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PRELIMINARY RESEARCH FOR A CENTRAL OFFICE-ADMINISTRATION
BUILDING FOR MONTANA STATE COLLEGE - BOZEMAN, MONTANA

PART 1 OF AN UNDERGRADUATE DESIGN THESIS

SUBMITTED TO THE SCHOOL OF ARCHITECTURE AT MONTANA
STATE COLLEGE FOR PARTIAL REQUIREMENTS TOWARD A DEGREE
OF BACHELOR OF ARCHITECTURE

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ACKNOWLEDGMENT

I am greatly indebted to James R. Benson, whose previous work on the subject of a Central Office-Administration Building for Montana State College did so much to make this document possible.

I also wish to express my thanks to Professor H. C. Rose¹ and Assistant Professor D. Coombs who gave of their time to provide advice and guidance throughout the preparation of this research.

PROLOGUE

"The fundamental laws of building found at the basis of every style of architecture must be the basis of ours. The adaptation of the forms and magnitude of structures to the climate they are exposed to, and the offices for which they are intended, teaches us to study our own varied wants in these respects. The harmony of their ornaments with the nature that they embellish, and the institutions from which they sprang, calls on us to do the like justice to our country, our government, and our faith."

Greenough

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A. PROPOSAL

Montana Hall, the oldest building on our campus, nears the end of its usefulness as the administrative center of Montana State College. After many years of service, this grand old building must soon give way to the "growing pains" that increased enrollment have inflicted upon our campus. And when it is gone (or at least vacated), there must be another building erected to house the administrative facilities of Montana State College. When that time comes, any previous research concerned with the administrative needs of Montana State College will be of some assistance in formulating a building program. For this reason, I have chosen to do as an architectural thesis a new Central Office-Administration Building for Montana State College.

In 1960, James R. Benson undertook a similar thesis assignment. Mr. Benson's thesis was primarily directed toward an assessment of the future administrative needs at Montana State College. To avoid repetition, it will be the purpose of this document to begin where Mr. Benson left off. I intend to utilize the work he has done as much as possible, to draw upon its content, to supplement it, and to revise it. From all of this it is hoped will emerge a useful and comprehensive building program.

I propose to present this research in the following manner:

.....First quarter.....

1. Inquire into what will be necessary for the proper functioning of a structure of this type.
2. Study possible sites to house this structure.

3. Present a program of the future needs of a structure of this type.

.....Second quarter.....

4. Present a solution of the building (including all drawings, models, etc.) utilizing all the previous information.
5. Present a solution of the landscaping related to the building.

B. H'STORY

History of Montana State College

In 1862 the 1st. Morrill Act provided for funds to be used to support at least one college per state. Because Montana was then still a Territory, it could not be a recipient of these funds. However, the 2nd. Morrill Act, passed August 30, 1890, made available an annual grant of \$15,000.00 for each state college of agriculture and mechanic arts. This sum of money, coupled with an additional \$15,000.00 made available by the Hatch Act of 1887, to provide for an Experiment Station to be operated in connection with the state colleges, was a determining factor in inducing state leaders to take steps to create a university system.¹

After a heated discussion in the legislature, the bill creating the Agricultural College of Montana and locating it in Bozeman became a law on February 16, 1893.

On April 17, 1893 the Agricultural College of Montana opened its doors to an enrollment of 8 students on a proposed budget of \$48,940.00.² Classes were carried on in an abandoned skating rink building owned by Nelson Story and located at the corner of West Main Street and Third Avenue. Courses were offered in Agriculture, Domestic Economy, and Applied Science.³

The first President of the college was A.M. Ryon in 1893. His term of office lasted for only one year. He was then replaced

¹ Merril C. Burlingame, Montana State College - A Preliminary Sketch (Montana State College, 1943), p. 17.

² Joseph Scalabrin, Preliminary Research for an Arts and Architecture Building (Montana State College, 1962), p. 23.

³ Burlingame, A Preliminary Sketch, p. 43.

by Reverend James Reid in 1894. Administration for the college was a simple procedure at that time.

"An Executive Board of five members, all residents of Bozeman, had the initiative in the selection of the president, faculty, and employees, and in the distribution and expenditure of the funds, subject to the approval of the State Board of Education. Peter Koch, a member of the Executive Board and a bank cashier, was the secretary and treasurer of the Board and of the College. The Board held meetings monthly in the directors' room of the Bozeman National Bank. The College bills were audited and ordered paid by warrants drawn by the treasurer. The College funds were kept in the Bozeman National Bank."⁴

Today, 69 years later, the college has swollen to an enrollment of nearly 4500 students, and administration is no longer a "simple procedure." The college now has three major functions: resident instruction, research, and extension. Financing for the college is obtained through biennial legislative appropriations, federal land grant incomes, special congressional enactments, trust funds, student fees, private gifts, and miscellaneous grants.

What began as an agricultural college has now become a "university" whose purpose is to give an equal opportunity for residents of the states to receive higher education.

History of Montana Hall

When the Reverend James Reid became President of Montana State College in 1894, the physical plant of the college was still confined to Nelson Story's abandoned skating rink building near the downtown area of Bozeman. However, President Reid was a very progressive person, and plans were immediately made to move the college facilities to the recently acquired Capitol Hill Subdivision area on the south-west side of the city. This was

⁴ Burlingame, A Preliminary Sketch, p. 47.

a newly developed area, owing its birth to a campaign by the townspeople for the Capitol. When Helena was selected as the seat of the government for the state, the Capitol Hill Subdivision held rather bleak hopes for a prosperous future, and it was hastily sold to the college.

Plans were made for a complex of five buildings to house the facilities of the campus, and architect J. C. Paulsen of Helena was commissioned to complete the necessary drawings. The five buildings were: a main hall, an agriculture building, a steam plant, a chemistry building, and a drill hall. Today only one of these buildings still stands, the rest having long since been gone due to fire or age. This building is Main Hall, now known as Montana Hall.

The cornerstone of Montana Hall was laid October 21, 1896 - a gala occasion marked by speeches, parades, and a rainstorm.⁵ Contained in the new building were the library, the administrative facilities, the Departments of Art, Business, Domestic Science, English, Mathematics, Languages, and Mechanical Drawing, and an assembly hall. At that time the President and his secretary registered the students and there was little need for a Registrar's Office. Because funds were kept in the local bank, a Business Office was also unnecessary.

At that time the library was located in the area that is presently occupied by the Registrar's Office. Most of the main floor was occupied by classrooms. What is presently the Office of the President was at one time a history classroom, as was the

⁵ Burlingame, A Preliminary Sketch, p. 49.

present Married Housing Office. The fourth floor of Montana Hall contained a "large" assembly room for 200 persons. One hundred more seats and a wide platform were added in 1904 by President Hamilton. During the weekly assembly gatherings, the students sat in the permanent seats and the faculty sat on chairs on the platform. The Music Department had practice rooms on both sides of the assembly room.

Although sweeping changes have been made in the interior to accommodate the growing needs of the Administration, the years have had little effect upon the exterior appearance of Montana Hall. Its three chimneys were removed when the Central Heating Plant was installed, and the small cupola that used to grace its roof was removed sometime after the turn of the century.

Montana Hall is a beautiful building and stands as a tribute to its architect and to its college.

C. CONDITIONS CREATING A NEED

General Conditions

At the present time, the administrative facilities of Montana State College are housed in Reid Hall and Montana Hall. (For the purposes of this document, "Montana Hall" refers to the building proper and its annex.) A few other administrative personnel have their offices in other buildings on the campus. A large number of these administrative offices are closely related, and their present decentralized nature in many ways has an adverse effect upon an efficient administration of the college's business. A Central Office-Administration Building for Montana State College would be a great help in facilitating more efficient and pleasant working conditions for the administrative personnel of the campus.

Physical Conditions

Montana Hall-

The majority of the administrative work of the campus is carried on in Montana Hall. The following administrative offices are located in Montana Hall:

1. Office of the President
2. Office of Student Welfare
3. Office of the Business Manager
4. Office of the Registrar
5. Office of Information
6. Office of Admissions

The general conditions of these offices are cramped, dismal, and old, with poor ventilation and poor lighting. (See figures 1-4) Their arrangement and relation to each other is inefficient and

awkward. Montana Hall, built over 65 years ago, was not designed as a building for administrative use, and its weak structural condition makes an extensive remodeling program both hazardous and unfeasible. It will not be very many more years before the building must be vacated completely.

Reid Hall-

Reid Hall is a classroom-office building that was completed in 1959. The following offices are located in Reid Hall:

1. Office of the Dean of Faculty and Vice President.
2. Office of the Dean of Education and Director of Summer Quarter.
3. Office of the Dean of Graduate Division and Endowment and Research.
4. Office of the Dean of Letters and Science.
5. Office of the Dean of Professional Schools.
6. Office of Veteran's Administration and Continuing Education.
7. Testing and Counseling Service.
8. Placement Office.

In addition to these offices, Reid Hall also houses the following classroom facilities:

1. School of Architecture.
2. Department of Education.
3. Department of History and Philosophy.
4. Department of Psychology.
5. Department of Commerce.
6. Department of Modern Languages.

The administrative offices in Reid Hall are new and pleasant, and at the present time adequately fulfill the administrative needs. However, in the near future Montana State College will sustain a rapid rate of growth. Predictions indicate that enrollment will almost double by 1970. Classroom space will be at a premium, and Reid Hall, unless the administrative offices are removed, will feel the squeeze of cramped conditions.

A new Arts and Architecture Building is planned for the campus, thereby leaving the fourth floor of Reid Hall for classroom expansion. But this will not be enough. The location of all administration offices in a Central Office-Administration Building would allow nearly the total west wing of Reid Hall to be utilized for the future classroom expansion of these departments.

Psychological Conditions

Montana Hall-

As was mentioned before, Montana Hall was not designed as an office-administration building. Its use as a building of this type presents several problems. Lack of adequate office space, lack of storage and shelf space, poor lighting and ventilation, and the lack of a functional relationship between the various offices, all combine to make working conditions for the personnel unpleasant and inefficient.

In addition to the administrative offices, Montana Hall also contains the Department of English and the Department of Film and Television Production. Holding classes in the same building that has administrative offices also presents psychological

problems. The constant flow of students up and down stairs during class breaks is distracting and disquieting. Administrative personnel find it hard to accomplish their work when they are continually interrupted by bells, voices, and the shuffling of feet as classes end and begin.

Reid Hall-

Reid Hall is also an office-classroom building and, though much newer than Montana Hall, is subject to the same problems when classes are changing. Noise level has a great impact on the efficiency and working habits of office personnel. A building that is designed for administrative needs alone would help alleviate this problem.

Future Conditions

The future growth of Montana State College must be considered in an assessment of its administrative needs.

The projected growth of Montana State College shows an anticipated enrollment of over 7000 students in ten years.⁶ Records are not kept of the past growth of the administrative personnel, so a projection of its future growth is not available. However, it can be safely assumed that administrative growth will somewhat parallel student growth.

This future growth of the administrative personnel will worsen the existing conditions brought out earlier in this section. This points up the need for a Central Office-Administration Building capable of absorbing this future growth.

⁶ Scalabrin, Preliminary Research for an Arts and Architecture Building, p. 32.



FIG. 1 ENTRANCE TO PRESIDENT'S OFFICE



FIG. 2 LACK OF WORK SPACE

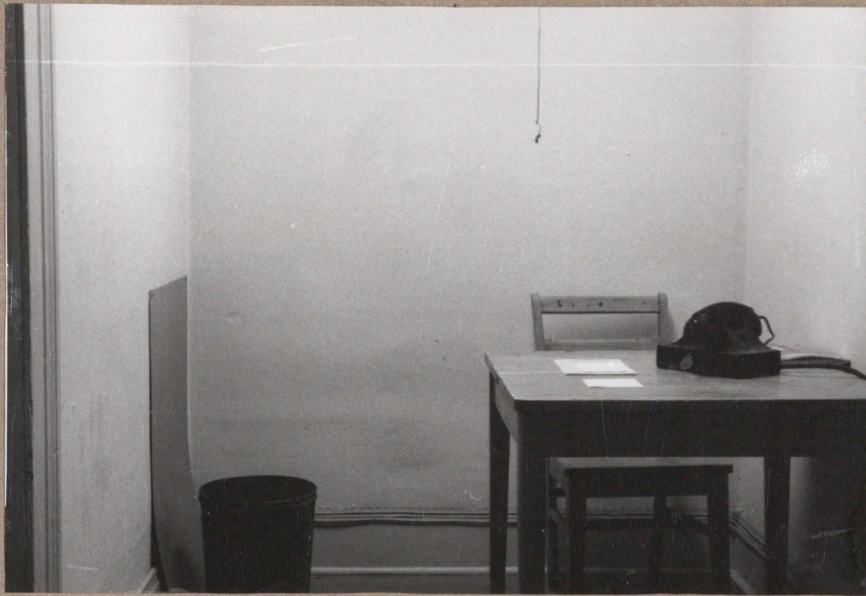


FIG. 3 WINDOWLESS OFFICE



FIG. 4 INADEQUATE LIGHTING

D. AESTHETIC CONSIDERATIONS

Unity

Unity among buildings common to a certain area is a prerequisite of good architecture. As Lewis Mumford says in his book Sticks and Stones:

"A building stands or falls, even as a pure work of art, by its just relation to the city around it."⁷

The problem of unity of design among the separate buildings of the campus is one that plagues nearly all of our nation's colleges. Montana State College is no exception to this problem. The chaos we find on our campus today can be directly attributed to the lack of a strong plan for its development. The character of Montana State College's physical plant was set in 1896 with the building of Montana Hall, and this character was closely followed into the 1920's with such buildings as Herrick Hall, Roberts Hall, Lewis Hall, and the Steam Plant. Since that time however, a steady deterioration of unity has marked each new building on the campus. Today our campus is a conglomeration of building types that bear little relation to each other.

