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MONTANA STATE UNIVERSITY
BOZEMAN

AN ELEMENTARY SCHOOL

Undergraduate Thesis

By

Michael Arnold Absalonson

Submitted to the School of Architecture as
partial fulfillment of the requirements for
the Degree of Bachelor of Architecture

at

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BACHELOR OF ARCHITECTURE

MICHAEL ARNOLD ABSALONSON
JUNE 1975

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preface

Van Eyck has stated,"...Architects have been harping continually on what is different in our time to such an extent, that they have lost touch with what is not different, with what is essentially the same.

This thesis is undertaken as a study in design sensitivity. It deals with systems that are integral in man's evolutionary past, yet so fundamental to the maintenance of the human spirit today.

"I have learned," said the Philosopher," that the head does not hear anything until the heart has listened, and that what the heart knows to-day, the head will understand tomarrow."

THE CROCKS OF GOLD
James Stephens

thesis statement

THE TRANSCRIPTION OF OURSELVES INTO ARCHITECTURAL TERMS, PRODUCES A HUMANISTIC ENVIRONMENT; ONE WHICH IS COMPATIBLE WITH THE HUMAN EXPERIENCE.

Terms of the Thesis Statement

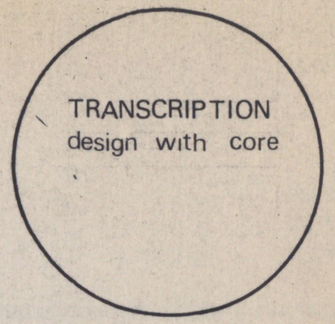
Transcription: Designing with the common denominator, or core, of man as a basic tool.

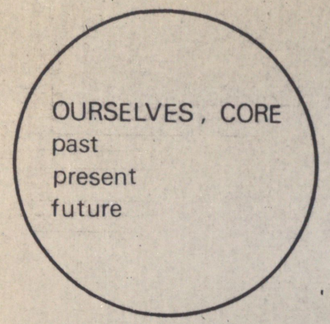
Ourselves: Consisting of man's basic core, with emphasis on genetic permanence.

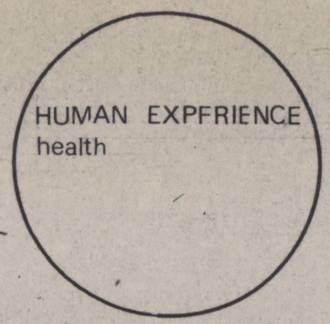
Human Experience: Maintaining health as defined by Maslow.

THESIS

THE TRANSCRIPTION OF OURSELVES INTO ARCHITECTURAL TERMS, PRODUCES A HUMANISTIC ENVIRONMENT. ONE WHICH IS COMPATIBLE WITH THE HUMAN EXPERIENCE.







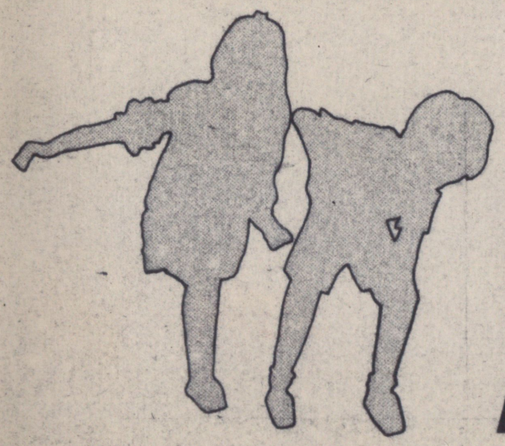
PROJECT

SCHOOL

MEDIA

ARCHITECTURAL TERMS →

fabric
scale
rhythm
weight
resistance
force
mass
order
line



ANALYSIS

GOALS

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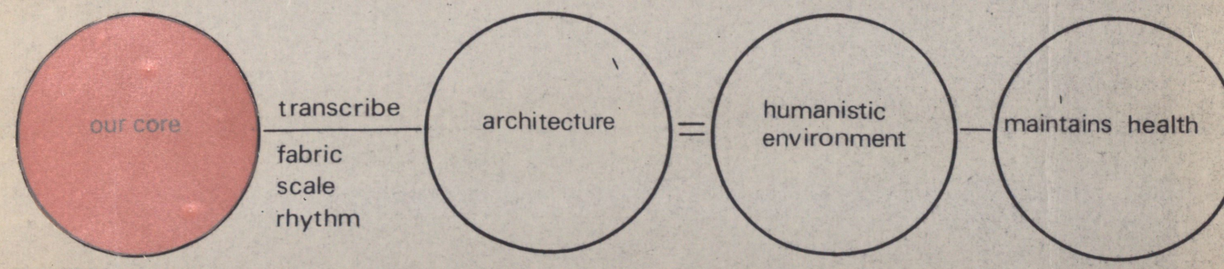

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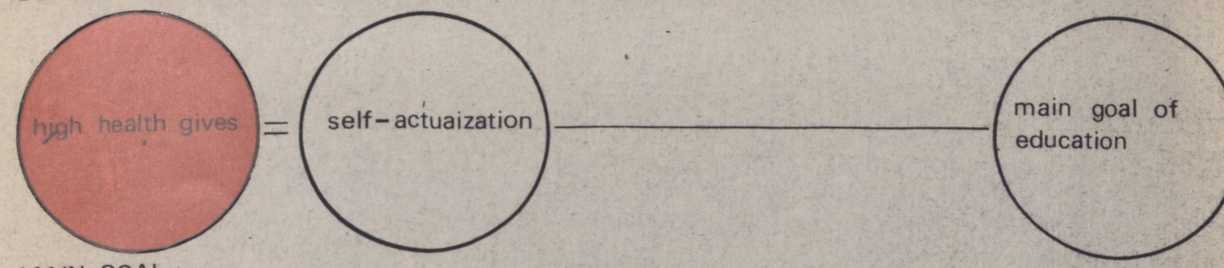


MAIN GOAL

help student hear "inner feelings" and discover "self"

CONTROL OF ENVIRONMENT

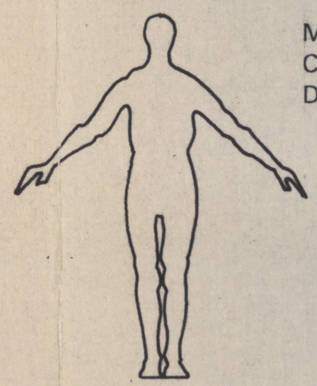
PRE-MAN A SOCIAL BEING

HOMO-SAPIEN
MAN A HUNTER--PLANT DOMESTICATION
OLD STONE AGE

MIGRATION
ASIA, EUROPE, AFRICA

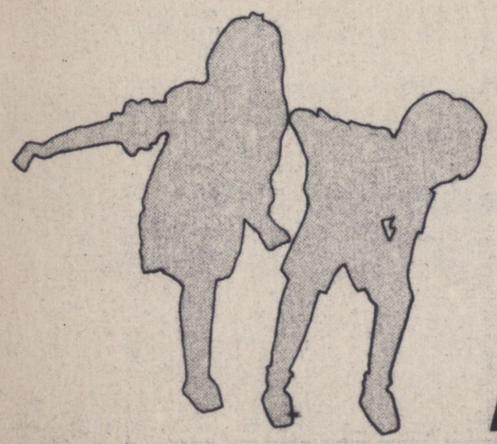
90000 BC | 50000 | 40000 | 10000 | AD | 5000

ESSENCE OF MATERIAL CREATION
air
water
soil
sun
fire



MOST FUNDAMENTAL
CHARACTERISTICS OF MAN
DEVELOPED

SUMERIA



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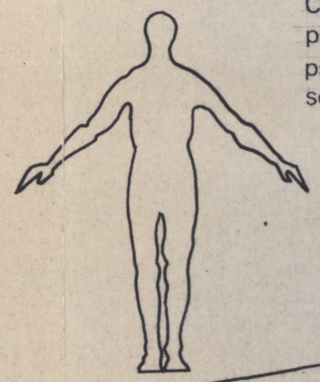

CORE OF MAN
physical
psychological
social

thesis project

Lakeside Elementary School, Whitefish, Montana.

the common denominator

Man became identifiable as homo-sapien by 50,000 B.C. At this time, migration occurred within the Asian continent as well as Europe and Africa.

Because of this migration, man encountered extremes in the physical environment; thus producing marked cultural responces. These"...responces took the form of behavioral patterns and emotional relationships as well as the development of utilitarian objects".[1]

In areas with poor agricultural potential, the people developed primitive social organization, little material equipment and were generally nomadic. Good agricultural potential produced much material growth.

Although these cultural responses to the environment differed, many achievements in worship, agriculture and art remained very similar and "...is the best evidence for the unity of man's nature".[2]

This has lead experts to believe, "the most fundamental and universal characteristics of the human mind were developed by the time the Paleolithic man first penetrated the American continent, and did not undergo significant changes during the thousands of years of isolation which followed."[3]

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[1]Rene' Dubos, So Human an Animal, (New York: Scribner's, 1968), p. 64.

[2]Ibid., p. 41.

[3]Ibid., p. 47.

characteristics of man

The most universal characteristics of Homo sapien had been solidified by Paleothic man.

It is possible to disregard environmental and cultural differences to explore man as a common denominator.

The characteristics of this "core" of man are manifest in a physical and psychological order. In a most basic physical form they are a response to air, water, soil, sun and fire; the essence of material creation.

Maslow, has related these basics into terms of human need and health. In general[1], we have within each of us an inner nature with an appreciable hereditary determinant which tends to strongly persist. This is potential, not actualization. Life is shaped or stifled by culture, family and environment, and this inner nature is easily overcome, repressed or killed.

There are five need categories.. Progression within this hierarchy cannot be maintained until each lower need has been satisfied, with a continual flux within the system, due to environmental influences. Man directs most of his action toward the lower unfulfilled needs. "...Man's environment determines at any given moment which of the physical and mental potentialities are realized in his life."[2]

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[1]A. Maslow, Toward a Psychology of Being, (N.Y. Van Norstrand C. Inc., 1962.

[2]Rene' Dubos, So Human An Animal, (New York: Scribner's, 1968), p. 130.

The five need categories are:

1. PHYSIOLOGICAL NEEDS: Which include homostatic mechanisms, sex hunger, thirst and relaxation

2. SAFETY NEEDS: Which are manifest both physically and psychologically

3. LOVE and BELONGINESS NEEDS: Also manifest physically and psychologically, in such areas as friendship, affection, group belonging, and respect.

4. ESTEME NEEDS: Include achievement, competence, dignity, status, praise and freedom

5. SELF-ACTUALIZATION NEEDS: Composed of two elements: those of emotional ecstacy and those of intellectual illumination. They include talents, capabilities, and potentialities. These are the peak experiences and are much more independent of the other needs.

Maslow further explains: that even though the inner nature is weak, it rarely disappears or dies, but will be heard, even if in a distorted manner. If man, for any reason, cannot act, if the need is frustrated, denied, or suppressed, sickness results, in obvious to subtle ways

"It appears to me that these values are uncovered as well as created, that they are intrinsic in the structure of human nature itself, that they are biologically and genetically based and culturally developed."[1]

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[1]Abraham Maslow, Toward a Psychology of Being, (N.Y. Van Norstrand Co. Inc., 1962.

environmental influences

The external environment affects body fluid composition, either by introducing substances directly into the body or by affecting hormone secretions.

When this occures, there is an interruption of the intracellular medium which affects the genetic make-up. Physiological and psychological "health" is then put in a state of flux as the body accepts, tries to modify or reject these influences.

Such an example is the lighted environment. The direct effects of light are illumination and aesthetic, but the indirect effects are multiple. "Light has perhaps several hundred important effects on body functions, but only a few dozen are currently known, and an even smaller number are understood."[1]

Among these effects are synthesis of vitamine D within the body

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[1]Dr. R.J. Wurtman, Biological Considerations in Lighting Environments, Progressive Architecture, September 1973, p.79.

bilirubim production, sexual and other biological rhythms, and photosensitization.

genetics

There are genetic consequences relating to the environment and man. In general, past environmental history influences an organism by altering genetic make-up, hence influencing the future by genetic transfer to the young.

"This takes place by the storage of genetic information in the chromosones, by accumulation of knowledge and skills or transmission of practices."[1]

Genes are not completely stable though, and by combination the offspring receive the input of 2 people, thereby increasing the adaptability range of the offspring to environmental forces, although "...the genetic endowment of Homo-sapiens has changed only in minor details since the Stone Age, and there is no chance that it can be significantly, usefully or safely modified in the forseeable future."[2]

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[1]Rene' Dubos, So Human an Animal, (New York: Schribners, 1968), p. 63.

[2]Ibid., p. 240.

design process factors

"The traditional focus of architectural theory has been on the relationship of the architect to the artifact he produces and thus on the ideologies and testaments of individual designers, rather than on the relationships between people (either as individuals or in general) and the built environment"[1]

This is often the case because the architect is part of a sub-culture, and although he provides solutions to physical problems, personal "ideologies and testimates", can, many times initiate a gap in the design - need structure, so a lack of congruency exists.

This design structure is composed of three basic parts, all in relation to the total of the designed environment. This total environment must:[2]

1. Maintain the physical, social and psychological state necessary for people to attain their goals
2. Provide for and allow people to perceive opportunities for the specific patterns of behavior required to attain their goals
3. Support the states necessary for people to attain their goals by fulfilling certain symbolic and affective functions.

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[1]Lang, Burnette, Moleski, Bachon, Designing for Human Behavior, (Stroudsburg, Pa: Dowden, Hutchinson and Ross Inc, 1974), p.8.

[2]Ibid., p.9.

One must reflect upon the results of a breakdown in this system.

If the designer provides a flux in this pattern, the occupants will percieve incongruency in their ability to use the space as provided to them.

If this situation occures, the user will have three courses of action: use the environment as it is, modify the environment, or not use the environment.

E.T. Hall has suggested a very preliminary check-list of items to be considered in design, which are based on man's evolutionary past, and a response to culture.[1] Such information decreases flux in the design pattern.

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[1]Lang, Burnette, Moleski, Bachon, Designing for Human Behavior, (Stroudsburg, Pa: Dowden, Hutchinson and Ross Inc, 1974), p. 217-19.

General requirements:

1. Does the layout of space reflect the relationships among activities?
2. Has an inventory been made of all activities and a time and place allocated for each?
3. Are unrelated activities separated?

Human requirements:

1. Have places been provided for all of man's space needs?
2. Has a place been provided which each citzen can call his own?
3. Has a variety of spaces been provided for meetings of different-sized groups?
4. Are there enough landmarks?
5. Are there variations in light intensity, color, acoustics and the olfactory environment?
6. Have acceptable forms of peripheral stimulation been provided?
7. Are work spaces the right size and character?
8. For intercultural installations, have the space differences in fixed-feature, semifixed-feature, and dynamic space been taken into account?
9. Have light and shadow been used to provide variety in the apparent size of the enclosure?
10. Have open spaces been provided to rest the eyes?
11. Is there variety in visual tasks?
12. Have man's social needs been provided for?
13. Is there opportunity for individuals to learn in a variety of contexts?
14. Do recreational activities offer opportunity for several kinds of play?

summary

As progressively technological societies continue to expand, it in increasingly important for any environmental manipulator to understand more thoroughly, the implications of his decisions.

Of primary importance in architecture, is the relationship of the user to the artifact. Although there is a basic connection between architecture and society today, there should be an even greater connection between the environments one uses and man's natural origins.

1. Since 50,000 B.C., man has been known as Homo-sapien and has solidified genetic and spiritual ties which are virtually unalterable, and defined as humanistic values.

2. This genetically solidified human nature has roots in the physical world. Maslow has related need and health to human nature as a potential, but not necessarily actualization.

3. The physical environment effects man directly and in--directly. This determines which of man's mental and physical potentialities can become actualized.

4. Architects must consider these past genetic ties in terms of human need and spirit, so health can become an actualization via well designed environmental influences..

If these principles are not considered in the manipulation of the environment, as an integral part of the design/need sequence, man finds less actualization of his potentialities, with alienation of his basic needs. This may be manifest in mental as well as physical sickness.

This sickness is so apparent today, as technology oriented man increases the gap between reality and natural origins.

If architects are to build for man, his natural origins, (core) is most basic in consideration, for such environments will maintain the human spirit.

arcitectural media

The environment is experienced by impulses gathered through sensory receptors in the body; sight being the receptor which has developed to the greatest extent, with auditory, olfactory and tactile receptors providing supplemental input.

Architecture is experienced via these instruments, and may be variable depending upon the media.

In a most classical sense, the media of architecture are fabric, scale, rhythm, weight, resistance, force, mass, order and line. The architect must manipulate or build an environment; using these media to attain desired goals. In any case, these desired goals must be reinforced in the design structure.

This reinforcement wants to maintain the physical, social and psychological states, provide for specific patterns of behavior, and provide symbolic fulfillment as support.

This thesis deals with the expansion of perceptual media, from a purely classical state to a humanistic state(in reference to "modern humanism") by relating it to man.

More specifically, the media will be related to the very most fundamental basics of man, his genetic/biological core, so the maintenance of health as defined by Maslow will be retained.

scale

Since man first became known as Homo-sapien, there has been mediation between himself and other objects, alive or natural. He has discovered his physiological limits; the beginning of identity with the environment.

For 50,000 years this environment and its scale, were such that man could easily identify with it. Generally the natural environment of forests, plains and deserts, although large and of great expanse, contained a series of size graduations which made it possible to understand the whole, a segment at a time. When the segments became such a size that man could psychologically or physically manipulate them; a size congruent with mans needs and capabilities; then the scale of the "vast" became a "human scale".

This physiological identification with ones environment has been set by the genetic permanency principle.

In general, scale is a process of question and answer in which perception of events answering the questions:

1. What is it
2. How close is it
3. How big is it

leads the viewer into an expectant situation, in relation to the next event.

If this relationship of expectation is contradicted, a state of confusion can result, with varying consequences.

In general the sequence of size graduation in architecture can proceed up or down depending upon the outcome desired.

Architecture which is meant to oppress the user(for reasons apart from any by the author), will contain size graduations beginning at humanly incomprehensibly large to even larger. This is especially evident in the Baroque Palace where a poser symbol is expressed and the size graduations are never contradicted.

Architecture can also be of a "human scale" and unoppressive by developing size graduations which are comprehensible. The Georgian Country House is such an example. Although large at distant glances, the size graduations break down upon going closer; from portico, to windows, door and steps. This sequence is maintained.

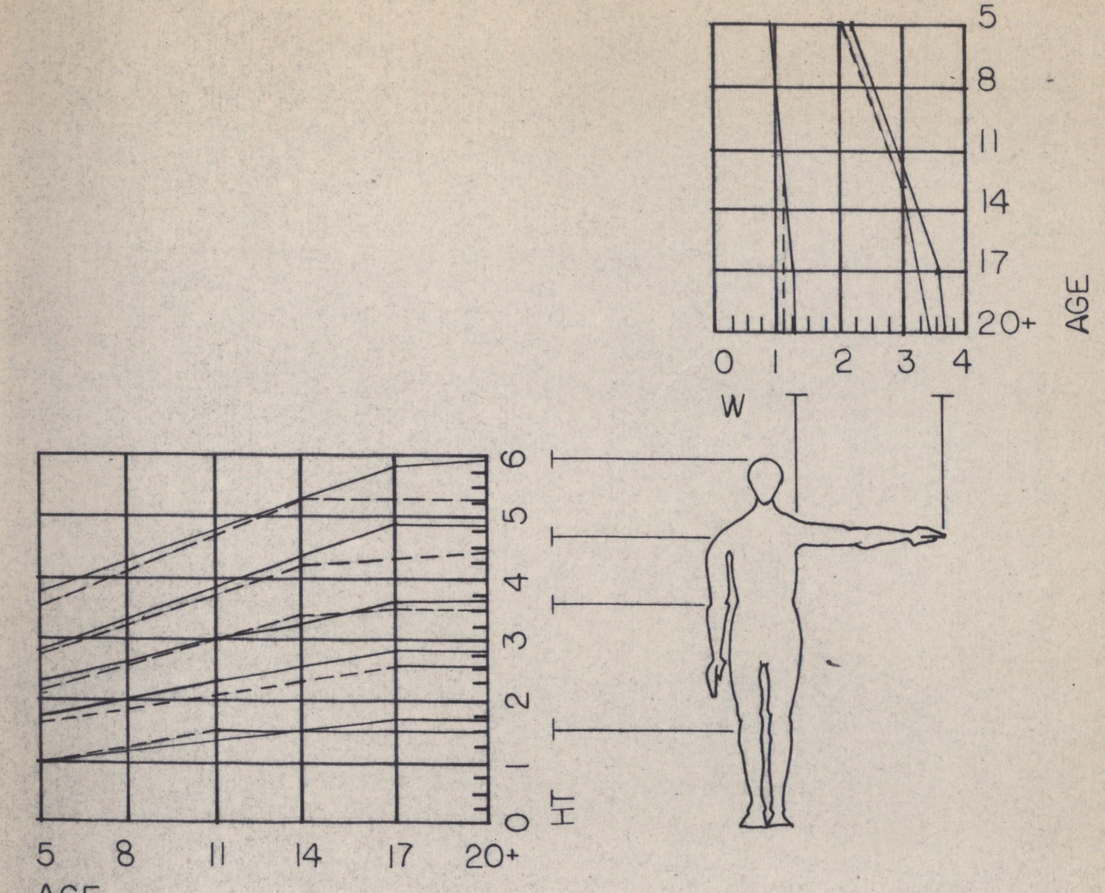
One can see that the society and time in which architecture is done, greatly affects the outcome of scale, and the relationship scale has with man's basic needs.

Architecture can reflect the need of a person or group of persons to dominate by reinforcing the upward size graduation. Belongingess may result by upward or downward graduation, depending

who one is; as the viewer and user.

The architect must be careful to evaluate the user so design flux is not present; maintaining the design/need sequence. To accomplish this, he must:

1. Determine what is to be expected at the outset
2. What scale order reinforces this
3. Make reassurance of this order positive.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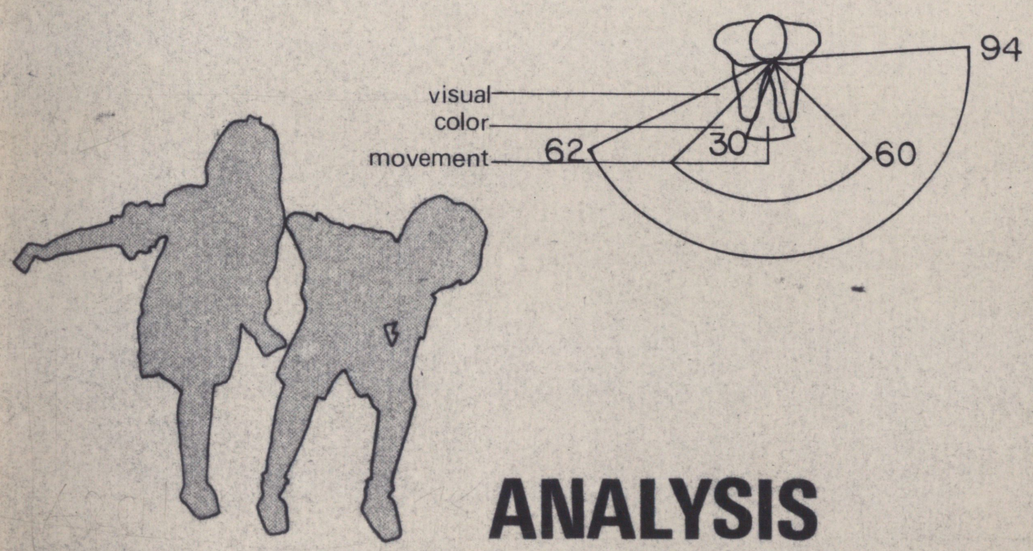
visual
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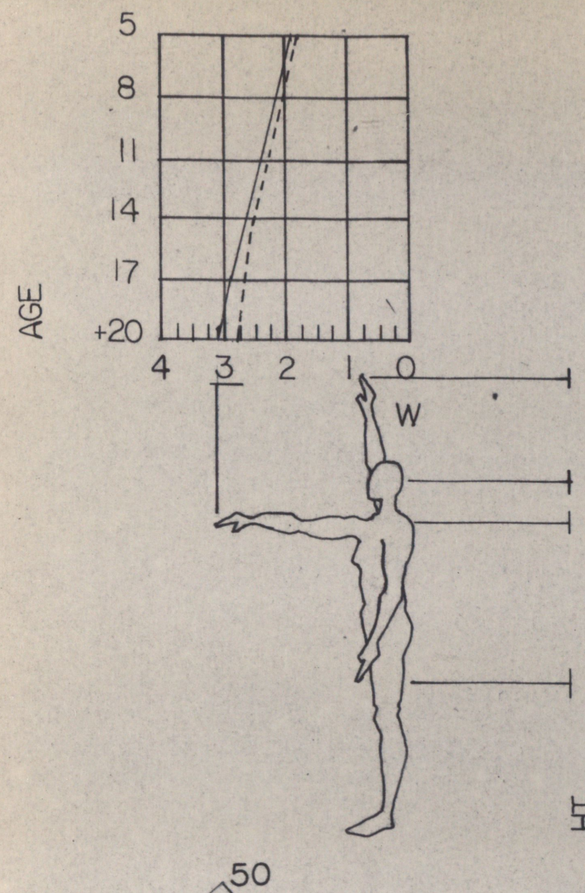
ANALYSIS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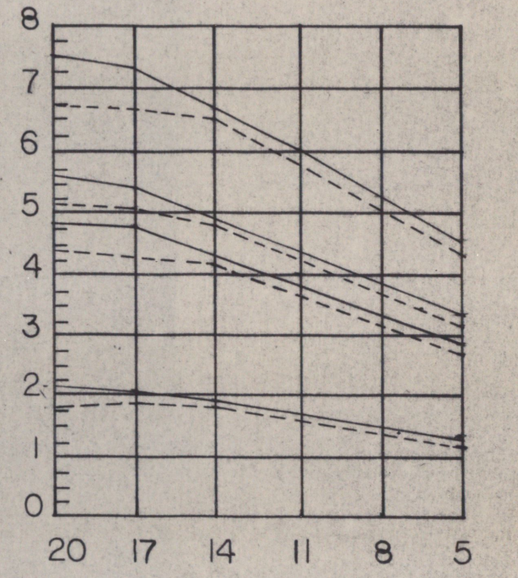
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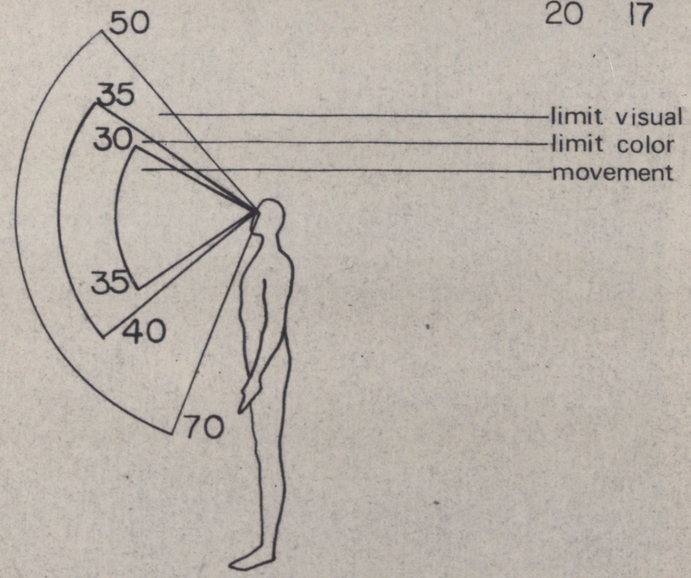
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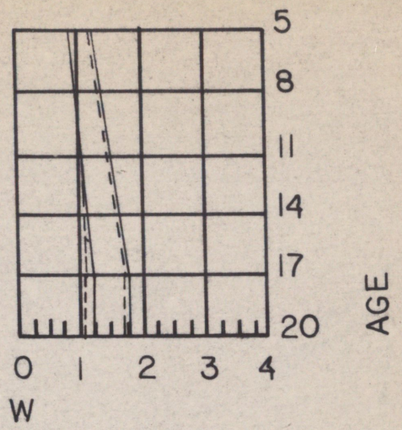
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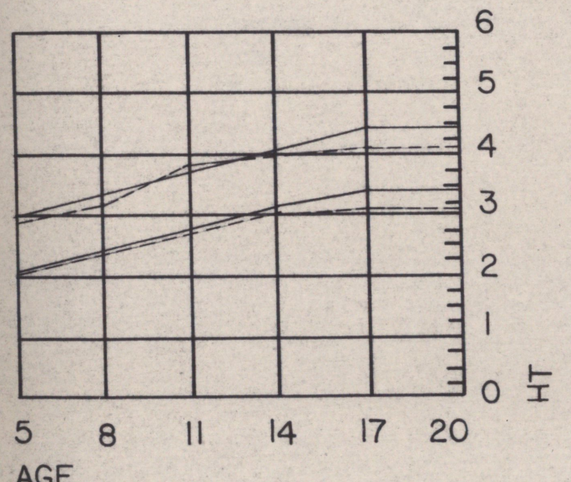
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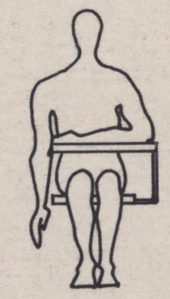

