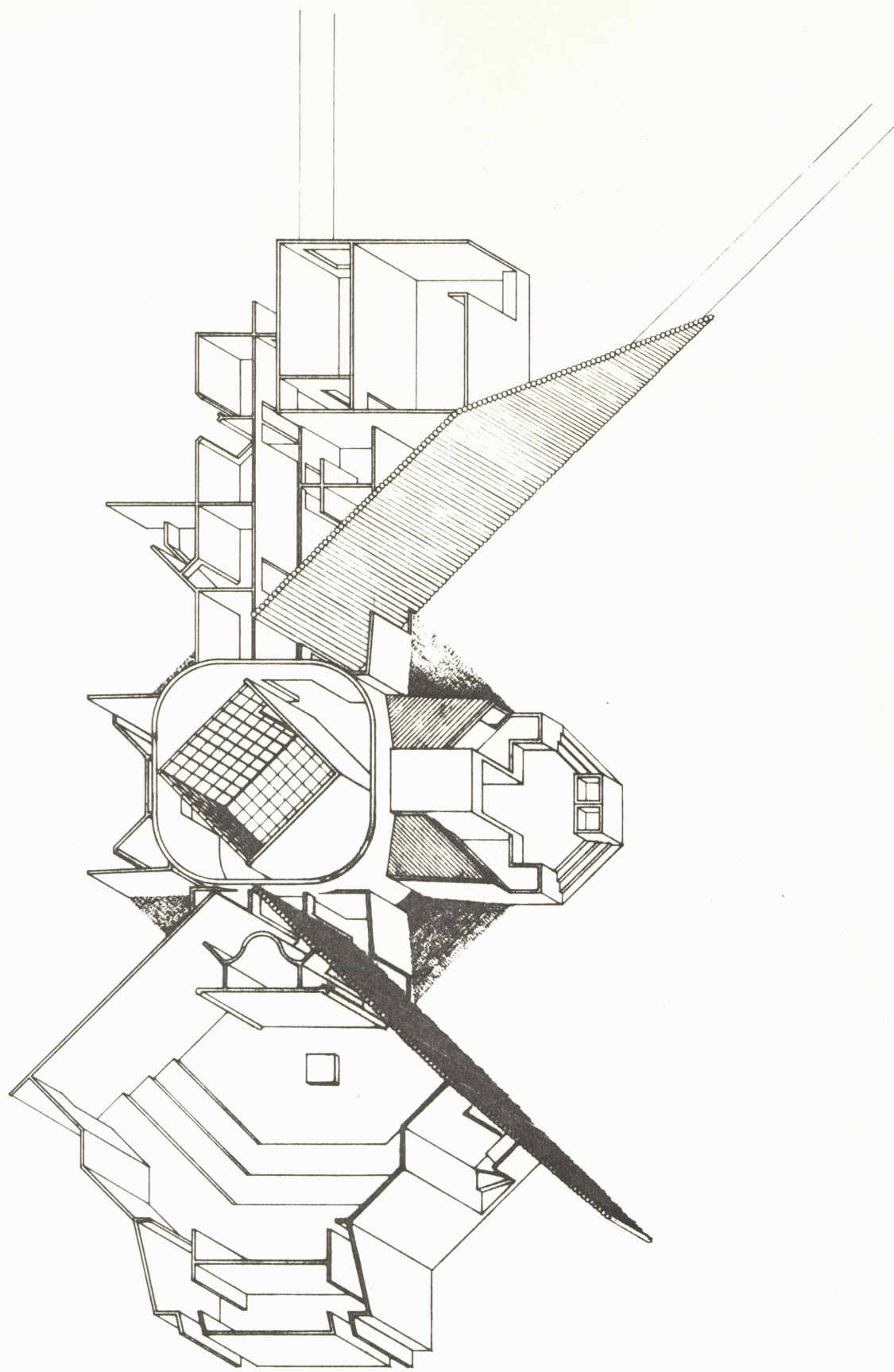
WEST

SOUTH



EAST