When a new Central Office-Administration Building is built for Montana State College, it should not be with the intent of introducing a new "style" of building on to the campus. This has been done too many times in the past. Rather, the intent should be to recapture the old precedents set by Montana Hall, Herrick Hall and the others, and to bring these precedents up to date.

⁷ Lewis Mumford, Sticks and Stones - A Study of American Architecture and Civilization (New York, 1924) p. 177.

Regionality

Here I would like to quote again from Mr. Mumford's book

Sticks and Stones:

"This ignorance of regional resources is not incompatible with grand effects, or even on occasion with decently good architecture. But it does not profit by that fine adaptation to site, that justness of proportion in the size of window and slope of roof, which is earnest to the architect's mastery of the local situation."⁸

The location of Montana State College presents several conditions that must be considered in the design of its buildings. The Galatin Valley, with its rugged mountains, heavy snows, and brisk mountain climate, presents a proper setting for a regional building that merges itself into a happy union with these local conditions.

Certain buildings on the campus (the Library and the Lewis and Clark Dormitory in particular) are aesthetic failures from this standpoint of regionality. They fail because they have no regional roots. They do not become an aesthetic compliment to the particular region they propose to enhance.

On the other hand, I believe Montana Hall is a successful building from the standpoint of regionality. Its roof forms strike a pleasant harmony with the rugged mountains, and its strong walls give a sense of shelter from the cold winds and snow.

Here again I believe a lesson can be learned from Montana Hall. Its success as an example of regional architecture sets a mark for the architects of future buildings on the campus to strive.

⁸ Mumford, Sticks and Stones, 137-138.

Materials

The materials used in a building can establish neither Unity nor Regionality, but they can do a great deal to help these characteristics materialize. In the design of a new Central Office-Administration Building for Montana State College, the selection of materials should be carefully considered. Indigenous materials should be used wherever it is possible.

The exterior material for most of the campus buildings is brick, and to this extent there is a certain similarity. But here the similarity stops, for a closer inspection shows the brick to be used in almost every conceivable color, texture, and bond. At this point it would be rather difficult to decide what type of brick would be best suited for a building of this type.

Wood has been successfully used on several of the buildings, and because it is indigenous to this region its use should be strongly considered.

Interior materials should be selected not only for their keeping with the character of the building, but also for their durability, ease of maintenance, and cost. These materials should strike a mood of restrained gaiety within the building to help bring about pleasant working conditions for the personnel.

Conclusion

The future buildings of the campus should reveal a merger of unity, regionality, and good material selection. These points must be strongly considered in the design of a new Central Office-Administration Building. With them foremost in mind, steps can be taken in the design of this building to recapture the character that was lost to our campus so many years ago.

E. ECONOMIC CONSIDERATIONS

Construction Costs

The construction costs of buildings in a certain area depend upon the availability of labor and materials. Labor costs in the Bozeman area are comparable to other urban areas, but material costs are somewhat higher due to higher shipping costs.

Because the program for this building is approximate in scope and the materials have not been selected, it is only possible at this time to estimate the probable cost of the building. For this preliminary estimate I have used average figures from the Marshall Valuation Service Calculator Methods,⁹ which does not segregate the costs of the various materials. The estimate for the approximate cost of the building is as follows:

1. Type of building - University or College.
2. Use - Offices.
3. Cost range (per square foot) - \$14.93 to \$21.45.
4. Average cost (per square foot) - \$18.19.
5. The total area of the building is 47,634 square feet.
(This figure is arrived at in the program.)
6. The cost range would then be between \$711,000.00 and \$1,050,000.00.
7. The average cost would then be \$865,000.00.
8. This cost does not include landscaping or equipment.

Landscaping of the campus buildings is usually done by the Horticulture Department and would not be included in the construction contract. Much of the equipment now in

⁹ Marshall-Stevens Co., Marshall Valuation Service (Cleveland), p. 15.

use, such as desks, chairs, filing cabinets, etc., would be re-used in the new building. New equipment would be purchased through the Service Shop as it was needed.

9. The actual cost will vary to a certain extent from this estimate due to changes made during the preliminary design stages. The purpose of this estimate is to give the client an indication of the approximate cost of the building.

Maintenance and Operation

The Marshall Valuation Service estimates the life expectancy of a building of this type at 60 years. This figure is arbitrary and depends to a great extent upon the selection of materials. Some materials have high initial costs and low maintenance costs; other materials have low initial costs and high maintenance costs. Both initial costs and maintenance costs should be considered in the selection of materials. In a space that is subject to continual heavy use, materials should be selected for their durability and ease of maintenance. On the other hand, materials that have a lower durability can be used in spaces that are subject to light use.

These points must be kept foremost in mind during the selection of materials for the building.

Site Improvement

Grading and filling on the site will depend upon the size and shape of the building. However, large cuts and fills are not anticipated. Natural landscaping will be utilized as much as possible, and new landscaping will probably be confined to areas around the building.

F. SITE ANALYSIS

General

Location-¹⁰

Montana State College is located in Bozeman, Montana. Bozeman, a city of 15000 population, is located in the Gallatin Valley at the base of the western slope of the Bridger Mountains. The city is surrounded on three sides by mountains. Bozeman has a latitude of $45^{\circ}42'$ and a longitude of $111^{\circ}3'$. The elevation of the city is 4900 feet.

Climate-¹¹

The climate of Bozeman is essentially of a mountainous nature.

The winters are relatively cold and severe. The average winter temperature is approximately 25° , with occasional lows of -35° . However, January temperature averages have exceeded 30° , so mild weather is not unusual. The average annual snowfall is 30 - 50 inches, with the greatest amount of snow falling between November and March.

Summers in the Bozeman area are warm and pleasant. Periods of extremely high temperatures are infrequent, and uncomfortably humid conditions are rare. Extreme temperature conditions are not continuous and usually last not more than ten days at a time. Precipitation falls mostly in the form of showers, with some hail. One-half of the annual precipitation falls between May and July.

The prevailing winds are from the north-west.

¹⁰ U.S. Weather Bureau, Climates of the States, Yearbook (1941), p. 217.

¹¹ U.S. Department of Agriculture, Climate and Man, No. 59, (Washington D. C., 1959), 122-123.

Mean Temperature		Precipitation (in.)
Jan.	20.2	.92
Feb.	23.2	.76
March	27.8	1.53
April	42.5	1.73
May	51.1	2.34
June	57.3	3.06
July	66.4	1.08
Aug.	64.9	1.12
Sept.	55.8	1.65
Oct.	46.0	1.45
Nov.	32.1	1.07
Dec.	24.8	.91

Annual Temperature
Annual Precipitation

42.9° F
17.62 in.

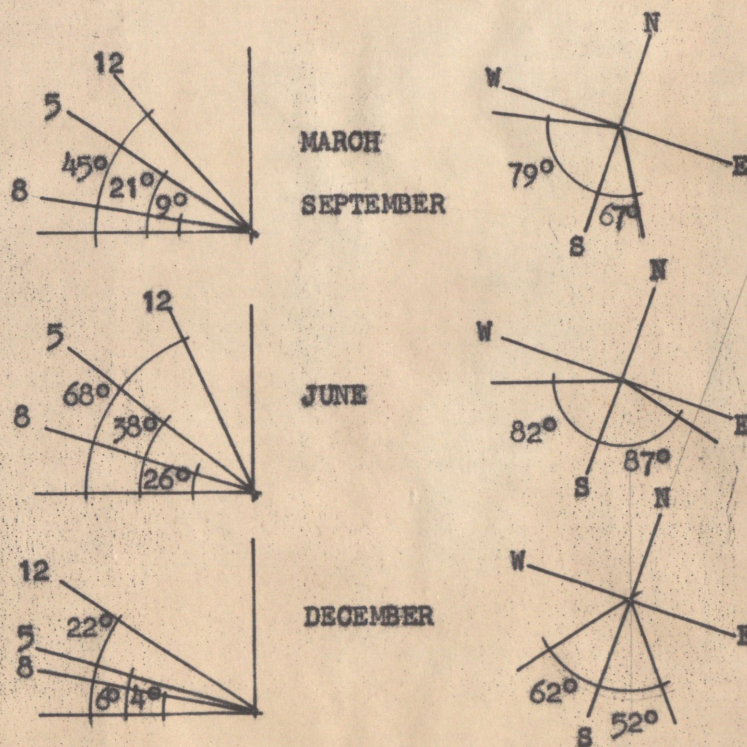


FIG. 5 SUN ANGLES & AVERAGE RAINFALL

KEY

- 1 Intramural Area
- 2 Fieldhouse
- 3 Faculty Housing
- 4 Physical Plant
- 5 Gatton Field
- 6 Ryon Lab
- 7 Roberts Hall
- 8 Student Union Bldg.
- 9 Math-Physics Bldg.
- 10 Library
- 11 Gym
- 12 Chemistry
- 13 Research
- 14 Reid Hall
- 15 Montana Hall
- 16 Herrick Hall
- 17 Agriculture Bldg.
- 18 Lewis Hall
- 19 Hannon Hall
- 20 Hapner Hall
- 21 Lewis and Clark Hall
- 22 Langford Hall
- 23 student Housing

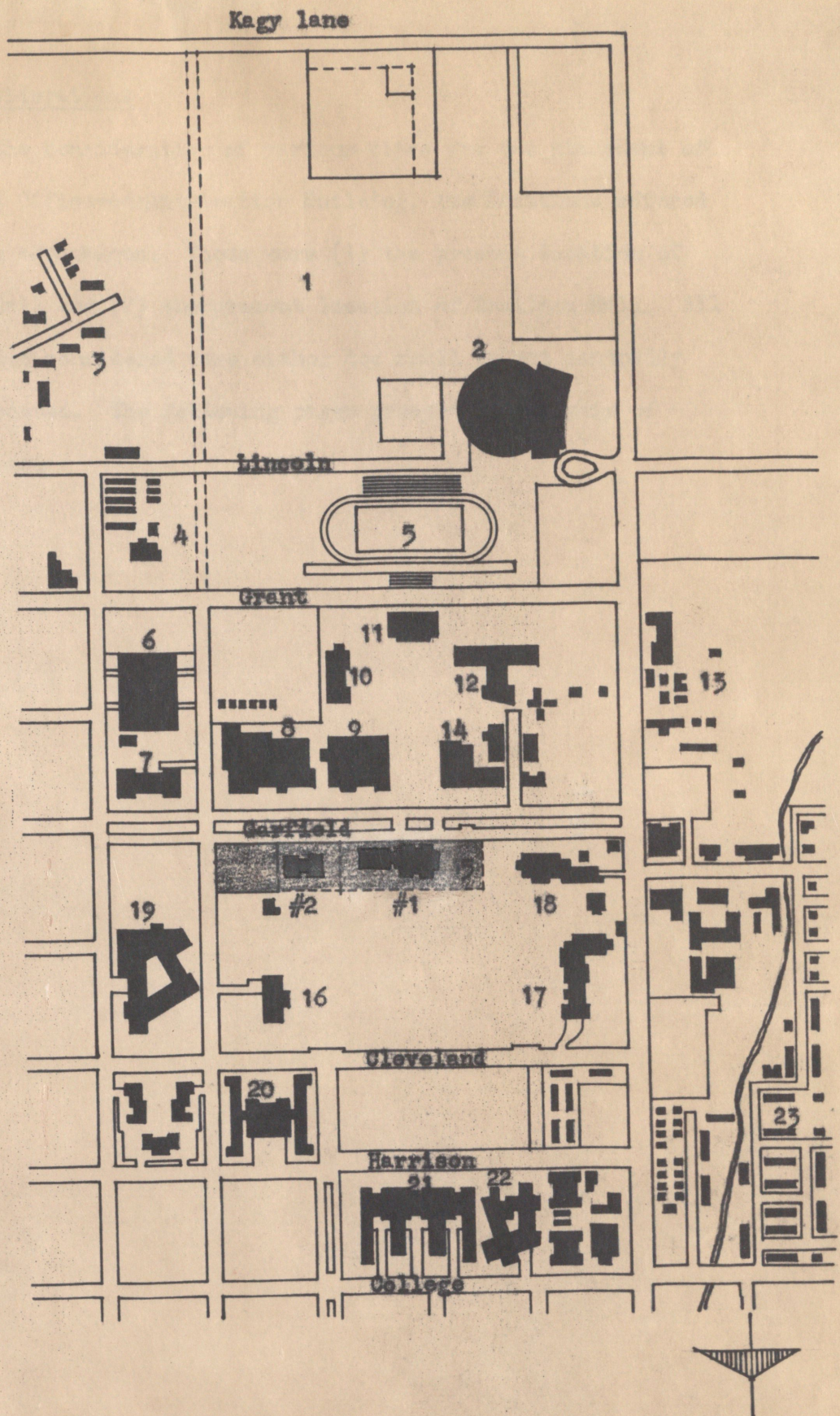


FIG. 6 MAP OF MONTANA STATE COLLEGE 25

Site Considerations

In the consideration of various sites for the placement of a Central Office-Administration Building, two locations offered immediate advantages. These were (1) the present location of Montana Hall and (2) the present location of Hamilton Hall. All other sites considered were either too small or not centrally enough located. The following pages present an analysis of these sites.