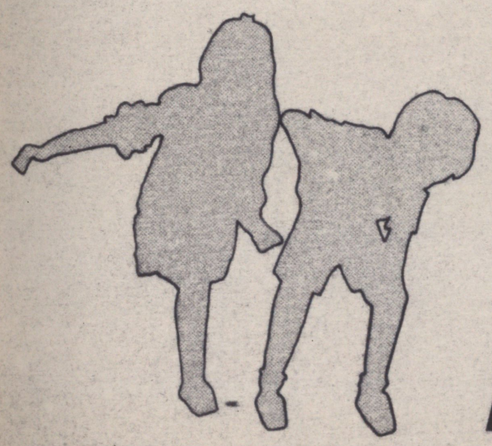

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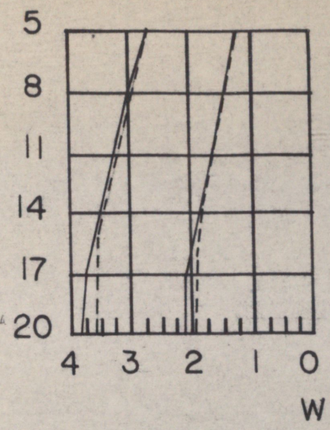
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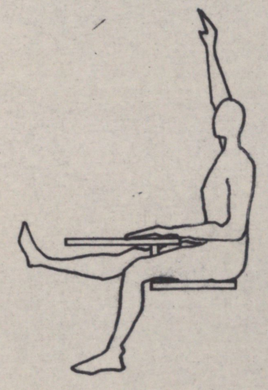

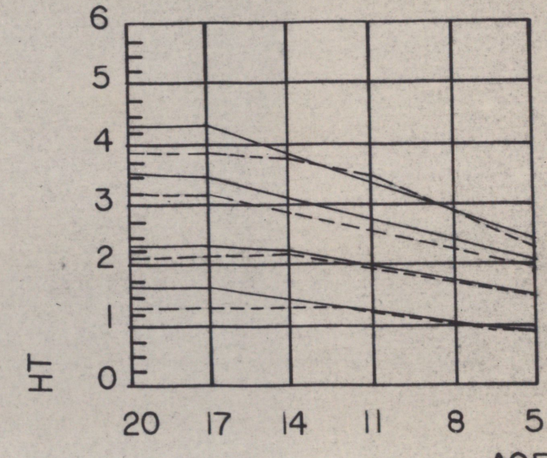
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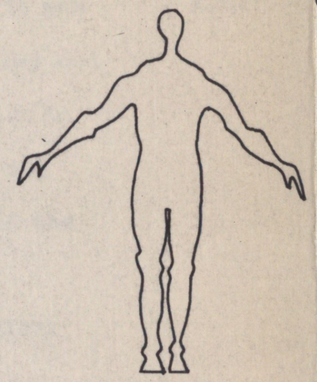
SCALE

BASIC

man

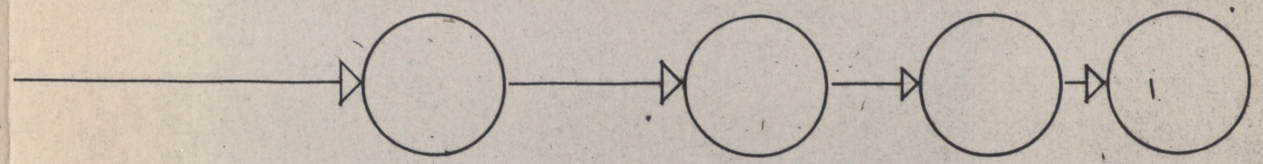
LIFE

natural
man
built

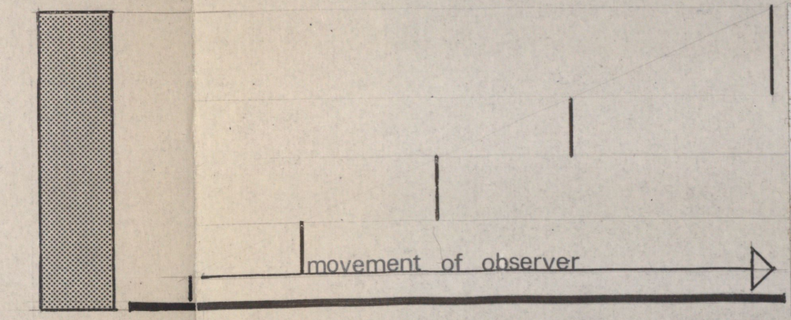


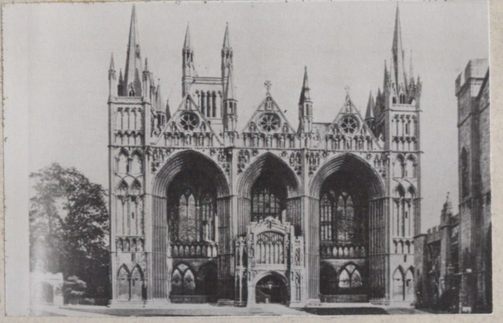
SELF

needs empathy

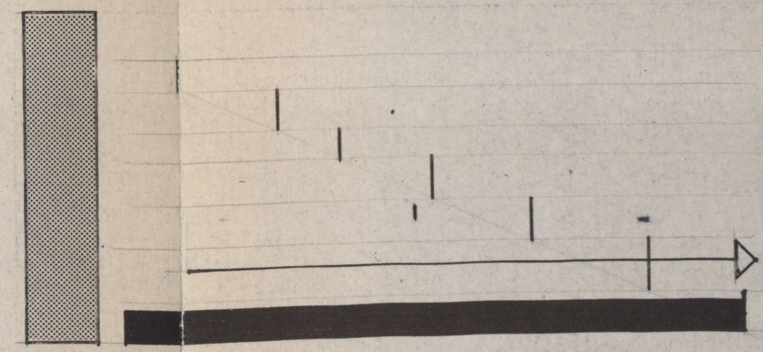


MONUMENTAL – PERSONAL



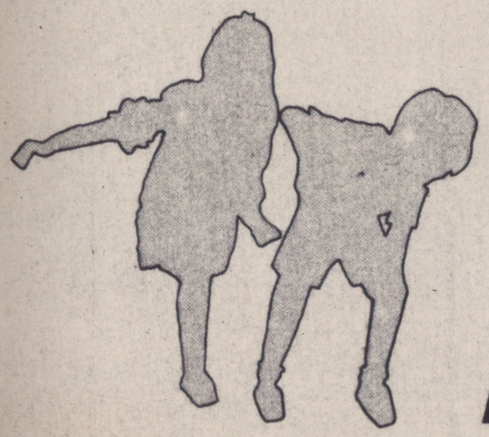


peterborough cathedral – english





seaton delaval – georgian



ANALYSIS

rhythm

Rhythm may be among the most basic events in relation to man and his development. It has roots in the sun, moon, tide, day and nite, the seasons, heart and motion. It can be seen manifest in mans most basic physiological needs as well as his highest and more independent needs for self-actualization in dancing and the arts.

The essence of visual rhythm is spacing, with the simplest indicated by incident and interval.

Incident and interval can be manipulated to form a range from staccato to legato, which may be perceived by the sensory mechanisms.

The modulation of scale in the Medieval cathedral produces a rushing rhythm by controlling the sequence from human, to statue, window, buttress, pinnacles, towers and sky.

As with scale, social attitudes and purpose, present design determinants.

RHYTHM

BASIC

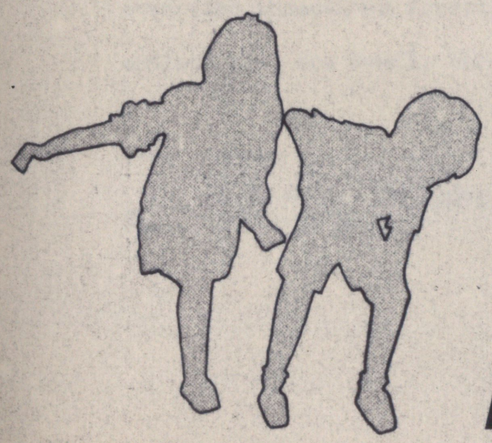
sun
tides
seasons
heart
running
music
dance

LIFE

natural
animal

BUILT

built environment
natural



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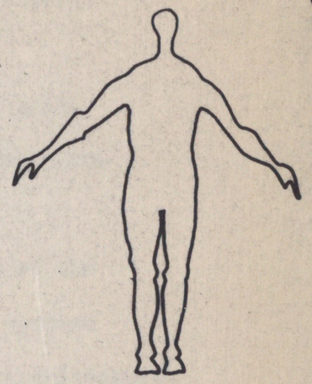
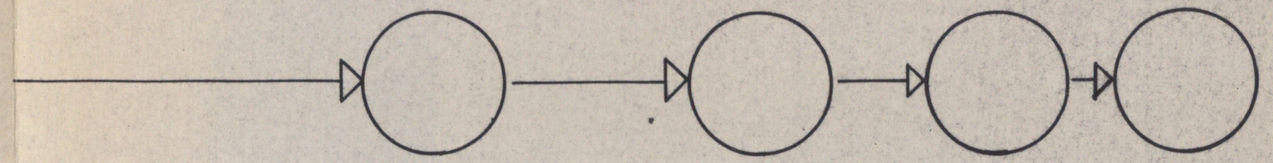


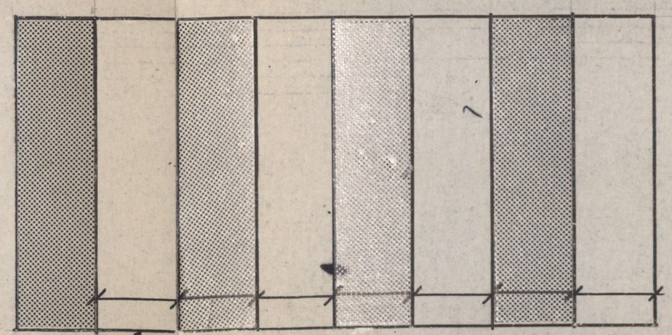
SELF

needs

contact with natural



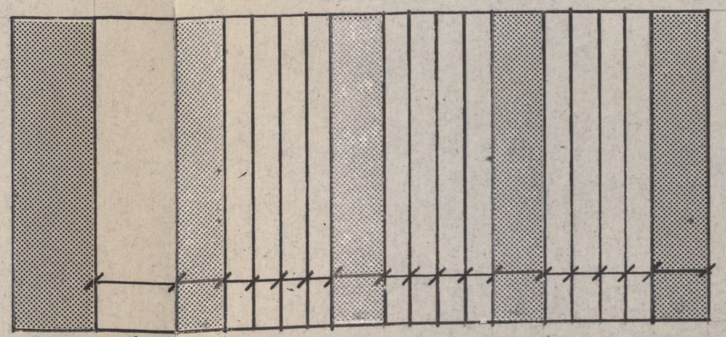
STACCATO – LEGATO



eye stops



santa maria maggiora basilica



eye stops



basilica of san paolo

fabric

Fabric is the origin of environmental input which is gathered by human sensory receptors.

The most fundamental fabric consists of air, water and soil. These are the very essence of material creation and hold man to the earth by genetic permanency.

As with scale and rhythm, fabric also demands analysis of the expected outcome, for direct manipulation of environmental systems produces a direct effect upon the user. Unfortunately, in architecture, man's core is considered less then the economics and effieiency of the fabric systems.

Fabric, in this thesis will concentrate on the relationships between users and between users and fixed, semi-fixed and informal or personal space.

"If...one sees man surrounded by a series of invisible bubbles, which have measurable dimensions, architecture can be seen in a new light. It is then possible to conceive that people can be cramped by the spaces in which they have to live and work. They may even find themselves forced into behavior relationships or emotional outlets that are overly stressful."[1]

---

[1]E.T. Hall, The Hidden Dimension, (New York: Doubleday and Co., Inc., 1969). p. 129.

Specifically, man should be able to manipulate the environment to the extent that his needs(both singular, small or large group relationships) can be accommodated. In this manner, the user is more able to fulfill his "basic core" and hence reach to higher actualizations.

FABRIC

BASIC

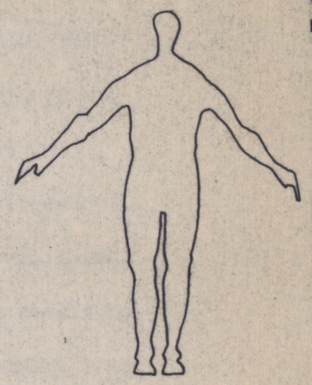
air
water
soil
sun
fire

LIFE

plant
animal

BUILT

built environment



SELF

needs

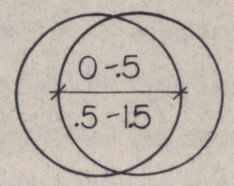
physiological
safety
belonginess
esteme
self–actualization

composition

physical ——————
psychological ——————

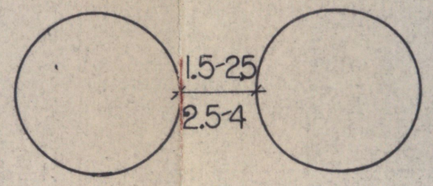
ZONE

INTIMATE



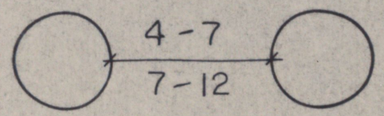
LOVE
COMFORTING
PROTECTING

PERSONAL



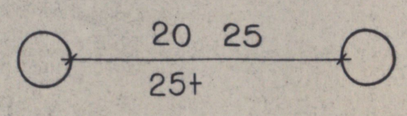
NON CONTACT DISTANCE
LIMIT PHYSICAL DOMINATION

SOCIAL



IMPERSONAL BUSINESS
WORKING DISTANCE
CASUAL GATHERING
FORMAL BUSINESS

PUBLIC



FORMAL
FADE OF CONTACT

kinesthesia ——————————————————————————————
thermal ----------
voice ···· — — —

school

Schools began with a man under a tree, a man who did not know he was a teacher, discussing his realizations with a few others who did not know they were students. The students reflected on the exchanges between them and on how good it was to be in the presence of this man. They wished their sons, also, to listen to such a man. Soon, the needed spaces were erected and the first schools came into existence. The establishment of schools was inevitable because they are part of the desires of man.

Our vast systems of education, now vested in institutions, stem from these little schools, but the spirit of their beginning is now forgotten. The rooms required by our institutions of learning are stereotyped and uninspiring. To be sure, the uniform classrooms required by the Institute, the locker-lined corridors and other so-called functional areas and devices, are arranged in neat packages by the architect who follows the area requirements and the budgetary limits established by the school authorities. But such schools, though good to look at, are shallow as architecture because they do not reflect the spirit of the man under the tree. Nevertheless, had the beginning not been in harmony with the nature of man, there would have been no beginning to the entire system of schools. The Existence Will of "school" was there even before the circumstances

of the man under the tree.

That is why it is good for the mind to go back to the beginning because the beginning of any established human activity is its most wonderful moment. For in that moment lies the whole of its spirit and resourcefulness, from which for present needs we must constantly draw our inspiration. We can make our institutions great by giving them, in the architecture we offer them, our sense of inspiration.

Reflect for a moment on the meaning of "school" as contrasted with "a school" or institution. The Institution is the authority from which we receive the special requirements for a school. A school, or a specific design, is what the Institution expects from us. But "school" -the spirit school, the essence of the Existence Will- is what the architect should convey through the medium of his design. It is here that the architect is distinguished from the mere designer.

The actual classrooms in such a school should not follow the usual soldier-like dimensional similarity but should invoke use through their spatial variety, for one of the most wonderful aspects of the spirit of the man under the tree is its recognition of the singularity of every man. A teacher or student is not the same with few, in an intimate room with a fireplace, as in a large, high room

with many others. And must the cafeteria be in the basement, even if it is not in use so much of the time? Is not the relaxing moment of the meal also a part of learning? A realization of what particularizes the domain of spaces ideal for "school" would make the designing of an institution of learning challenge the architect and awaken in him an awareness of what "school" wants to be, which is the same as saying an awareness of the form: school.

Louis I. Kahn

project choice

The extent of this thesis is infinite. Any architectural project should concern itself with the most basic core elements of man.

The environment has the greatest molding impact upon an individual during the first six to ten years of life. An elementary school would enable the designer to provide an enriched environment for a majority of people, near or within this age.

Also, because "school" has become so very institutionalized, the group as an entity is important. There is a great difficulty designing for individual idiosyncratic need in such environments, but design for "core" needs is possible.

location

The need for such a school in Whitefish, Montana, stems from rapid growth which is beginning to occure toward the north in the once tight community. A second factor is the Burlington Northern Railroad which cuts this growth (via a major rail yard complex) from the rest of the community. This cut has resulted in Lakeside, the northern portion of Whitefish.

Because this cut has eliminated any neighborhood connection with the existing elementary school, a project for a future school in Lakeside was conceived.

goals

Maslow has defined several goals for education in general, and specifically humanistic education. They are:

1. See basic needs are satisfied
2. goal is self-actualization
3. finding oneself
4. discovery of identity
5. hear inner feelings
   a. those that do are healthier with higher I.Q's.
   b. those that do not, have not met basic needs
6. Help in transcending to self-actualization
7. joy in life
8. giving the child peak experiences
9. refreshen consciousness so that we are continually aware of the beauty and wonder of life

The thrust of this thesis deals with the latter two elements. It should give the child peak experiences, and refreshen their consciousness so that they are aware of life.

To accomplish this end, the lower needs in the hierarchical scale must be met. This will be attained by awareness of design flux in:

1. Maintaining the physical, social and psychological state necessary for people to attain their goals

2. Provide for and allow people to perceive opportunities to attain their goals

3. Provide the symbolic and affective functions necessary

The basis of design awareness are the elements of the general and the human requirements as given earlier by E.T. Hall.

program

The optimum school density is 350 students with 25 students per teacher. It is felt that these densities provide more then adequate teacher-student contact and solve the problems of over-crouding in relation to varied projects which may want to be done.

Implementation of the project would begin when the growth of Lakeside produced student densities sufficient for the neighborhood concept.

The following program stems from these simple concepts:

ADMINISTRATION

Principal	200 sq. feet
Storage	300
General office	1100
Waiting	700

HEALTH

Health	300

GUIDANCE

Conference	250/term

TEACHERS SPACES

Teacher prep	425
Teacher Resources	300
Lounge	300

MULTI-PURPOSE	4600
KITCHEN	
Kitchen	900
Lockers	200
Storage	800
LIBRARY	
Library	5800
Audio-Visual	300
Audio-Visual use	600
Storage	300
TERM	
Four pods per term	5160
TOILETS	
Boys/level	225
Girls/ level	225
Men	100
Women	100
CUSTODIAN	
Storage	840

MECHANICAL

Mechanical	900

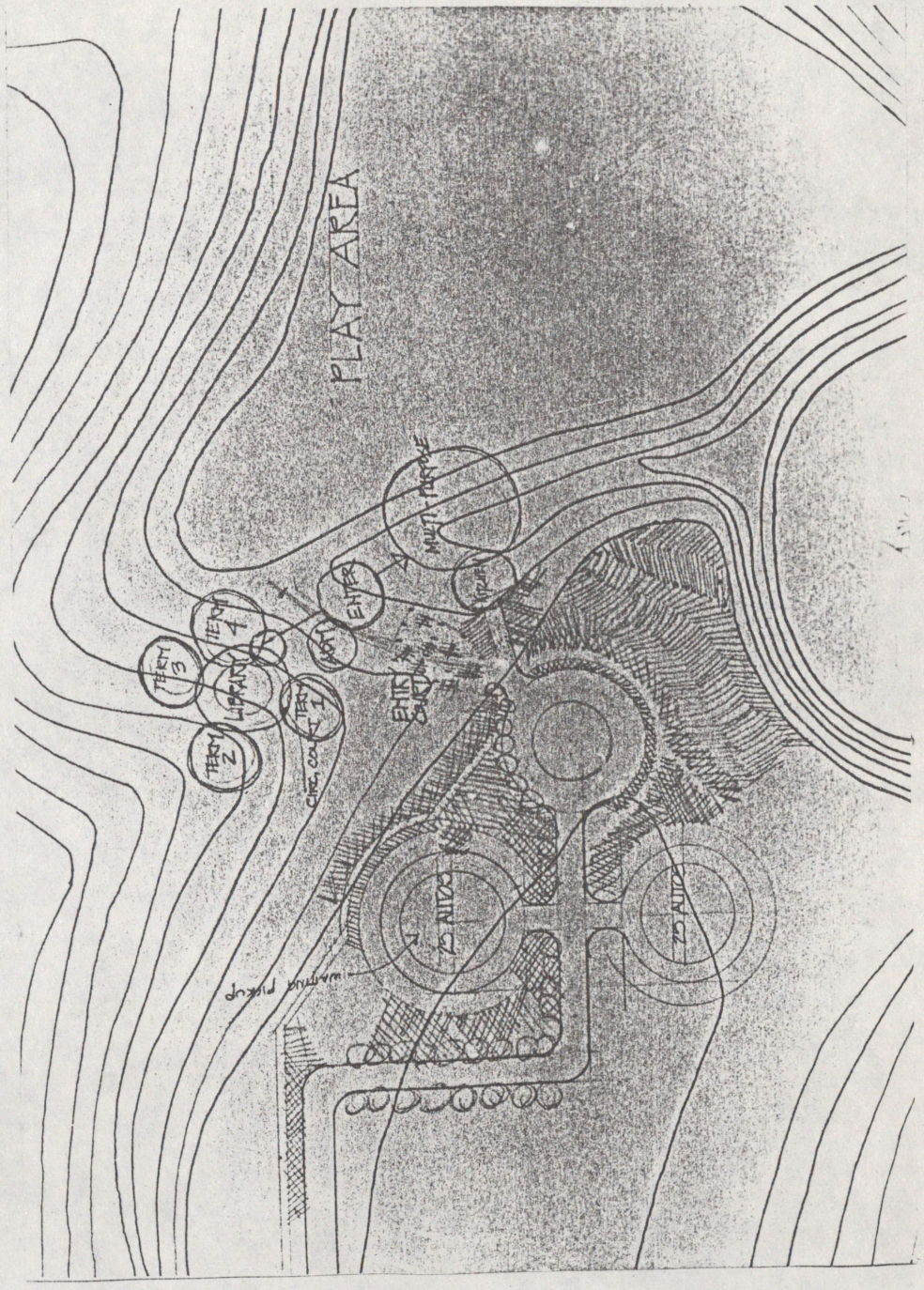
Total final square footage:

Entry level	3320
Main level	35857
Second level	18545
	57700

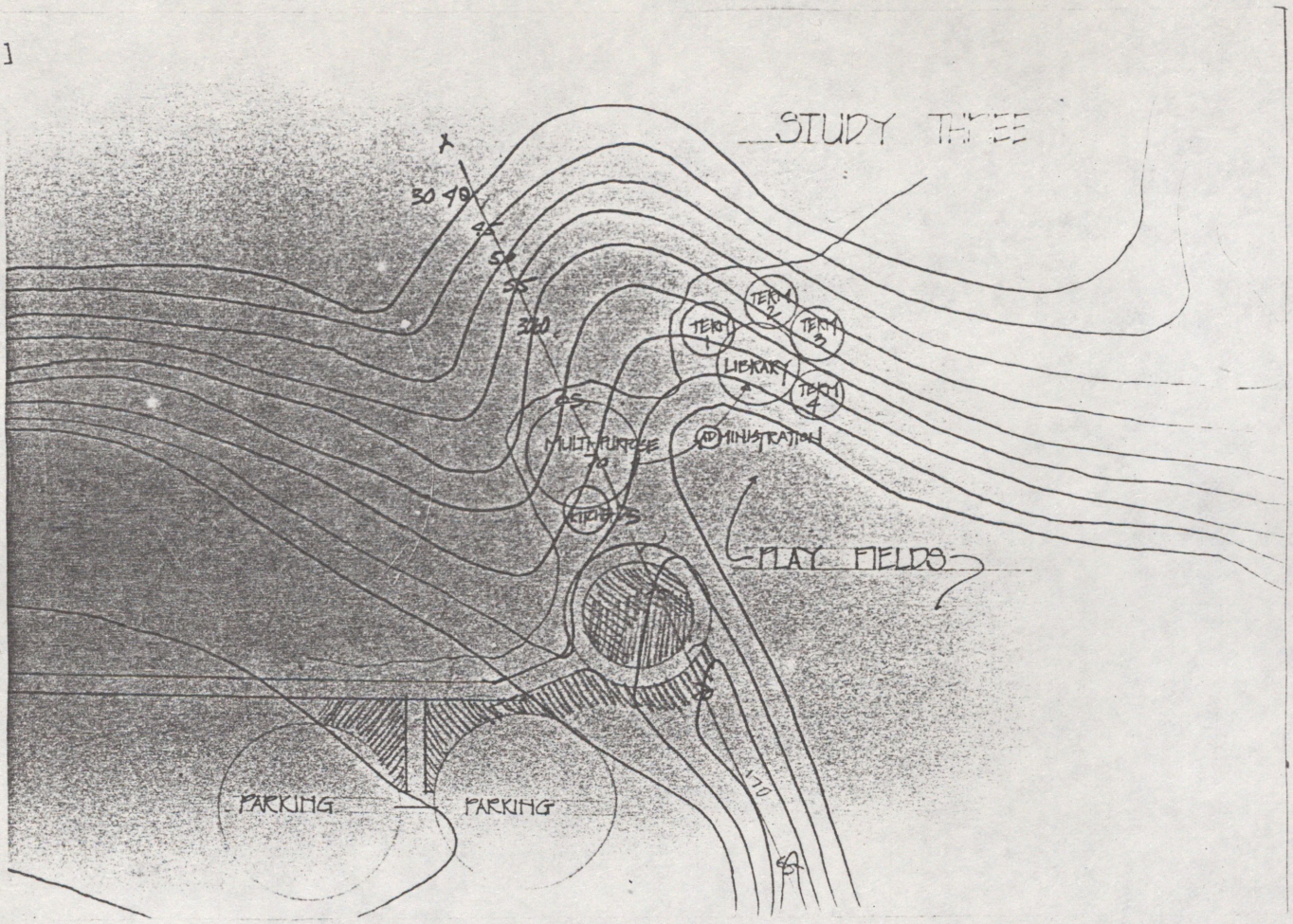
process studies

33

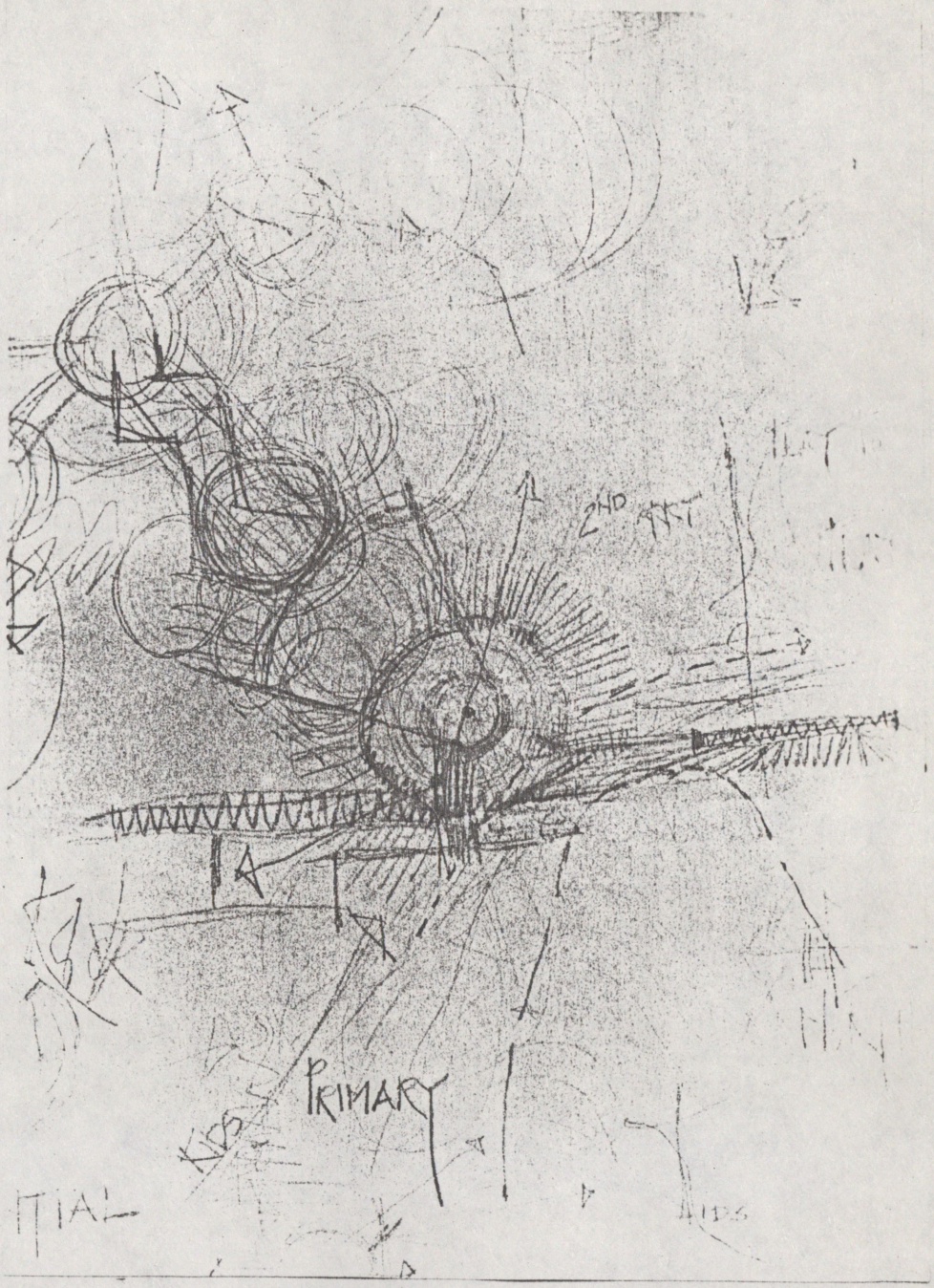
A


PLAY AREA
TENT 3
TENT 4
TENT 2
TENT 1
ENTRY
EXIT
MAIN ENTRANCE
COIN CT
AUTO CT
CIRC. DRIVE
WATER PICKUP

B


STUDY THREE
TERM 1
TERM 2
TERM 3
TERM 4
TERM 5
LIBRARY
ADMINISTRATION
MULTI-PURPOSE
PLAY FIELDS
PARKING
PARKING

D



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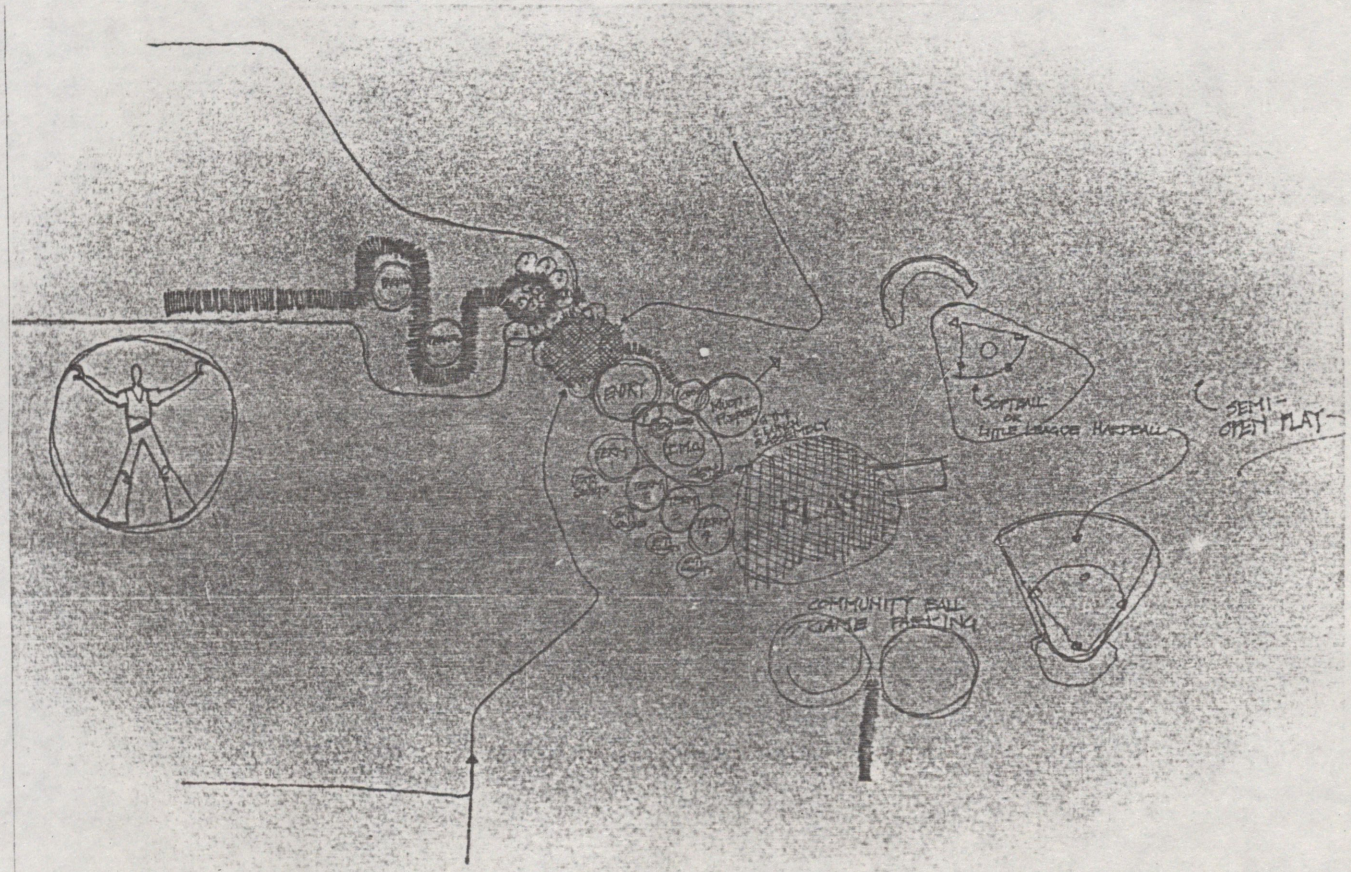
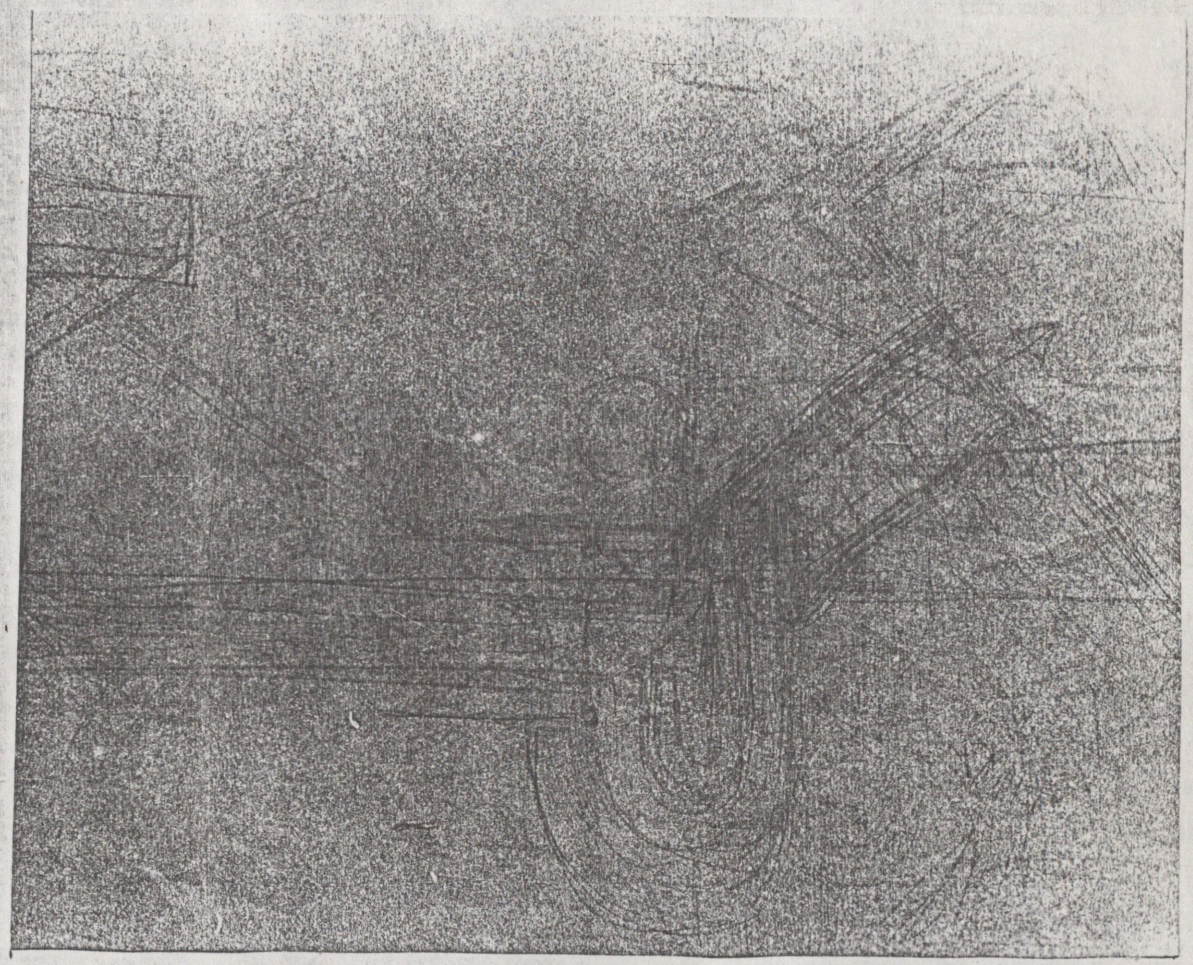

SOFTBALL
LITTLE LEAGUE BASEBALL
SEMI-
OPEN PLAY
PLAY
COMMUNITY BALL
GAME PARKING

G



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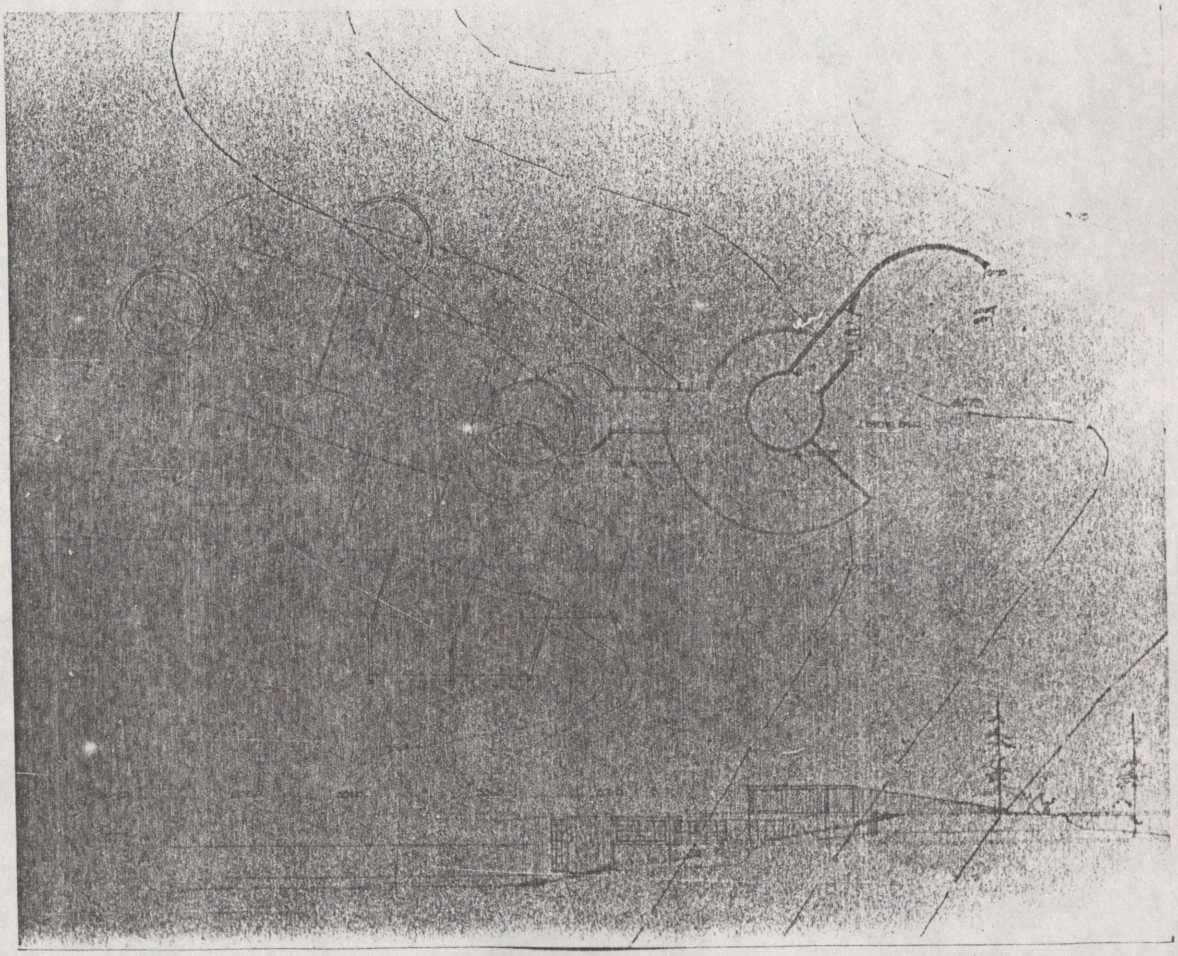

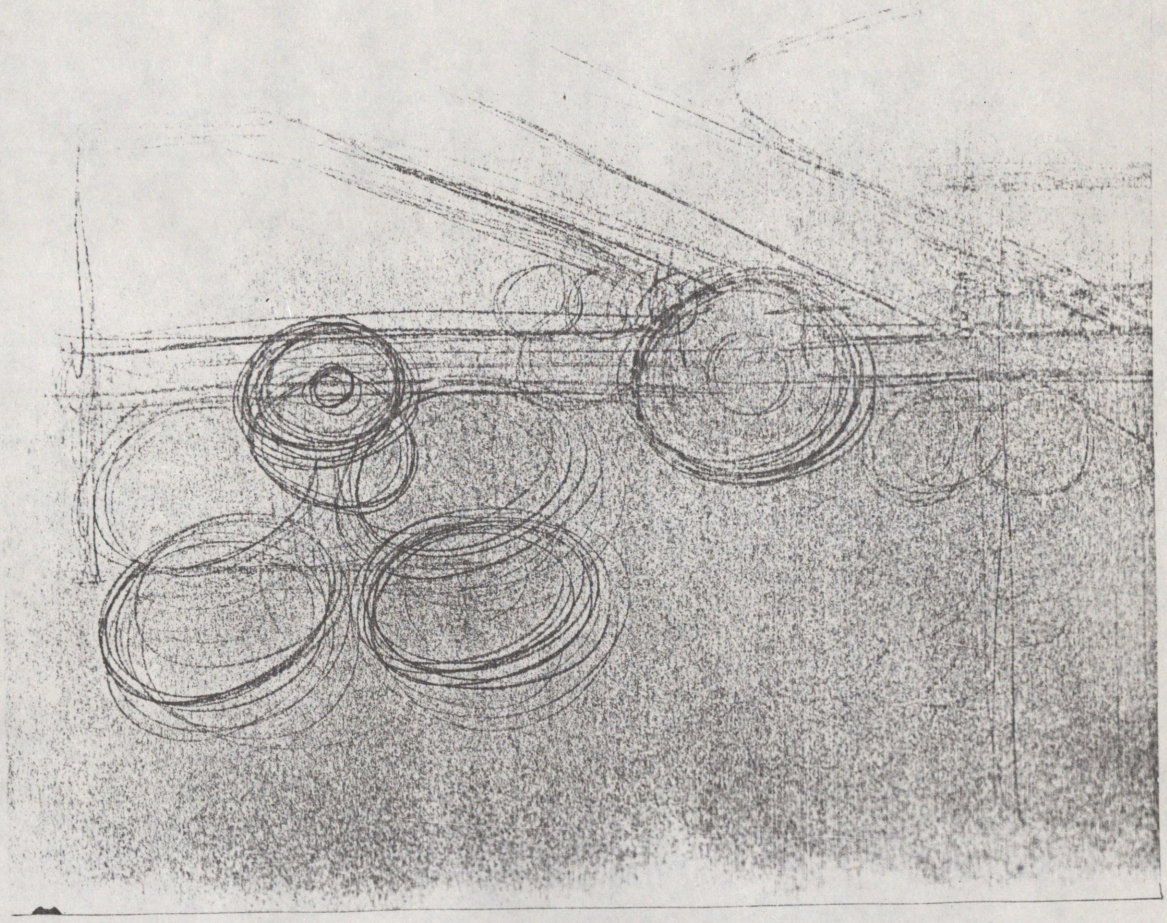

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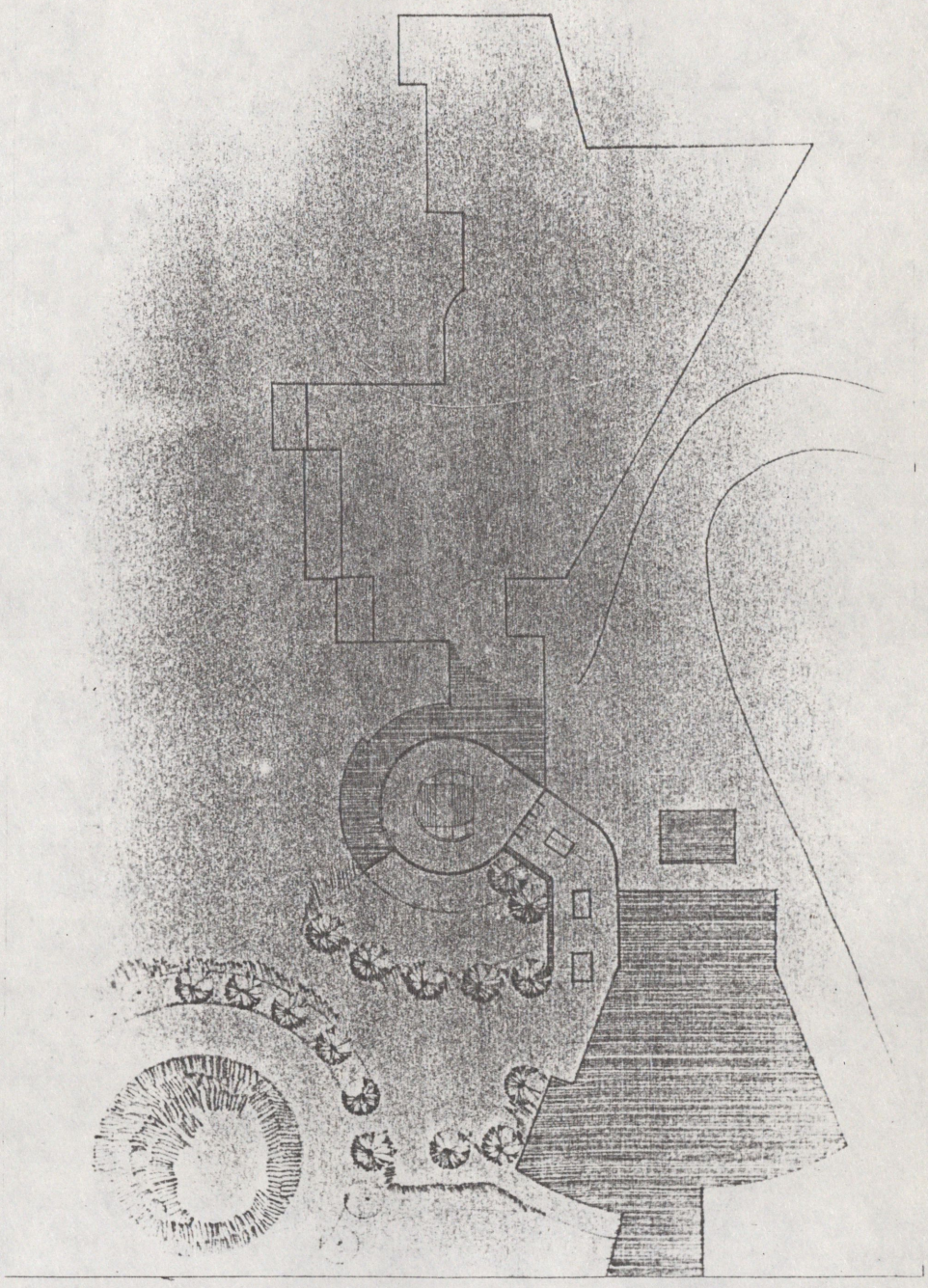

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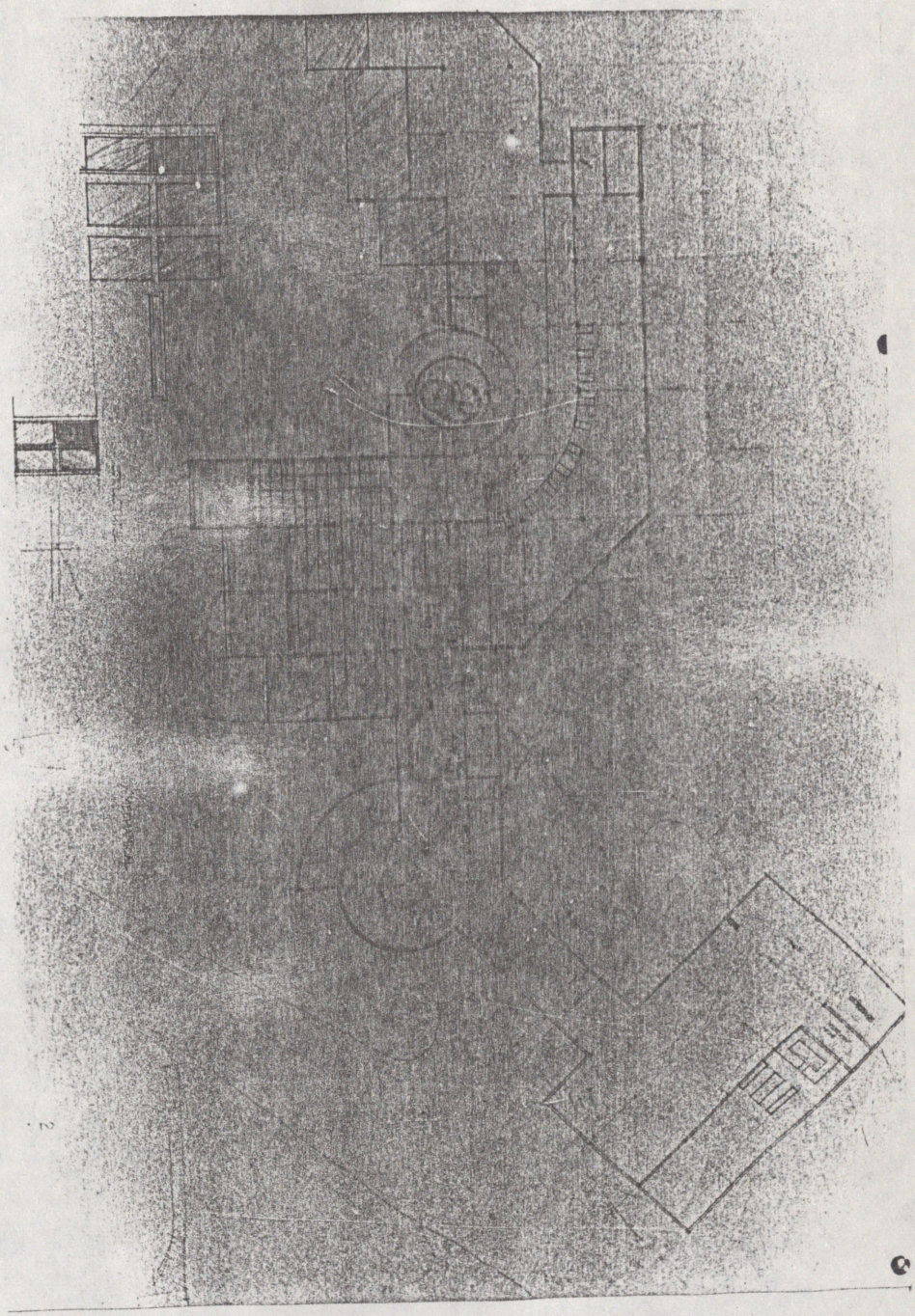

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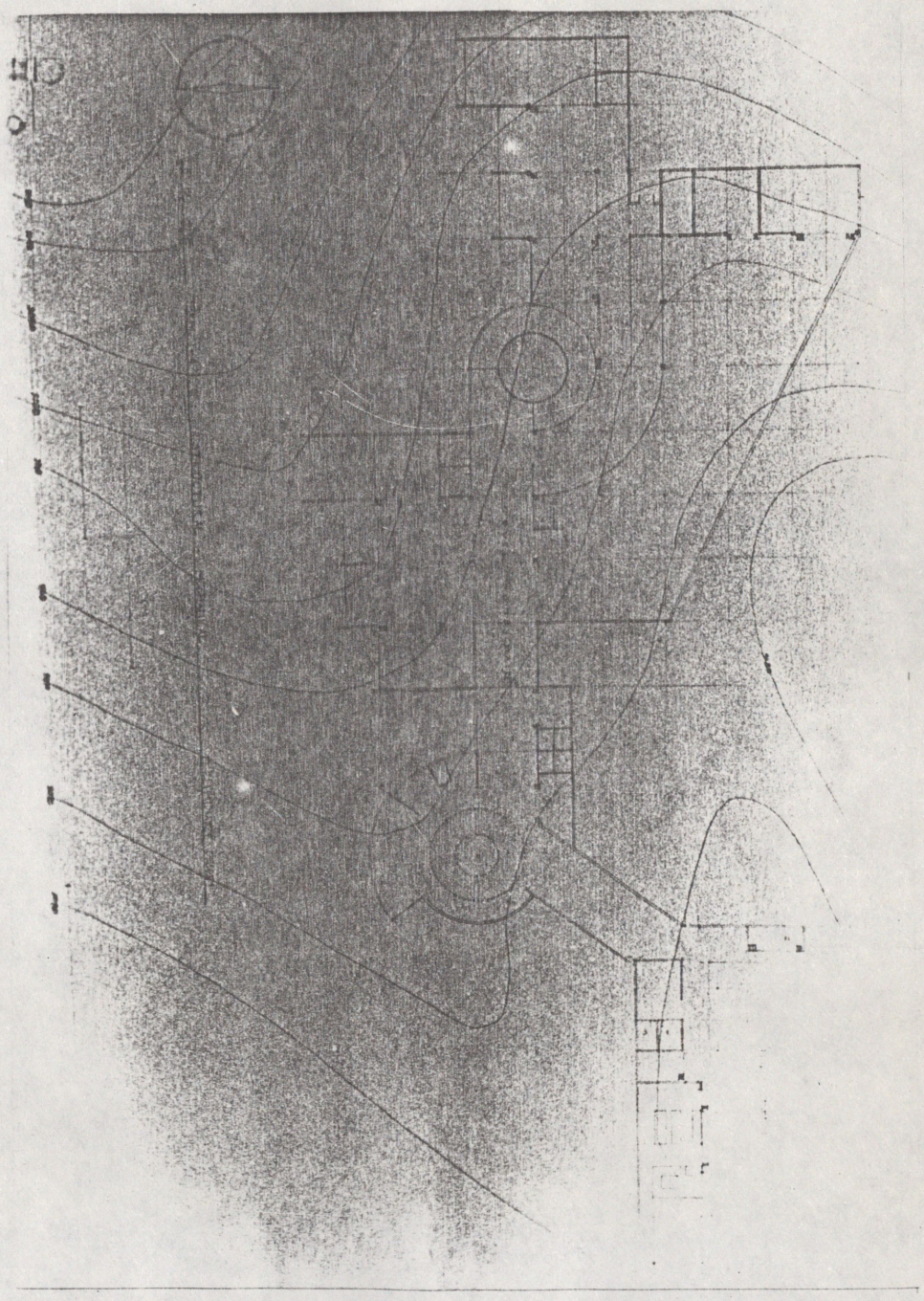

