A LIBRARY FOR HOLLINS COLLEGE, VIRGINIA

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American college library buildings--even as college campuses in general--have suffered more from the effects of eclecticism in architecture than perhaps any other specific type of building. Even ecclesiastical buildings, for which there is much greater psychological excuse for reactionary architecture, have kept more abreast of the times in design and execution, than have the college buildings that are built for use by the supposedly forward-thinking stratum of today's society.

Our college campuses abound in classrooms which are ill-lighted, with buildings which are archaic and romantic, and with libraries which refuse to function. Where these conditions exist because of the continued use of buildings of the past--buildings noble in their day--they can be condoned, and in the name of tradition even admired. But when tradition is unnecessarily prepetuated today in new buildings, there is room for the suspicion that something is distressingly wrong.

It is indeed strange that those responsible for this nostalgic return to the past for today's college buildings--the trustees, donors, administrators, alumni, architects, and even faculties--are the very persons who by their education and experience should be most aware of how that nostalgia has come about. Those responsible are in great part personally familiar with the

European tradition--the magnificent monuments of the past which are bastardized and reproduced on nearly every college campus in America with little or no regard to their necessary functional use. Surely they must have realized as they viewed the monuments of Europe that a great portion of their charm lay in their relationship to the time when they were built; and in many instances, the enjoyment of those great monuments rests in their juxtaposition to other buildings of other times--some the more and some the less noble, but each honest in its own right. In this country, with its Gothic universities and its Greek universities and its Renaissance universities and its Georgian universities, it is indeed rare that one can find on a single campus an integrated story of the growth of the university in time.

This, of course, is not always the case. A few older institutions, such as the University of Virginia, owe their charm to a single brilliant concept such as that laid down by Thomas Jefferson. But others, like Princeton and Harvard, reflect in their architecture a series of changes in the habits and the thinking of Princetonians and Harvardians over a period of many years.

The proposal of such a break from a set campus style does involve some risk. In any given period the so-called culture of

the people and their expression in art may be less noble than in some previous period. If a university follows the current fashion, it will end up with some good and some bad buildings, some beautiful and some ugly. But its campus will have life; and at the time when the buildings are built, they will serve the current needs to the fullest extent instead of inhibiting a full satisfaction of those needs.

In the face of, and in spite of, all the experience of Europe, our arbiters of university taste usually argue the risk of placing "incompatible" buildings near one another. Especially in the case of libraries, which are too often built as monuments to or by the donors, does one find the insistence upon "style" architecture. These persons--the trustees, donors, and administrators--who "know" exactly what they want, impose the power of the purse string in their demands for buildings which will be monuments, not libraries. A library should be a monument by its content, not by its facade or the name on its cornerstone.

> It is indeed ironic that the very men who are so bold in their adventures in industry, in research, and in education should be so timid in their adventures in architecture; that people who firmly believe that today's men are superior to men of other days in such matters as science, mass education, and mass production should think the same generation inferior in matters of art;

> that the young to whom so many brave and important experiments in science, engineering, law, and medicine are entrusted should be considered incompetent as interpreters of their time in building.*

This quotation may be construed as a plea for "modern architecture on our campuses and especially in our libraries, but that is not the case. The plea is not for "modern architecture but for "contemporary" architecture--contemporary buildings to house contemporary student bodies. The great buildings of the past filled the needs of the past. Is it judicious, then, to continue to draw from past forms, however great the originals may have been, and try to make them conform to present needs? Much better to take advantage of those basic principles of good architecture which have descended through every advance in thought all the way from the great Egyptian temples to the present day in planning for the fountainhead of all advanced thinking--the college and the university.

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* Burchard, David, and Boyd: Cooperative Committee on Library Building Plans, Planning the University Library Building, (New Jersey, Princeton University Press, 1949) p. 115.

The following statement, taken from a recent newspaper article, summarizes the library problem at Hollins College today:

> For a long time Hollins has felt its present library is inadequate. There is not enough space for study and not enough space for books. The space in it is not well arranged...
>
> Because the library building is not fireproof, the College's valuable collections, including the McVitty Memorial Collection, cannot be safely housed or used in the existing building. These are kept in vaults instead of in the library.
>
> With any further increase in students the library situation becomes worse...[1]

For many years the teaching program at Hollins has been hampered by the lack of adequate library facilities. The use of the present collection, which numbers some 49,000 volumes and which is growing at the rate of 1500 to 2000 volumes per year, is difficult because the present facilities are overcrowded. Books are available through gift and exchange sources, but the lack of an adequate library building precludes the effective expansion of the collection. The College's magnificent collection of rare books and incunabula must be kept in storage vaults elsewhere on the campus because space and fire hazards do not permit its housing in the library building.

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1 Roanoke Times, Roanoke, Virginia (March 23, 1952) Feature Article.

In addition to the main book stock and the rare books collection, the college has a collection of art and music materials, which are housed in the music and art libraries in other buildings on campus. These materials include books, music scores, phonograph records, photographs, slides, and prints. As part of its book resources, the library receives nine newspapers, 245 periodicals (American and foreign), and has a file of over 7,100 pamphlets.[2]

The present C. L. Cocke Memorial Library, which is almost fifty years old,[3] is located at the south end of the south quadrangle building group and is in close proximity to most of the classrooms. It is a beautiful old building in the Georgian style with columned porticoes on both back and front, its design adding much to the charm and dignity of the main building group. Four reading rooms, with a seating capacity of one hundred and ten, the office of the librarian, and an entre-salle for the circulation desk, catalog, display shelves, and reserve books occupy the first and second floors of the building. An additional reading room, stack rooms, several faculty offices, and two classrooms are housed on the basement floor. A large part

2 Hollins College Catalogue, 1951-52.
3 Built in 1908 through the cooperation of alumnae and friends of the College.

of the book collection is arranged in open stacks and shelves in the reading rooms and balconies.