Site #1

Ownership-

State of Montana

Present Use-

Site of Hamilton Hall and faculty parking lot.

Location-

The site is bounded on the south by Garfield Street, on the east by 7th. Avenue South, on the north by Danforth Chapel and open lawn, and on the west by Montana Hall.

Soil Conditions-

The soil is composed of 12 - 16 feet of clay on a layer of gravel. Water can be found at a depth of approximately 10 - 12 feet.

Physical Features-

1. 5% tree and shrub coverage.
2. Mostly grass covered. The parking lot on the east is gravel.
3. Site of Hamilton Hall and faculty parking lot.
4. Slight slope towards the east (see Figure 7).

Surrounding Environment-

The site has a corner location with streets on the south (Garfield Street), and east (7th. Avenue South). Accross Garfield Street to the south is the Student Union Building. Accross 7th. Avenue South to the east is open park space. On the west side is Montana Hall, and on the north side of the site is Danforth Chapel and open lawn. The best view is to the north.

Size-

1. Dimensions are 160' X 425'.
2. Area - 68000 square feet.

Advantages-

One advantage of this site is its very central location. With its close location to the Library and to the Student Union Building, a very strong "heart" of the campus could be developed. The site has such a location as to afford possibilities of a mall and focal point from Eighth Avenue

South, the main artery of traffic to and from the campus.

Disadvantages-

The prospect of a large structure on this site gives rise to the possibility of destroying the scale of the pleasant areas around Danforth Chapel.

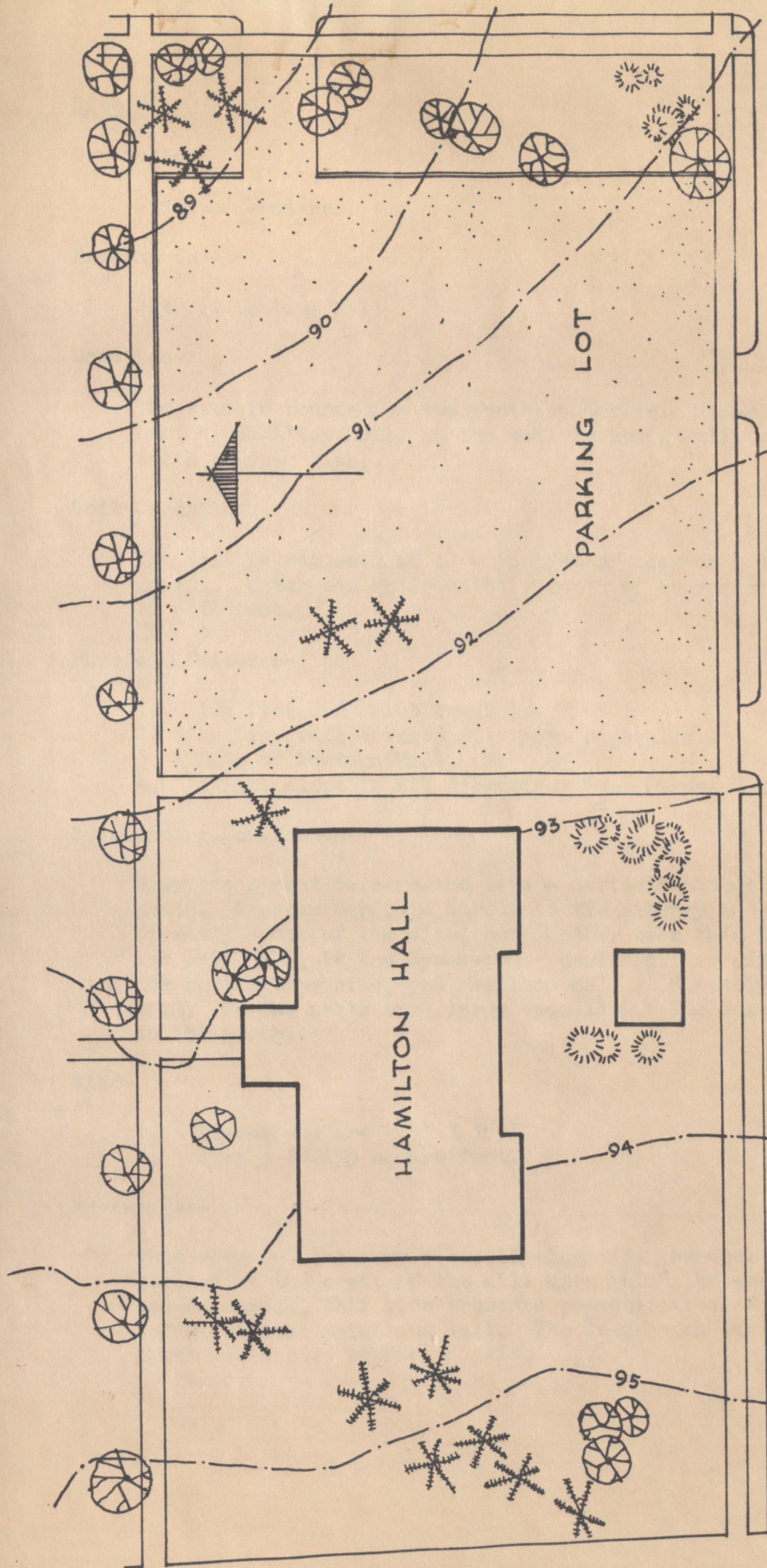


FIG. 7 - SITE NO. 1

Site #2

Ownership-

State of Montana

Present Use-

Site of Montana Hall

Location-

The site is bounded on the south by Garfield Street, on the east by Hamilton Hall, on the west by Lewis Hall, and on the north by open lawn.

Soil Conditions-

The soil is composed of 12 - 16 feet of clay on a layer of gravel. Water can be found at a depth of approximately 10 - 12 feet.

Physical Features-

1. 10% tree and shrub coverage.
2. Mostly grass covered with some sidewalks.
3. Site of Montana Hall.
4. Slight slope in all directions (see Figure 8).

Surrounding Environment-

Only one street borders the site - Garfield Street on the south. Across Garfield Street is the Library and Reid Hall. Directly south of the site, but farther back than the Library and Reid Hall, is the Gymnasium. Lewis Hall is directly to the west of the site, and Hamilton Hall is directly to the east. To the north is a large open lawn. The best view is to the north.

Size-

1. Dimensions are 415' X 165'.
2. Area - 68,475 square feet.

Advantages-

This site is also very centrally located. Because it is located at the crest of the hill upon which the whole campus stands, this site presents possibilities of a definite focal point and mall. The large open lawn to the north would help emphasize this.

Disadvantages-

To build on this site presupposes demolishing Montana Hall, which for sentimental reasons I am hesitant to subscribe to.

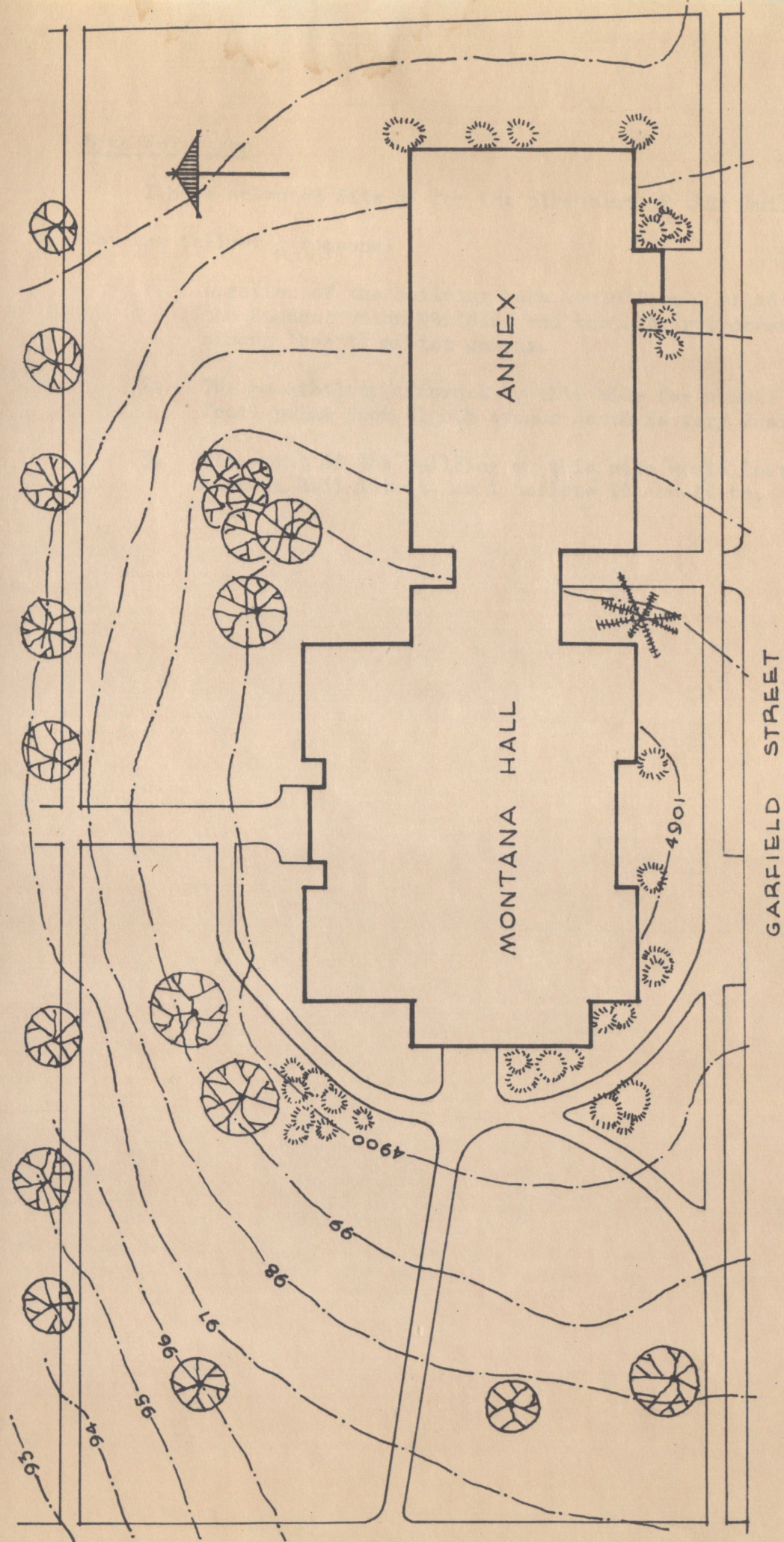


FIG. 8 - SITE NO. 2

Site Selection

I have selected Site #1 for the placement of this building for the following reasons:

1. Location of the building here would form a triad with the Student Union Building and the Library, creating a strong "heart" of the campus.
2. The possibility afforded by this site for a mall and focal point from Eighth Avenue South is very desirable.
3. Placement of the building on this site would leave Montana Hall intact, as I believe it should be.

G. PROGRAM

General

The program for a building of this nature will vary from school to school. The elements of this building are designed according to the needs of the Administration of Montana State College in 1975.

The following program is a result of Mr. Benson's thesis report of 1960 and my own research. Much of the data has been condensed from his program. I have introduced changes and revisions as their need arose.

It should be made clear that this program is general in scope and is by no means unchangeable. Unforeseen changes can and will develop in the future, and for this reason flexibility and expansion possibilities should be incorporated into the design of the building.