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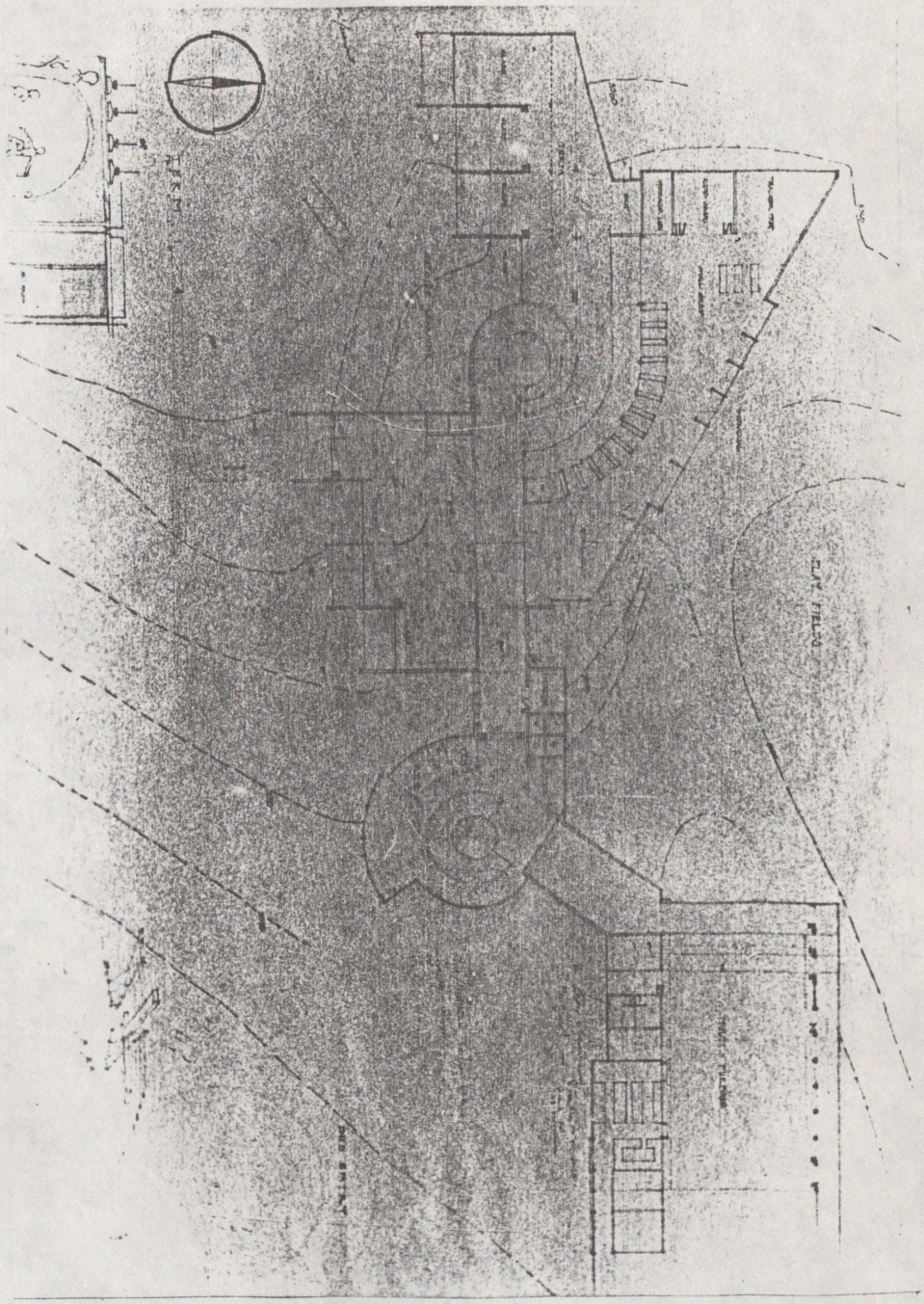

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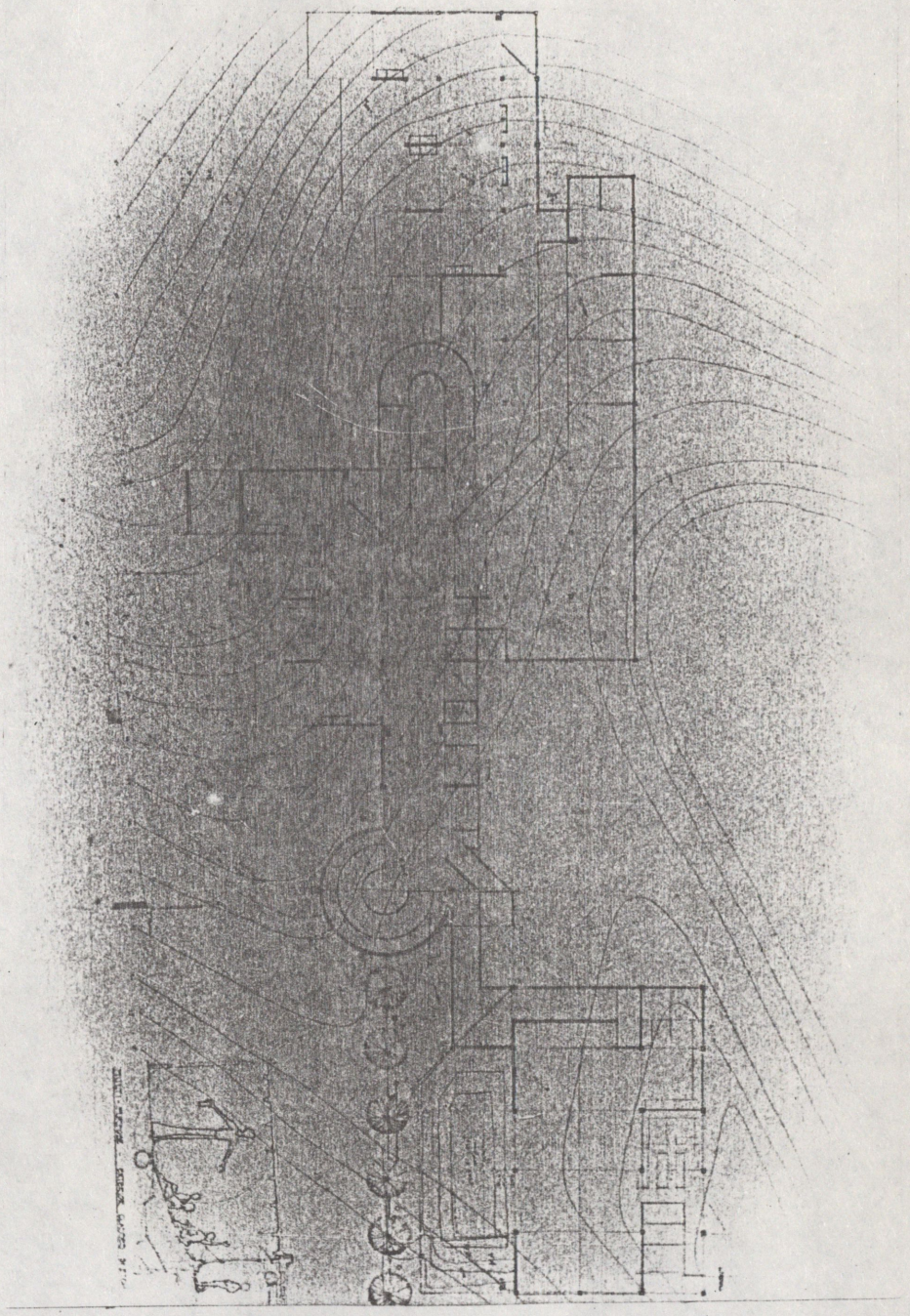

conclusion

The thrust of this thesis has been to expose the student to inborn genetic core by satisfying the lower human needs and bringing to light self-actualization, a high goal of education.

In afterthought, the end was not easy to attain, but has given a "core" beginning to design sensitivity and process. This reinforces the idea that architecture can respond to human need and development; much farther than pure functionalism. Architecture can maintain the human spirit and reflect this spirit.

bibliography

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(Harry Schmautz, Architect)
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Kommers-McLaughlin, Architects
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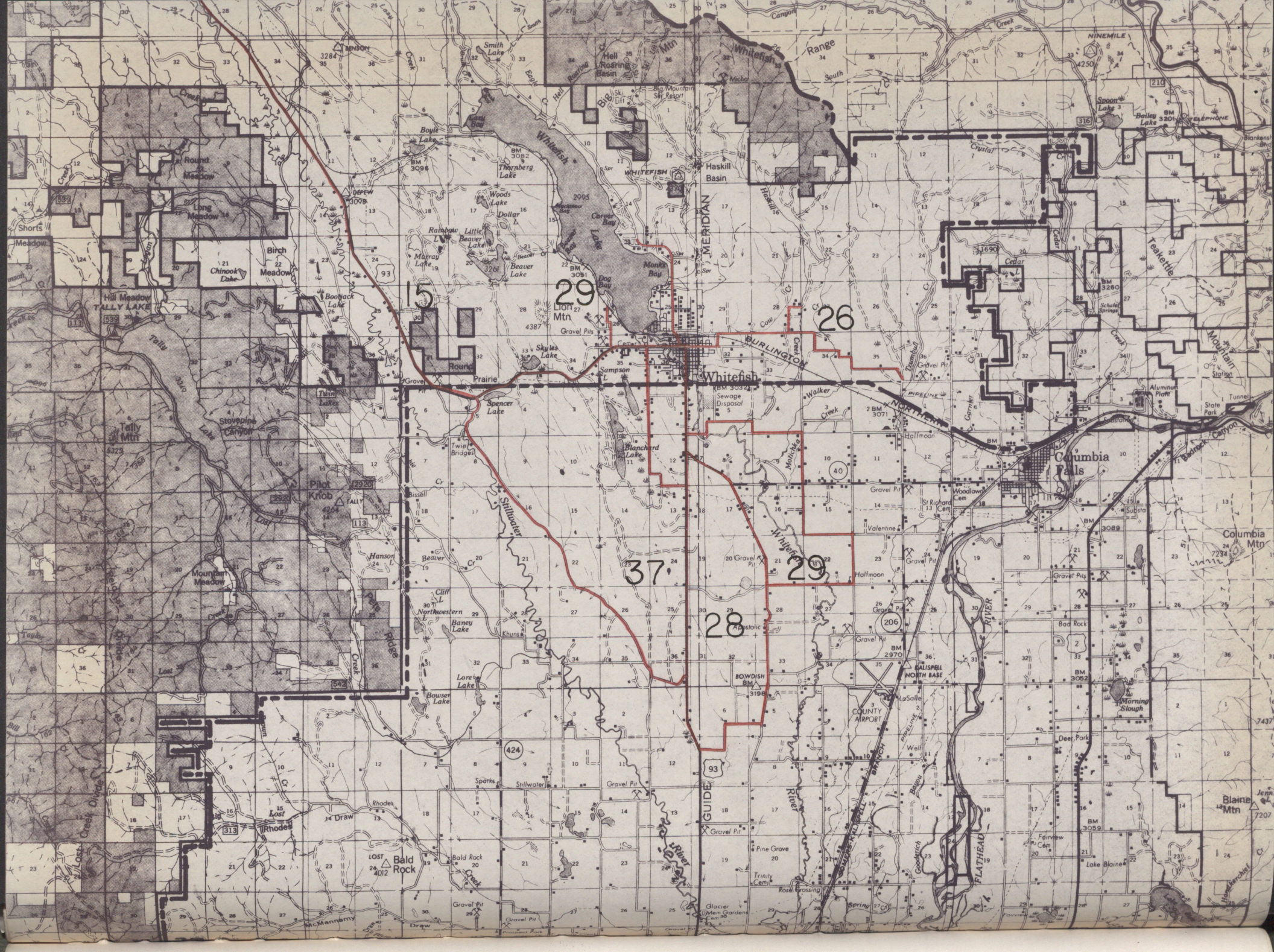
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Halfmoon
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Blaine Mtn
Bald Rock
Flathead River
Stillwater River
Whitefish River
Big Mountain Ski Resort
Glacier Memorial Gardens
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Kalispell North Base
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Great Northern Pipeline
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Guide
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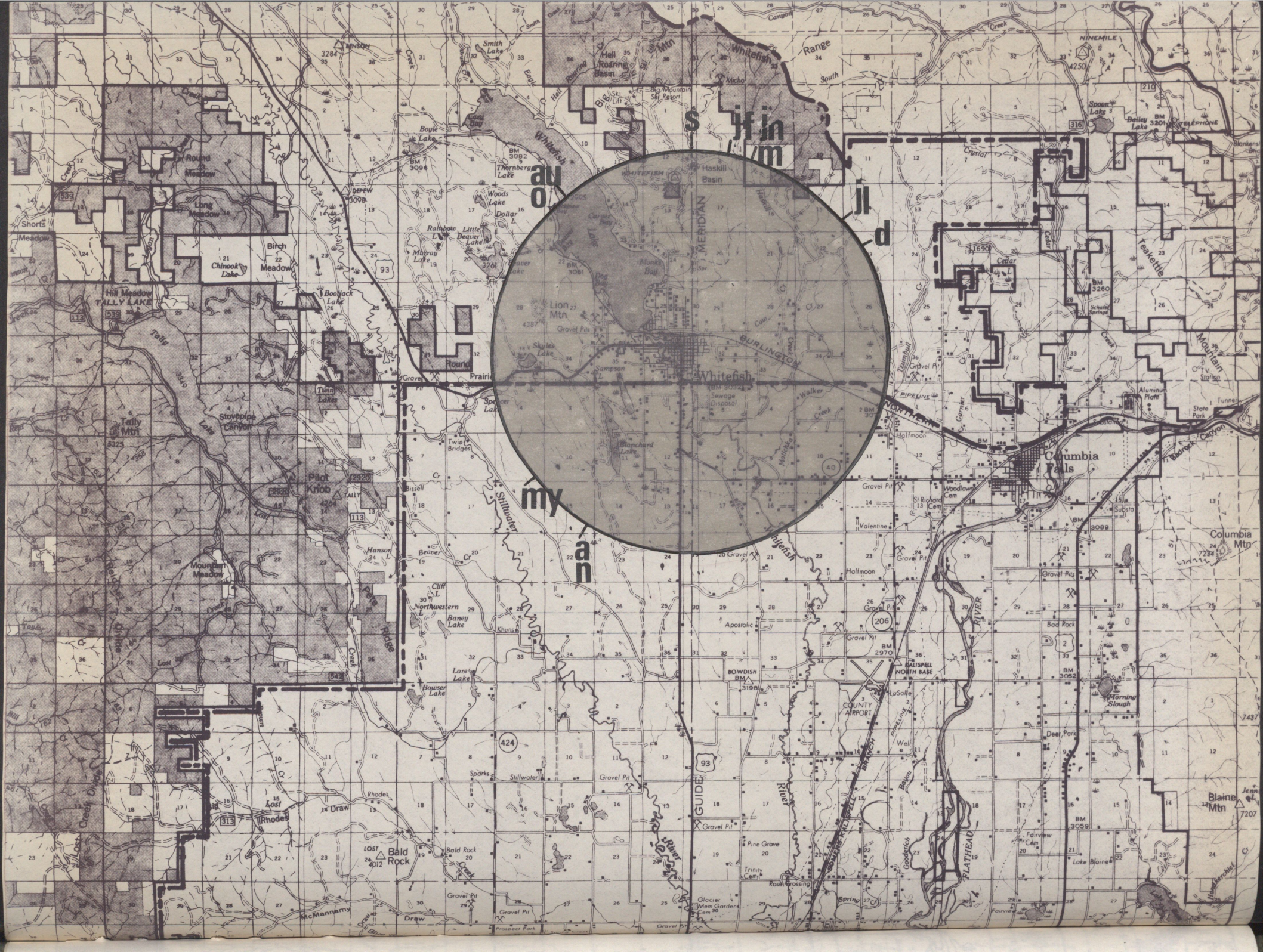
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Flathead River Branch
Middle Fork Flathead River
Columbia Mountain
Blaine Mtn
Tally Lake
Hill Meadow
Tally Mtn
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Mountain Meadow
Lost Creek Divide
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Fairview Cem
Trinity Cem
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Pine Grove
Spring Cr
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Morning Slough
Bad Rock
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Valentine
Woodlawn Cem
St Richard Cem
Gravel Pits
Gravel Pit
Sewage Disposal
Aluminum Plant
Tunnel
Mountain View Station
Teakettle Mtn
Cedar
Crystal
Spoon Lake
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Smith Lake
Boyle Lake
Round Meadow
Long Meadow
Shorts Meadow
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Chinook Lake
Bootjack Lake
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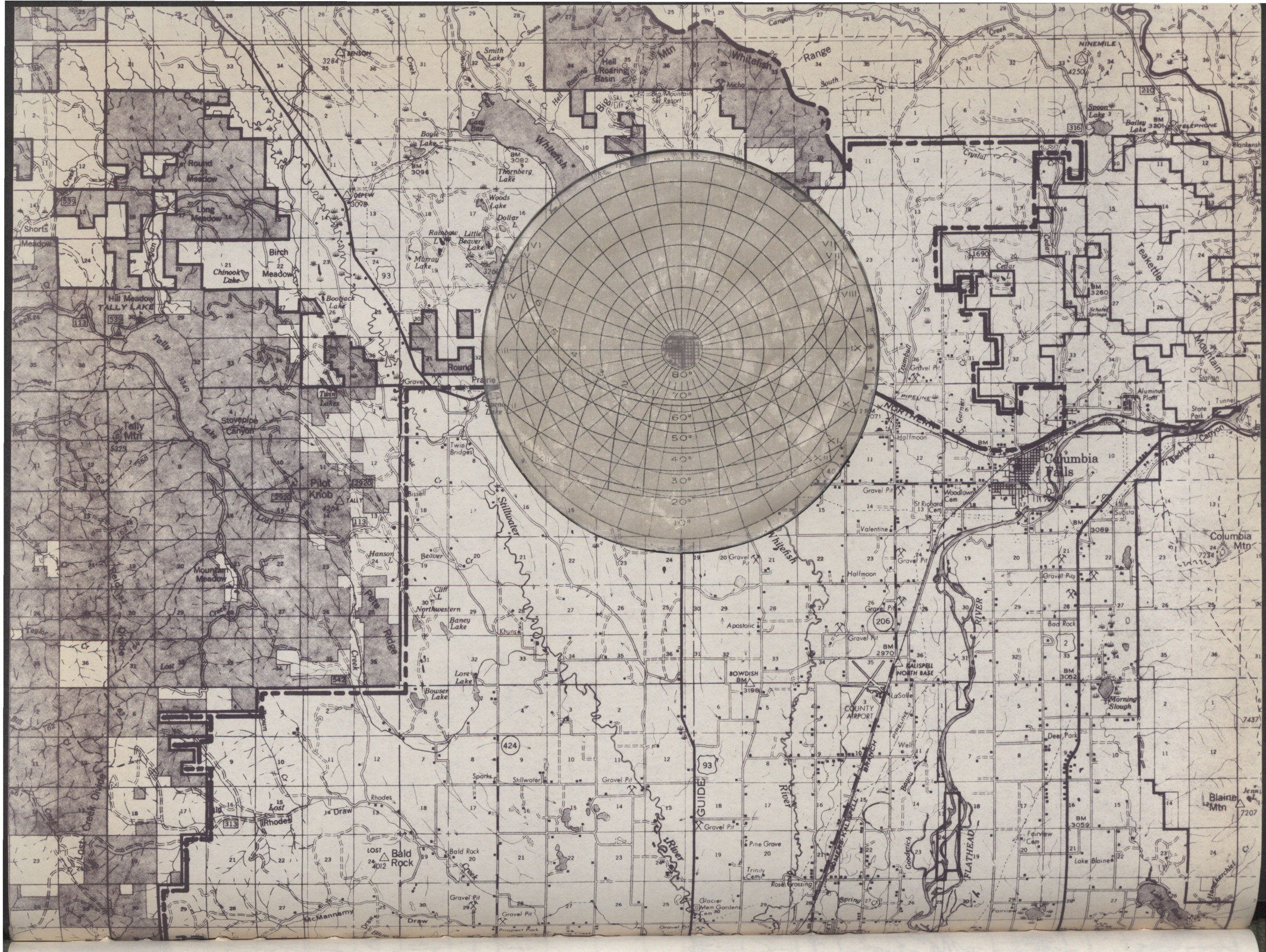
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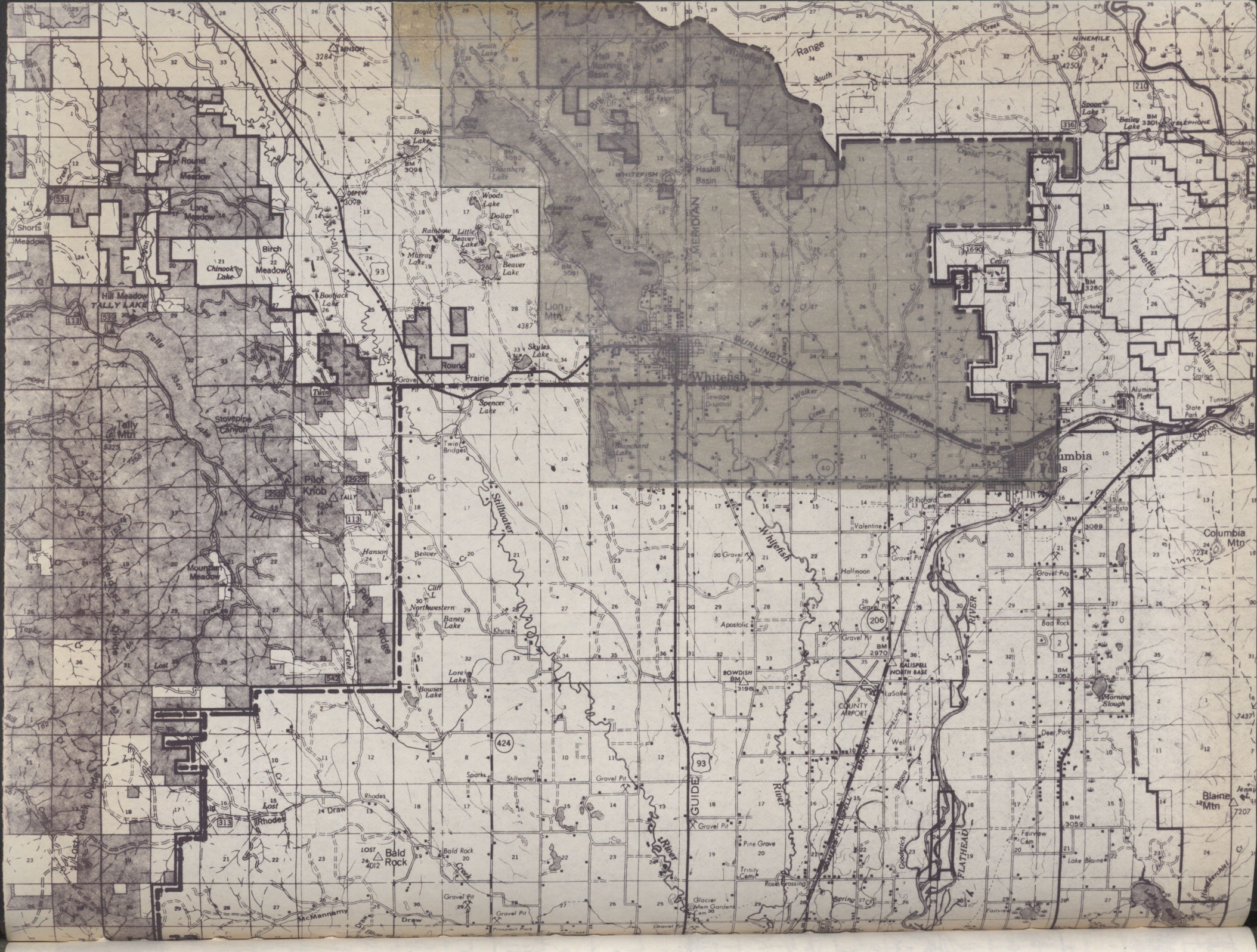
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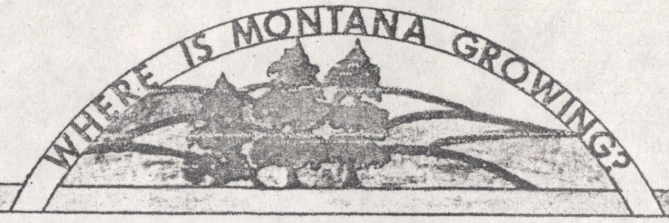
BM 3032
Sewage Disposal
Aluminum Plant
TV Station
Substa
Tunnel
State Park
Woodlawn Cem
St Richard Cem
Gravel Pit
Well
Pipeline
Burlington Northern
Great Northern
Pipeline Branch
Canyon Creek
Cow Creek
Walker Creek
Ninemile Creek
Crystal Creek
Cedar Creek
Mountain Creek
Whitefish Lake
Smith Lake
Thorneberg Lake
Hell Roaring Basin
Meadow Bay
Canyon
Range
South
Ninemile
Spring
Well
Pipeline
Gravel Pit
Prospect Park
Glacier Mem Gardens Cem
Fairview Cem
Lake Blaine
Rose Crossing
Trinity Cem
Pine Grove
Deer Park
Morning Slough
Bad Rock
Columbia Falls
Columbia Mtn
Blaine Mtn
Whitefish River
Flathead River
Stillwater River
Lost Creek
Lost Creek Divide
Lost Creek Ridge
Bald Rock Creek
McMannamy Draw
Rhodes Draw
Sparks
Shillwater



SUBDIVISION INVENTORY: 500,000 acres already split—with no end in sight.

Over half a million acres of Montana land is subdivided into pieces 40 acres or less, according to results of a statewide subdivision inventory completed by the Environmental Information Center (EIC).

Counties that top the acreage list include Flathead, 56,441 acres; Ravalli, 50,267; Missoula, 40,815; Musselshell, 33,031, and Gallatin, 19,999. These five counties include over half the recorded subdivided acreage in the state. (See chart for results from the 35 counties inventoried.)

From certificates of survey and subdivision plats in 35 of the state's 56 counties, EIC came up with a total of 334,017.9 acres subdivided into 114,085 lots. Because of inconsistencies in subdivision recording processes and unrecorded contract-for-deed sales, EIC projects this subdivided acreage is actually closer to half a million acres, which still could be a low estimate.

The inventory was conducted in summer 1974 by EIC staff members Tina Torgrimson and Rodd Hamman and volunteers throughout the state. Data collected included location, ownership, filing date, acreage and number of lots in each subdivision. Because of time and distance involved in collecting even minimal data, 21 counties were omitted from the inventory.

The EIC inventory is the first citizen effort of its kind in the nation. The EIC, a Helena-based non-profit citizens' group, monitors the activities of the legislature and state agencies and works to build stronger grass-roots support for the wise use of Montana's resources.

Phil Tawney, EIC director, said the need for an inventory was recognized during the 1973 legislative session when citizens realized that nobody—including state and county governments—had any idea of how much Montana land was subdivided. Therefore, Tawney added, nobody understood the effects of rapid, uncontrolled development on agriculture, wildlife habitat, watersheds, critical areas, taxation and costs of county services. The inventory was launched to give Montanans proof of the extent, pace, costs and ramifications of subdivision development, Tawney said.

When all the results are compiled, the inventory will show:

- the total amount of land (state, federal, private

SUBDIVISIONS

COUNTY	NUMBER OF LOTS	ACREAGE
Beaverhead	308	1,867.3
Big Horn	786	661.5
Broadwater	53	151.1
Carbon	1,287	2,620.6
Cascade	1,090	8,459.6
Custer	1,218	17,876.1
Deer Lodge	1,203	1,832.2
Fergus	106	1,460.0
Flathead	19,182	56,441.7
Gallatin	4,472	19,999.4
Glacier	247	634.6
Golden Valley	52	1,204.0
Granite	975	3,887.5
Jefferson	737	2,866.2
Judith Basin	721	1,460.2
Lake	2,250	9,879.6
Lewis and Clark	3,006	10,659.0
Lincoln	1,979	2,993.8
Madison	2,114	13,475.0
Meagher	206	1,401.9
Mineral	417	2,135.5
Missoula	54,823	40,815.5
Musselshell	1,049	33,031
Park	1,849	3,051.9
Pondera	50	557.5
Powell	281	6,928.0
Ravalli	7,560	50,267.2
Rosebud	50	454.2
Sanders	658	1,398.3
Silver Bow	1,081	2,129.3
Stillwater	1,209	8,713.4
Sweet Grass	86	703.2
Teton	111	352.9
Toole	6	2.081
Yellowstone	2,881	18,646.6
Total	**114,085**	**334,017.9**

A UNITED STATES DEPARTMENT OF COMMERCE PUBLICATION

LOCAL CLIMATOLOGICAL DATA
ANNUAL SUMMARY WITH COMPARATIVE DATA

KALISPELL, MONTANA

1973

U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION ENVIRONMENTAL DATA SERVICE

NARRATIVE CLIMATOLOGICAL SUMMARY

Since the climate of the Flathead Valley differs materially from that just east of the Continental Divide (the Divide is approximately 40 miles to the east of the station), it can principally be attributed to the influence of the topographical features. The high mountains to the east form an effective barrier to many severe winter cold waves that move down over sections east of the Rockies from Alberta. The mountains to the east rise abruptly 4,500 feet above the valley floor. Their elevation and snow remaining on the crests until late spring assure frequent and beneficial rains by cooling of moist air moving from the west.

In addition to Flathead Lake, the valley contains four smaller lakes, three rivers, and numerous streams and sloughs. Until late in the winter when a large portion of the lakes and sloughs become frozen over, this water surface tends to limit temperature extremes. This effect is most noticeable in the southern end of the valley, because of more influence of Flathead Lake. Due to its size, Flathead Lake seldom freezes over.

The weather at the airport is considerably different in some respects from the weather in Kalispell. Generally there is more cloudiness at the airport since it is closer to the mountains to the east and north. Moist air moving in from the west and southwest, lifting and cooling as it moves over the mountains, is the major cause. In connection with this, there is averagely more precipitation on the east side of the valley than on the west side. Average snowfall during the winter at the airport is 67 inches and in Kalispell it is 49.4 inches.