The present building does not lend itself to extension either from the standpoint of economy of construction or functional utility, nor would its extension yield any architectural enhancement to the quadrangle group. Its possible elimination in future years would have architectural justification because it lies between the existing campus and the proposed new lower campus to the south of the main group; but for the time being, such elimination cannot be justified for economic reasons. However, the building would lend itself quite readily to use for classrooms, faculty offices, and student activities on completion of a new library structure.

The present enrollment of the college is 365 students, who are served by a faculty of 43 full-time teaching members. It is anticipated that the student body will number 400 by the fall semester, 1952, and college expansion is being planned for an ultimate enrollment of 600 students.

From the facts stated above, it becomes quite obvious that temporary measures will not solve the library problem at Hollins. Provision of adequate space for books, readers, and staff will require the erection of a library building in the near future.

An efficiently operated and administered building, in which the functional use of the building has not been sacrificed for architectural effect, will best serve the needs of the College.

It is the purpose of this thesis to analyze the library situation at Hollins College and to present a design study for a library building that will provide an adequate library program for the school. It is believed that this thesis will have useful significance to those who must ultimately plan a library for the College.

PART ONE: PROGRAM

EDUCATIONAL POLICY

EDUCATIONAL POLICY

At the second Princeton Conference of the Cooperative Committee on Library Building Plans,[1] the members were conscious of the need for library planners to have at least some understanding of the stated educational policy of the institution before they attempt to establish a program for the design of a new building. Particularly important to the library is the relationship between undergraduate study, graduate study, and research work.

Hollins College, as a liberal arts school,[2] offers courses in four major divisions: the Humanities, the Social Sciences, the Natural Sciences and Mathematics, and the Fine Arts. Though no graduate courses are offered, the Bachelor of Arts Degree of Hollins is accepted as the basis of admission to all graduate schools elsewhere; with this in mind, the library must make intensive efforts to provide research facilities for those students who wish to avail themselves of advanced work.

The aims of the college's educational program are:

1) To train the student to think, to discriminate, and to communicate.

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1 Report of the Second Princeton Conference of the Cooperative Committee on Library Building Plans, 1947.

2 Defined as a school which confers the Bachelor of Arts Degree.

2) To give a better understanding of the physical world, and of man's scientific, social, humanistic, and artistic development.

3) To offer each student sufficient specialization in one field to develop and enrich her individual creative and scholarly talents, and to serve as a background for advanced study, vocations, or professional work.

4) To prepare for the intelligent and sensitive participation in the life of the family, the community, the nation, and the world.

5) To provide the conditions that promote mental and physical health; that foster individual integrity; that stimulate the desire to know and understand; and that maintain and strengthen spiritual values.[3]

Further, the catalogue states that, for more than a century, Hollins College has "aimed to conserve educational ideals which have proved their worth in the development of the individual, and at the same time to select for adoption the best in new directions. To these ends, Hollins from the first has been characterized by a full academic freedom and by the highest scholastic standards."[4]

In addition to its academic aims, the college presents each year, through the Committee on Lectures and Concerts, a notable list of distinguished speakers, artists, and musical events, so that the student is encouraged to cultivate a full range of

3 Hollins College Catalogue, 1951-1952.
4 Ibid.

knowledge in the arts, philosophy, religion, government, and politics. To these ends, the library must serve to stimulate and to enhance the quest for knowledge. The success of Hollins College graduates as future leaders in their society will depend largely on their understanding of those fields so important to modern life.

LIBRARY AIMS

LIBRARY AIMS

As a part of the written program for any library, the aims of the library must be considered carefully. The first of the main objectives of any college library[5] is the primary function of supply. This function consists of acquiring, cataloging, classifying, and shelving a book collection complementing the instructional program of the college. It necessarily entails the efficient production of information and material for the reader's use.

Secondly, the college library must offer guidance to the student, and assist him in making the best possible use of its facilities. In some cases this function may consist of courses in library use; in other cases it will merely consist of informal help in finding materials. Ideally, any library can offer guidance to its readers by the careful placement and presentation of the materials.

The third function, stimulation of students' interest in reading and in cultural pursuits, vitally affects the planning of the library building. Emphasis on this aim of service will require the provision of comfortable and attractive rooms or

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5 Edna R. Hanley, College and University Library Buildings, American Library Association, 1939.

spaces for leisure reading; individual studies for faculty and students doing special work; exhibition space for use in enhancing the cultural life of the college; and special rooms for music and other cultural pursuits.

The faculty and students of today's colleges more and more are working from materials that are not as easily documented as are books: "...political tracts and broadsides, government publications, and the output of special interest groups; motion pictures, slides, film strips, and microfilm; radio transcripts and other sound records. Literally nothing in the way of documentary evidence. . . (is) beyond the scope of...firsthand investigation."[6] And the library is the most appropriate place on the college campus to foster closer faculty-student relationships in the use of these new instruments and documentary resources. The planning of the library building, then, should proceed with this aim in mind: to take care of today's "pedestrian" resources, yet to allow for relatively easy shifting to take advantage of the enticing potentialities of new instruments.

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6 Burchard, David, and Boyd: Cooperative Committee on Library Building Plans, Planning the University Library Building, (New Jersey, Princeton University Press, 1949) p. 10.

LIBRARIAN'S PROGRAM

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Miss Dorothy A. Doerr, librarian for Hollins College, suggests the following program as her estimate of the basic facilities that will be needed to provide adequate library service to the school. These facilities are expected to fulfill the needs of the college for an enrollment up to six hundred students. However, it must be borne in mind that future enrollments may become larger, and provision should be made for further expansion if that becomes necessary.