Before a comprehensive building program can be undertaken on a Central Office-Administration Building, it must first be determined which offices should be included in a building of this type. Housing the administrative facilities of the college in a central building is a feasible undertaking up to a certain point, but there are some offices that would realize a certain advantage in locations other than in a central building.

The following is a list of the administrative offices considered in the course of this research for placement in a Central Office-Administration Building:

1. Office of the President.
2. Office of the Vice President and Dean of Faculty.
3. Office of the Registrar.

4. Office of the Business Manager and Treasurer.
5. Office of Student Welfare.
6. Office of Admissions.
7. Office of Information.
8. Extension Service Offices.
9. Experiment Station Offices (Agricultural).
10. Experiment Station Offices (Engineering).
11. Office of the Supervising Architect.
12. Office of the Superintendant of the Physical Plant.
13. Offices of the Division Deans.

The main administrative offices of the college - that is, the offices of the President, the Vice President, the Registrar, the Business Manager, Student Welfare, Information, and Admissions, would profit from a location within a central building. These offices and their various branches make up the largest portion of the Administration, and work closely with each other. A common location of these offices in a central building would facilitate more convenient office interaction and a better administration of the college's business.

The offices of the Extension Service and the Experiment Stations are concerned more with the administration of their particular departments and not with the administration of the school in general. Because they are not concerned with school administration in a broad scope, these offices will not be included in this building program for a Central Office-Administration Building.

The offices of the Superintendant of the Physical Plant and

the Supervising Architect are not closely enough related to the college administration to merit their placement in an office building of this type. In an interview with the Supervising Architect, it was brought out that the work of these two offices is not of an administrative nature, and that their placement in a Central Office-Administration Building would be of little advantage.

In his research concerning the administrative needs of Montana State College, Mr. Benson strongly considered placing the division deans in a building of this type. Here I disagree. The division deans are academic deans, and placing them away from their respective departments could effect their efficiency. With the exception of weekly Deans' Council meetings with the Dean of Faculty, their placement in a building of this type would be of little advantage. The division deans are concerned very little with general college administration, and they are not included in this building program.

In conclusion, the offices that are to be placed in a Central Office-Administration Building should be those offices that are concerned with the college's administration on an overall basis and those offices that work closely together. Offices that are relatively independent and function better away from the administrative nucleus should not be included in a Central Office-Administration Building.

Functions of Various Offices

The following is a brief description of the functions of the primary administrative offices that would be located in a

Central Office-Administration Building for Montana State College;¹²

Office of the President-

The President is the chief executive officer of the college. Under his jurisdiction are all phases of the college program - instruction, extension, and research. The President's Office works closely with the general faculty and other administrative offices in formulating all policies, plans, appointments, and budgetary matters concerned with the college.

Office of the Vice President-

It is the responsibility of the Vice President to fulfill the requirements of the Office of the President in the absence of the President.

Office of the Registrar-

All academic records at Montana State College are maintained in the Office of the Registrar. The services of this office include: preparing class time schedules; assigning classrooms; preparing academic catalogs and clearing other academic publications involving course and curriculum descriptions; preparing and distributing lists and reports of students rank in class, grades, and registration reports; checking the credentials of all candidates for degrees; preparing schedules for final examinations; and keeping records of past degrees that have been conferred.

Office of the Business Manager and Treasurer-

This office is directed by the Business Manager and is responsible for most of the fiscal accounting of Montana State

¹² James R. Benson, A Central Office-Administration Building For Montana State College (Montana State College, 1960), 14 - 18.

College. The services of this office include: collecting all student fees and other charges such as rent, room and board in college-owned housing facilities; receiving all income collected by the departments of Montana State College; collecting all loans administered by the college; supervising the college budget; payrolling; and processing all requisitions for materials and claims for payment of institutional expenses.

In the future the Office of the Director of Residence Halls will become part of this office, and is included as such in this program.

Office of Student Welfare-

The Office of Student Welfare includes the following divisions: the Dean of Students, the Dean of Women, Housing Office, Testing and Counseling, Placement Office, Student Health Service, Public Service, International Cooperation, and Co-ordinator of Religious Activities.

With the exception of the Student Health Service, International Cooperation, and the Co-ordinator of Religious Activities, all of these offices will be included in the Central Office-Administration Building. It is felt that the present location of the aforementioned offices is satisfactory for their needs.

Office of Admissions-

The Office of Admissions is responsible for: the admission of new students to the college; preparing and storing college bulletins; and a great deal of the administrative mail handling.

It is important that this office have access to the live records vault.

Office of Information-

The Office of Information is responsible for public information and public relations programs at Montana State College. Included in the services of this office are: college, extension, and research publications; news releases for all the divisions; television and radio services; film and newsclip productions; visual aids; and service work for the Commercial Art and Film and Television Departments.

Office Services

Certain basic services are required in every office building. Though by no means complete, the following list attempts to clarify the functions of some of the office services need in a Central Office-Administration Building.

Conference Rooms-

The main function of conference rooms is the housing of work conferences between individual executives representing the various departments.

Conference rooms should be equipped with the following facilities: chalkboard, tackboard, adequate seating, adequate storage space, and a motion picture camera and screen if needed. Sliding doors that convert one large conference room into two smaller conference rooms have proved advantageous.

Campus Post Office-

The campus post office should be incorporated into a building of this type. The function of the area is mainly pickup, sorting, and delivery, as each major office has its own mail preparation room. The campus post office should be located near the filing

and machine tabulating areas. Placement of this area in relation to its volume of traffic with other departments should be a determining factor. An outside service entrance is needed.

Storage Facilities-

Several different types of storage should be considered in a building of this type. In addition to shelves, drawers, and cabinet space in the individual offices, there must be provisions made for records storage, active file storage, janitorial storage, and office supply storage.

The storage of records is of minimum importance in terms of location near the active working centers of the building.

"Record storage as contrasted with active files, is usually used for records that are referred to occasionally but not as frequently as active files. Since records are usually moved from active to inactive status on a periodic basis and reference to records in inactive storage is comparatively infrequent, accessibility is not a prime factor."¹³

The storage of records should be in the form of a vault, as these records are perishable.

An active file storage area, also in the form of a vault, should be provided for joint use by the Office of the Registrar and the Office of Admissions.

Janitorial storage is of primary importance as maintenance is a major office problem and a major office cost.¹⁴ Storage of this type should be located at convenient points of use throughout the building, and should provide active and clean storage space for

¹³ Kenneth H. Ripnen, Office Building And Office Layout Planning (New York, 1960), p. 64.

¹⁴ Ibid., p. 64.

for: paper towels, tissue, bulbs, oils, soaps, wax, mops, polishers, and brooms. A service sink should be provided.

The office-supply room(s) should be located as close as possible to the departments that draw most heavily upon the forms, papers, etc. stocked there. Lately "serve yourself" office-supply centers have proven themselves to be advantageous in buildings of this type.¹⁵

Telephone Services-

Office service of this type should include both a switchboard and a public and private telephone facilities for calls of a local, campus, or inter-office nature.

Machine Tabulating Room-

This area will be used jointly by the Business Office and the Office of the Registrar for the processing of student cards, etc. This room must be specially soundproofed and separated from the other offices. Special air-conditioning is required, due to heat generated by the equipment.¹⁶

Central Reproduction Room-

A room of this type available to all offices would be advantageous in that it would reduce the duplication of special equipment by each office. This area should be as centrally located as possible.

Miscellaneous-

Other office services that should be considered in a program

¹⁵ Ibid., p. 65.

¹⁶ Ibid., p. 68.

for a Central Office-Administration Building includes: coat room facilities, display areas, toilet facilities, water coolers, coffee facilities, employee lounges, courtyards, etc.

Program

The following program represents the culmination of this research material.

The general flow diagram (see Figure 9) deals with the relation of the major areas in the building to each other. The specifics of each major office is dealt with separately, and each has its own flow diagram.(see Figures 10 - 16).