Starting in March and lasting through September the prevailing wind from 11:00 a.m. until 7:00 p.m. is from the southeast. This wind blows off Flathead Lake and is caused by the land surfaces heating more in the daytime than the water surface of the lake. This wind is very noticeable both at Kalispell and the airport, often reaching 20 m.p.h. and occasionally quite gusty. There are, of course, times when the wind during this period is not from the southeast. Other effects such as cloudiness, frontal passages, etc., may cause the wind to be from another direction. The year around prevailing wind direction at Kalispell is from the west, at the airport it is from the south. Wind speeds average considerably stronger at the airport than in Kalispell.

In the winter, when a cold wave moving down the east side of the Continental Divide does come through the mountains, the airport is in direct line of the pass the cold air comes through. During these cold waves the wind is from the northeast and will usually have speeds reaching 50 to 60 m.p.h. The strongest gust reported during one of these storms was 84 m.p.h. As the cold air moves down the valley it spreads out, decreasing the wind velocity, and mixes with the warmer air of the valley. Unless these cold strong winds persist for 3 or 4 days, the wind in the lower part of the valley will be from the northwest, because of the influence of Flathead Lake and the mountains to the west. This wind is always much stronger in the northeast end of the valley where the airport is located than any other place in the valley. In the northwest corner where Whitefish is located, and in the southeast part of the valley, there is rarely much wind from this storm.

METEOROLOGICAL DATA FOR THE CURRENT YEAR

Station: KALISPELL, MONTANA — GLACIER PARK INT'L AIRPORT — Standard time used: MOUNTAIN — Latitude: 48° 18' N — Longitude: 114° 16' W — Elevation (ground): 2965 feet — Year: 1973

Month	Temperature: Averages: Daily maximum	Daily minimum	Monthly	Extremes: Highest	Date	Lowest	Date	Degree days (Base 65°): Heating	Cooling	Precipitation: Total	Greatest in 24 hrs.	Date	Snow, Ice pellets: Total	Greatest in 24 hrs.	Date	Relative humidity: Hour 05 (Local time)	Hour 11 (Local time)	Hour 17 (Local time)	Hour 23 (Local time)	Wind &: Resultant: Direction	Resultant: Speed	Average speed	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	Percent of possible sunshine	Average sky cover sunrise to sunset	Number of days: Sunrise to sunset: Clear	Partly cloudy	Cloudy	Precipitation .01 inch or more	Snow, Ice pellets 1.0 inch or more	Thunderstorms	Heavy fog	Temperatures: Maximum: 90° and above	‡	32° and below	Minimum: 32° and below	0° and below	Average daily solar radiation - langleys
JAN	28.7	10.1	19.4	47	13	-21	9+	1410	0	0.69	0.27	11-12	6.5	3.6	11-12	75	70	61	73	23	1.0	5.3	35	02	3		7.6	6	3	22	9	2	0	1	0	13	30	8	
FEB	37.6	16.4	27.0	54	26	-3	9+	1059	0	0.62	0.37	10-11	8.3	5.9	10-11	80	71	63	80	01	1.6	4.3	29	02	5		6.6	7	3	18	7	2	0	4	0	7	27	3	
MAR	50.0	28.5	39.3	60	25+	22	29+	787	0	0.66	0.38	28-1	0.9	0.5	13	74	55	47	69	18	1.8	6.6	20	17	25+		8.2	2	6	23	7	0	0	4	0	0	27	0	
APR	55.6	29.4	42.5	68	26	15	7	668	0	0.47	0.18	5-6	1.8	1.7	6	74	45	37	63	16	1.3	8.5	31	03	13		7.1	6	6	18	10	1	0	2	0	0	19	0	
MAY	68.2	36.5	52.4	86	17+	22	1	383	1	0.91	0.49	24-25	T	T	26 +	72	41	31	59	21	2.7	7.3	28	33	10		6.0	9	7	15	8	0	0	2	0	0	8	0	
JUN	72.6	45.0	58.8	92	22	28	11	205	26	1.52	0.89	14-15	T	T	17	73	43	38	61	21	3.7	7.7	35	23	23+		7.4	6	4	20	12	0	4	1	2	0	1	0	
JUL	86.9	47.3	67.1	102	10	32	2	47	118	0.05	0.04	21	0.0	0.0		62	29	19	49	24	0.9	6.9	24	02	17+		4.1	13	12	6	2	0	1	0	11	0	1	0	
AUG	85.5	45.9	65.7	97	4+	33	25+	72	100	0.56	0.29	30-31	0.0	0.0		65	31	23	49	21	2.5	6.8	26	15	23		4.4	15	10	6	6	0	4	0	13	0	0	0	
SEP	69.7	39.8	54.8	91	6+	22	17	314	13	0.71	0.28	19-20	0.0	0.0		76	49	40	68	13	1.0	6.3	26	04	13		6.1	11	2	17	8	0	1	1	2	0	7	0	
OCT	55.9	31.6	43.8	73	18	17	9	649	0	1.19	0.57	28-29	0.6	0.3	31	79	60	51	72	20	2.7	5.4	23	15	13		8.5	2	4	25	8	0	1	0	0	0	14	0	
NOV	34.8	23.1	29.0	50	28	3	26	1076	0	2.80	0.62	8-9	18.2	2.9	8-9	78	77	75	80	10	1.2	7.0	35	24	16		9.3	0	4	26	24	7	0	7	0	12	22	0	
DEC	34.5	23.5	29.0	45	16	-10	31	1107	0	1.87	0.44	15-16	10.6	2.0	24	86	82	81	83	21	1.5	4.9	23	22	3		9.1	1	2	28	19	5	0	6	0	10	27	2	
YEAR	56.7	31.4	44.1	102	JUL. 10	-21	JAN. 9+	7777	258	11.85	0.89	JUN. 14-15	46.9	5.9	FEB. 10-11	75	54	47	67	20	1.3	6.4	35	24	NOV. 16+		7.0	78	63	224	120	17	12	24	28	42	183	13	

NORMALS, MEANS, AND EXTREMES

Month	Temperature: Normal: Daily maximum	Daily minimum	Monthly	Extremes: Record highest	Year	Record lowest	Year	Normal heating degree days (Base 65°)	Precipitation: Normal total	Maximum monthly	Year	Minimum monthly	Year	Maximum in 24 hrs.	Year	Snow, Ice pellets: Mean total	Maximum monthly	Year	Maximum in 24 hrs.	Year	Relative humidity: Hour 05 (Local time)	Hour 11 (Local time)	Hour 17 (Local time)	Hour 23 (Local time)	Wind &: Mean speed	Prevailing direction	Fastest mile: Speed	Direction	Year	Pct. of possible sunshine	Mean sky cover sunrise to sunset	Mean number of days: Sunrise to sunset: Clear	Partly cloudy	Cloudy	Precipitation .01 inch or more	Snow, Ice pellets 1.0 inch or more	% Thunderstorms	% Heavy fog	Temperatures: Max.: 90° and above	‡	32° and below	Min.: 32° and below	0° and below	Average daily solar radiation - langleys
(a)	(b)	(b)	(b)	14		14		(b)	(b)	24		24		24		24	24		24		9	14	9	8	11		7	7			24	24	24	24	24	24	23	13	14	14	14	14		
J	27.1	11.0	19.1	51	1971	-26	1972+	1423	1.52	3.11	1970	0.69	1973	0.75	1950	19.8	34.8	1970	10.9	1950	80	79	74	79	7.2		44	01	1972		8.7	2	4	25	16	7	0	4	0	17	29	8	
F	34.1	15.9	25.0	56	1962	-22	1960	1120	0.97	1.93	1938	0.42	1967	0.65	1961	10.6	20.6	1958	7.2	1951	82	78	70	80	6.4		40	01	1965		8.2	2	5	21	12	4	*	6	0	9	26	3	
M	40.7	20.3	30.5	71	1966	-29	1960	1070	0.86	1.87	1950	0.31	1965	0.72	1950	6.2	13.3	1964	7.6	1953	78	65	53	74	7.6		40	02	1965		7.8	3	7	21	11	2	*	2	0	4	28	2	
A	53.5	30.4	42.0	81	1968	14	1968	690	1.01	2.04	1951	0.26	1968	1.74	1951	2.3	8.1	1961	10.0	1951	76	51	43	68	8.7		35	21	1969+		7.5	4	6	20	9	1	1	1	0	0	20	2	
M	63.6	38.1	50.9	89	1966	20	1972	437	1.80	3.34	1960	0.43	1950	1.47	1964	1.3	8.9	1964	7.5	1964	76	50	40	66	7.8		40	23	1965		6.7	6	9	16	11	*	3	1	0	0	7	0	
J	70.0	44.0	57.0	93	1962+	28	1973	249	2.56	4.72	1966	0.62	1960	2.35	1966	T	0.3	1962	0.3	1962	81	52	46	72	7.4		36	01	1965		6.5	7	9	14	12	0	5	1	1	0	1	0	
J	80.8	47.8	64.3	104	1960	31	1971	72	1.03	2.74	1950	0.02	1953	1.19	1954	0.0	0.0		0.0		81	43	32	69	6.8		35	04	1972		3.7	16	10	5	6	0	5	1	8	0	*	0	
A	79.1	45.9	62.5	105	1961	31	1969+	126	1.30	3.47	1965	T	1955	1.38	1968	0.0	0.0		0.0		79	43	31	65	6.6		37	32	1968		4.4	14	9	8	8	0	5	1	9	0	*	0	
S	68.0	38.6	53.3	99	1967	16	1970	360	1.13	3.84	1959	0.12	1952	1.25	1959	0.2	3.1	1968	3.0	1968	82	54	43	73	6.9		35	36	1965		5.6	10	8	12	9	*	2	2	1	0	7	0	
O	54.4	30.5	42.5	81	1970	5	1971	698	1.21	2.96	1951	0.04	1953	0.78	1957	1.6	10.6	1972	6.2	1951	83	68	55	80	5.8		38	32	1971		7.1	6	7	18	10	1	1	5	0	*	21	0	
N	38.7	22.7	30.7	64	1959	-28	1959	1029	1.39	4.44	1959	0.26	1969	0.95	1959	8.8	39.0	1959	10.1	1959	84	80	73	83	5.9		35	24	1973		8.4	2	5	23	13	3	*	5	0	5	26	*	
D	30.8	16.6	23.7	54	1965	-35	1968	1280	1.46	4.23	1964	0.32	1954	1.35	1964	17.0	49.7	1951	15.4	1951	83	82	78	82	6.3		52	03	1972		8.8	2	3	26	16	5	0	5	0	16	29	4	
YR	53.4	30.2	41.8	105	AUG. 1961	-35	DEC. 1968	8554	16.24	4.72	JUN. 1966	T	AUG. 1955	2.35	JUN. 1966	67.8	49.7	DEC. 1951	15.4	DEC. 1951	80	62	53	74	7.0		52	03	DEC. 1972		7.0	74	82	209	132	22	24	33	18	51	194	17	

Data for September - December 1959 considered in extracting temperature extremes above.
Means and extremes above are from existing and comparable exposures. Annual extremes have been exceeded at other sites in the locality as follows:
Lowest temperature -38 in January 1950; maximum monthly precipitation 5.17 in November 1897.

(a) Length of record, years, based on January data. Other months may be for more or fewer years if there have been breaks in the record.
(b) Climatological normals (1941-1970).
• Less than one half.
+ Also on earlier dates, months, or years.
T Trace, an amount too small to measure.
– Below zero temperatures are preceded by a minus sign.
‡ ≦ 70° at Alaskan stations.

The prevailing direction for wind in the Normals, Means, and Extremes table is from records through 1963.

Unless otherwise indicated, dimensional units used in this bulletin are: temperature in degrees F.; precipitation, including snowfall, in inches; wind movement in miles per hour; and relative humidity in percent. Heating degree day totals are the sums of negative departures of average daily temperatures from 65° F. Cooling degree day totals are the sums of positive departures of average daily temperatures from 65° F. Sleet was included in snowfall totals beginning with July 1948. The term "ice pellets" includes solid grains of ice (sleet) and particles consisting of snow pellets encased in a thin layer of ice. Heavy fog reduces visibility to 1/4 mile or less.

Sky cover is expressed in a range of 0 for no clouds or obscuring phenomena to 10 for complete sky cover. The number of clear days is based on average cloudiness 0-3, partly cloudy days 4-7, and cloudy days 8-10 tenths.

Solar radiation data are the averages of direct and diffuse radiation on a horizontal surface. The langley denotes one gram calorie per square centimeter.

& Figures instead of letters in a direction column indicate direction in tens of degrees from true North; i.e., 09 - East, 18 - South, 27 - West, 36 - North, and 00 - Calm. Resultant wind is the vector sum of wind directions and speeds divided by the number of observations. If figures appear in the direction column under "Fastest mile" the corresponding speeds are fastest observed 1-minute values.

% The station operated less than 24 hours daily during portions of its history, therefore fog and thunderstorm data may be incomplete.

extreme wind velocity - No record

AVERAGE TEMPERATURE

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
1934	33.4	32.8	39.8	51.4	57.2	59.2	67.0	66.0	51.2	46.2	39.0	27.6	47.6
1935	21.6	27.8	31.9	38.2	50.9	57.5	65.2	62.2	57.5	43.0	28.0	28.8	42.7
1936	25.0	6.2	32.6	44.7	58.9	61.4	70.8	66.5	54.3	45.2	25.1	26.6	43.1
1937	1.0	21.8	33.8	42.4	53.2	58.9	68.0	62.0	58.1	47.4	35.4	27.2	42.4
1938	25.2	23.4	34.4	45.4	51.5	61.4	68.0	64.4	62.4	46.0	30.4	27.5	45.0
1939	30.2	21.2	35.0	46.6	54.7	54.8	67.3	66.0	56.2	46.4	35.4	31.4	45.4
1940	20.4	30.2	40.2	45.0	56.0	63.0	68.2	66.7	60.8	48.4	25.3	29.1	46.1
1941	24.4	28.8	39.8	47.5	53.4	60.8	69.3	64.4	50.5	43.2	36.2	28.5	45.7
1942	17.4	22.7	35.2	45.8	50.4	54.8	65.6	64.6	56.0	45.5	29.6	28.2	43.0
1943	12.9	26.4	25.3	47.8	48.8	54.0	64.8	63.6	56.6	46.2	33.5	25.7	42.1
1944	25.8	27.4	30.8	45.3	53.7	59.0	65.7	62.2	56.5	49.2	33.4	23.6	44.4
1945	29.2	30.0	33.9	39.6	52.1	56.8	67.6	66.4	52.0	46.8	32.6	26.1	44.4
1946	27.1	29.9	38.4	45.4	52.0	58.0	67.0	64.2	53.8	39.4	27.5	24.0	43.9
1947	21.4	27.0	34.6	45.6	55.0	55.6	67.8	62.4	54.4	47.1	31.2	27.0	44.1
1948	25.2	24.2	28.6	42.0	52.6	61.6	61.8	62.3	54.8	43.1	33.0	19.4	42.4
#1949	6.6	19.8	31.0	47.0	55.6	57.4	63.8	65.2	55.0	40.0	38.2	24.2	42.0
1950	4.0	25.7	30.4	41.0	49.1	57.5	64.5	63.7	54.9	44.8	30.8	29.2	41.3
1951	18.9	27.8	27.6	42.2	50.9	54.5	65.1	61.4	52.0	41.0	31.5	16.0	40.8
1952	18.8	27.9	31.1	46.5	53.5	57.9	62.4	63.4	56.7	46.2	30.8	27.5	43.5
1953	34.5	32.2	37.0	41.0	50.0	56.1	64.6	63.8	56.5	45.7	36.6	30.6	45.7
1954	21.1	30.4	29.6	39.6	52.5	54.7	63.6	60.8	52.9	40.8	37.9	28.2	42.7
1955	24.3	20.9	23.4	39.6	46.7	59.3	63.6	63.4	53.2	43.9	22.7	20.8	40.2
1956	22.2	20.0	30.8	43.5	54.4	57.3	66.0	62.1	54.8	43.7	29.6	27.9	42.7
1957	9.6	21.6	32.6	43.2	56.4	59.0	64.8	63.0	55.4	40.7	31.2	31.1	42.4
1958	28.0	29.2	33.6	43.2	60.3	61.5	65.2	68.3	54.5	43.6	30.9	27.0	45.5
#1959	22.7	22.6	34.3	43.5	47.5	59.2	64.8	59.9	52.9	42.4	22.1	24.2	41.3
1960	14.3	19.3	27.3	43.0	50.2	58.0	69.8	61.0	54.7	43.4	31.3	21.5	41.2
1961	23.9	35.5	36.7	40.5	52.4	64.2	68.9	69.1	49.1	40.0	26.6	20.8	44.0
1962	17.0	25.7	29.8	45.8	50.7	57.7	62.8	62.0	53.9	43.0	36.1	31.2	42.9
1963	10.4	31.6	37.2	43.2	50.2	58.7	63.0	65.2	58.9	45.8	34.0	22.0	43.3
1964	24.6	23.9	27.9	40.7	49.7	56.8	64.0	58.4	50.1	42.3	31.0	18.0	40.6
1965	25.9	24.2	24.5	43.5	48.1	56.0	64.5	63.3	45.1	45.3	34.3	26.1	41.7
1966	24.3	23.9	32.5	41.7	53.0	54.8	64.4	61.6	59.3	41.2	30.7	27.3	42.9
1967	28.8	30.3	30.7	39.2	50.3	58.7	65.8	67.7	59.5	44.5	32.3	23.8	44.3
1968	20.4	31.9	39.1	40.2	49.8	58.0	65.5	61.8	53.0	41.0	31.4	17.8	42.5
1969	11.3	20.2	27.0	46.2	53.8	57.9	62.1	62.9	55.7	39.8	33.2	26.2	41.3
1970	19.1	27.2	30.6	40.1	52.1	62.4	66.1	64.3	48.9	39.1	30.6	23.6	42.0
1971	21.7	28.8	32.9	43.6	53.7	54.8	63.1	68.8	49.1	40.0	33.1	18.4	42.3
1972	13.9	26.2	38.4	40.0	52.8	59.6	62.5	67.6	51.1	39.3	32.8	18.3	41.9
1973	19.4	27.0	39.3	42.5	52.4	58.8	67.1	65.7	54.8	43.8	29.0	29.0	44.1
RECORD MEAN	21.1	25.3	33.1	43.6	52.1	58.5	65.4	63.5	53.9	43.7	32.2	24.8	43.1
MAX	28.3	33.6	42.5	54.9	64.2	70.8	80.7	78.9	67.1	54.6	39.2	31.0	53.8
MIN	13.9	16.9	23.7	32.3	39.9	46.1	50.0	48.0	40.6	32.7	25.1	18.5	32.3

HEATING DEGREE DAYS

KALISPELL, MONTANA

Season	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total
1934-35	36	34	422	582	781	1158	1344	1042	1026	804	438	230	7897
1935-36	81	112	228	683	1110	1124	1239	1703	1006	608	240	164	8298
1936-37	13	44	322	613	1196	1188	1982	1208	968	680	363	210	8787
1937-38	21	124	226	547	889	1171	1234	1164	950	586	421	132	7465
1938-39	32	75	126	586	1037	1162	1082	1224	932	554	321	320	7451
1939-40	58	50	267	576	890	1040	1383	1009	770	602	282	124	7051
1940-41	27	31	152	514	1191	1112	1258	1013	781	526	363	160	7128
1941-42	5	92	432	676	866	1131	1473	1183	924	574	451	304	8111
1942-43	59	99	265	594	1061	1138	1617	1081	1234	518	501	331	8498
1943-44	85	70	254	584	947	1215	1217	1091	1060	586	355	195	7659
1944-45	54	104	266	487	945	1285	1109	981	963	764	401	257	7616
1945-46	33	43	398	569	972	1205	1175	982	824	584	401	211	7397
1946-47	30	84	340	791	1127	1276	1353	1062	940	586	314	283	8186
1947-48	27	113	318	553	1014	1185	1236	1185	1130	689	384	128	7962
#1948-49	112	104	306	682	958	1416	1813	1262	1056	541	294	229	8773
1949-50	95	68	300	775	804	1264	1894	1095	1066	715	487	228	8791
1950-51	68	56	315	623	1016	1103	1423	1035	1155	676	433	308	8211
1951-52	77	139	383	734	996	1513	1426	1070	1043	546	346	216	8489
1952-53	110	101	246	575	1019	1155	937	911	865	713	460	267	7359
1953-54	67	91	248	593	844	1057	1355	964	1089	755	379	304	7746
1954-55	93	140	356	744	805	1132	1258	1228	1286	754	559	194	8549
1955-56	130	68	363	644	1264	1364	1320	1299	1053	638	327	233	8703
1956-57	61	106	302	651	1056	1144	1716	1209	998	648	259	183	8333
1957-58	60	101	286	744	1007	1042	1139	996	964	646	171	119	7275
1958-59	59	31	330	656	1016	1171	1305	1180	945	636	537	185	8051
#1959-60	94	169	365	693	1283	1260	1568	1321	1164	654	452	212	9235
1960-61	15	149	307	664	1006	1342	1269	821	870	730	393	70	7636
1961-62	11	15	467	768	1146	1365	1488	1094	1089	570	439	222	8674
1962-63	119	120	326	674	858	1042	1690	928	855	649	449	200	7910
1963-64	106	73	186	591	926	1327	1246	1187	1143	726	470	239	8220
1964-65	69	199	439	700	1011	1454	1204	1138	1249	638	515	270	8886
1965-66	62	115	591	602	914	1201	1252	1144	1002	693	373	301	8250
1966-67	68	128	162	733	1023	1161	1118	964	1059	766	449	190	7821
1967-68	32	22	176	627	972	1272	1379	953	795	735	468	211	7642
1968-69	80	133	354	737	999	1458	1658	1246	1172	556	339	211	8943
1969-70	109	102	290	774	947	1197	1418	1054	1062	743	393	127	8216
1970-71	48	62	478	798	1026	1276	1338	1006	986	635	344	305	8302
1971-72	116	28	470	768	950	1440	1581	1118	817	742	381	181	8592
1972-73	113	26	413	792	959	1444	1410	1059	787	668	383	205	8259
1973-74	47	72	314	649	1076	1107							

TOTAL PRECIPITATION

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
1934	0.88	0.06	2.72	0.68	1.22	2.96	0.27	0.07	0.71	2.26	0.97	0.94	13.74
1935	1.97	0.25	1.18	1.81	1.04	1.03	1.11	0.37	0.14	0.53	1.02	1.02	11.47
1936	1.93	2.10	1.50	1.33	0.40	1.73	0.45	0.47	1.04	1.00	0.42	1.68	14.05
1937	2.12	1.03	0.44	1.22	1.00	2.25	0.83	0.66	0.91	0.87	1.24	1.23	13.80
1938	0.71	1.07	0.94	0.37	1.72	1.17	1.06	0.56	1.14	0.80	1.27	1.13	11.94
1939	1.27	0.93	0.84	0.56	1.09	3.80	0.38	0.21	0.96	0.22	0.59	0.94	11.79
1940	0.58	2.13	1.10	1.49	1.08	0.83	2.26	0.02	1.69	1.05	2.02	0.81	15.06
1941	1.26	0.50	0.54	0.55	1.75	1.51	1.07	0.80	2.00	0.82	1.68	1.05	13.53
1942	0.79	1.48	0.49	1.43	3.92	4.13	2.72	0.90	0.31	0.74	2.39	1.51	20.81
1943	3.40	0.76	0.90	1.13	1.16	3.33	0.45	0.42	0.23	1.28	0.83	0.28	14.17
1944	0.27	0.51	0.84	0.97	1.48	1.46	0.60	1.34	0.75	0.10	1.47	0.63	10.42
1945	1.19	0.67	1.37	1.21	1.20	2.82	0.31	0.82	1.57	1.77	0.91	2.12	15.96
1946	1.07	0.73	0.55	0.51	1.40	1.81	0.97	0.77	1.30	3.18	1.99	1.82	16.10
1947	1.00	0.90	0.90	0.65	1.79	4.56	0.47	3.28	0.99	2.16	1.22	0.81	18.73
1948	0.86	1.27	1.24	1.92	4.36	2.76	3.15	2.33	0.10	0.40	1.50	1.02	20.91
#1949	1.07	1.28	1.30	0.58	1.54	1.13	1.52	0.58	0.95	1.33	1.54	1.06	13.88
1950	2.08	1.18	1.87	0.79	0.43	3.56	2.74	1.24	0.54	2.58	0.96	2.11	20.08
1951	1.24	1.52	0.44	2.04	2.31	1.81	1.08	2.63	1.88	2.96	0.85	3.11	21.87
1952	1.10	0.52	0.68	0.31	1.68	3.26	0.72	1.02	0.12	0.15	0.63	0.96	11.15
1953	2.21	0.85	1.01	1.28	1.37	2.93	0.02	1.98	0.44	0.04	0.99	1.50	14.62
1954	2.74	0.75	0.69	0.45	1.05	1.98	2.09	3.04	0.81	0.50	0.87	0.32	15.29
1955	1.03	1.00	0.47	0.89	1.23	3.06	1.32	T	1.55	1.61	2.39	2.36	16.91
1956	1.52	1.27	0.89	1.35	1.44	2.92	2.32	1.93	0.92	0.88	0.55	1.08	17.07
1957	1.12	1.28	0.49	1.39	1.25	1.87	0.85	0.45	0.20	2.00	0.56	0.98	12.44
1958	1.46	1.93	0.72	1.42	1.80	2.20	0.86	0.22	1.84	0.60	2.65	2.30	18.00
1959	2.03	1.08	0.61	1.22	3.08	1.58	0.04	0.68	3.84	1.97	4.44	0.40	20.97
1960	1.30	0.83	1.11	0.82	3.34	0.62	0.03	2.31	0.33	1.00	1.59	0.96	14.24
1961	0.75	1.32	1.12	2.01	2.35	0.71	1.20	0.67	2.08	0.92	1.07	2.20	16.40
1962	0.97	0.92	1.09	1.05	2.04	0.82	0.16	0.95	0.42	1.25	1.00	0.81	11.48
1963	1.61	1.00	1.25	0.88	0.81	3.94	0.95	0.81	1.26	0.67	0.71	1.33	15.22
1964	1.24	0.50	1.26	0.60	2.56	3.56	1.69	1.77	1.87	0.95	2.13	4.23	22.36
1965	1.84	0.69	0.31	1.44	0.74	2.73	0.85	3.47	1.17	0.11	0.72	0.57	14.64
1966	1.61	1.02	0.79	0.65	1.63	4.72	0.37	1.05	0.29	0.88	2.52	1.58	17.11
1967	1.75	0.42	1.09	0.59	0.95	2.38	0.07	0.01	0.33	1.60	0.58	1.45	11.22
1968	1.01	1.00	0.43	0.26	2.59	2.16	0.46	3.10	3.33	1.50	1.55	2.56	19.95
1969	2.97	0.50	0.64	1.30	0.68	3.88	0.10	0.09	1.44	1.07	0.26	1.21	14.14
1970	3.11	1.27	0.84	0.68	2.18	2.58	1.59	0.34	0.90	1.20	1.29	1.39	17.37
1971	1.81	0.81	0.95	0.44	2.17	3.59	0.93	1.47	0.46	0.95	1.36	1.53	16.47
1972	1.58	1.57	1.14	0.86	1.50	1.69	1.51	1.03	0.76	0.84	0.55	1.60	14.63
1973	0.69	0.62	0.46	0.47	0.91	1.52	0.05	0.56	0.71	1.19	2.80	1.87	11.85
RECORD MEAN	1.37	0.96	0.94	0.91	1.62	2.18	1.01	1.07	1.22	1.08	1.42	1.37	15.15

TOTAL SNOWFALL

Season	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total
1934-35	0.0	0.0	T	T	T	3.6	9.0	19.5	0.4	7.6	5.5	T	0.0	45.6
1935-36	0.0	0.0	0.0	3.0	6.8	5.9	20.3	30.7	17.9	0.0	0.0	0.0	84.6
1936-37	0.0	0.0	0.0	5.3	7.2	13.7	34.2	14.5	2.4	T	0.0	0.0	77.3
1937-38	0.0	0.0	0.0	0.0	5.4	11.6	8.6	17.2	10.0	T	T	0.0	52.8
1938-39	0.0	0.0	0.0	0.0	8.1	16.8	18.8	17.0	12.6	1.0	0.0	0.0	74.3
1939-40	0.0	0.0	0.0	2.9	T	5.2	9.0	16.6	2.3	3.5	0.0	0.0	39.5
1940-41	0.0	0.0	0.0	0.0	15.4	4.5	17.9	4.6	0.0	0.3	0.0	0.0	42.7
1941-42	0.0	0.0	T	T	4.3	6.2	8.1	25.0	5.4	1.0	T	0.0	50.0
1942-43	0.0	0.0	0.0	T	22.1	18.5	35.9	10.1	6.2	T	T	0.0	92.8
1943-44	0.0	0.0	0.0	T	0.2	1.7	2.8	5.0	4.9	T	T	0.0	14.6
1944-45	0.0	0.0	0.0	0.0	10.2	5.3	4.3	3.0	8.9	2.9	0.0	T	34.6
1945-46	0.0	0.0	1.3	1.7	8.8	18.6	16.0	9.3	1.7	T	T	0.0	57.4
1946-47	0.0	0.0	0.0	11.2	25.9	22.1	11.8	11.6	9.4	0.8	0.0	0.0	92.8
1947-48	0.0	0.0	T	0.0	13.2	11.4	4.0	6.7	19.3	10.5	T	0.0	65.1
#1948-49	0.0	0.0	0.0	T	6.3	14.9	21.4	14.6	18.0	T	T	0.0	75.2
1949-50	0.0	0.0	T	T	3.5	17.6	30.4	10.8	7.8	1.2	T	T	71.3
1950-51	0.0	0.0	T	0.0	7.0	13.7	16.2	13.7	6.2	6.2	5.0	0.0	68.0
1951-52	0.0	0.0	0.0	9.9	8.3	49.7	17.1	7.7	8.2	0.3	0.0	0.0	101.2
1952-53	0.0	0.0	0.0	0.0	0.8	12.8	11.4	11.4	7.9	0.4	T	0.0	44.7
1953-54	0.0	0.0	0.0	0.0	T	9.1	32.8	4.8	3.2	5.4	0.0	0.0	55.3
1954-55	0.0	0.0	0.0	T	2.2	1.3	17.1	16.3	8.4	1.8	T	0.0	47.1
1955-56	0.0	0.0	0.0	1.0	23.4	19.0	18.1	16.1	4.8	1.0	2.2	T	85.6
1956-57	0.0	0.0	0.0	1.8	3.9	5.8	24.3	16.8	6.5	0.4	0.0	0.0	59.5
1957-58	0.0	0.0	T	2.3	4.5	9.2	8.4	20.6	3.7	0.3	0.0	0.0	49.0
1958-59	0.0	0.0	0.0	1.6	8.0	22.3	18.9	17.1	3.4	0.6	T	0.0	71.9
1959-60	0.0	0.0	0.0	0.4	39.0	3.9	20.6	13.9	8.8	3.6	T	0.0	90.2
1960-61	0.0	0.0	0.0	0.5	10.1	17.5	5.5	3.5	7.2	8.1	4.1	0.0	56.5
1961-62	0.0	0.0	T	1.8	19.1	30.0	15.1	7.7	6.5	3.1	0.0	0.3	83.6
1962-63	0.0	0.0	T	0.0	1.5	2.4	27.2	6.5	2.3	3.0	0.2	0.0	43.1
1963-64	0.0	0.0	0.0	T	2.5	18.3	20.6	6.7	13.3	1.1	8.9	0.0	71.4
1964-65	0.0	0.0	0.0	1.6	10.5	32.0	20.7	10.7	4.9	4.0	0.2	0.0	84.6
1965-66	0.0	0.0	0.4	0.0	3.9	8.0	22.6	17.6	1.9	0.9	0.6	0.0	55.9
1966-67	0.0	0.0	0.0	T	11.9	15.7	8.9	5.8	10.0	2.1	2.8	0.0	57.2
1967-68	0.0	0.0	0.0	T	2.3	21.3	14.1	3.0	0.7	1.9	1.4	0.0	44.7
1968-69	0.0	0.0	3.1	T	11.1	30.3	34.2	7.2	4.9	0.1	0.0	0.0	90.9
1969-70	0.0	0.0	0.0	2.2	0.8	14.4	34.8	5.7	7.6	5.0	4.7	T	75.2
1970-71	0.0	0.0	T	1.0	6.6	21.7	25.7	8.4	10.2	T	T	0.0	73.6
1971-72	0.0	0.0	0.0	2.4	12.4	29.6	24.5	13.3	10.3	3.8	T	0.0	96.3
1972-73	0.0	0.0	0.2	10.6	4.0	9.4	6.5	8.3	0.9	1.8	T	T	41.7
1973-74	0.0	0.0	0.0	0.6	18.2	10.6							

Record mean values above (not adjusted for instrument location changes listed in the Station Location table) are means for the period beginning in 1897.