GENERAL PRINCIPLES OF PLANNING:

Over and above the actual space requirements of the building, Miss Doerr makes the following suggestions to be borne in mind during the planning of a library for Hollins:

1) The school's present dormitories do not provide ideal study conditions. The rooms are crowded, with two or three girls living in one room, and the dormitory quiet hours are not very effective.

2) The number of students using the present library is affected by regulations, which the students themselves set up, on dress and smoking. Facilities should be provided to allow students to smoke while in the new library building.

3) The College's property is being encroached upon by residential and commercial building. Library service is now given to neighboring people, to alumnae, to extension students of the community, to teachers, ministers, and others. A possible question in a new library would be whether or not it would be advisable or even desirable to offer limited public-library service to the growing neighborhood.

4) Internally, the atmosphere of the building should be attractive, dignified, comfortable, and inviting, as well as functionally efficient and satisfactory. It should be a place where students can be "at home and happy in the world of books," where faculty can work with students, where informal teaching can be done, and where general education can be carried out in every sense of the word.

5) Since it is impossible to predict the manner in which future faculties will wish to work, the interior of the building should be flexible as to arrangement.

6) The building should be planned with a view to economy of administration and efficiency of work, with ease of supervision being one of the main factors considered in the physical layout. With a limited staff of only three, all entrances to the reading rooms and stacks should converge on a common point.

7) Space must be provided for readers near the books to be used.

FACILITIES REQUIRED FOR READERS AND STAFF:

According to Miss Doerr the following areas, facilities, and equipment will be required to accommodate readers and the staff:

I. MAIN FLOOR:

1) Public catalog room and lobby.

2) Circulation desk.

3) Reading rooms to accommodate approximately three hundred students, or fifty per cent of the anticipated enrollment.

4) Staff work rooms to accommodate the librarian, assistant librarian, and one student assistant.

5) Stack space.

II. BASEMENT AND SECOND FLOOR:

1) Stacks.

2) Exhibit hall.

3) Rest rooms for both men and women. These should also include smoking lounges.

4) Space for the janitor.

5) Receiving, stock, and packing room.

6) Book store.

7) Motion picture and film projection room.

8) Television, radio, and record room.

9) Hollins Room.

10) Rare book room.

11) Room for reading machines.

12) Typing room.

13) Seminars and conference rooms to accommodate seats for from twelve to thirty people around tables.

14) Staff lounge and kitchen.

15) Carrels in stack areas.

16) Browsing areas.

III. SERVICE AND EQUIPMENT:

The following services and equipment will be required for the efficient operation of the library:

1) A service turnaround for delivery trucks must be provided adjacent to a service entrance.

2) Book lifts are needed to transport books from the receiving and processing point to the stack areas. Elevators are considered unnecessary and unduly expensive for a building of this size.

3) Air conditioning for the Rare Book Room, possibly for the Hollins Room, and for any stack areas located below ground level.

4) Stacks to handle an ultimate total of 125,000 books.

5) Mechanical equipment room to handle heating equipment.

PART TWO: ANALYSIS

QUANTITATIVE ANALYSIS

QUANTITATIVE ANALYSIS

The following analysis is intended to give the recommended floor space requirements for each of the areas in the library. Where actual square footage figures are not available, consideration is given to the furnishings and equipment necessary for the individual departments. These considerations will afford a logical starting point for the design.

LOBBY AND PUBLIC CATALOG:

The lobby is the place which gives the reader or guest his first impression of the library; as such, it must be dignified and attractive to capture the attention of the potential reader.

There is no criterion by which the area of the lobby can be set down: the space required will be determined largely by the furnishings to be placed there and the necessary space for circulation between the main entrance to the building and the readers' facilities. It will be desirable to have some informal tables and chairs, where students may wait for friends, where readers may skim material before withdrawing it from the library, or where readers may wait for books to be delivered to the circulation desk. Here, too, it is desirable to have some small, free-standing display cases where new books can be

placed to be handled and looked through. In short, the lobby must be the place where the wares and the facilities of the library can be displayed attractively.

The catalog area will require space for the catalog cases, with ease of access and sufficient work space around them for searchers who need help and for those who can work alone. Six feet of space is desirable in front of the cabinets to allow sufficient working space.[7] Tables, both sitting and standing height, must be provided for users of the catalog.

The number of catalog cases will depend on the type of cases used. In general, because readers do not like to use very low or very high trays, cabinets ten trays high are desirable.[8] If standard units are used, additions are much easier to make, and it may not be necessary to provide all the catalog cases in the original space.[9]

> To estimate catalog capacity, take the book stock estimate for two years hence and multiply by four cards per volume, to cover the average of author, title,

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7 James T. Gerould, The College Library Building, Its Planning and Equipment (New York, Scribners, 1932) p. 43.

8 Burchard and others, op. cit., p. 40.

9 Joseph L. Wheeler and Alfred M. Githens, The American Public Library (Chicago, American Library Association, 1941) p. 460.

> subject, and analytic cards. Allow 6-1/2" width on centers for each vertical row of trays and partitions, and 4" height per tier, beginning 1" above the base or stand.[10]

This procedure is based on a tray capacity of one thousand to thirteen hundred cards per tray, depending upon the weight of the cards.

A 125,000 volume collection will need a catalog cabinet of at least 500 trays, which will require forty-six square feet of floor space. The space needed for standing-height tables near the catalog is five or six times that required for the cabinets.

A 500 tray unit requires:	46 sq. ft.
Space around: 6 times 46	276 sq. ft.
Total for Catalog:	322 sq. ft.