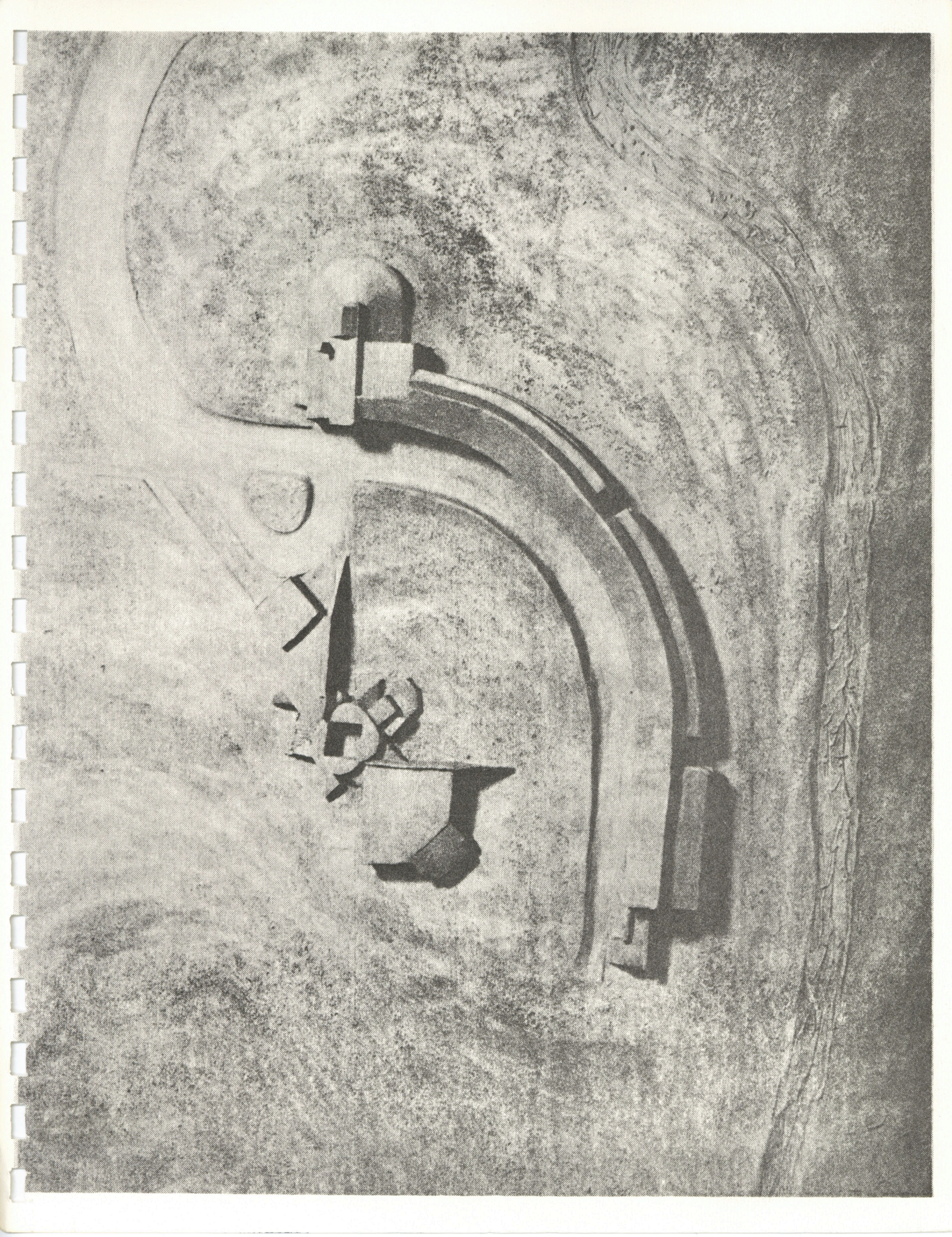