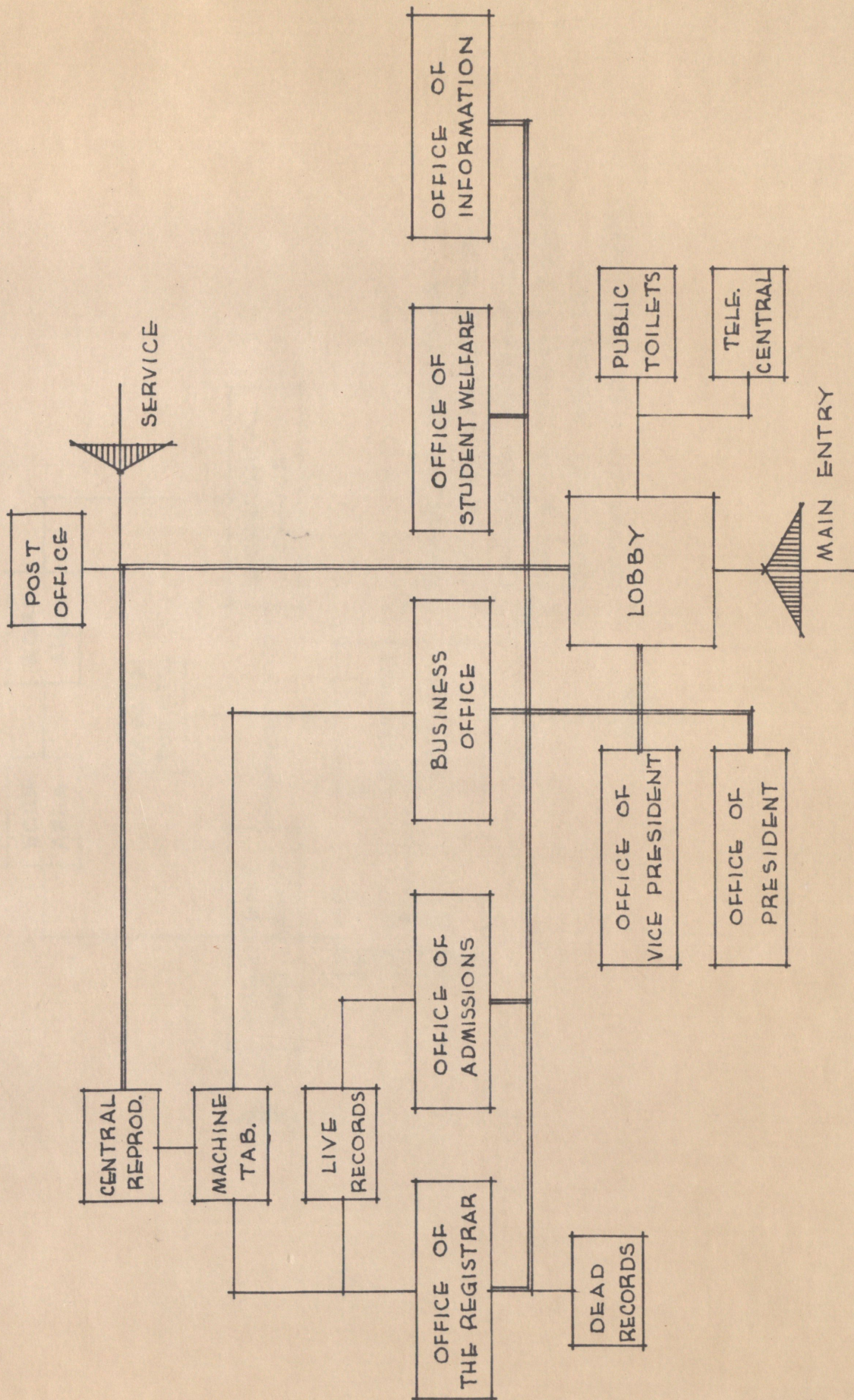


FIG. 9 FLOW DIAGRAM - GENERAL

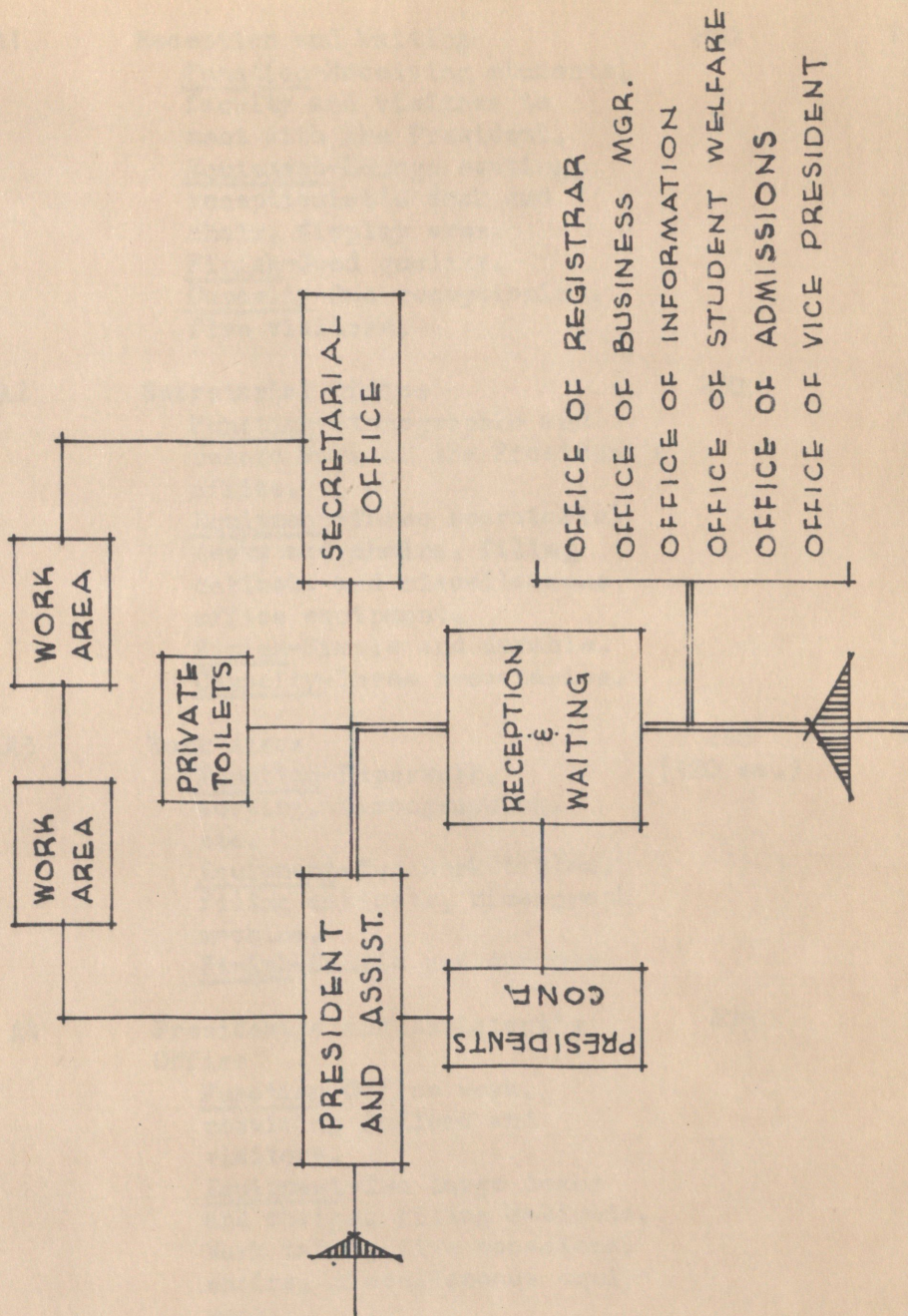


FIG. 10 FLOW DIAGRAM - OFFICE OF THE PRESIDENT

A. OFFICE OF THE PRESIDENT

Space No.	Description	Proposed Area	No.
A1	Reception and Waiting <u>Function</u> -Receiving students, faculty and visitors to meet with the President. <u>Equipment</u> -Lounge seating, receptionist's desk and chair, display area. <u>Finish</u> -Good quality. <u>Capacity</u> -One receptionist, five visitors.	250	1
A2	Secretarial Office <u>Function</u> -Stenographic and record work of the President's office. <u>Equipment</u> -Three secretarial desks and chairs, filing cabinets and miscellaneous office equipment. <u>Finish</u> -Simple and durable. <u>Capacity</u> -Three secretaries.	250	1
A3	Work Areas <u>Function</u> -Paperwork, sorting, mimeographing, etc. <u>Equipment</u> -Two work tables, filing cabinets, mimeograph machine. <u>Finish</u> -Simple and durable	240 (120 ea.)	2
A4	President's and Assistant's Office <u>Function</u> -Office work, receiving callers and visitors. <u>Equipment</u> -Two large desks and chairs, filing cabinets, Work table, five occasional chairs, miscellaneous equipment. <u>Finish</u> -Good quality. <u>Capacity</u> -Seven persons.	475	1
A5	Conference Room <u>Function</u> -Meetings with faculty, students, and administrative personnel	300	1

Equipment-Conference table and
25 chairs, lounge chairs,
tackboard, chalkboard, and
coffee facilities.
Finish-Good quality.
Capacity-20-25 persons.

A6	Office Storage	120	1
	<u>Function</u> -Storage of documents, papers, and speeches. <u>Equipment</u> -Small vault, cabinets, shelves, and filing cabinets. <u>Finish</u> -Simple and durable.		
A7	Mail Room	100	1
	<u>Function</u> -Preparing mail for sending, sorting mail, wrapping packages, etc. <u>Equipment</u> -Special equipment. <u>Finish</u> -Simple and durable.		
A8	Toilet Facilities	100 (50 ea.)	2

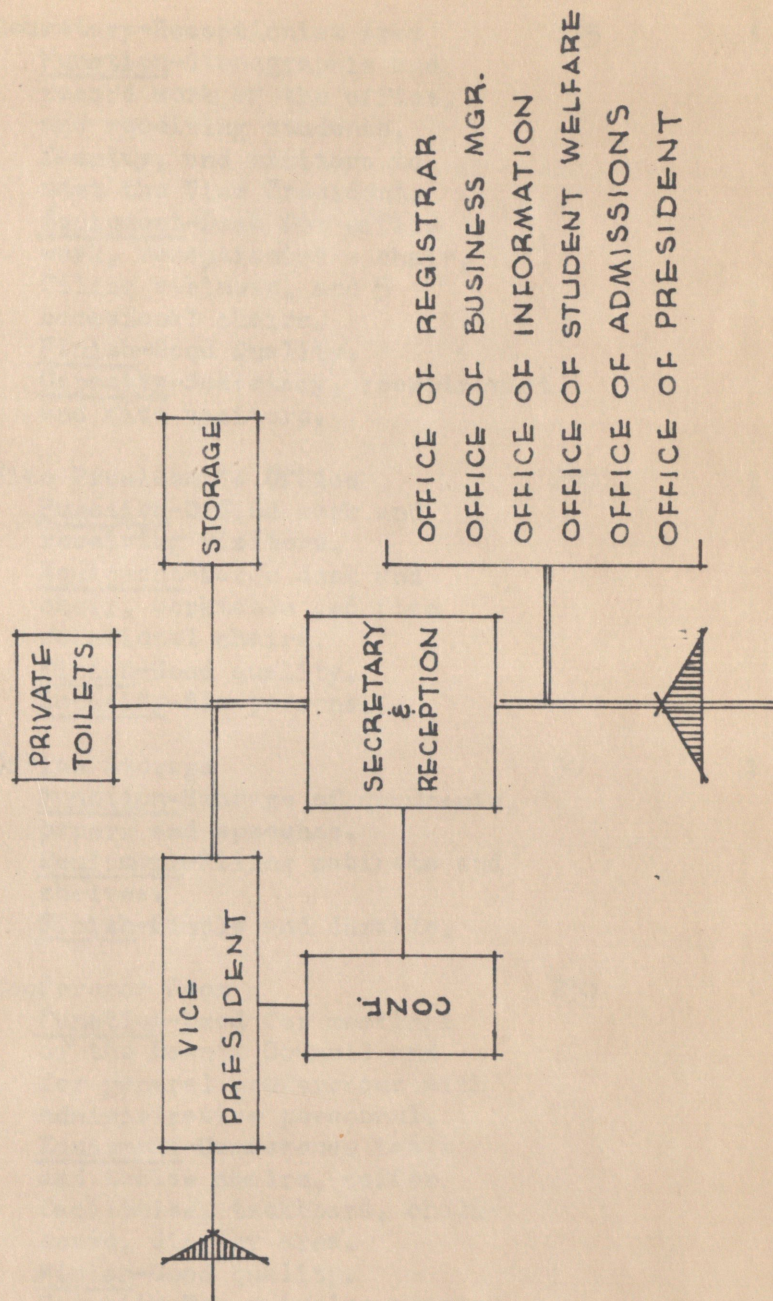


FIG. 11 FLOW DIAGRAM - OFFICE OF THE VICE PRESIDENT

B. OFFICE OF THE VICE PRESIDENT AND DEAN OF FACULTY

Space No.	Description	Proposed Area	No.
B1	Secretary-Receptionist Area <u>Function</u>-Stenographic and record work of the office, and receiving students, faculty, and visitors to meet the Vice President. <u>Equipment</u>-Desk for office work, receptionist's chair, filing cabinets, and 5 occasional chairs. <u>Finish</u>-Good Quality. <u>Capacity</u>-Secretary, receptionist and five visitors.	175	1
B2	Vice President's Office <u>Function</u>-Office work and receiving visitors. <u>Equipment</u>-Large desk and chair, worktable and five occasional chairs. <u>Finish</u>-Good quality. <u>Capacity</u>-Six persons.	240	1
B3	Office Storage <u>Function</u>-Storage of documents, papers and speeches. <u>Equipment</u>-Filing cabinets and shelves. <u>Finish</u>-Simple and durable.	50	1
B4	Conference Room <u>Function</u>-Used for meetings of the Dean's Council and for general conferences with administrative personnel. <u>Equipment</u>-Conference table and twelve chairs, coffee facilities, tackboard, chalkboard, display area. <u>Finish</u>-Good quality. <u>Capacity</u>-Ten - twelve persons.	250	1
B5	Mail Room <u>Function</u>-Preparing mail for sending, sorting mail, wrapping packages, etc. <u>Equipment</u>- Special equipment. <u>Finish</u>- Simple and durable.	100	1

B6

Toilet Facilities

100
(50 ea.)