# Indicates a break in the data sequence during the year, or season, due to a station move or relocation of instruments. See Station Location table.

STATION LOCATION

KALISPELL, MONTANA

Location	Occupied from	Occupied to	Airline distance and direction from previous location	Latitude North	Longitude West	Elevation above Sea level: Ground at temperature site	Elevation above Ground: Wind instruments	Extreme thermometers	Psychrometer	Amos tipping bucket rain gage	Tipping bucket rain gage	Weighing rain gage	8" rain gage	Hygrothermometer	Amos temperature and dew point	Remarks
CITY																
Kalispell, Montana	6/29/96	4/30/99		?	?	?	?	?					?			
Conrad Bank Building Main & Second Streets	5/03/99	1/01/05	?	48° 12'	114° 19'	2956	51	46	45				37			
Clark Cottage 329 Second Avenue East	1/01/05	10/01/17	1100 ft. SE	48° 12'	114° 19'	2956	34	12	11				4			
Federal Building 1st Ave. East & 3rd St.	10/01/17	5/12/49	650 ft. NW	48° 12'	114° 19'	2956	56	49	48		41	41	41			
AIRPORT																
Administration Building Flathead County AP †† †† Name changed to Glacier Park International Airport, 1969.	5/12/49	Present	8.5 mi. NNE	48° 18'	114° 16'	2965	d20	b6	c5	f3		a4	a4	e4	f6	a - 3 ft. to 10/1/58. b - 26 ft. to 9/1/59. c - 26 ft. to 9/1/59. d - 44 ft. to 7/1/59. e - Commissioned 1650 ft. NW of thermometer site 9/1/59; decommissioned 8/27/61; commissioned again on same site 10/1/64. f - Commissioned 1/24/61; decommissioned 7/1/64.

Requests for additional climatic information should be addressed to: Director, National Climatic Center, Federal Building, Asheville, N. C. 28801

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AMERICAN REVOLUTION BICENTENNIAL 1776-1976

SUNRISE AND SUNSET AT KALISPELL, MONTANA

MOUNTAIN STANDARD TIME

NO. 1172

DAY	JAN.		FEB.		MAR.		APR.		MAY		JUNE		JULY		AUG.		SEPT.		OCT.		NOV.		DEC.	
	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.	Rise A.M.	Set P.M.
1	8 28	4 53	8 06	5 36	7 19	6 21	6 16	7 07	5 19	7 51	4 41	8 30	4 40	8 41	5 12	8 14	5 54	7 19	6 36	6 17	7 22	5 18	8 07	4 45
2	8 28	4 54	8 05	5 38	7 17	6 22	6 14	7 09	5 17	7 52	4 40	8 30	4 41	8 41	5 13	8 13	5 56	7 17	6 37	6 15	7 24	5 17	8 08	4 45
3	8 28	4 55	8 03	5 39	7 15	6 24	6 12	7 10	5 15	7 53	4 39	8 31	4 41	8 41	5 14	8 11	5 57	7 15	6 39	6 13	7 25	5 15	8 09	4 44
4	8 28	4 56	8 02	5 41	7 13	6 25	6 10	7 12	5 14	7 55	4 39	8 32	4 42	8 40	5 16	8 10	5 58	7 13	6 40	6 11	7 27	5 14	8 10	4 44
5	8 28	4 57	8 00	5 43	7 11	6 27	6 08	7 13	5 12	7 56	4 38	8 33	4 43	8 40	5 17	8 08	6 00	7 11	6 42	6 08	7 29	5 12	8 12	4 44
6	8 28	4 59	7 59	5 44	7 09	6 29	6 06	7 14	5 10	7 58	4 38	8 34	4 43	8 40	5 18	8 07	6 01	7 09	6 43	6 06	7 30	5 11	8 13	4 43
7	8 27	5 00	7 57	5 46	7 07	6 30	6 04	7 16	5 09	7 59	4 37	8 35	4 44	8 39	5 20	8 05	6 02	7 07	6 45	6 04	7 32	5 09	8 14	4 43
8	8 27	5 01	7 56	5 47	7 05	6 32	6 02	7 17	5 07	8 00	4 37	8 35	4 45	8 39	5 21	8 03	6 04	7 05	6 46	6 02	7 33	5 08	8 15	4 43
9	8 27	5 02	7 54	5 49	7 03	6 33	6 00	7 19	5 06	8 02	4 37	8 36	4 46	8 38	5 22	8 02	6 05	7 03	6 47	6 00	7 35	5 06	8 16	4 43
10	8 26	5 03	7 53	5 51	7 01	6 35	5 58	7 20	5 04	8 03	4 36	8 37	4 47	8 37	5 24	8 00	6 07	7 01	6 49	5 58	7 36	5 05	8 17	4 43
11	8 26	5 05	7 51	5 52	6 59	6 36	5 56	7 22	5 03	8 05	4 36	8 37	4 48	8 37	5 25	7 58	6 08	6 58	6 50	5 56	7 38	5 04	8 18	4 43
12	8 25	5 06	7 50	5 54	6 57	6 38	5 54	7 23	5 02	8 06	4 36	8 38	4 49	8 36	5 27	7 57	6 09	6 56	6 52	5 54	7 39	5 02	8 19	4 43
13	8 25	5 07	7 48	5 55	6 55	6 39	5 52	7 25	5 00	8 07	4 36	8 39	4 50	8 35	5 28	7 55	6 11	6 54	6 53	5 53	7 41	5 01	8 20	4 43
14	8 24	5 09	7 46	5 57	6 53	6 41	5 50	7 26	4 59	8 09	4 35	8 39	4 51	8 35	5 29	7 53	6 12	6 52	6 55	5 51	7 43	5 00	8 21	4 43
15	8 23	5 10	7 45	5 59	6 51	6 42	5 48	7 28	4 58	8 10	4 35	8 40	4 52	8 34	5 31	7 51	6 13	6 50	6 56	5 49	7 44	4 59	8 21	4 43
16	8 23	5 12	7 43	6 00	6 49	6 44	5 46	7 29	4 56	8 11	4 35	8 40	4 53	8 33	5 32	7 50	6 15	6 48	6 58	5 47	7 46	4 58	8 22	4 43
17	8 22	5 13	7 41	6 02	6 47	6 45	5 44	7 30	4 55	8 13	4 35	8 40	4 54	8 32	5 33	7 48	6 16	6 46	6 59	5 45	7 47	4 57	8 23	4 43
18	8 21	5 14	7 39	6 04	6 45	6 47	5 42	7 32	4 54	8 14	4 35	8 41	4 55	8 31	5 35	7 46	6 18	6 44	7 01	5 43	7 49	4 55	8 24	4 44
19	8 20	5 16	7 38	6 05	6 43	6 48	5 40	7 33	4 53	8 15	4 36	8 41	4 56	8 30	5 36	7 44	6 19	6 42	7 02	5 41	7 50	4 54	8 24	4 44
20	8 19	5 17	7 36	6 07	6 41	6 50	5 38	7 35	4 51	8 16	4 36	8 41	4 57	8 29	5 38	7 42	6 20	6 40	7 04	5 39	7 52	4 53	8 25	4 45
21	8 19	5 19	7 34	6 08	6 38	6 51	5 36	7 36	4 50	8 17	4 36	8 42	4 58	8 28	5 39	7 40	6 22	6 38	7 05	5 37	7 53	4 52	8 25	4 45
22	8 18	5 20	7 32	6 10	6 36	6 52	5 34	7 38	4 49	8 19	4 36	8 42	4 59	8 27	5 40	7 39	6 23	6 35	7 07	5 36	7 54	4 52	8 26	4 45
23	8 17	5 22	7 30	6 11	6 34	6 54	5 33	7 39	4 48	8 20	4 36	8 42	5 00	8 26	5 42	7 37	6 25	6 33	7 08	5 34	7 56	4 51	8 26	4 46
24	8 16	5 23	7 28	6 13	6 32	6 55	5 31	7 41	4 47	8 21	4 37	8 42	5 02	8 25	5 43	7 35	6 26	6 31	7 10	5 32	7 57	4 50	8 27	4 47
25	8 14	5 25	7 27	6 15	6 30	6 57	5 29	7 42	4 46	8 22	4 37	8 42	5 03	8 23	5 44	7 33	6 27	6 29	7 12	5 30	7 59	4 49	8 27	4 47
26	8 13	5 27	7 25	6 16	6 28	6 58	5 27	7 43	4 45	8 23	4 37	8 42	5 04	8 22	5 46	7 31	6 29	6 27	7 13	5 28	8 00	4 48	8 27	4 48
27	8 12	5 28	7 23	6 18	6 26	7 00	5 25	7 45	4 44	8 24	4 38	8 42	5 05	8 21	5 47	7 29	6 30	6 25	7 15	5 27	8 02	4 48	8 28	4 49
28	8 11	5 30	7 21	6 19	6 24	7 01	5 24	7 46	4 44	8 25	4 38	8 42	5 07	8 20	5 49	7 27	6 32	6 23	7 16	5 25	8 03	4 47	8 28	4 50
29	8 10	5 31	7 20	6 20	6 22	7 03	5 22	7 48	4 43	8 27	4 39	8 42	5 08	8 18	5 50	7 25	6 33	6 21	7 18	5 23	8 04	4 46	8 28	4 50
30	8 09	5 33			6 20	7 04	5 20	7 49	4 42	8 28	4 39	8 42	5 09	8 17	5 51	7 23	6 35	6 19	7 19	5 22	8 05	4 46	8 28	4 51
31	8 07	5 34			6 18	7 06			4 41	8 29			5 10	8 15	5 53	7 21			7 21	5 20			8 28	4 52

Add one hour for Daylight Saving Time if and when in use.

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NAUTICAL ALMANAC OFFICE
UNITED STATES NAVAL OBSERVATORY
WASHINGTON, D.C. 20390

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(OVER)

TABLES OF SUNRISE AND SUNSET

SECOND PRINTING

The table on the other side of this sheet may be used in any year of the twentieth century and within the geographical boundary of the stated place with an error not exceeding 2 minutes and generally less than 1 minute. It may also be used anywhere in the vicinity of the stated place with an additional error of less than 1 minute for each nine miles, reckoned from the station of the U.S. Weather Bureau for the stated place, or reckoned from the nearest boundary in cases when no station of the Weather Bureau existed for the stated place.

Tables are available for almost all stations of the U.S. Weather Bureau, and all cities of over 50,000 population (1950 census) which are sufficiently remote from other cities of like size to require a separate computation.

The standard time shown is in conformity with time zone boundaries specified by the Interstate Commerce Commission as of 1 June 1962.

Eastern Standard Time is the local time of the 75th meridian. Central Standard Time is the local time of the 90th meridian. Mountain Standard Time is the local time of the 105th meridian. Pacific Standard Time is the local time of the 120th meridian.

Sunrise and sunset are considered to occur when the upper edge of the disk of the Sun appears to be exactly on the horizon. The times of sunrise and sunset given in this table are for an unobstructed horizon, with normal atmospheric conditions, at zero elevation above the Earth's surface in a level region.

The computations are based on a constant semidiameter of the Sun of 16 minutes of arc, an adopted refraction at the horizon of 34 minutes of arc, and the path of the Sun for the year 1966.

Should greater precision be required, corrections for elevation of the observer, angular elevation of the visible horizon, deviations from standard atmospheric conditions, and for a specific year may be derived from "Tables of Sunrise, Sunset and Twilight," Supplement to the American Ephemeris, 1946, obtainable from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 20402.

ADDITIONAL TABLES

CALIFORNIA
S1040–5 Salinas

LOUISIANA
S1119–5 Boothville

MAINE
S1125–2 Houlton
S1125–5 Millinocket
S1125–7 Old Town

MARYLAND
S1129–5 Salisbury

MASSACHUSETTS
S1132–5 Hyannis
S1137–5 Westfield

NEW HAMPSHIRE
S1187–5 Lebanon

NEW JERSEY
S1190–5 Millville
S1190–7 Morristown

NEW YORK
S1200–2 Elmira
S1200–4 Glens Falls
S1200–6 Islip
S1200–8 Massena
S1202–5 Poughkeepsie
S1206–5 Watertown

NORTH CAROLINA
S1209–5 Elizabeth City
S1209–7 Fayetteville
S1210–2 Hickory
S1210–5 New Bern
S1211–5 Rocky Mount

OHIO
S1223–5 Findlay
S1226–5 Mansfield
S1230–5 Zanesville

OREGON
S1235–5 Klamath Falls

PENNSYLVANIA
S1244–5 Bradford
S1245–5 Du Bois
S1251–5 Philipsburg

SOUTH CAROLINA
S1260–5 Anderson

VIRGINIA
S1299–5 Blackstone
S1300–2 Charlottesville
S1300–5 Danville
S1300–7 Dulles Airport
S1301–5 Newport News
S1305–5 Wallops Island

WEST VIRGINIA
S1313–5 Beckley
S1313–7 Bluefield
S1314–5 Elkins
S1315–5 Martinsburg
S1315–7 Morgantown

PUERTO RICO
S1330 San Juan

TABLE NUMBERS AND LOCATIONS

ALABAMA
1001 Birmingham
1002 Gadsden
1003 Mobile
1004 Montgomery

ALASKA
1005 Anchorage
1006 Annette Island
1007 Barrow
1008 Barter Island
1009 Bethel
1010 Cold Bay
1011 Cordova
1012 Fairbanks
1013 Juneau
1014 King Salmon
1015 Kotzebue
1016 McGrath
1017 Nome
1018 St. Paul Island
1019 Yakutat

ARIZONA
1020 Flagstaff
1021 Phoenix
1022 Prescott
1023 Tucson
1024 Winslow
1025 Yuma

ARKANSAS
1026 Fort Smith
1027 Little Rock
1028 Texarkana

CALIFORNIA
1029 Bakersfield
1030 Bishop
1031 Blue Canyon
1032 Burbank
1033 Eureka
1034 Fresno
1035 Los Angeles
1036 Mt. Shasta
1037 Oakland
1038 Pomona
1039 Red Bluff
1040 Sacramento
1041 San Bernardino
1042 Sandberg
1043 San Diego
1044 San Francisco
1045 San Jose
1046 Santa Maria
1047 Stockton

COLORADO
1048 Alamosa
1049 Colorado Springs
1050 Denver
1051 Grand Junction
1052 Pueblo

CONNECTICUT
1053 Bridgeport
1054 Hartford
1055 New Britain
1056 New Haven
1057 Stamford
1058 Waterbury

DELAWARE
1059 Dover
1060 Wilmington

DISTRICT OF COLUMBIA
1061 Washington

FLORIDA
1062 Apalachicola
1063 Daytona Beach
1064 Fort Myers
1065 Jacksonville
1066 Key West
1067 Lakeland
1068 Miami
1069 Orlando
1070 Pensacola
1071 Tallahassee
1072 Tampa
1073 West Palm Beach

GEORGIA
1074 Athens
1075 Atlanta
1076 Augusta
1077 Columbus
1078 Macon
1079 Rome
1080 Savannah
1081 Thomasville
1082 Valdosta

HAWAII
1083 Hilo
1084 Honolulu

IDAHO
1085 Boise
1086 Lewiston
1087 Pocatello

ILLINOIS
1088 Aurora
1089 Cairo
1090 Chicago
1091 Decatur
1092 Evanston
1093 Joliet
1094 Moline
1095 Peoria
1096 Rockford
1097 Springfield

INDIANA
1098 Evansville
S1099 Fort Wayne
1100 Gary
S1101 Indianapolis
S1102 Muncie
1103 South Bend
1104 Terre Haute

IOWA
1105 Burlington
1106 Cedar Rapids
1107 Des Moines
1108 Dubuque
1109 Sioux City
1110 Waterloo

KANSAS
1111 Concordia
1112 Dodge City
1113 Goodland
1114 Topeka
1115 Wichita

KENTUCKY
S1116 Frankfort
S1117 Lexington
S1118 Louisville

LOUISIANA
1119 Baton Rouge
1120 Burrwood
1121 Lake Charles
1122 New Orleans
1123 Shreveport

MAINE
1124 Augusta
1125 Caribou
1126 Portland

MARYLAND
1127 Annapolis
1128 Baltimore
1129 Frederick

MASSACHUSETTS
1130 Boston
1131 Brockton
1132 Fall River
1133 Lawrence
1134 Nantucket
1135 New Bedford
1136 Pittsfield
1137 Springfield
1138 Worcester

MICHIGAN
1139 Alpena
1140 Bay City
1141 Dearborn
1142 Detroit
1143 Escanaba
1144 Flint
1145 Grand Rapids
1146 Jackson
1147 Kalamazoo
1148 Lansing
1149 Marquette
1150 Muskegon
1151 Pontiac
1152 Sault Ste. Marie

MINNESOTA
1153 Duluth
1154 International Falls
1155 Minneapolis
1156 Rochester
1157 St. Cloud

MISSISSIPPI
1158 Jackson
1159 Meridian
1160 Vicksburg

MISSOURI
1161 Columbia
1162 Jefferson City
1163 Kansas City
1164 St. Joseph
1165 St. Louis
1166 Springfield

MONTANA
1167 Billings
1168 Glasgow
1169 Great Falls
1170 Havre
1171 Helena
1172 Kalispell
1173 Missoula

NEBRASKA
1174 Grand Island
1175 Lincoln
1176 Norfolk
1177 North Platte
1178 Omaha
1179 Scottsbluff
1180 Valentine

NEVADA
1181 Carson City
1182 Elko
1183 Ely
1184 Las Vegas
1185 Reno
1186 Winnemucca

NEW HAMPSHIRE
1187 Concord
1188 Manchester

NEW JERSEY
1189 Atlantic City
1190 Camden
1191 Newark
1192 Trenton

NEW MEXICO
1193 Albuquerque
1194 Clayton
1195 Raton
1196 Roswell
1197 Santa Fe

NEW YORK
1198 Albany
1199 Binghamton
1200 Buffalo
1201 New York
1202 Niagara Falls
1203 Rochester
1204 Schenectady
1205 Syracuse
1206 Utica

NORTH CAROLINA
1207 Asheville
1208 Cape Hatteras
1209 Charlotte
1210 Greensboro
1211 Raleigh
1212 Wilmington
1213 Winston-Salem

NORTH DAKOTA
1214 Bismarck
1215 Devils Lake
1216 Fargo
1217 Williston

OHIO
1218 Akron
1219 Cincinnati
1220 Cleveland
1221 Cleveland Heights
1222 Columbus
1223 Dayton
1224 Hamilton
1225 Lima
1226 Lorain
1227 Sandusky
1228 Springfield
1229 Toledo
1230 Youngstown

OKLAHOMA
1231 Oklahoma City
1232 Tulsa

OREGON
1233 Astoria
1234 Burns
1235 Eugene
1236 Meacham
1237 Medford
1238 Pendleton
1239 Portland
1240 Roseburg
1241 Salem
1242 Sexton Summit

PENNSYLVANIA
1243 Allentown
1244 Altoona
1245 Chester
1246 Erie
1247 Harrisburg
1248 Johnstown
1249 Lancaster
1250 McKeesport
1251 Philadelphia
1252 Pittsburgh
1253 Reading
1254 Scranton
1255 Wilkes-Barre
1256 Williamsport
1257 York

RHODE ISLAND
1258 Block Island
1259 Providence
1260 Woonsocket

SOUTH CAROLINA
1261 Charleston
1262 Columbia
1263 Florence
1264 Greenville
1265 Spartanburg

SOUTH DAKOTA
1266 Huron
1267 Pierre
1268 Rapid City
1269 Sioux Falls

TENNESSEE
1270 Bristol
1271 Chattanooga
1272 Knoxville
1273 Memphis
1274 Nashville

TEXAS
1275 Abilene
1276 Amarillo
1277 Austin
1278 Brownsville
1279 Corpus Christi
1280 Dallas
1281 Del Rio
1282 El Paso
1283 Fort Worth
1284 Galveston
1285 Houston
1286 Laredo
1287 Lubbock
1288 Midland
1289 Port Arthur
1290 San Angelo
1291 San Antonio
1292 Victoria
1293 Waco
1294 Wichita Falls

UTAH
1295 Milford
1296 Ogden
1297 Salt Lake City

VERMONT
1298 Burlington
1299 Montpelier

VIRGINIA
1300 Cape Henry
1301 Lynchburg
1302 Norfolk
1303 Portsmouth
1304 Richmond
1305 Roanoke

WASHINGTON
1306 Olympia
1307 Seattle
1308 Spokane
1309 Stampede Pass
1310 Tacoma
1311 Tatoosh Island
1312 Walla Walla
1313 Yakima

WEST VIRGINIA
1314 Charleston
1315 Huntington
1316 Parkersburg
1317 Wheeling

WISCONSIN
1318 Green Bay
1319 Kenosha
1320 La Crosse
1321 Madison
1322 Milwaukee
1323 Racine

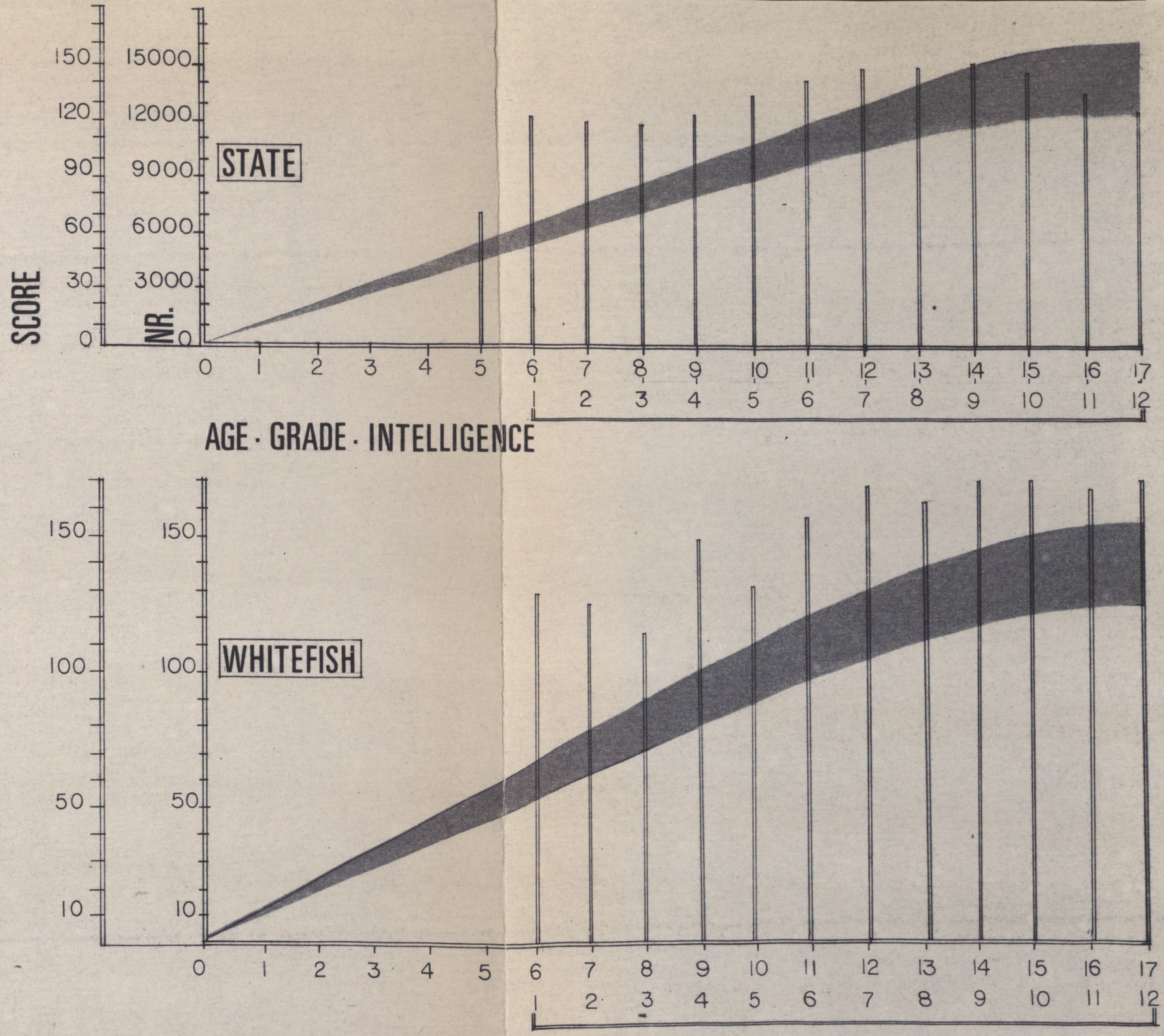
WYOMING
1324 Casper
1325 Cheyenne
1326 Lander
1327 Sheridan

From: General Population Characteristics, Montana. 1970 Census of Population
U. S. Department of Commerce, Bureau of the Census.