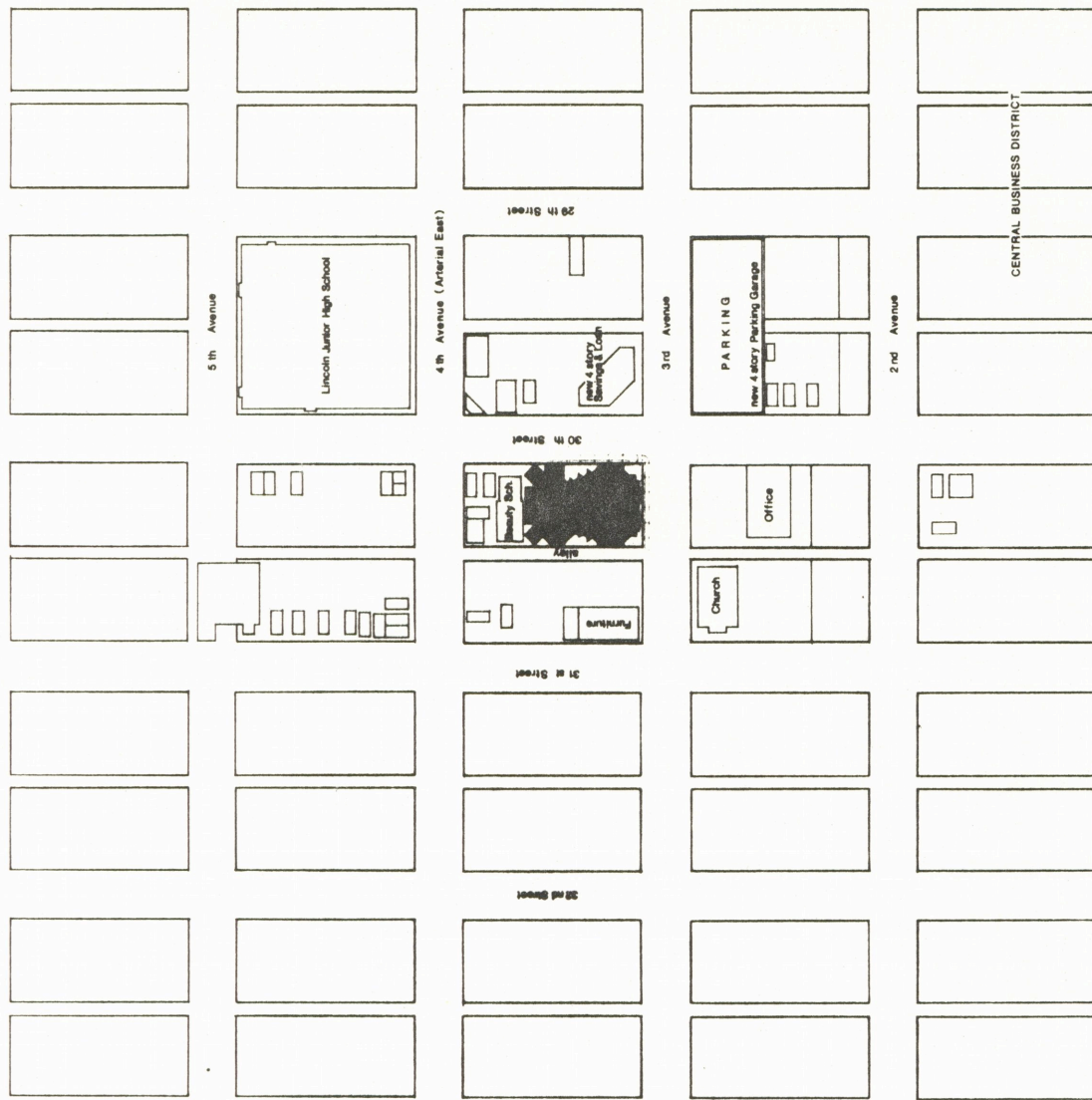












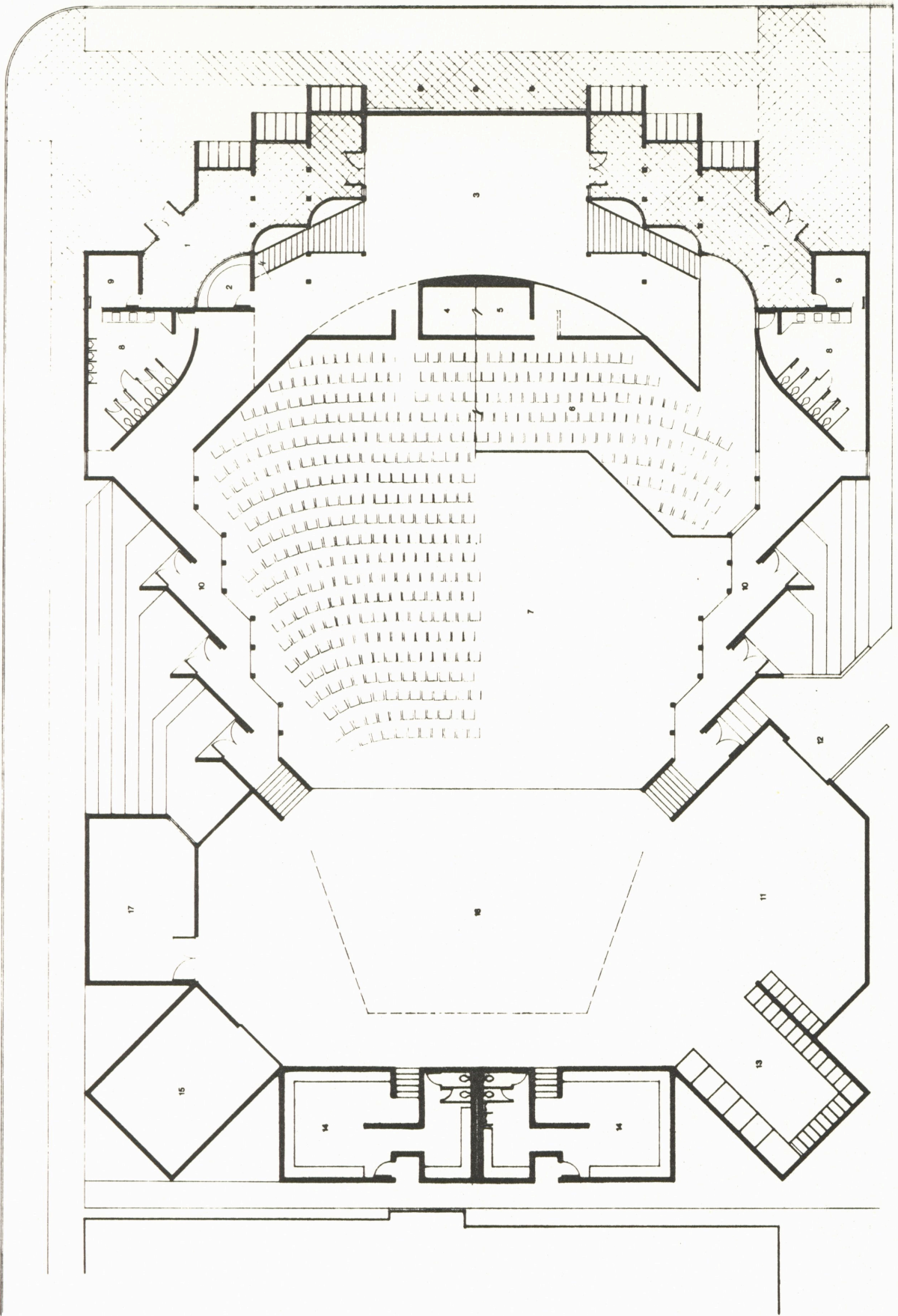
CONCERT HALL SITE

BILLINGS, MONTANA

0 100' 200'