2

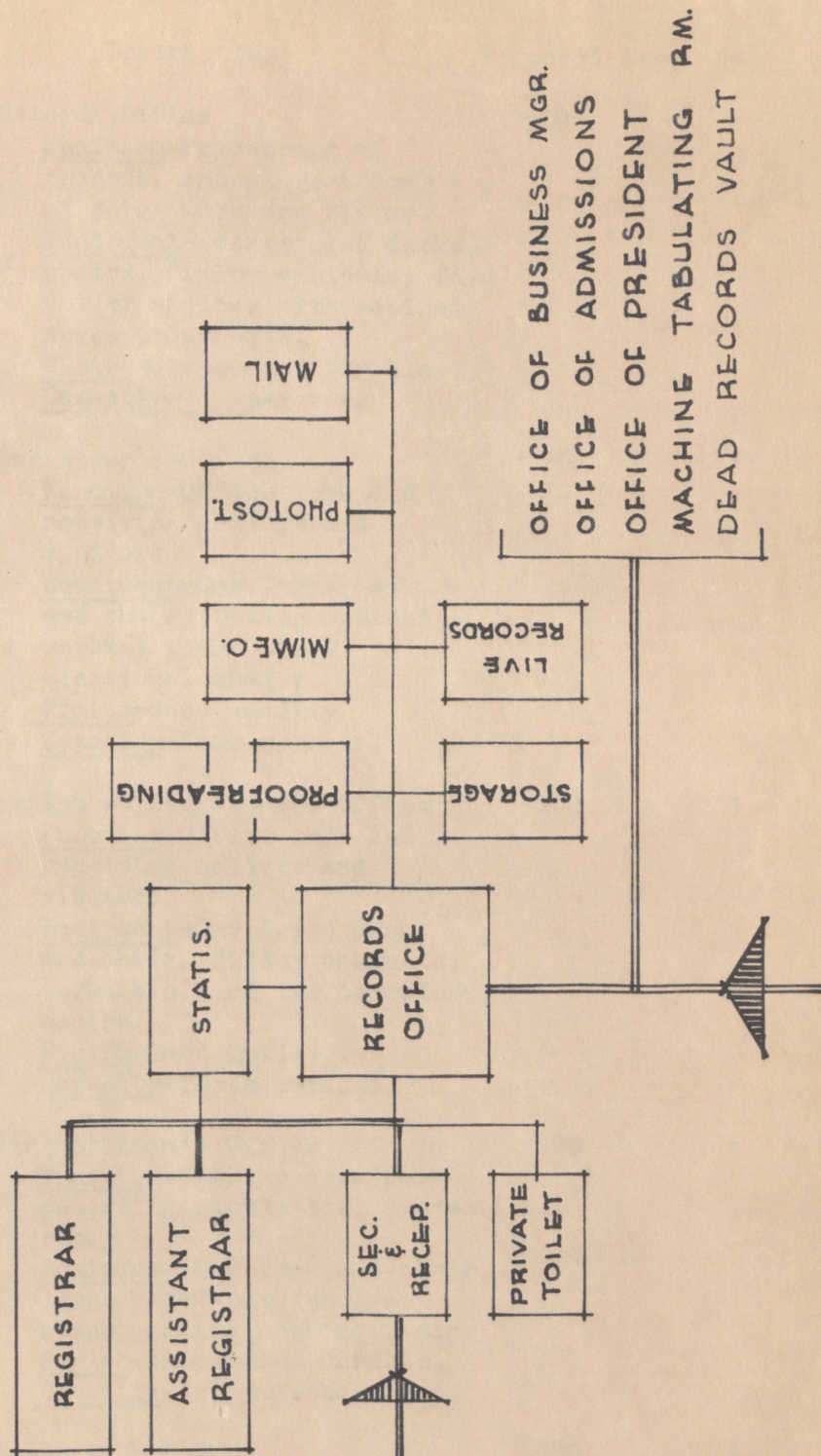


FIG. 12 FLOW DIAGRAM - OFFICE OF THE REGISTRAR

C. OFFICE OF THE REGISTRAR

Space No.	Description	Proposed Area	No.
C1	Records Office <u>Function</u>-Processing of records, and a great deal of paper work and filing. <u>Equipment</u>-Secretarial desks, chairs, filing cabinets, five teller windows with cabinet space underneath. <u>Finish</u>-Simple and durable. <u>Capacity</u>-_____persons.	2500	1
C2	Registrar's Office <u>Function</u>-Office work and receiving callers and visitors. <u>Equipment</u>-One large desk and chair, filing cabinet, worktable and three occasional chairs. <u>Finish</u>-Good quality <u>Capacity</u>-Four persons.	250	1
C3	Assistant Registrar's Office <u>Function</u>-Office work and receiving callers and visitors. <u>Equipment</u>-One large desk and chair, filing cabinets, worktable, and two occasional chairs. <u>Finish</u>-Good Quality. <u>Capacity</u>-Three persons.	200	1
C4	Statistitian's Office <u>Function</u>-Working area for computing statistics, projections, etc. <u>Equipment</u>-One desk and chair, large worktable, shelve space, adding machines, etc. <u>Finish</u>-Simple and durable. <u>Capacity</u>-Two persons.	200	1
C5	Mimeograph Room <u>Function</u>-Reproduction of records, etc.	150	1

	<u>Equipment-Worktables, cabinets, shelves, paper storage, mimeograph machine.</u> <u>Finish-Simple and durable.</u> <u>Capacity-___persons.</u>		
C6	Photostating Room <u>Function-Reproduction of transcripts, records, etc.</u> <u>Equipment-Photostat machine, sink, worktables, etc.</u> <u>Finish-Simple and durable.</u> <u>Capacity-___persons.</u>	150	1
C7	Records Room Vault <u>Function-Active storage of all records, card, files, etc.</u> <u>Equipment-Walk in type vault with filing cabinets and shelf space.</u> <u>Finish-Simple and durable.</u>	150	1
C8	Storage Area <u>Function-Storage of forms, paper and general office supplies.</u> <u>Equipment-Shelves, cabinets and filing cabinets, worktable.</u> <u>Finish-Simple and durable.</u>	200	1
C9	Proof Reading Rooms <u>Function-Proof reading area for checking, and proof reading reports, and proof reading copied matter.</u> <u>Equipment-Worktable and two chairs, drafting stools.</u> <u>Finish-Simple and durable</u> <u>Capacity-Two persons.</u>	160 (80 ea.)	2
C10	Mail Room <u>Function-Preparing mail for sending, sorting mail, wrapping packages, etc.</u> <u>Equipment-Special equipment.</u> <u>Finish-Simple and durable.</u>	100	1
C11	Toilet Facilities	100 (50 ea.)	2

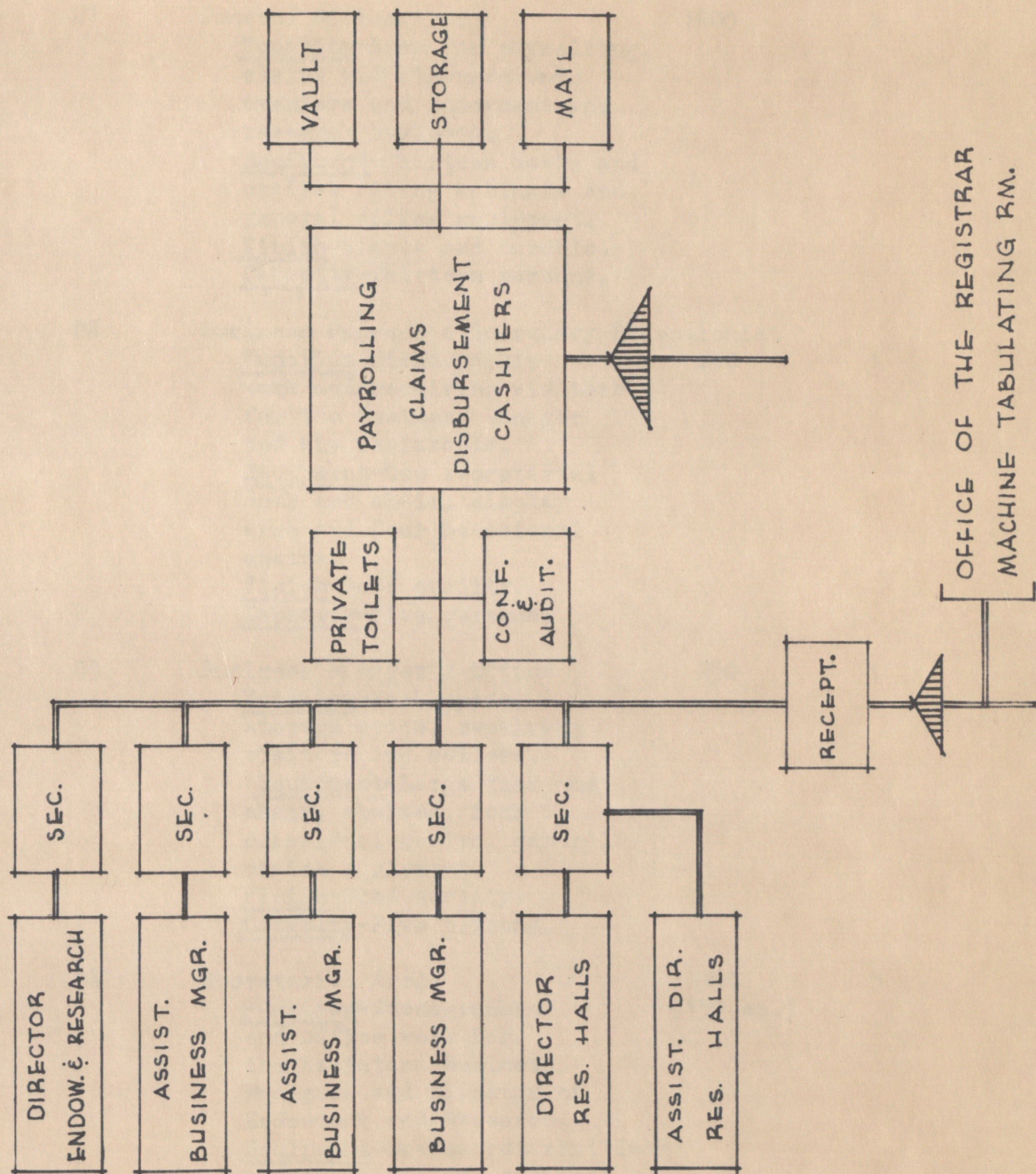


FIG. 13 FLOW DIAGRAM - OFFICE OF THE BUSINESS MANAGER

D. OFFICE OF THE BUSINESS MANAGER AND TREASURER

Space No.	Description	Proposed Area	No.
D1	General Office Area <u>Function</u> -Area for payrolling, claims and disbursement, cashiers and endowment and research business. <u>Equipment</u> -Thirteen desks and chairs, filing cabinets and general office equipment. <u>Finish</u> -Simple and durable. <u>Capacity</u> -Thirteen persons.	1800	1
D2	Business Manager's Secretary-Receptionist <u>Function</u> -Stenographic work and receiving visitors for the Business Manager and his assistants. <u>Equipment</u> -One secretarial desk and chair, display area and four occasional chairs. <u>Finish</u> -Good quality. <u>Capacity</u> -Five persons.	200	1
D3	Business Manager's Office <u>Function</u> -Work space, storage space, receiving visitors and callers. <u>Equipment</u> -Large desk and chair, shelves, four occasional chairs, general office equipment. <u>Finish</u> -Good quality. <u>Capacity</u> -Five persons.	250	1
D4	Secretarial Areas <u>Function</u> -Stenographic and office work for the Assistant Business Managers and Director of Endowment and Research. <u>Equipment</u> -One secretarial desk and chair, filing cabinets, three occasional chairs. <u>Finish</u> -Simple and durable. <u>Capacity</u> -Two persons.	450 (150 ea.)	3

D5	Assistant Business Manager's Offices	300 (150 ea.)	2
	<u>Function</u> -To assist in the work of the Business Manager.		
	<u>Equipment</u> -Large desk and chair, three occasional chairs.		
	<u>Finish</u> -Good quality.		
	<u>Capacity</u> -Four persons.		
D6	Office of Director of Endowment and Research	150	1
	<u>Function</u> -Office work and receiving visitors.		
	<u>Equipment</u> -Large desk and chair, filing cabinets, three occasional chairs.		
	<u>Finish</u> -Good quality.		
	<u>Capacity</u> -Four persons.		
D7	Conference Room	300	1
	<u>Function</u> -Work conferences between Business Manager and his staff, also available to auditors.		
	<u>Equipment</u> -Conference table and eight chairs, display area, chalkboard, tackboard, coffee facilities.		
	<u>Finish</u> -Good quality.		
	<u>Capacity</u> -Eight persons.		
D8	Storage Area	300	1
	<u>Function</u> -Storage for records, and material supply.		
	<u>Equipment</u> -Shelves, filing equipment, worktables, etc.		
	<u>Finish</u> -Simple and durable.		
D9	Vault	150	1
	<u>Function</u> -Walk in type facilities for storage of valuable papers and documents, cash, receipts, etc.		
	<u>Equipment</u> -Money chest, filing cabinets, shelves, etc.		
	<u>Finish</u> -Durable.		

D10	Office of Director of Residence Halls and Assistant	340 (170 ea.)	2
	<u>Function</u> -Work space and receiving callers and visitors. <u>Equipment</u> -Large desk and chair, worktable, four occasional chairs, shelves. <u>Finish</u> -Good quality. <u>Capacity</u> -Five persons.		
D11	Secretary Area for Director of Residence Halls and Assistant	350	1
	<u>Function</u> -Stenographic and records work and receiving visitors. Storage area included. <u>Equipment</u> -Coat closet for six persons, secretarial desk and chair, two worktables, filing cabinet, four occasional chairs, and shelves. <u>Finish</u> -Good quality. <u>Capacity</u> -Five persons.		
D12	Mail Room	100	1
	<u>Function</u> -Preparing mail for sending, sorting mail, wrapping packages, etc. <u>Equipment</u> -Special equipment. <u>Finish</u> -Simple and durable.		
D13	Toilet Facilities	100 (50 ea.)	2

E. OFFICE OF STUDENT WELFARE

Space No.	Description	Proposed Area	No.
E1	Dean of Student's Office <u>Function</u>-Office work and receiving visitors. <u>Equipment</u>-Large desk and chair, filing cabinets, storage, five occasional chairs. <u>Finish</u>-Good quality. <u>Capacity</u>-Six persons.	225	1
E2	Dean of Women's Office <u>Function</u>-Office work and receiving visitors. <u>Equipment</u>-Large desk and chair, filing cabinets, storage, five occasional chairs. <u>Finish</u>-Good quality. <u>Capacity</u>-Six persons.	150	1
E3	Assistant Dean of Women and Assistant Dean of Student Offices <u>Function</u>-To assist in the office work of the Dean and to receive visitors. <u>Equipment</u>-Large desk and chair, filing cabinets, three occasional chairs. <u>Finish</u>-Good quality. <u>Capacity</u>-Four persons.	240 (120 ea.)	2
E4	Receptionist Area <u>Function</u>-To receive visitors for entire division of Student Welfare. Seating space for visitors to the Dean of Students, Dean of Women, and their assistants. <u>Equipment</u>-Stand up type receptionist desk and chair, coat closet, ten occasional chairs. <u>Finish</u>-Good quality. <u>Capacity</u>-Eleven persons.	300	1

E5	Secretarial Area	300 (150 ea.)	2
	<u>Function</u> -Stenographic and records work of the Dean's and their assistants offices, and work space. <u>Equipment</u> -Secretarial desk and chair, worktable, filing cabinets, two occasional chairs. <u>Finish</u> -Simple and durable. <u>Capacity</u> -Three persons.		
E6	Conference Room	300	1
	<u>Function</u> -Meetings between the Deans and students, faculty, and administrative personnel. <u>Equipment</u> -Conference table and twenty chairs, chalkboard, tackboard, coffee facilities, display area. <u>Finish</u> -Good quality. <u>Capacity</u> -Twenty persons.		
E7	Office of Women's Housing	180	1
	<u>Function</u> -Office work and receiving visitors. Handling all forms and documents pertaining to women's housing. <u>Equipment</u> -Desk and chair, filing cabinets, three occasional chairs. <u>Finish</u> -Good quality. <u>Capacity</u> -Four persons.		
E8	Office of Men's Housing	180	1
	<u>Function</u> -Office work and receiving visitors. Handling all forms and documents pertaining to men's housing. <u>Equipment</u> -Desk and chair, filing cabinet, three occasional chairs. <u>Finish</u> -Good quality. <u>Capacity</u> -Four persons.		
E9	Office of Married Housing	180	1
	<u>Function</u> -Office work and receiving visitors. Handling all forms and documents pertaining to married housing. <u>Equipment</u> -Desk and chair, filing cabinets, three occasional chairs. <u>Finish</u> -Good quality. <u>Capacity</u> -Four persons.		