CIRCULATION DESK:

The circulation desk is the place where all charging and returning of books is done. It must provide ample room for easy access to the desk and must have enough space behind to permit several staff members to function. A special sorting area for the temporary shelving of books according to their stack locations will save much rehandling; also, allowance should be made for easy movement of book trucks. There must be space for a

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10 Loc. Cit.

few reference tools and for the records of circulation. The desk itself does not need to be large and unduly impressive; standard units are available for making up desks in various multiples of these units.

READING AREAS:

The minimum space requirements for all reading areas should be twenty-three square feet per reader. This figure allows room for reader, table, chair, book case area, and equipment. Provision of twenty-five to thirty square feet per reader is not too much, especially if the reading areas are broken into smaller units such as alcoves.[11] Figures for estimating the size of reading areas should be based on fifty per cent of the total number of students, or three hundred students at Hollins.

Carrels, which will be located within the stack, should allow at least fifteen square feet per reader. Forty to forty-five carrels should serve the needs of Hollins' students and faculty.

Permanently assigned conference or seminar rooms, which will not be located in reading areas but whose floor-space should be figured in as part of the area for the total number of students, should accommodate from twelve to twenty students around tables.

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11 Ibid, p. 131.

A reasonable estimate of their needs would be fifteen square feet per person, which will allow for the table, chairs for each, and necessary circulation around. Two large seminars for twenty students each and two small ones for twelve students should be sufficient for the needs of Hollins' students and faculty. These seminar rooms might be planned with collapsible partitions between so that even larger conference areas are available for use.

40 Carrels at 15 sq. ft. each:	600 sq. ft.
3 Seminars at 300 sq. ft. each:	900 sq. ft.
2 Seminars at 180 sq. ft. each:	360 sq. ft.
200 Students at 23 sq. ft. each:	4600 sq. ft.
Total Reading Areas:	6460 sq. ft.

Planning the areas for the actual furnishings that will go into them will probably change this figure. The following is a checklist of the equipment usually required in reading areas with the minimum spacings desirable:[12]

1) Tables spaced 60" apart and 40" to 60" from end to end. All aisles four to five feet wide.

2) Shelving for the number of volumes deemed suitable by the librarian.

3) Vertical files for pamphlets and clippings, where applicable.

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12 Ibid, pp. 102-132.

4) Atlas and map cases, unless these items are to be concentrated in a separate area.

5) Several display racks for special books.

6) Dictionary consulting stand.

7) Shelving for Poole, the Readers Guide, the International Index, and other similar publications in the periodicals area.

8) Racks for newspapers and magazines in the periodicals area.

STAFF WORK ROOMS:

It is recommended by the librarian that a minimum number of three work rooms be provided for the library staff at Hollins: one for the librarian, one for the cataloger, and one for processing and typing. In the light of the different uses to which each will be put, these rooms will be considered separately here under the titles of Administrative and Technical Process.

Administrative

The amount of space required for the librarian's office will be determined largely by the furniture and equipment to go in it. In general, one hundred square feet of space is the acceptable minimum for each worker in the staff area. In addition to this minimum, it must be borne in mind that the librarian's

office not only must provide comfortable working space but also must be made as pleasant and attractive as possible for the visitors who will call there. "The librarian must transcend his traditional modesty and recognize the importance of appearance in the 'front office.'"[13]

The furnishings for this office will include an executive-size desk, twelve to fifteen feet of wall shelving for professional literature, vertical files for correspondence, and comfortable chairs for visitors. There should be enough space provided to permit a conference of four people without crowding. In addition, the librarian will need a wall safe for storage of records and valuables that are kept in his charge and storage space for supplies.[14] This room should be equipped with closet space.

100 sq. ft. minimum space:	100 sq. ft.
Additional conference space:	60 sq. ft.
Storage, closet, and safe:	50 sq. ft.
Total for librarian:	210 sq. ft.

If the librarian's office is to be located off the lobby area, it should be so arranged as to allow a reception-like area in front of the office where visitors may wait. This area must necessarily be furnished with comfortable chairs.

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13 Robert A. Miller, "The Technical and Administrative Functions of a Library," Library Buildings for Library Service (Chicago, American Library Association, 1947) p. 53.

14 Loc. Cit.

Technical Process

The technical process of the library will be best served by planning for the functions that actually occur within the areas provided. In general, the minimum of one hundred square feet of floor space per worker will provide a starting point for determining the area needed, but the space must be increased if it is found that more is required for the equipment needed. In planning the building, the equipment should be placed in accordance with the following standard minimum spacings:[15]

1) Main aisles, 48" to 72" wide.
2) Secondary aisles, 36" wide.
3) Desks side by side.
4) Front of one desk to back of another, 48".
5) Aisle between outside wall and desks.
6) Working space in front of files, 48".

The actual pieces of furniture to be used, when placed according to these figures, will indicate much more accurately the areas needed. Allowance must be made for expanded staff if adequate facilities are to be provided.

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15 Ibid, p. 41.

Order and Cataloging

The following items are necessary for order and cataloging work; space allotments should be made for them in the planning stage:[16]

1) Shelving for every available foot of wall space.

2) Shelving reserved for publishers' catalogs and other trade bibliographies.

3) A stand-up consulting table where the heavier trade books may be used conveniently.

4) Vertical correspondence file.

5) Card cabinet for the file of "books on order."

6) Convenient housing for accession books or cards, whichever are used.

7) A large stand-up sorting table for the receiving and checking of books.

8) Card cases for shelf list, which will require one card for each book in the library. A collection of 125,000 volumes will require twelve square feet of shelf-list cabinets. Two 60-tray shelf-list units will cover 82" of wall space.

9) A large flat-top desk for the professional cataloger.

10) A typewriter desk for the clerical assistant.

11) A chair for each desk.

12) A book truck.

13) An electric eraser for the typist.