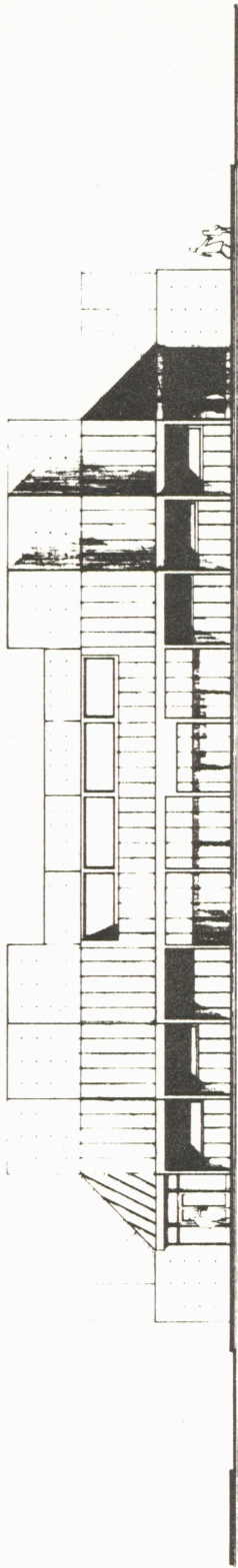


1 VESTIBULE 2 BOX OFFICE 3 LOBBY 4 PROJ. BOOTH 5 OFFICE 6 MEZZANINE 7 HALL 8 TOILET 9 JANITOR 10 SIDE AISLE 11 WING 12 SERVICE DRIVE 13 INSTR. STORAGE 14 DRESSING ROOM 15 STORAGE 16 STAGE 17 PREPARATION