E10	Off-Campus Housing Office	150	1
	<u>Function</u> -Office work and receiving visitors. Placing students in off-campus housing, men's petitions to live off campus, etc. <u>Equipment</u> -Desk and chair, filing cabinets, two occasional chairs. <u>Finish</u> -Good quality. <u>Capacity</u> -Three persons.		
E11	Secretarial Areas	500	1
	<u>Function</u> -Stenographic and records work for the housing offices and receiving visitors. <u>Equipment</u> -Four secretarial desks and chairs, four bulletin boards, filing cabinets, ten occasional chairs. <u>Finish</u> -Simple and durable. <u>Capacity</u> -Fourteen people.		
E12	Office of Director of Placement Bureau	300	1
	<u>Function</u> -Office work and receiving visitors. Storage area included. <u>Equipment</u> -One desk and chair, filing cabinets, four occasional chairs. <u>Finish</u> -Good quality. <u>Capacity</u> -Five persons.		
E13	Offices of Assistant Directors of Placement Bureau	300 (150 ea.)	2
	<u>Function</u> -Office work and receiving visitors. <u>Equipment</u> -One desk and chair, filing cabinets, two occasional chairs. <u>Finish</u> -Good quality. <u>Capacity</u> -Three persons.		
E14	Reception and Waiting Area	400	1
	<u>Function</u> -Receiving and waiting area for students and company representative. <u>Equipment</u> -Large desk and chair, telephone booths, wall shelves, display areas, reading tables, coffee facilities, bulletin boards, ten lounge chairs.		

	<u>Finish-Good quality</u> <u>Capacity-Eleven persons.</u>		
E15	Clerical and Work Area Placement <u>Function-Stenographic and</u> records work of the office. Work space included. <u>Equipment-Four desks and</u> chairs, filing cabinets, worktables, four occasional chairs. <u>Finish-Simple and durable.</u> <u>Capacity-Five persons.</u>	1000	1
E16	Classroom <u>Function-Group meetings</u> of students put on by company representatives. <u>Equipment-Tablet arm seats,</u> lecture stand, chalkboard, tackboard, portable projection equipment. <u>Finish-Simple and durable.</u> <u>Capacity-100 persons.</u>	1000	1
E17	Large Interview Rooms <u>Function-For use by</u> company representatives to interview students. (size 12' x 16') <u>Equipment-Two small tables,</u> four chairs, two small bulletin boards, timing system, folding soundproof curtain. <u>Finish-Simple and durable.</u> <u>Capacity-Four persons.</u>	2280 (190 ea.)	12
E18	Small Interview Rooms <u>Function-For use by</u> company representatives to interview students. (size 6' x 8') <u>Equipment-Small table</u> and two chairs, small bulletin board, timing system. <u>Finish-Simple and durable.</u> <u>Capacity-Two persons.</u>	1000 (50 ea.)	20

E19	Office of Director of Testing and Counseling	250	1
	<u>Function</u> -Office work and receiving visitors.		
	<u>Equipment</u> -Large desk and chair, shelf area, five occasional chairs.		
	<u>Finish</u> -Good quality.		
	<u>Capacity</u> -Six persons.		
E20	Staff Offices for Counseling	430	3
	<u>Function</u> -To aid in the counseling work load of the Director.	(150 ea.)	
	<u>Equipment</u> -One desk and chair, two occasional chairs.		
	<u>Finish</u> -Simple and durable.		
	<u>Capacity</u> -Three persons.		
E21	Secretary-Receptionist Area	350	1
	<u>Function</u> -Stenographic and records work of the Testing and Counseling Office, and receiving visitors. Storage included.		
	<u>Equipment</u> -Three secretarial desks and chairs, shelf area, five occasional chairs.		
	<u>Finish</u> -Good quality.		
	<u>Capacity</u> -Eight persons.		
E22	Laboratory	350	1
	<u>Function</u> -For processing and analyzing students by company representatives.		
	<u>Equipment</u> -Specialized equipment.		
	<u>Finish</u> -Simple and durable		
	<u>Capacity</u> - ___ persons.		
E23	Office of Director Continuing Education and Veteran's Administration.	180	1
	<u>Function</u> -Office work and receiving visitors.		
	<u>Equipment</u> -Large desk and chair, filing cabinets, three occasional chairs.		
	<u>Finish</u> -Good quality.		
	<u>Capacity</u> -Four persons.		

E24	Secretarial-Receptionist Area <u>Function</u>-Stenographic and records work of office, and receiving visitors. <u>Equipment</u>-Two secretarial desks and chairs, filing cabinets, three occasional chairs, bulletin board. <u>Finish</u>-Simple and durable <u>Capacity</u>-Five persons.	200	1
E25	Conference Room <u>Function</u>-Conferences of administrative personnel and students. Also for use by discussion groups. <u>Equipment</u>-Lounge chairs, small conference table for six persons with six chairs, chalkboard, coffee facilities, display area. <u>Finish</u>-Good quality. <u>Capacity</u>-Five to twenty persons.	250	1
E26	Office of Director of Public Service <u>Function</u>-Office work and receiving visitors. <u>Equipment</u>-Large desk and chair, large worktable, filing cabinets, five occasional chairs. <u>Finish</u>-Good quality. <u>Capacity</u>-Six persons.	250	1
E27	Assistant Director's of Public Service Office <u>Function</u>-Office work and receiving visitors. <u>Equipment</u>-Large desk and chair, filing cabinets, three occasional chairs. <u>Finish</u>-Good quality. <u>Capacity</u>-Four persons.	150	1
E28	Alumni Office <u>Function</u>-Office work and receiving visitors. <u>Equipment</u>-Large desk and chair, filing cabinets, three occasional chairs. <u>Finish</u>-Good quality. <u>Capacity</u>-Four persons.	150	1

E29	Secretarial-Receptionist Area	250	1
	<u>Function</u> -Stenographic and records work of the office and receiving visitors.		
	<u>Equipment</u> -Three secretarial desks and chairs, tackboard, coat closet, five occasional chairs.		
	<u>Finish</u> -Simple and durable.		
	<u>Capacity</u> -Eight persons.		
E30	Work Space	300	1
	<u>Function</u> -Storing of material, posting, mimeographing, etc.		
	<u>Equipment</u> -Shelves, cabinets, worktables, mimeograph machine.		
	<u>Finish</u> -Simple and durable.		
E31	Mail Room	100	1
	<u>Function</u> -Preparing mail for sending, sorting mail, wrapping packages, etc.		
	<u>Equipment</u> -Special equipment.		
	<u>Finish</u> -Simple and durable.		
E32	Toilet Facilities	300 (150 ea.)	2

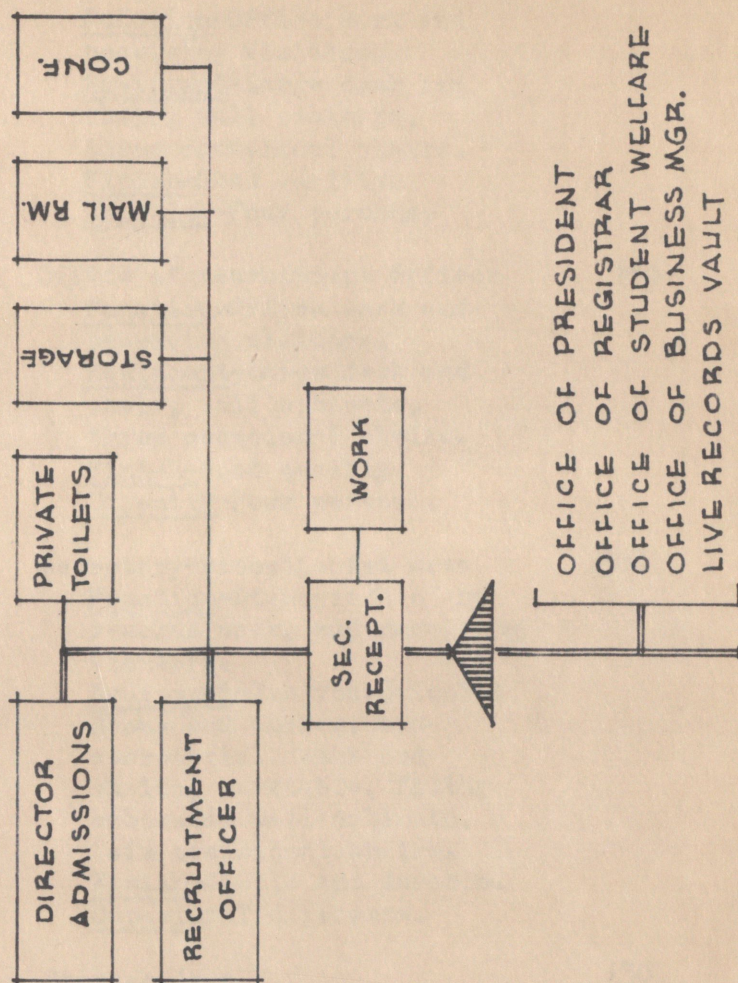


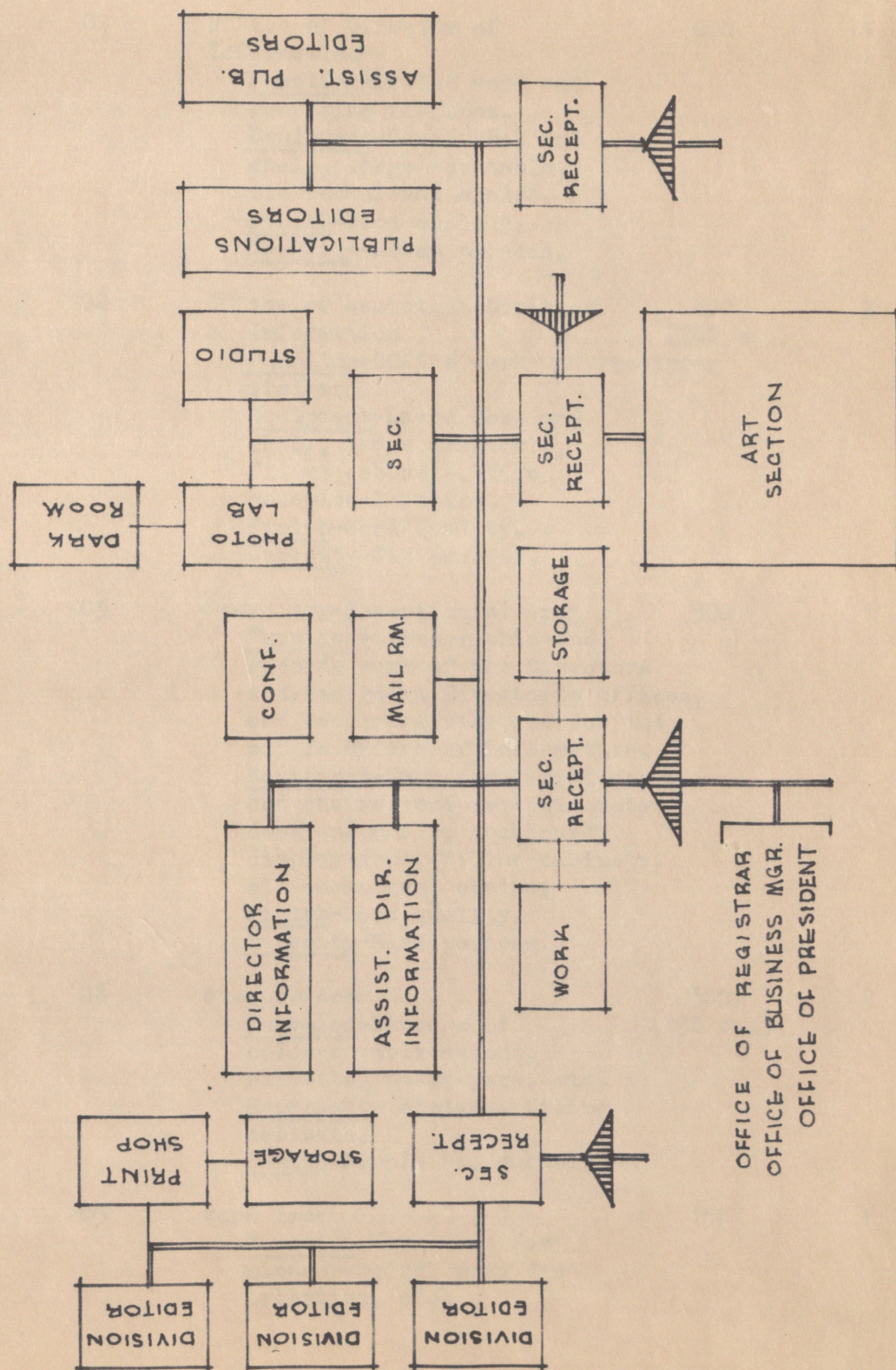
FIG. 15 FLOW DIAGRAM - OFFICE OF ADMISSIONS