Table 19. Single Years of Age by Race and Sex: 1970

[For minimum base for derived figures (percent, median, etc.) and meaning of symbols, see text]

The State	All persons				Male				Female			
			Negro and other races				Negro and other races				Negro and other races	
	Total	White	Total	Negro	Total	White	Total	Negro	Total	White	Total	Negro
All ages	**694 409**	**663 043**	**31 366**	**1 995**	**347 005**	**331 211**	**15 794**	**1 254**	**347 404**	**331 832**	**15 572**	**741**
Under 1 year	11 707	10 848	859	59	5 936	5 504	432	27	5 771	5 344	427	32
1 year	11 221	10 465	756	36	5 731	5 354	377	23	5 490	5 111	379	13
2 years	10 839	10 047	792	43	5 588	5 161	427	18	5 251	4 886	365	25
3 years	11 422	10 604	818	42	5 772	5 369	403	22	5 650	5 235	415	20
4 years	11 865	10 965	900	47	6 093	5 641	452	24	5 772	5 324	448	23
5 years	12 989	12 065	924	44	6 694	6 216	478	25	6 295	5 849	446	19
6 years	13 980	13 062	918	35	7 104	6 657	447	15	6 876	6 405	471	20
7 years	14 817	13 857	960	47	7 618	7 098	520	27	7 199	6 759	440	20
8 years	15 018	14 060	958	29	7 694	7 205	489	15	7 324	6 855	469	14
9 years	15 454	14 481	973	36	7 849	7 386	463	20	7 605	7 095	510	16
10 years	16 215	15 248	967	35	8 170	7 668	502	17	8 045	7 580	465	18
11 years	15 455	14 546	909	33	7 787	7 335	452	14	7 668	7 211	457	19
12 years	15 953	15 042	911	37	8 004	7 559	445	23	7 949	7 483	466	14
13 years	15 552	14 694	858	26	7 898	7 475	423	9	7 654	7 219	435	17
14 years	15 443	14 612	831	33	7 869	7 469	400	16	7 574	7 152	422	17
15 years	15 429	14 576	853	25	7 730	7 302	428	16	7 699	7 274	425	9
16 years	14 994	14 207	787	50	7 789	7 374	415	37	7 205	6 833	372	13
17 years	14 772	13 990	782	73	7 520	7 108	412	61	7 252	6 882	370	12
18 years	13 473	12 796	677	78	6 733	6 400	333	56	6 740	6 396	344	22
19 years	11 678	11 051	627	94	5 743	5 409	331	72	5 938	5 642	296	22
20 years	11 297	10 686	611	113	5 380	5 043	337	90	5 917	5 643	274	23
21 years	10 934	10 337	597	112	5 239	4 944	295	93	5 695	5 393	302	19
22 years	10 908	10 407	501	70	5 636	5 377	259	55	5 272	5 030	242	15
23 years	10 212	9 750	462	36	5 145	4 914	231	31	5 067	4 836	231	5
24 years	8 171	7 771	400	25	4 129	3 939	190	12	4 042	3 832	210	13
25 years	8 637	8 199	438	37	4 346	4 119	227	19	4 291	4 080	211	18
26 years	8 651	8 276	375	32	4 277	4 081	196	21	4 374	4 195	179	11
27 years	9 033	8 631	402	46	4 559	4 371	188	27	4 474	4 260	214	19
28 years	8 005	7 634	371	26	3 998	3 835	163	17	4 007	3 799	208	9
29 years	7 876	7 526	350	26	3 991	3 810	181	15	3 885	3 716	169	11
30 years	7 986	7 575	411	42	4 014	3 819	195	23	3 972	3 756	216	19
31 years	7 510	7 163	347	30	3 719	3 554	165	19	3 791	3 609	182	11
32 years	7 317	6 994	323	23	3 623	3 464	159	16	3 694	3 530	164	7
33 years	7 547	7 192	355	17	3 688	3 513	175	10	3 859	3 679	180	7
34 years	7 317	6 976	341	22	3 582	3 401	181	12	3 735	3 575	160	10
35 years	7 465	7 111	354	33	3 624	3 482	142	17	3 841	3 629	212	16
36 years	6 903	6 607	296	33	3 414	3 291	123	25	3 489	3 316	173	8
37 years	7 130	6 815	315	18	3 551	3 405	146	11	3 579	3 410	169	7
38 years	7 311	7 028	283	19	3 646	3 499	147	11	3 665	3 529	136	8
39 years	7 454	7 175	279	17	3 723	3 590	133	12	3 731	3 585	146	5
40 years	8 118	7 803	315	14	4 016	3 872	144	11	4 102	3 931	171	3
41 years	7 705	7 456	249	13	3 842	3 718	124	8	3 863	3 738	125	5
42 years	7 746	7 446	300	14	3 926	3 767	159	11	3 820	3 679	141	3
43 years	7 532	7 288	244	9	3 744	3 624	120	5	3 788	3 664	124	4
44 years	7 634	7 372	262	9	3 878	3 749	129	5	3 756	3 623	133	4
45 years	7 587	7 354	233	13	3 886	3 755	131	10	3 701	3 599	102	3
46 years	7 767	7 537	230	11	3 910	3 795	115	10	3 857	3 742	115	1
47 years	7 628	7 402	226	13	3 843	3 741	102	1	3 785	3 661	124	12
48 years	8 142	7 916	226	4	4 062	3 956	106	3	4 080	3 960	120	1
49 years	7 538	7 321	217	13	3 834	3 714	120	10	3 704	3 607	97	3
50 years	8 254	8 013	241	10	4 080	3 962	118	6	4 174	4 051	123	4
51 years	8 035	7 829	206	8	3 967	3 864	103	2	4 068	3 965	103	6
52 years	7 811	7 623	188	4	3 978	3 874	104	1	3 833	3 749	84	3
53 years	7 721	7 534	187	14	3 912	3 828	84	6	3 809	3 706	103	8
54 years	7 354	7 150	204	5	3 701	3 595	106	5	3 653	3 555	98	-
55 years	7 416	7 216	200	10	3 669	3 571	98	4	3 747	3 645	102	6
56 years	7 119	6 942	177	2	3 563	3 482	81	-	3 556	3 460	96	2
57 years	6 934	6 767	167	4	3 489	3 401	88	2	3 445	3 366	79	2
58 years	6 766	6 618	148	9	3 465	3 383	82	4	3 301	3 235	66	5
59 years	6 491	6 330	161	7	3 257	3 166	91	5	3 234	3 164	70	2
60 years	6 538	6 404	134	7	3 343	3 273	70	5	3 195	3 131	64	2
61 years	5 810	5 684	126	11	2 930	2 859	71	7	2 880	2 825	55	4
62 years	5 772	5 619	153	8	2 957	2 869	88	4	2 815	2 750	65	4
63 years	5 265	5 146	119	8	2 709	2 644	65	3	2 556	2 502	54	5
64 years	5 050	4 935	115	4	2 646	2 589	57	2	2 404	2 346	58	2
65 years	4 940	4 820	120	6	2 502	2 428	74	3	2 438	2 392	46	3
66 years	4 752	4 633	119	7	2 374	2 312	62	3	2 378	2 321	57	4
67 years	4 374	4 262	112	9	2 155	2 096	59	5	2 219	2 166	53	4
68 years	3 886	3 799	87	3	1 904	1 857	47	-	1 982	1 942	40	3
69 years	4 076	3 965	111	6	1 885	1 832	53	3	2 191	2 133	58	3
70 years	3 850	3 756	94	8	1 827	1 777	50	2	2 023	1 979	44	6
71 years	3 399	3 310	89	7	1 629	1 589	40	4	1 770	1 721	49	3
72 years	3 207	3 147	60	1	1 456	1 431	25	1	1 751	1 716	35	-
73 years	3 207	3 141	66	8	1 403	1 368	35	5	1 804	1 773	31	3
74 years	3 135	3 072	63	5	1 413	1 375	38	5	1 722	1 697	25	-
75 years	3 089	3 021	68	4	1 388	1 354	34	1	1 701	1 667	34	3
76 years	2 963	2 919	44	5	1 310	1 280	30	3	1 653	1 639	14	2
77 years	2 851	2 802	49	1	1 269	1 245	24	1	1 582	1 557	25	-
78 years	2 654	2 614	40	1	1 174	1 154	20	-	1 480	1 460	20	1
79 years	2 323	2 285	38	5	1 025	1 006	19	3	1 298	1 279	19	2
80 years	2 489	2 460	29	-	1 115	1 098	17	-	1 374	1 362	12	-
81 years	2 198	2 159	39	1	971	950	21	1	1 227	1 209	18	-
82 years	1 911	1 882	29	1	859	838	21	1	1 052	1 044	8	-
83 years	1 692	1 667	25	1	745	738	7	-	947	929	18	1
84 years	1 524	1 500	24	2	691	681	10	2	833	819	14	-
85 to 89 years	4 424	4 341	83	7	1 962	1 921	41	4	2 462	2 420	42	3
90 to 94 years	1 264	1 222	42	3	511	490	21	3	753	732	21	-
95 to 99 years	246	232	14	-	85	80	5	-	161	152	9	-
100 years and over	282	260	22	1	142	128	14	1	140	132	8	-
Median age	27.1	27.7	18.2	21.3	26.6	27.2	18.1	21.6	27.6	28.2	18.2	20.4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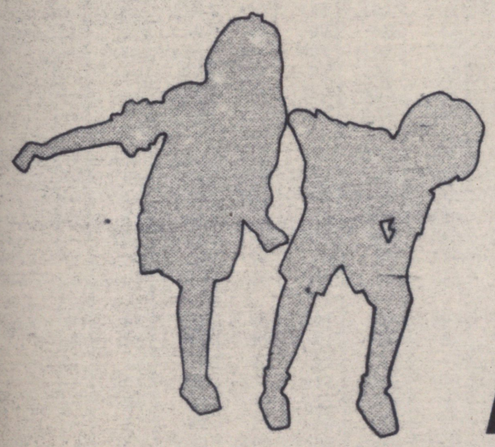


ANALYSIS

SUMMARY OF PUBLIC SCHOOL ENROLLMENT BY GRADE BY COUNTY
1974-75

County	Pre-K	K	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	Non-graded	TOTAL
Beaverhead	--	86	120	107	143	132	158	143	157	173	173	176	153	139	3	1863
Big Horn	--	149	216	170	171	200	198	209	211	201	212	197	146	130	41	2451
Blaine	--	101	121	122	132	127	157	143	170	179	153	158	136	118	31	1848
Broadwater	--	1	40	33	48	61	57	59	61	65	54	54	60	47	--	640
Carbon	--	60	103	114	117	138	129	118	152	146	178	129	152	128	12	1676
Carter	--	14	35	27	37	32	30	38	44	37	26	29	17	31	--	397
Cascade	--	1156	1306	1345	1236	1410	1547	1640	1713	1696	1768	1753	1565	1447	278	19860
Chouteau	--	40	92	87	85	109	93	122	107	130	122	125	137	140	15	1404
Custer	--	160	165	170	138	157	182	211	244	221	239	216	220	188	44	2555
Daniels	--	31	33	47	59	42	57	59	76	68	68	68	81	67	--	756
Dawson	--	190	170	186	165	163	172	204	210	221	272	238	251	218	32	2692
Deer Lodge	--	229	238	248	263	237	263	291	272	299	300	273	289	261	37	3500
Gallon	--	50	82	72	80	84	84	90	95	79	98	112	110	91	--	1127
Fergus	--	110	194	176	204	200	215	240	243	300	263	264	241	224	37	2909
Flathead	--	24	783	726	775	863	840	913	1024	1019	1023	1011	914	832	177	10924
Gallatin	--	427	505	490	466	518	511	540	598	574	541	607	513	501	66	6857
Garfield	--	15	31	21	25	23	45	40	28	33	28	40	28	36	12	405
Glacier	6	117	278	242	220	247	252	261	295	282	282	274	215	203	29	3203
Golden Valley	--	11	18	8	12	18	16	23	12	15	11	18	15	22	--	199
Granite	--	---	42	49	37	47	41	60	62	54	81	55	61	50	1	640*
Hill	16	78	279	251	273	283	339	307	295	361	404	356	372	347	65	4026
Jefferson	--	26	114	117	134	139	138	139	141	152	136	116	93	75	--	1520
Judith Basin	--	---	34	36	36	51	44	52	56	66	62	52	53	63	--	605
Lake	--	261	305	295	281	316	349	374	385	350	367	346	319	300	77	4325
Lewis & Clark	--	464	638	640	609	653	713	767	717	785	748	730	668	630	110	8872
Liberty	--	29	33	40	37	37	41	46	52	64	46	49	63	53	--	590
Lincoln	--	212	335	309	333	351	340	378	415	381	429	375	333	350	39	4580
Madison	--	---	72	54	68	97	105	82	85	99	129	106	107	88	2	1094
McCone	--	23	39	36	48	51	44	55	55	63	54	53	51	56	2	630
Meagher	--	33	26	26	33	43	44	38	48	38	50	44	32	33	--	488
Mineral	--	65	61	60	69	80	88	89	102	93	88	91	83	72	7	1048
Missoula	--	691	999	970	1023	1063	1121	1193	1232	1174	1213	1064	1014	930	217	13904
Musselshell	--	---	65	71	64	66	68	69	77	70	90	84	77	66	14	881
Park	--	165	159	164	154	179	181	190	227	191	212	239	219	243	46	2569
Petroleum	--	---	10	10	11	13	13	16	19	13	18	15	10	15	--	163
Phillips	--	66	81	97	87	76	93	100	107	111	121	133	105	120	14	1311
Pondera	--	84	120	130	137	131	130	142	165	160	143	166	146	144	19	1817
Powder River	21	32	36	42	32	43	53	47	57	44	60	66	73	55	--	661
Powell	--	87	120	133	109	128	139	173	152	138	153	154	140	116	13	1755
Prairie	--	---	27	29	21	25	37	28	32	32	40	51	29	39	--	390
Ravalli	--	---	321	301	316	353	361	408	442	413	416	373	379	296	33	4412
Richland	--	10	170	173	179	172	188	179	207	200	247	238	212	218	21	2414
Roosevelt	4	124	203	173	179	219	219	220	240	222	250	235	244	206	71	2809
Rosebud	--	73	171	124	152	145	146	163	154	140	119	122	103	114	37	1763
Sanders	--	44	140	143	129	140	148	169	180	195	166	175	125	141	20	1915
Sheridan	--	43	79	72	82	108	102	114	140	119	141	138	134	138	5	1415
Silver Bow	--	709	787	763	772	798	803	818	771	731	687	713	647	561	227	9787
Stillwater	--	34	71	74	73	90	117	92	112	101	113	109	96	98	6	1186
Sweet Grass	--	39	42	49	35	46	43	48	47	52	63	51	60	42	5	620
Teton	--	57	91	96	105	111	107	139	124	169	150	153	136	127	11	1576
Toole	--	61	95	77	77	90	85	100	114	138	110	143	122	129	3	1344
Treasure	--	12	19	23	15	16	13	19	30	30	28	20	30	28	16	299
Valley	--	201	249	238	247	214	281	262	320	256	293	277	238	261	59	3396
Wheatland	--	24	28	40	35	25	41	40	56	39	54	44	60	49	14	549
Wibaux	--	27	22	20	26	31	23	33	35	29	35	31	32	37	--	381
Yellowstone	7	149	1499	1462	1539	1565	1707	1830	1923	1936	1853	1904	1740	1617	425	21156
TOTAL	54	6894	12112	11778	11933	12756	13511	14323	15088	14947	15176	14813	13649	12730	2393	172158*

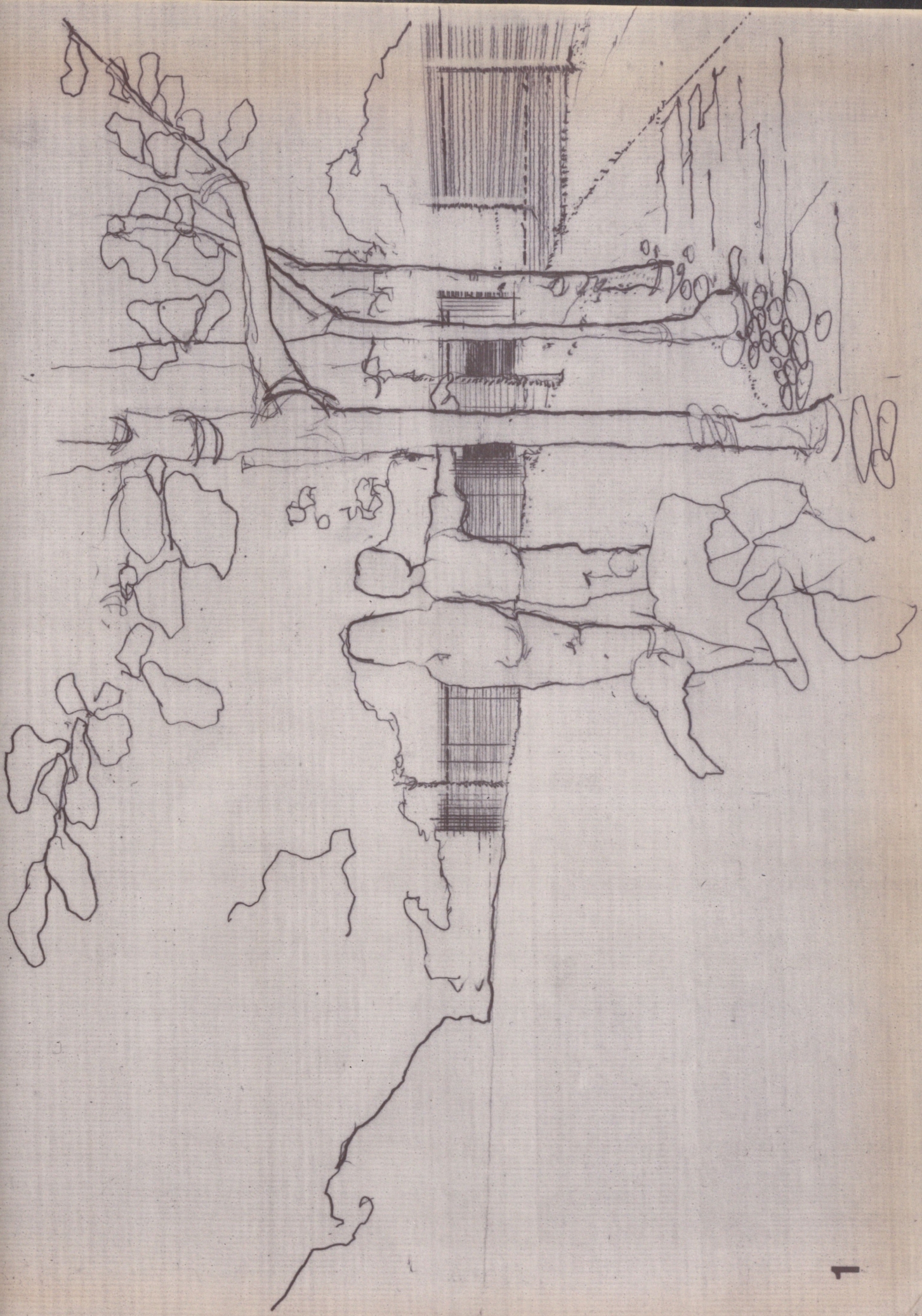
*Includes one post-graduate

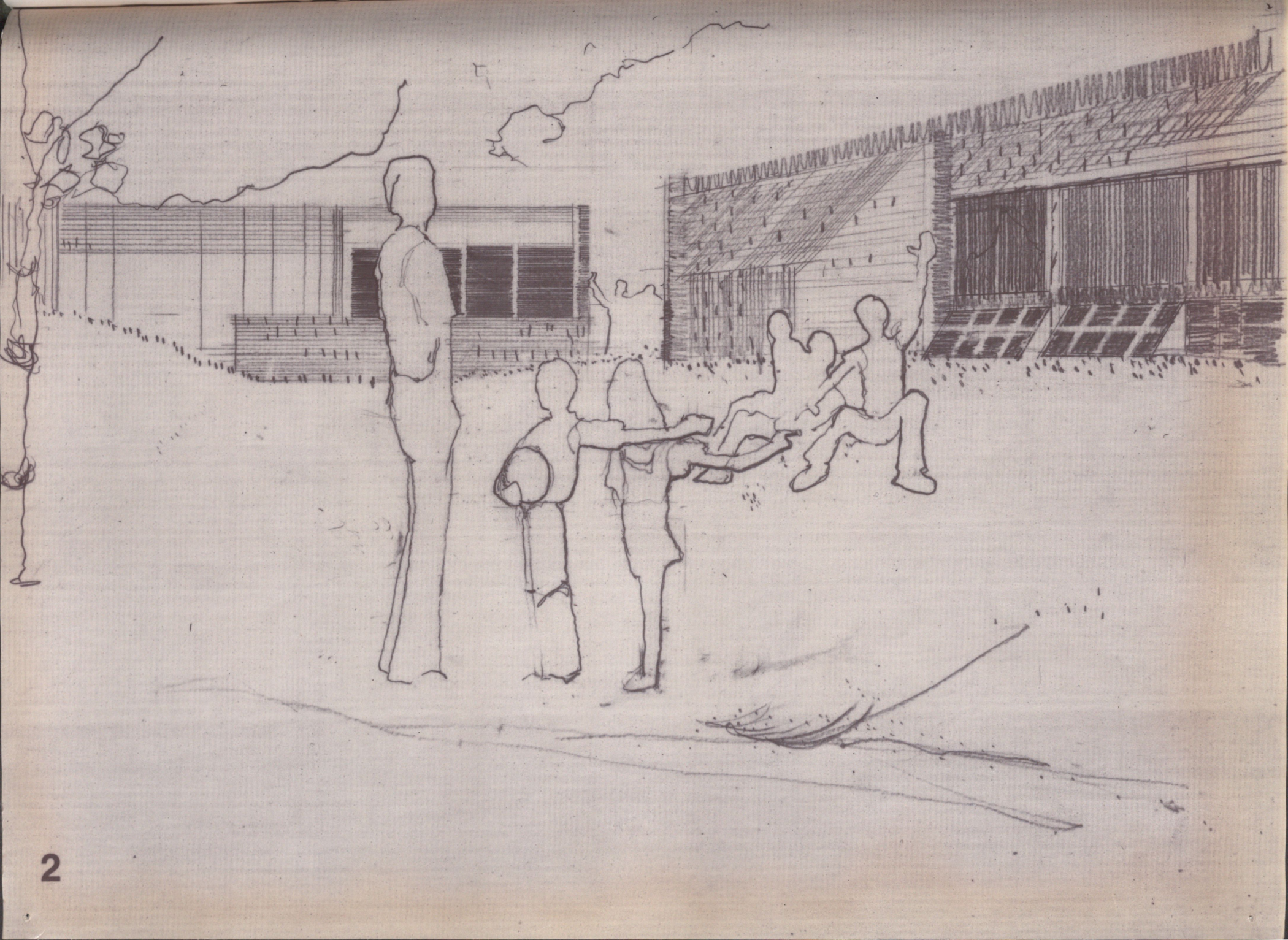
PUBLIC SCHOOL
ENROLLMENT BY GRADE*

1965-66 through 1974-75

School Year	Pre-K & K	1	2	3	4	5	6	7	8	Ungr. & Sp. Ed.	Total	9	10	11	12	Ungrd.& Sp. Ed.	Total H. S.	Grand Total
1965-66	3,649	16,120	14,842	14,822	14,296	13,916	13,875	13,705	13,355	676	119,256	12,966	12,268	11,564	10,633	46	47,477	166,733
1966-67	3,511	15,858	15,073	14,321	14,610	13,981	13,731	13,882	13,503	809	119,279	13,553	12,495	11,695	10,857	70	48,670	167,949
1967-68	3,656	15,904	15,010	14,839	14,335	14,557	13,973	14,068	13,798	1,261	121,401	13,703	13,203	12,027	11,122	173	50,228	171,629
1968-69	3,501	15,022	14,754	14,595	14,586	14,158	14,284	14,010	13,764	1,455	120,729	13,897	13,441	12,724	11,424	333	51,819	172,548
1969-70	3,232	14,638	14,788	14,554	14,633	14,695	14,359	14,551	14,042	1,727	121,219	14,055	13,546	12,806	11,892	256	52,555	173,774
1970-71	3,333	13,812	14,115	14,750	14,676	14,628	14,701	14,681	14,600	1,662	120,958	14,291	13,819	13,018	12,205	339	53,672	174,630
1971-72	3,676	13,267	13,528	14,196	14,785	14,652	14,612	14,778	14,510	1,538	119,542	14,228	14,055	13,138	12,274	314	54,009	173,551
1972-73	3,302	12,446	12,753	13,409	14,181	14,926	14,754	14,886	14,812	1,713	117,182	14,689	14,452	13,284	12,296	447	55,168	172,350
1973-74	4,162	12,134	12,006	12,738	13,415	14,238	14,967	14,872	15,009	1,875	115,416	15,052	14,577	13,728	12,650	622	56,629	172,045
1974-75	6,948	12,112	11,778	11,933	12,756	13,511	14,323	15,088	14,947	1,747	115,143	15,176	14,813	13,649	12,730	647	57,015	172,158
% change since 1965-66	+90.4	-24.9	-20.7	-19.5	-10.8	-2.9	+3.2	+10.1	+11.9	----	-3.5	+17.0	+20.7	+18.0	+19.7	--	+20.1	+3.3
% change since 1970-71	+108.5	-12.3	-16.6	-19.1	-13.1	-7.6	-2.6	+2.8	+2.4	+5.1	-4.8	+ 6.2	+7.2	+4.8	+4.3	+90.9	+6.2	-1.4

*As of October 1 of each school year





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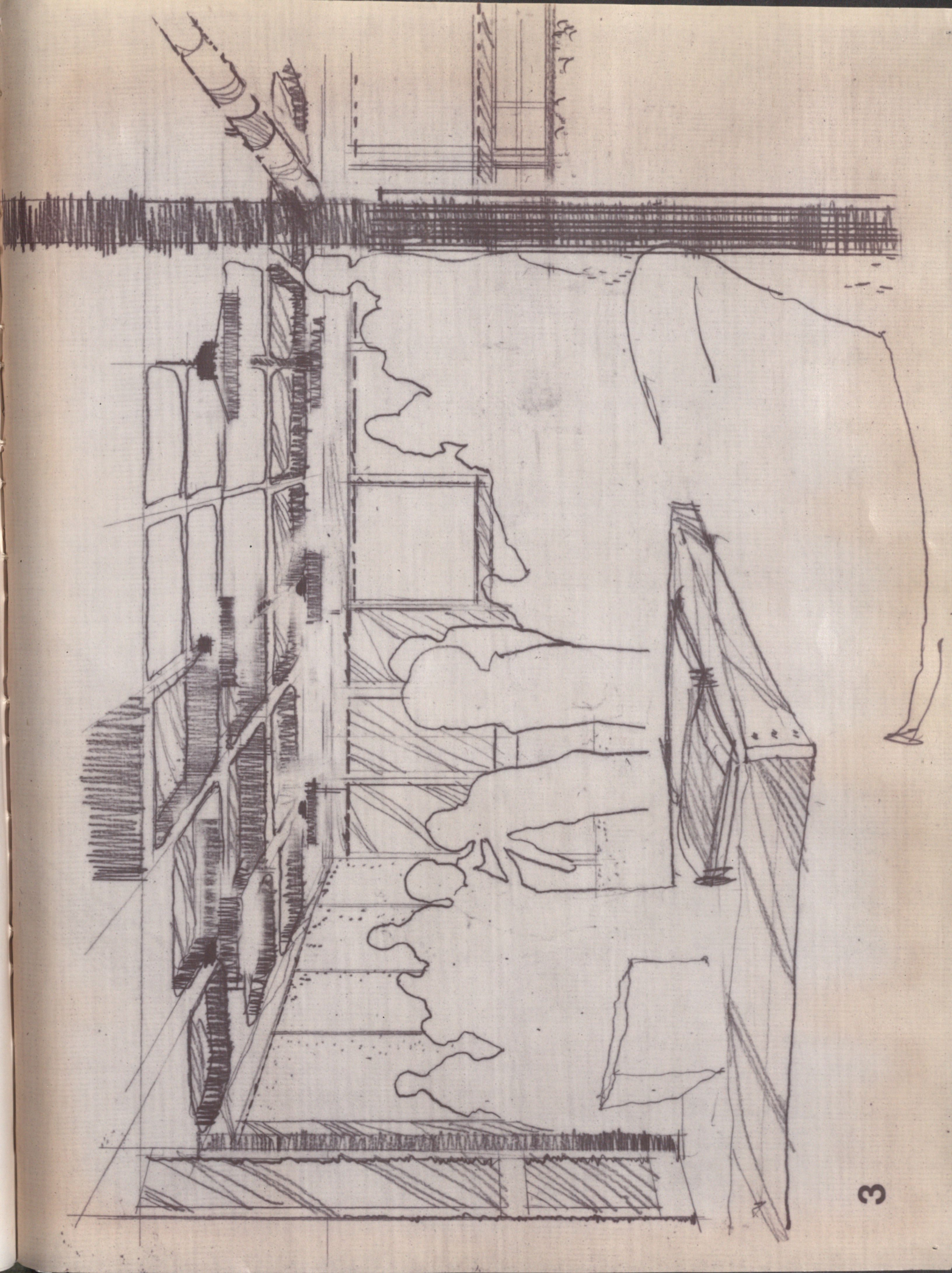