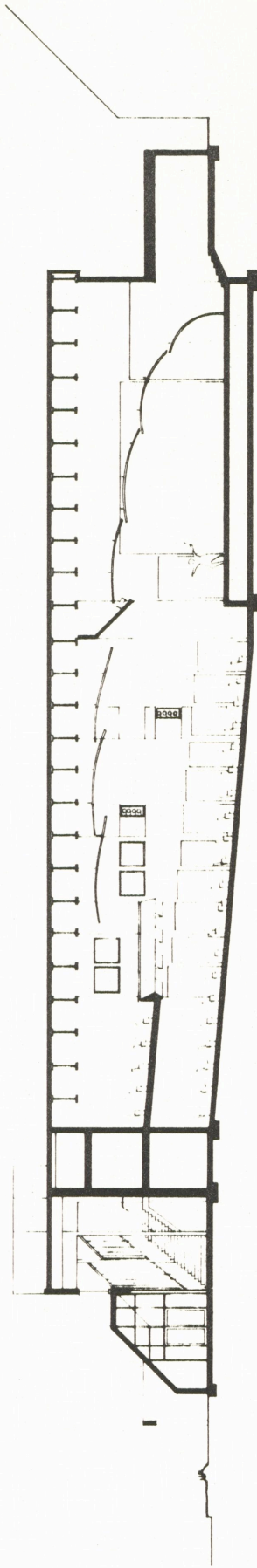


CONCERT HALL PLAN 2024 8 16

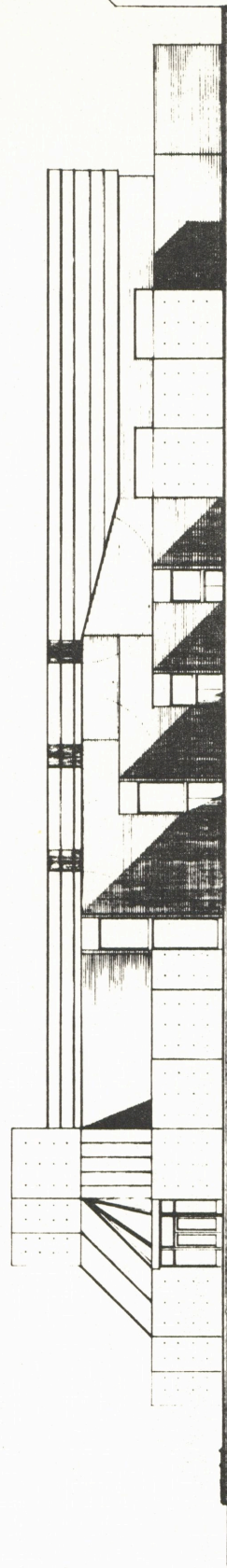




SOUTH ELEVATION



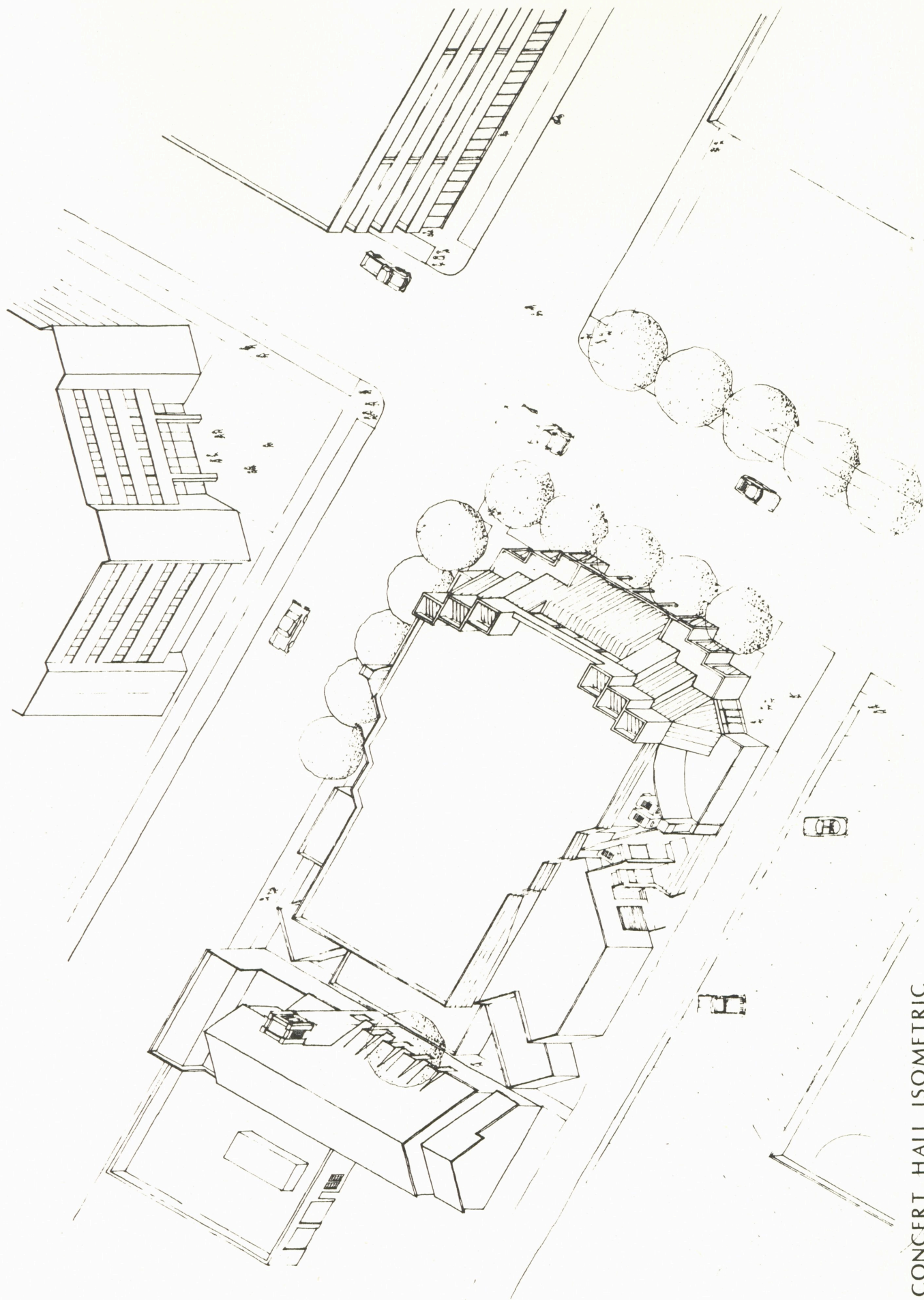
SECTION