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16 Wheeler and Githens, op. cit., p. 460.

14) A work table for pasting, labeling, and other work to finally prepare the books for the shelves.

15) A generous supply of cupboards for supplies.

16) A book lift.

17) A washbowl for hot and cold water.

18) Twelve to fifteen feet of shelving space reserved for the cataloger.

19) Closet space for use by the workers.

STACK SPACE:

A rough estimate of the size of stack areas may be made by use of the "Cubook" as a unit of measure.[17] The Cubook is defined as the volume of space required to shelve the average size book in a typical library. There are eleven Cubooks per square foot of stack area, or 1.47 Cubooks per cubic foot of stack. Division of the total number of volumes to be housed by eleven will give an approximate estimate of the floor area required, including ranges, range aisles, main aisles, stairs, and book lift. However, in recently built modular libraries, this figure has been found to be an excessive estimate. Use of fifteen Cubooks per square foot of stack is now considered a more real figure by Keyes D. Metcalf, Dir. of the Lib. at Harvard.[18]

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17 Robert W. Henderson, "The Cubook: A Suggested Unit for Bookstack Measurement" The Library Journal (N. J., R. R. Bowker Co., Nov., 1934) p. 865.

18 From an analytical critique of the proposed new library at Wellesley College.

The stacks should be seven feet, six inches high, as the maximum height for comfortable use. The aisles should be three feet, six inches to four or five feet down the center aisles. Seven or eight volumes are figured per linear foot; and in a section, which is three feet long by seven feet, six inches high, one may shelve from one hundred to one hundred and twelve books, which allows for shelves two-thirds full.

A check can be made on the Cubook estimate after the sketch plan stage by using the figure of two hundred and twenty-five volumes per double faced compartment as a working capacity. This is only a bit lower than the figure suggested by Wheeler and Githens as "fairly safe" for estimating capacity.

Total Area for stacks:
125,000 volumes divided by 15: 8,350 sq. ft.

EXHIBIT HALL:

The exhibit hall for a library the size of Hollins' need not be large for two major reasons: the present small library staff of three people cannot afford the time necessary to supervise a large exhibition; and a library owning a limited number of rare and special books could not keep the area alive

and enticing. The space must be large enough, however, to provide some wall and about three free-standing cases for exhibition purposes.

REST ROOMS AND LOUNGES:

The amount of space needed for rest rooms depends upon the number of fixtures deemed advisable by the designer for the people to be accommodated. For the female students, four water closets and two washbowls should be sufficient; for male guests in the library, a single water closet, a urinal, and one washbowl should be enough. The staff restroom need be no more than a single-fixture unit with washbowl. The Architectural Graphic Standards suggests the following minimum dimensions to be allowed in planning toilet layouts: twelve square feet per toilet stall, fifteen square feet per washbowl, and nine square feet per urinal unit. To these figures must be added enough space to allow adequate circulation within each area.

Students' Rest Room:	160 sq. ft.
Staff Rest Room:	50 sq. ft.
Visitors' Rest Room:	50 sq. ft.
Total Rest Rooms:	260 sq. ft.

There are no figures available to estimate the size of the lounges for students and for staff. Each will depend upon the furnishings to be used. Comfortable chairs and smoke stands should be provided for each lounge room.

JANITOR'S SPACE:

The janitor's space will be combined with the stock and packing room, as will be noted below. However, each floor should have a small janitor's closet with a low slop sink and space for mops, buckets, brooms, soap, and other supplies. Storage for supplies should be provided in the stock and packing room.

RECEIVING, STOCK, AND PACKING ROOM:

The receiving room should have sufficient space for the unpacking of shipments of books, for a desk or table, and for storage of shipments until they can be processed. Attention must be paid to the problem of fumigation,[19] and an enclosed space should be allotted here for this process. The stock area should also provide a locker and washroom area, a table, and a chair for the janitor's use. Adequate space must be provided for storage of the janitor's supplies.

19 Burchard and others, op. cit., p. 53.

BOOK STORE:

The bookshop attendant at Hollins recommends that a room approximately twenty-five by forty feet be provided for sales area, with a connecting room about eighteen by twenty feet for stock. The sales room should have wall shelving and cabinets on all available walls, as well as several free-standing cases for display of special wares. The stock room, in addition to stock shelving, should have a wash basin and a small coat closet.

The book store should be so located in the building as to be accessible directly from the outside. Purchasers should not have to go through any part of the library proper to reach the shop. It must also be within close proximity to the service entrance to facilitate truck delivery of supplies.

BROWSING AREAS:

In addition to the area already indicated in the lobby, there should be several small informal areas provided throughout the building for pleasure reading. These should be furnished with comfortable chairs where readers leisurely can enjoy light reading. They should be open-shelved to be well used.

SPECIAL FACILITIES:

The following elements are desirable and should be provided in any college library that is to offer a constructive program for general education:

1) Projection room with film vault.
2) Television, radio, and record room.
3) Archives room.
4) Rare book room.
5) Room for reading machines.
6) Typing room, soundproof.

There are no standards available for the area requirements of these spaces. Judgement can only be based on the number of people likely to be served.

FUNCTIONAL ANALYSIS

FUNCTIONAL ANALYSIS

The following analysis is intended to give the desirable spatial relationships for the services performed and the activities carried on in each of the areas in the library.

The Cooperative Committee on Library Building Plans states that "ideally, almost all library functions should find their place on the main floor. Departures from this rule which are forced by limitations of space will vary...depending upon which functions are in heaviest demand."[20] This rule is of especial importance in a library such as Hollins' which is to function with a minimum sized staff.

Planning, then, should begin with the main floor, which is best located at the level of the principal entrance so that as much business as possible can be conducted without recourse to stairs. Other functions of the building are best located above and below the main floor so as to minimize traversion of vertical distances.[21]

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20 Burchard and others, op. cit., p. 38.
21 Loc. cit.