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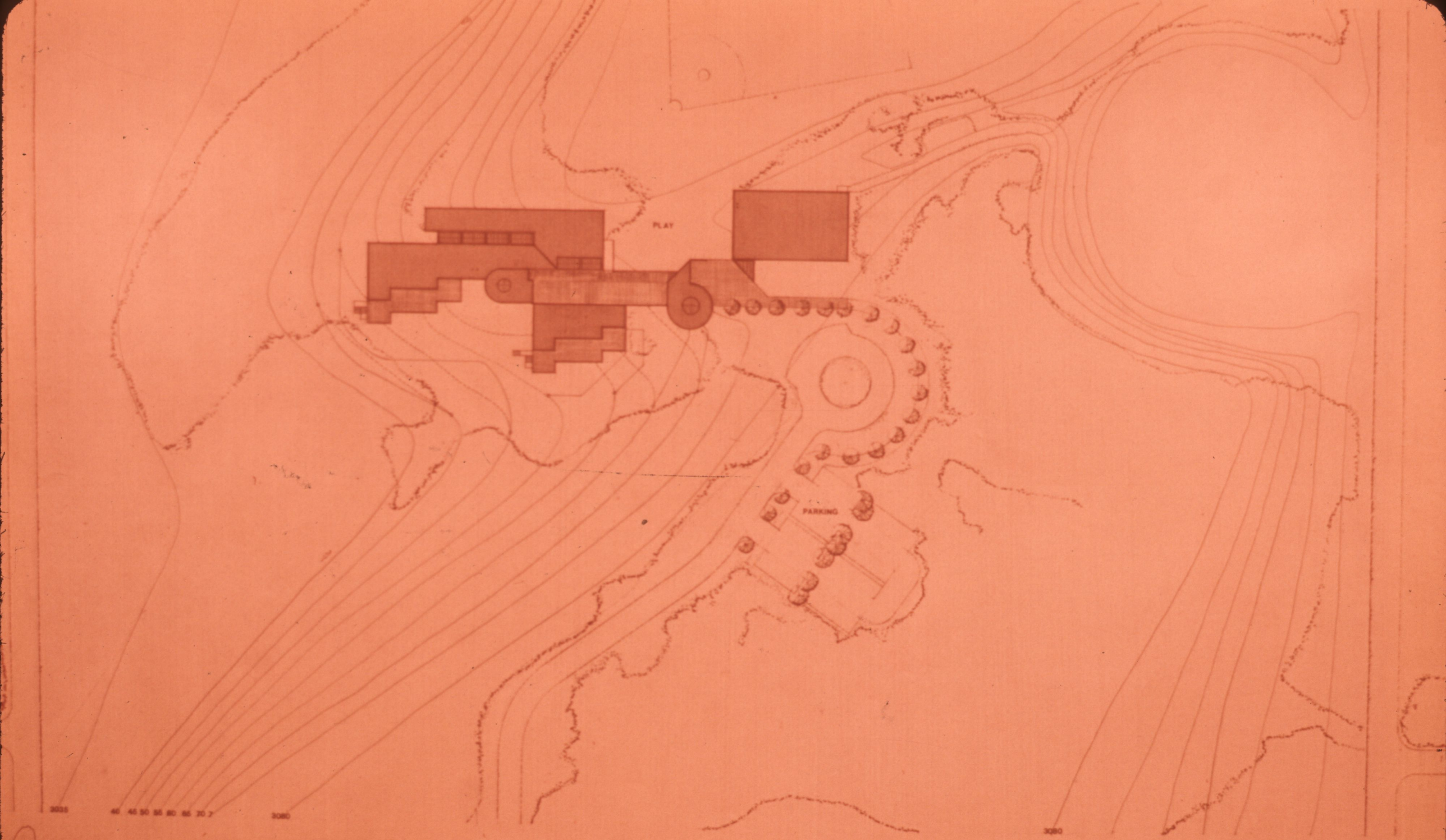
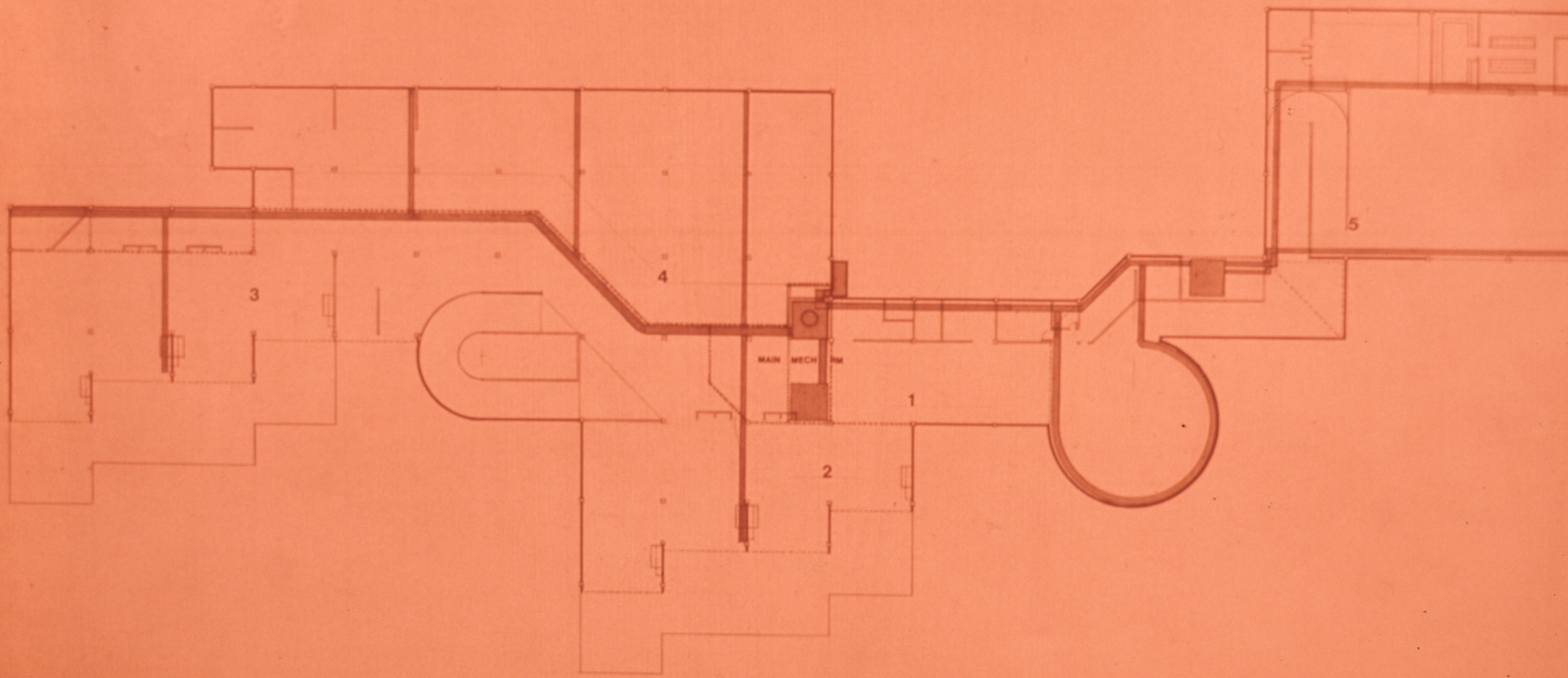


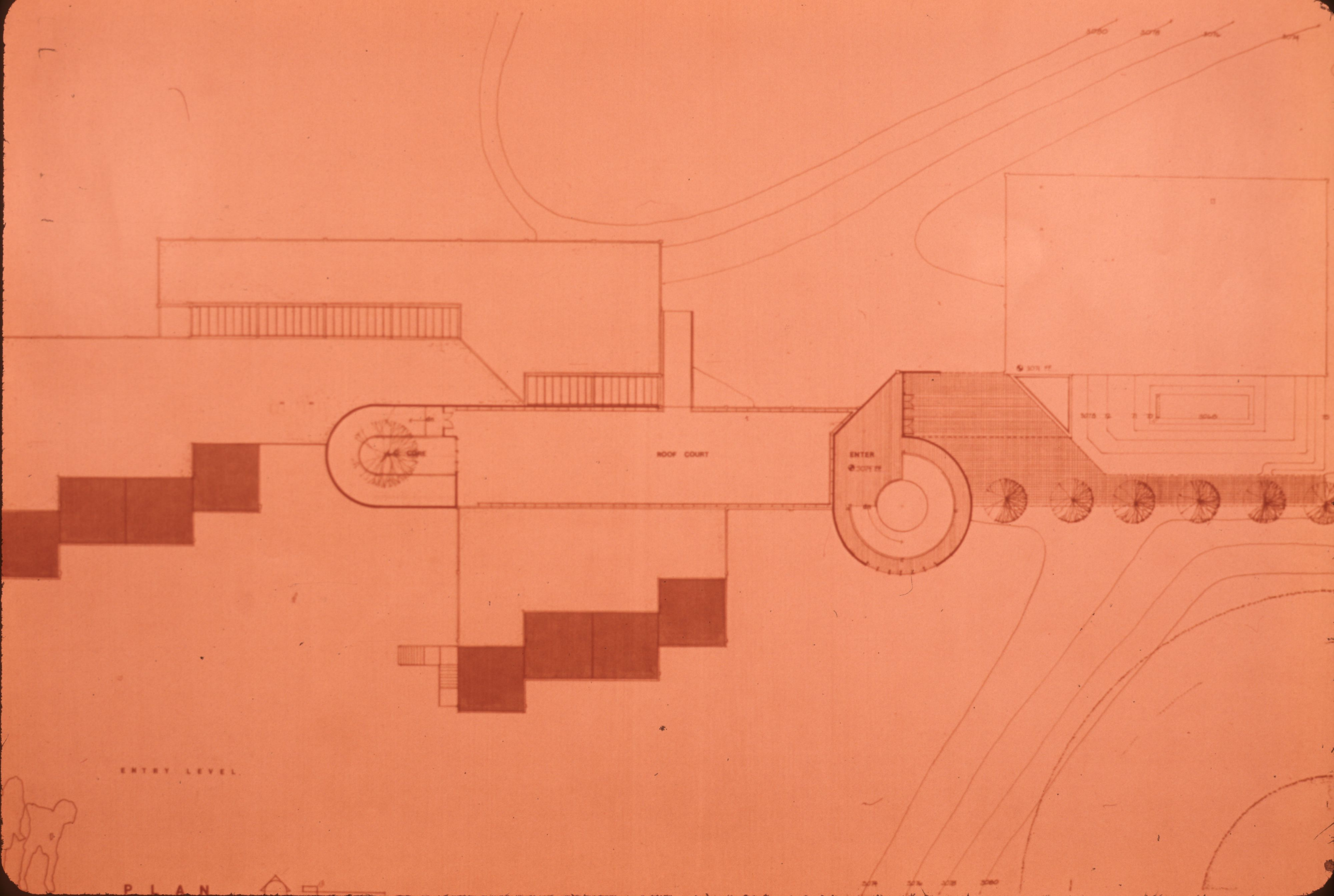
SITE PLAN



SCHEMATIC



MECHANICAL PLAN



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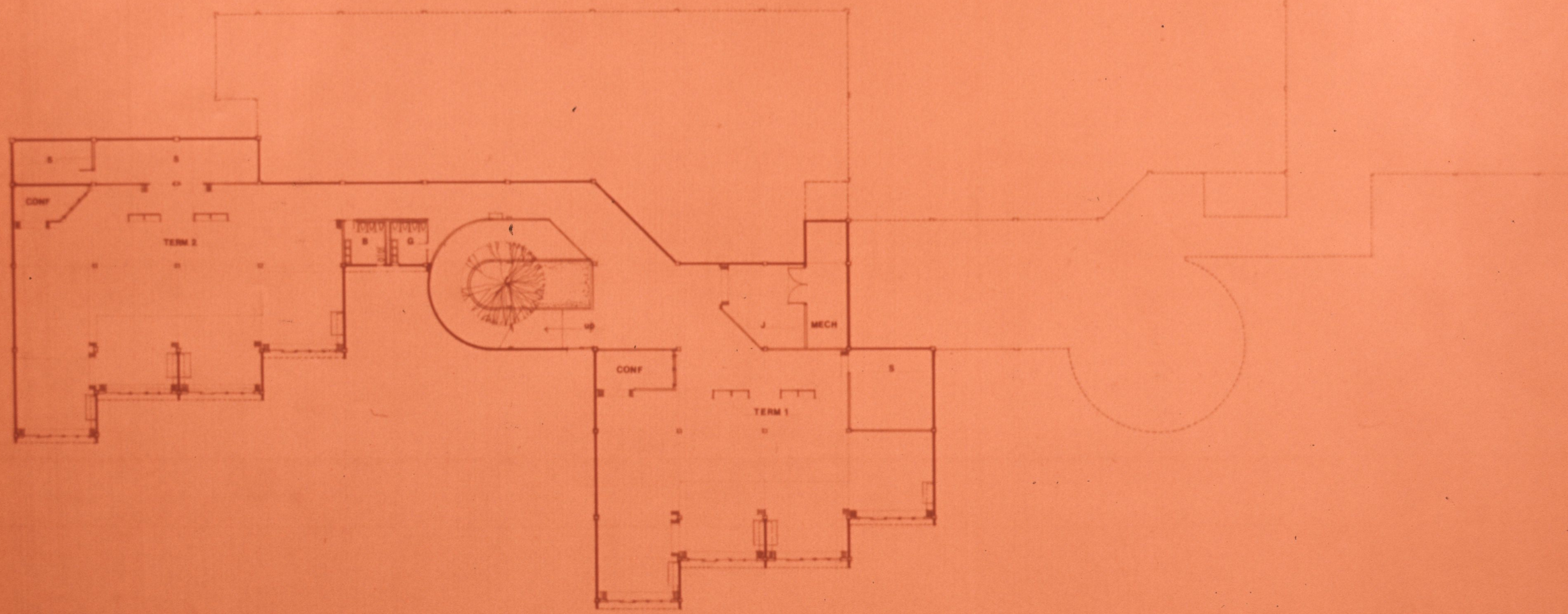

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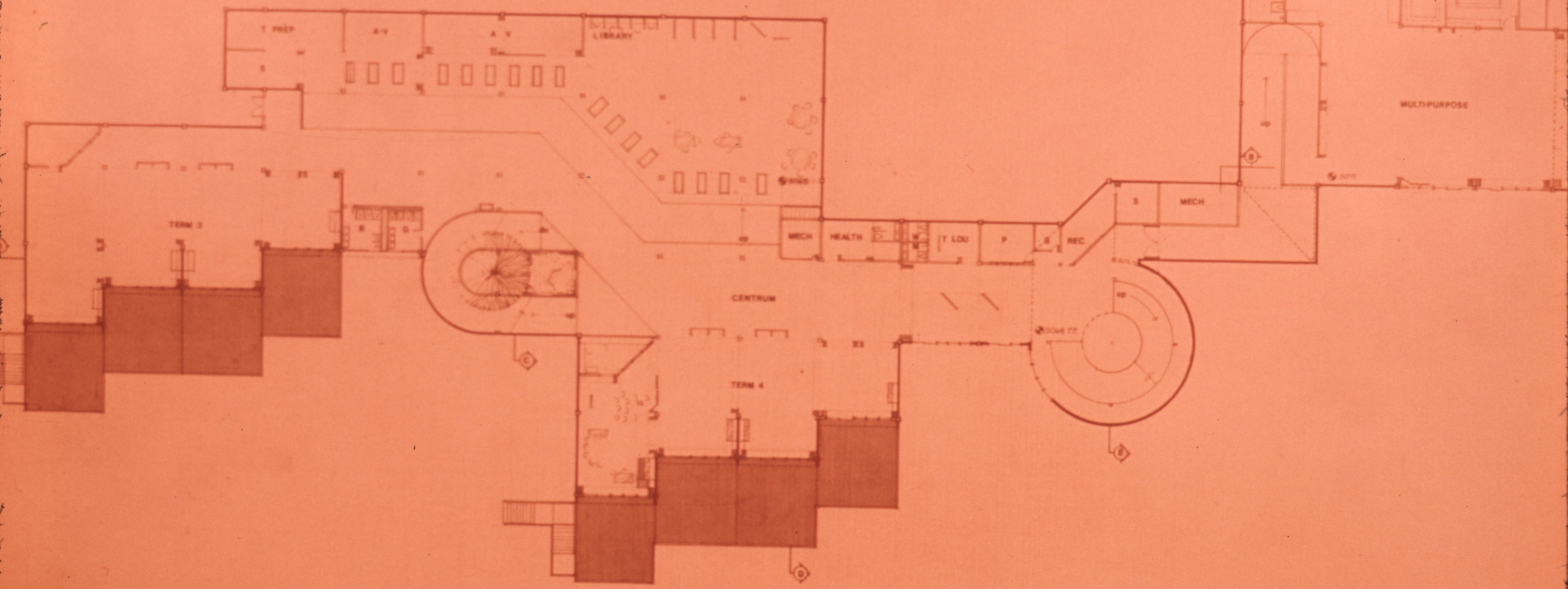

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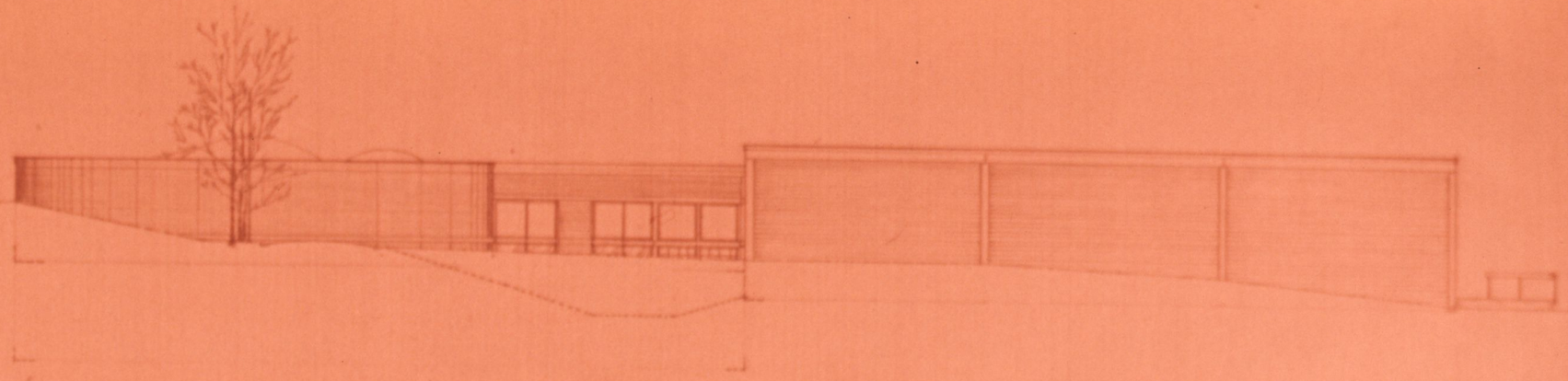

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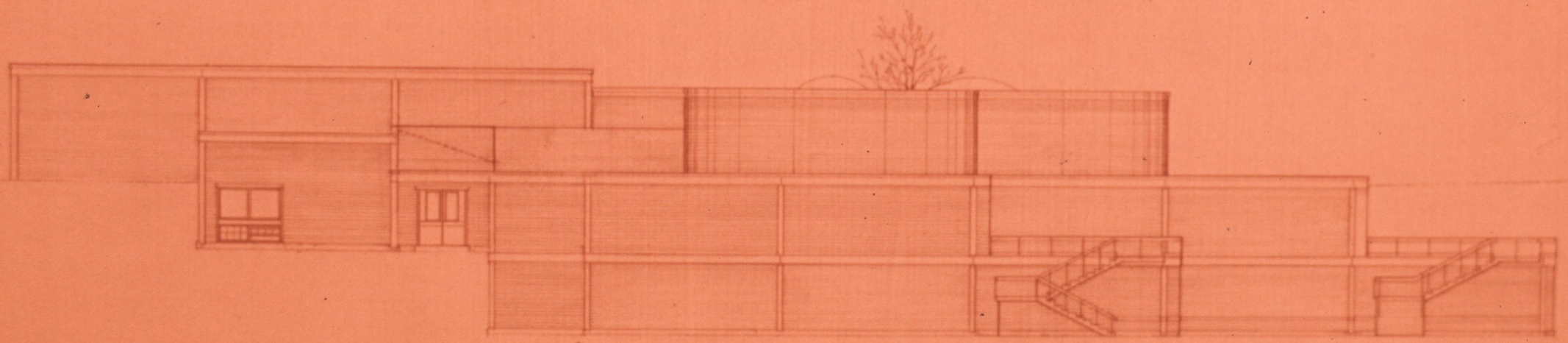

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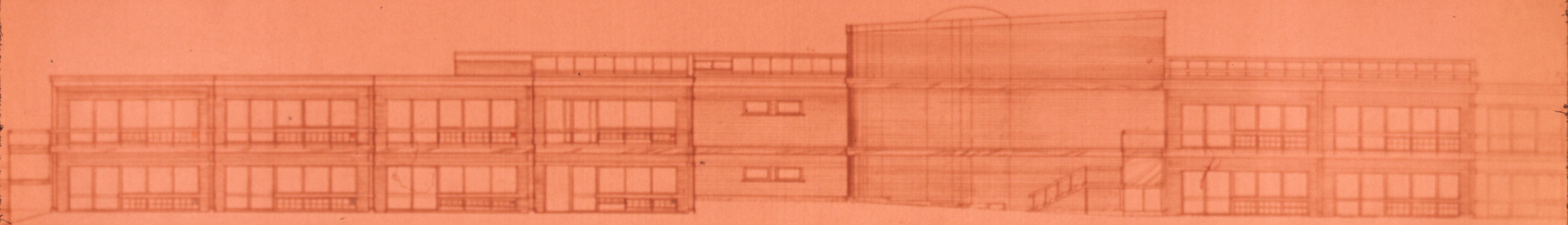

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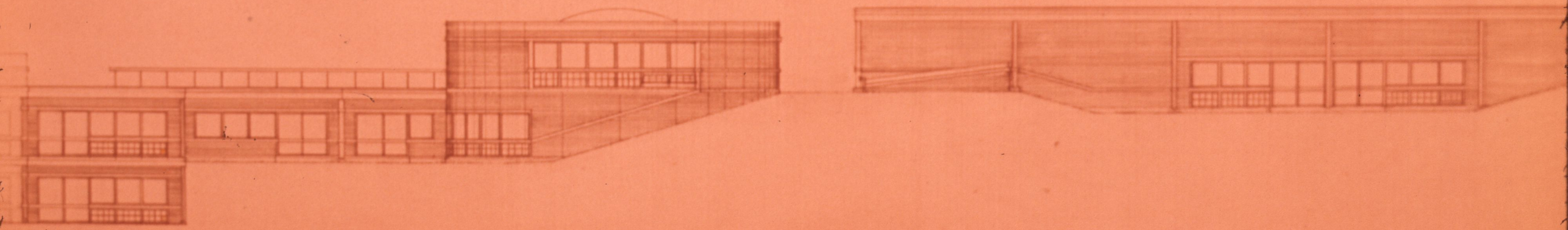

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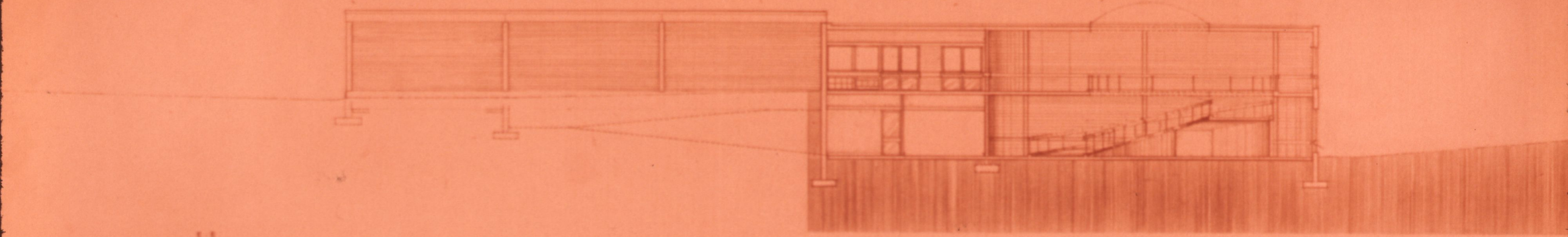

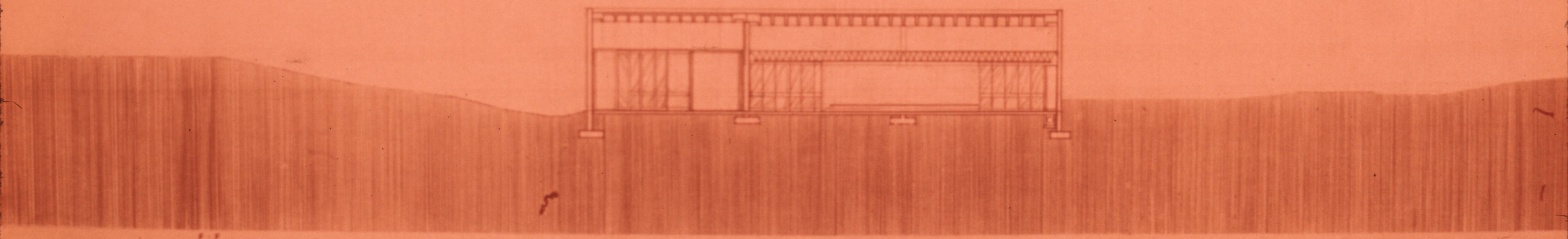



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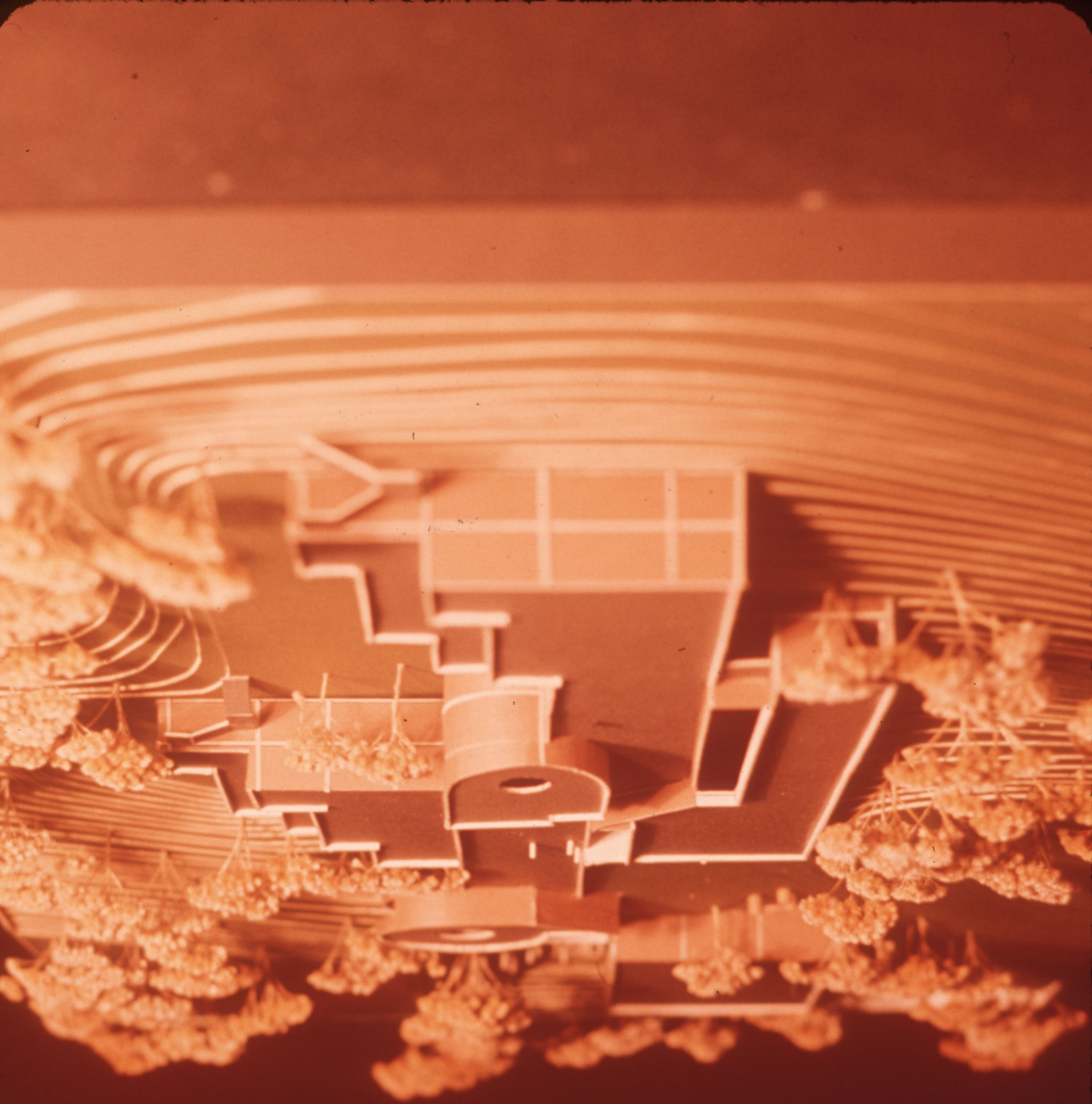





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