EAST ELEVATION

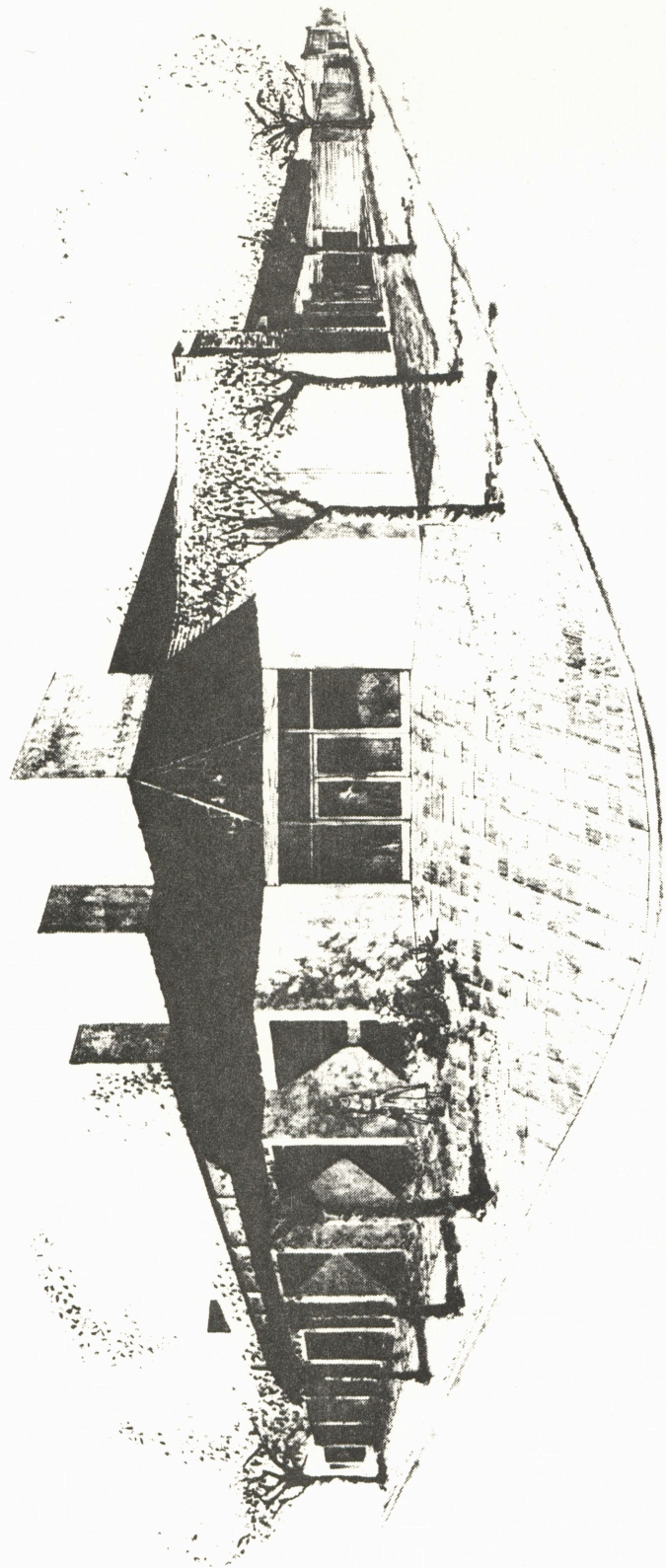
CONCERT HALL 0 2 4 8 16





CONCERT HALL ISOMETRIC





CONCERT HALL ENTRANCE



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