MAIN FLOOR

LOBBY AND PUBLIC CATALOG:

The lobby should be located at the main entrance to the building and should contain the public catalog. The catalog merits a prominent place not far from the entrance and should be immediately available to the circulation desk and staff on duty there, to the bibliography and reference facilities, and to the processing section. Thought must also be given to supervision of the catalog cases; for this reason, they should be in full view of the circulation staff.

The central circulation desk should be located in the lobby, so situated that it commands supervision of the entrances and exits to stacks and to reading areas as well as to the principal entrance to the building. This is absolutely imperative for effective control, especially in a building the size of the Hollins College library, in which the person at the circulation desk is at times building attendant, reference staff, circulation attendant, and general supervisor.

READING AREAS:

A study of the plans of recent college and university library buildings, many of which are not yet executed, indicates that

there is no agreement on the function of the reading areas.[22] Each of the plans has reading areas placed according to the different educational and library policies; each library is planned to serve the needs of an entirely different type of educational program and a particular type of student body.

The typical arrangement would place the general reading area, the periodical reading area, and the main circulation desk and technical processes on the main level. Other functions and additional reading areas, if any, would then be relegated to other levels. The disparity of thought about reading area placement indicates that it would be wise to study carefully the needs of the student body, and not allow inhibitions to prevent arrangements other than obvious ones previously used.

In support of this contention, the following remarks of Wm. M. Randall, Director of Libraries, University of Georgia, may be of interest:

> We have a bad habit of allowing our minds to become confused with professional, "pattern words, instead of going behind those words to the things they represent and studying these in the light of knowledge of needs and functions. Before we know it, we find ourselves enmeshed in tradition, and we find ourselves building

22 "Report of the Chicago Conference of the Cooperative Committee on Library Building Plans, Chicago, Jan. 27-28, 1948"

> structures that are no different from the structures that have been built--no different from the structures which were intended to house an older and a different librarianship. This we must avoid.
>
> Please do not misunderstand. This does not mean that new libraries must be different just to be different. It means that the plans for new libraries must grow out of a new and honest appraisal of library functions and not out of a picture of what libraries have been.[23]

At Hollins, the library staff and faculty alike disagree with the general trend of designing a single large reading room in which all the principal reading, reference, and study activities take place. Instead, they prefer smaller, less impressive areas in which a somewhat divisional set up allows the shelving of inter-related subjects together or in adjacent areas. Of necessity, these reading areas must be so located on the main level that their traffic patterns converge at a common point, the circulation desk.

Miss Doerr, the librarian, suggests that the reading areas be so planned as to allow a combination of form and subject division of materials. Organization by form alone would necessitate many rooms which a small staff could not easily handle.

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23 Wm. M. Randall, "The Constitution of the Modern Library Building," from Library Building for Library Service, papers presented before the Library Institute of the University of Chicago, August 5-10, 1946 (American Library Association, Chicago, 1947), p. 188.

Specialized materials requiring specialized handling, such as the rare books, microfilms, microcards, etc., will certainly need to be considered separately; but, for the most part, the form of the materials should not be considered a determining factor in the arrangement of areas. The reading areas, then, may be thought of in terms of 1) reference and current periodicals, and 2) general reading areas.

Reference and Current Periodicals

The area allotted for reference materials and current periodicals should be near the catalog and circulation desk, and should be within easy call of staff work areas.

It has been the policy of the Hollins librarian to keep most of the reference collection with the regular books. However, frequently used tools such as general encyclopedias (both English and foreign), yearbooks, atlases, biographical aids, trade bibliographies, certain indexes, and some few large reference sets have been housed in a place easily accessible to the desk attendant and the public alike. These tools are used often enough to demand ease of access.

This area should also house the periodical indexes, current periodicals, and current newspaper files. It is felt that these periodicals are best kept in a central file with adjacent stack space available for back files.

General Reading Areas

The general reading areas should also be on the main floor level within easy reach of the desk attendant. Stack areas should be immediately adjacent to the books in each area, with stairways permitting access to stacks above and below, or there should be a central stack area with easy access from all reading rooms.[24]

Present thinking of the Hollins staff allows for three general reading rooms. Arranged according to inter-related subjects, two adjacent areas would be assigned to the humanities and the social sciences, and the third would be devoted to the sciences and the fine arts. Miss Doerr does not recommend the provision of a reserve book reading room because a room planned with ample space for movement and with attention to noise-reducing materials permits various types of study without annoyance. Further, she feels that an arrangement that

24 See full discussion of stacks under Stack Areas, p. 38, of this paper.

does not overemphasize the reserve reading area would encourage students to move easily from the reserve books to the books in the reading area and to the stack collection.

STAFF WORK ROOMS:

It is desirable that the librarian's office be available to visitors,[25] without having it become a gathering place for loungers and those who just want to talk. It is not necessary that it be located in a prominent position because those persons who really desire to see the librarian on business may easily find out how to get to the office.

Another criterion for the placement of the administrative office is the relationship to the technical processes of the library. It is advisable to have the librarian's office as near these functions as possible, for ease of supervision by the librarian and for accessibility to the staff workers.

The catalog, order department, and processing activities should be located near the public catalog and bibliographical tools. It is desirable that these functions be allotted spaces that are adjacent, either horizontally or vertically, in that the

25 Gerould, op. cit., p. 85.

members of the staff should be readily available to shift from one duty to another as pressure demands.

The following breakdown of the technical processes of a library is intended to show the operations that are usually performed in preparing books for the reader's use:[26]

Receiving Room

The receiving room serves as the unloading point for all materials that come into the library. Boxes are uncrated here, and the books are placed on book carts in preparation for sending them to the processing department. There should be direct access, either vertical or horizontal, from the receiving room to the order room.