F. OFFICE OF ADMISSIONS

Space No.	Description	Proposed Area	No.
F1	Office of Director of Admissions <u>Function</u> -Office work and receiving visitors. <u>Equipment</u> -Large desk and chair, wall cabinets, three occasional chairs. <u>Finish</u> -Good quality. <u>Capacity</u> -Four persons.	150	1
F2	Office of Recruitment Officer <u>Function</u> -Office work and receiving visitors. <u>Equipment</u> -Large desk and chair, wall cabinets, three occasional chairs. <u>Finish</u> -Good quality. <u>Capacity</u> -Four persons.	150	1
F3	Secretary-Receptionist Area <u>Function</u> -Stenographic and records work, and receiving visitors. <u>Equipment</u> -Two receptionist desks and chairs, two secretarial desks and chairs, worktable, filing cabinets, wall cabinets, six occasional chairs. <u>Finish</u> -Simple and durable. <u>Capacity</u> -Ten persons.	500	1
F4	Storage Area <u>Function</u> -Storage of catalogs, forms, supplies, etc. <u>Equipment</u> -Filing cabinets, shelves, worktable. <u>Finish</u> -Simple and durable.	150	1
F5	Work Space <u>Function</u> -Used by administrative personnel for mailing, card handling, catalog storage and handling.	150	1

Equipment-Worktable, three
occasional chairs, wall cabinets,
mimeograph machin.
Finish-Simple and durable.

F6	Conference Room	250	1
	<u>Function</u>-Conferences between administrative personnel. <u>Equipment</u>-Small conference table and five chairs, lounge chairs, chalkboard, tackboard, coffee facilities. <u>Finish</u>-Good quality. <u>Capacity</u>-Ten persons.		
F7	Mail Room	100	1
	<u>Function</u>-Preparing mail for sending, sorting mail, wrapping packages, etc. <u>Equipment</u>-Special equipment. <u>Finish</u>-Simple and durable.		
F8	Toilet Facilities	100 (50 ea.)	2



G. OFFICE OF INFORMATION

Space No.	Description	Proposed Area	No.
G1	Office of Director of Information <u>Function</u> -Office work and receiving visitors. <u>Equipment</u> -Large desk and chair, large worktable, six occasional chairs. <u>Finish</u> -Good quality. <u>Capacity</u> -Seven persons.	200	1
G2	Office of Assistant Director of Information <u>Function</u> -Office work and receiving visitors. <u>Equipment</u> -Large desk and chair, large worktable, filing cabinets, five occasional chairs. <u>Finish</u> -Good quality. <u>Capacity</u> -Six persons.	400 (200 ea.)	2
G3	Secretary-Receptionist Area <u>Function</u> -Stenographic and records work of the Directors and Assistant Director's offices, and receiving visitors for the entire Office of Information. <u>Equipment</u> -Two secretarial desks and chairs, one receptionists desk and chair, tackboard, display area, filing cabinets, six occasional chairs. <u>Finish</u> -Good quality. <u>Capacity</u> -Nine persons.	350	1
G4	Storage Area <u>Function</u> -Storage of college publications, exhibits, newspapers, etc. <u>Equipment</u> - Shelves, filing cabinets. <u>Finish</u> -Simple and durable.	300 (150 ea.)	2
G5	Work Area <u>Function</u> -Work area for mimeographing, news distribution, etc.	150	1

	<u>Equipment-Worktables, filing cabinets.</u> <u>Finish-Simple and durable.</u>		
G6	Office of Division Editors <u>Function-Office work and receiving visitors.</u> (College, research, extension-1 each) <u>Equipment-Large desk and chair, large worktable, three occasional chairs.</u> <u>Finish-Simple and durable.</u> <u>Capacity-Four persons.</u>	750 (250 ea.)	3
G7	Secretary-Receptionist Area <u>Function-Stenographic and records work and receiving visitors for offices of division editors.</u> <u>Equipment-Two secretarial desks and chairs, tackboard, filing cabinets, three occasional chairs.</u> <u>Finish-Simple and durable.</u> <u>Capacity-Five persons.</u>	350	1
G8	Storage Area <u>Function-Storage of college, station and extension bulletin.</u> <u>Equipment-Shelves, wall cabinets.</u> <u>Finish-Simple and durable.</u>	2400	1
G9	Print Shop <u>Function-Printing of publication, newspapers, etc.</u> <u>Equipment-Printing machines, storage for paper in ton lots, stone top worktables, counter.</u> <u>Finish-Simple and durable.</u> Soundproof.	2000	1
G10	Publications Editors Offices <u>Function-Office work and receiving visitors.</u> <u>Equipment-Three desks and chairs, filing cabinets, two worktables, four occasional chairs.</u> <u>Finish-Simple and durable.</u> <u>Capacity-Seven persons.</u>	700	1

G11	Assistant Publication Editors Offices	400	1
	<u>Function</u> -Office work and receiving visitors.		
	<u>Equipment</u> -Three desks and chairs, filing cabinets, two worktables, four occasional chairs.		
	<u>Finish</u> -Simple and durable.		
	<u>Capacity</u> -Seven persons.		
G12	Secretary-Receptionist Area	200	2
	<u>Function</u> -Stenographic and records work of office, and receiving visitors.	(100 ea.)	
	<u>Equipment</u> -One secretarial desk and chair, bulletin board, two occasional chairs.		
	<u>Finish</u> -Simple and durable.		
	<u>Capacity</u> -Three persons.		
G13	Art Section	650	1
	<u>Function</u> -Area for art layouts, drafting, lettering, etc. for publications.		
	<u>Equipment</u> -Four regular drafting tables, one large drafting table, drawing board cabinet, filing cabinet, cushioned stools-adjustable- two occasional chairs, sink.		
	<u>Finish</u> -Simple and durable.		
	<u>Capacity</u> -Seven persons.		
G14	Photography Laboratory	350	1
	<u>Function</u> -Area for reproducing, enlarging, editing, etc. for publications.		
	<u>Equipment</u> -Specialized equipment.		
	<u>Finish</u> -Simple and durable.		
	<u>Capacity</u> -Four persons.		
G15	Secretary Area	300	1
	<u>Function</u> -Stenographic and records work of photography laboratory. Also storage of materials and supplies.		

	<u>Equipment</u> -Two secretarial desks and chairs, tackboard, filing cabinets, wall cabinets, three occasional chairs. <u>Finish</u> -Simple and durable. <u>Capacity</u> -Five persons.		
G16	Darkroom <u>Function</u> -Reproduction of negatives, enlargement of photographs, etc. <u>Equipment</u> -Specialized equipment, sinks, drains, seperate wiring, etc. <u>Finish</u> -Simple, durable, and acid resisting.	600	1
G17	Studio <u>Function</u> -Special photographic effects, lighting. <u>Equipment</u> -Specialized equipment. <u>Finish</u> -Simple, durable, and light.	1500	1
G18	Conference Room <u>Function</u> -Conferences between administrative personnel. <u>Equipment</u> -Small conference table and six chairs, lounge chairs, coffee facilities, chalkboard, tackboard, display area. <u>Finish</u> -Good quality. <u>Capacity</u> -Twelve persons.	250	1
G19	Mail Room <u>Function</u> -Preparing mail for sending, sorting mail, wrapping packages. <u>Equipment</u> -Special equipment. <u>Finish</u> -Simple and durable.	100	1
G20	Toilet Facilities	100 (50 ea.)	2

H. MISCELLANEOUS

Space No.	Description	Proposed Area	No.
H1	Public Lobby <u>Function</u> -Entrance area for the entire building with space for receptionist. <u>Equipment</u> -Receptionist desk and chair, display area, tackboard. <u>Finish</u> -Good quality.	500	1
H2	Campus Post Office <u>Function</u> -Sorting, pickup and delivery of campus mail. <u>Equipment</u> -Large mail compartments, two desks and chairs, mail sorting table. <u>Finish</u> -Simple and durable. <u>Capacity</u> -Two persons.	250	1
H3	Machine Tabulation <u>Function</u> -Processing and programming of LBM cards for administrative offices. <u>Equipment</u> -Special equipment. <u>Finish</u> -Simple and durable. <u>Capacity</u> -Five persons.	300	1
H4	Central Reproduction Room <u>Function</u> -Reproduction area for miscellaneous data for all administrative offices. <u>Equipment</u> -Special equipment. <u>Finish</u> -Simple and durable. <u>Capacity</u> -Five persons.	500	1
H5	Dead Records Vault <u>Function</u> -Storage of seldom used records. <u>Equipment</u> -Steel vault equipment. <u>Finish</u> -Simple, durable, and fire-proof.	150	1
H6	Telephone Central <u>Function</u> -Switchboard for entire office, campus, and local phone calls. <u>Equipment</u> -Special equipment. <u>Finish</u> -Simple and durable. <u>Capacity</u> -One person.	150	1

TOTALS

	Proposed Area
A. Office of the President	1835
B. Office of the Vice President and Dean of Faculty	965
C. Office of the Registrar	4160
D. Office of the Business Manager and Treasurer	4790
E. Office of Student Welfare	12495
F. Office of Admissions	1550
G. Office of Information	12050
H. Miscellaneous	1850
Totals	39,695
x20% for walls and circulation =	47,634
Total Building Area	47,634

EPILOGUE

"The system of building we have hinted at cannot be formed in a day. It requires all the science of any country to ascertain and fix the proportions and arrangements of the members of a great building, to plant it safely on the soil, to defend it from the elements, to add the grace and poetry of ornament to its frame. Each of these requisites to a good building requires a special study and a lifetime."

Greenough

H. APPENDICES

INTERVIEW

Bernard Copping-Business Manager and Treasurer of Montana State College, July 12, 1962.

The Business Manager and his assistants should each have private offices, and each should have his own private secretary. A reception area and a receptionist should be provided for these offices, and they should be separated from the main clerical office.

The different departments of this office, and their projected needs for 1975 are:

1. Payroll section--2 persons.
2. Cashier section--3 persons.
3. Claims and disbursement section--4 persons.
4. Foundation and Research--2 Persons.
5. Residence Halls section--2 persons.
6. Business Manager--2 persons.
7. Assistant Business Managers(2)--4 persons.

In addition to the above areas, a workroom with a minimum of 100 square feet should be provided.

Moveable partitions could be used to an advantage.

No merger with the Student Business Office is anticipated.

The functions of these two offices are not related and they should be kept separated.

INTERVIEW

Martha Hawksworth-Registrar of Montana State College, July 17, 1962.

In general, the Registrar's Office needs approximately twice as much space as it now has. Provision must be made in the new building for future expansion.

In addition to the spaces outlined in Mr. Benson's interview with the Registrar in 1960 (see Benson's thesis report-appendix A) the following spaces are needed:

1. An IBM machine office with space for storage of IBM cards. This area should be close to the Machine Tabulating Room and could be incorporated with Central Reproduction Room.
- 2.. Two rooms, approximately 100 square feet each, for proofreading.

A separate vault for dead records should be provided, and it need not be located in the immediate area.

The office of Admissions use the live records in conjunction with the Registrar's Office, and each should have access to the live records vault.

Since this office accomodates a large amount of student traffic, it should be located near an entrance and adjacent to a wide hallway.

INTERVIEW

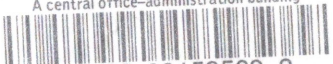
H. C. Cheever-Supervising Architect of Montana State College,
July 17, 1962.

It is doubtful that the placement of the Supervising Architect in a building of this type would be of any advantage. The office of the Supervising Architect should be located with the office of the Superintendent of the Physical Plant, and neither of these offices should be located in a Central Office-Administration Building.

The work of these two offices is of a nature that requires very little inter-action with the regular Administration of the college.

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