Order Department

Titles of books suggested for order are copied on order slips. The order librarian's preliminary work consists of checking author, title, publisher, edition, and price, and filling in these items on the order slip. This requires that the order librarian be placed near the trade bibliographies. The volumes most often used are the publisher's trade bibliographies,

26 Most of the basic functions in this section are presented in Wheeler and Githens, op. cit., p. 154 on.

Cumulative Book Index, Reference Catalog for Union list of Serials, and booklists. The Library of Congress reference should be near at hand for the ordering of L. C. cards.

After the orders have been approved, they must be written up and sent to the publisher or dealer. Copies of the order slip are usually placed in a "books on order" file and in the catalog. A copy of the order slip must be sent to the Library of Congress.

When the books are received, the order librarian must check the books against the invoice and the original order, and record of the book must next be transferred from the "books on order" file to the "books in process" file. The books are then accessioned, i.e., assigned a consecutive serial number as added to the library. This will require the addition of a card to the "shelf list."

Catalog Department

The cataloger's work consists of cataloging, classifying, shelf-listing new titles, and assigning subject headings. These processes are usually performed by one individual as a single process. The tools required for this work should

be as close as possible to the cataloger; they are the same tools mentioned above for the order librarian.

After the cataloger has completed the above steps, the typist adapts L. C. cards for the catalog. The cards are then checked by the cataloger and filed in the catalog.

The rest of the technical process consists of the mechanical preparation of the books for the shelves. Book cards, pockets, and bookplates are typed and pasted in the books. The backs of the books are then lettered with call numbers. Pamphlets and other ephemeral material may be reinforced here. And the books are ready to be sent to the shelves.

A careful study of this process would seem to indicate that it is desirable to combine the catalog and order departments, and this is usually the arrangement in most libraries. Such procedure allows placement of the bibliographical materials where they are available to both the order librarian and the cataloger. If possible, it would be desirable to concentrate the main stock of bibliographical material in one area near the order department, the catalog department, and the main circulation desk. This would place the material where all the staff members could reach it easily; and it would not interfere with the use the

readers make of the material because they would not usually be referring to it intermittently.

One major problem that is encountered in planning for the functions of the technical departments is that of separation of typing to relieve the cataloger from noise. However, the use of acoustical materials such as resilient floors and acoustical ceiling materials may avoid the need for separation and allow placement of the typist next to the cataloger where they function best. If separation seems necessary, partitions of glass will break the sound sufficiently and still allow good supervision.

EXHIBIT AREA:

The exhibit area should be located in an accessible spot where there is most likely to be constant passing. Its location from the point of view of the principal functions of the library is not of first importance, but perhaps the best arrangement would be to make it a part of the main lobby.

SECONDARY FLOOR LEVELS

The functions of the library that are not included in the above main floor analysis will in all probability be relegated either to a second floor level or to the basement, although some may find their place on the main level. Those few areas that are consigned more or less at the outset to a specific location are noted here.

RECEIVING, STOCK, AND PACKING ROOM:

The receiving room should be located on the basement level, and it must be immediately adjacent to a service entrance and drive.

BOOK STORE:

The book store should also be located on the basement level so that it can be served by the service drive. Thought might be given to combining the storage of these books with the stock storage area, which would eliminate further division of space.

REST ROOMS AND LOUNGES:

The rest rooms and lounges are perhaps best located on the basement level. The lounges for both students and staff might well be planned to open onto a garden area.

HOLLINS ROOM:

Miss Doerr suggests that the Hollins Room might be planned to serve, in addition to its function as the archives, as an area with a pleasant and inviting atmosphere in which informal literary readings and gatherings can be held. If this is done, a small kitchen alcove should be provided for the preparation of tea on such occasions.

DESIGN ANALYSIS

DESIGN ANALYSIS

LIBRARY DESIGN TRENDS: THE STACK

The best opinion in the library world is unanimous in condemning the stack tower as inefficient, inflexible, and uncongenial to modern library principles.[27] Emphasis today is placed on the completely open stack, where the reader is encouraged to move from the reading areas through the stack. This trend points toward placing the stack in the center of the building, leaving the entire periphery of the building for reading and administrative purposes. A solution lies in the erection of a library in which the building is the stack and the stack is the building, and in which all possible space is free and easily adaptable to use as stack, reading, or administrative area. This type of building is being planned or is already built at several institutions--the University of Iowa, Massachusetts Institute of Technology, Princeton University, the University of Georgia, and others.[28]

The suggestion of such a building immediately brings up the question of cost, since the heavier structure demanded by stack loads would, at first glance, appear to increase the cost of the

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27 Burchard and others, op. cit., p. 56.
28 Ibid, p. 60.

building to a prohibitive degree. This is not necessarily the case, however. At Massachusetts Institute of Technology, designing everywhere for the greater load was estimated to increase the cost of the building by one per cent, and the investment was regarded as judicious in the main part of the building.[29]

STRUCTURE:

In the past decade, vast changes have occurred in the design of library buildings. In general, the trend has been toward a completely flexible building, which is usually referred to as "modular." Modular construction refers simply to a building planned on a series of regular bays, often cubes. The building then consists of a series of floors supported by evenly spaced columns. Walls or partitions become merely screens to separate areas and are as light as possible so they can easily be moved.[30]

The library buildings studied and criticized by the Cooperative Committee on Library Building Plans are all planned on a modular basis. Some, however, have not taken full advantage of light, movable partitions to attain complete flexibility. The buildings are the most recent designs for the larger colleges

29 Ibid, p. 102.
30 Randall, op. cit., p. 199.

and universities in this country, and many of them are still in the planning stage.[31]

The most advanced idea in modular planning for library buildings has been suggested by Angus Snead MacDonald, who has specialized in library equipment and design for many years. He suggests a structure designed on a modular basis, with columns, beams, and floors designed as hollow members to carry air conditioning and ventilating without the use of ducts. The ceiling panels would be designed as perforated units to carry the conditioned air to all spaces in the building. With a lighting system designed as a part of the ceiling also, movable partitions could be used to divide the interior into whatever spaces are desired.[32]

MacDonald believes that the savings, using nine-foot story heights, with an increase of from thirty-five to forty per cent of net floor space over a building with normal fifteen-foot story heights, would pay for the best in lighting, air conditioning, and complete acoustical treatment.

In commenting on this system of construction, Randall[33] points out that modern methods of air conditioning and lighting have

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31 Op. cit. (20).

32 Angus Snead MacDonald, "New Possibilities in Library Planning," The Library Journal (N. J., R. R. Bowker Co., Dec., 1945).

33 Randall, op. cit., p. 200.

eliminated the necessity of having high ceilings. However, modular construction does not necessarily require low ceilings. The use of low ceilings does effect enormous savings in building cost, with the resulting replacement of large monumental areas with smaller, more comfortable ones.

Buildings similar to the libraries mentioned above may be built by any of the usual methods of construction. However, the savings which are expected in modular construction are based on the use of dry construction, i.e., steel rather than concrete or masonry materials. Use of prefabricated panels and finishing materials effects large savings over site-fabricated construction.

MATERIALS[34]

FLOORS:

In planning a modular library building, the floors and ceilings throughout should have a uniform quality suitable for work areas, stacks, or reading areas if maximum flexibility is to be obtained. The essential qualities for flooring are durability, noiselessness, comfort, appearance, maintenance requirements,

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34 Source material for this section is from Burchard and others, op. cit., pp. 96-109, except where otherwise noted.

and, of course, cost, both prime and continuing. The more resilient the flooring is, the quieter will be the atmosphere for working and reading; resilient flooring is also more comfortable for walking for long periods of time. It is, therefore, desirable to have such flooring throughout the building, not only for the comfort of the readers but also for the comfort of the staff, who must work there many hours each day.

In offices and small areas, where particularly comfortable surroundings are desirable, pile carpets may be used on the floors; elsewhere in the building, a floor finish of the resilient type should be used. The materials used most often in descending order of desirability are rubber tile, cork tile, battleship linoleum, and asphalt tile. It should be pointed out that costs vary in the same relationship from high to low. Asphalt tile satisfies minimum requirements for sound reduction in most areas, but would probably be unsatisfactory for noisier working areas. Test data of the National Bureau of Standards indicate that the rubber tile tested offered better resistance to wear, abrasion, and fracture than other types of flooring. Various linoleum tiles showed good results, as did asphalt tile. All of these performed better on concrete sub-floor than on wood. It is desirable for floor finishes to be light

in color. In stack areas, particularly, light floors will help light books on the bottom shelves.

CEILINGS:

Ceilings should provide two of the qualities recommended for floors: they should have a high sound reduction coefficient, and they should be light in color for high reflective value.

In general, hard smooth finishes such a smooth plaster reflect sound and result in poor acoustics. Rough plaster is slightly better. The only materials that are really effective in reducing sound are the various acoustical plasters and acoustical tiles or pans. These acoustical materials offer sound reduction coefficients of from .40 to .85. They are expensive materials, but the results in better work, less maintenance, and greater flexibility make them worthy of consideration.

PARTITIONS:

All partitions should be movable panel construction in order that the building be completely flexible. In some areas, glass panels or screens may be used; but where solid partitions are needed, light steel panels are recommended. Such partitions are made by various manufacturers. Snead and Company, specialists in library stacks and equipment, offer a steel panel that

is hollow and filled with rock wool insulation. It compares favorably to the usual four-inch gypsum block-plaster partition in sound absorption qualities. Its most important advantage is that it can be moved to another position in about forty-five minutes by two untrained men. This type of partition costs about twice as much as the block wall mentioned above, but its cost, moved and re-erected, is less than that of the block partition replaced.[35] Since flexibility in libraries is deemed essential in present designs, it seems desirable to use movable partitions throughout the building, except where elements will remain fixed or require high fire resistance ratings.

LIGHTING:[36]

There are several principles to be kept in mind in selecting a lighting system for a library. The most important is the prevention of glare and contrasts. It is necessary to keep bright light sources out of the field of vision, which is usually considered to be from thirty to forty-five degrees from the horizontal. For reading by natural light, windows

35 "Report of the North Carolina Conference of the Cooperative Committee on Library Building Plans, Chapel Hill and Durham, N. C., March, 1947."

36 Burchard and others, op. cit., pp. 84-95.

on a northern exposure are desirable, and glare would not be a problem. Where southern exposures occur readers must be shielded from direct sunlight.

In general, indirect lighting systems are best with respect to glare. Local lights on reading tables are glare producers and and entirely unsatisfactory. Proper diffusion, with an intensity from twenty to twenty-five footcandles, is the condition considered to be most desirable. Generally, coffer, troffer, cove, or indirect light systems are the most desirable with respect to results and costs.

At the Second Princeton Conference of the Cooperative Committee, an extended discussion of artificial lighting occurred. The discussion led to later correspondence and resulted in recommendations for good lighting, prepared by Professor Parry Moon of Massachusetts Institute of Technology. His recommendations are summarized in the following comments:

> The Princeton discussion of library lighting, June 1946, shows a striking agreement to the principles to be used in achieving satisfactory visual conditions. Dr. Rand, Ward Harrison, and Bassett Jones point out again and again the necessity of eliminating glare sources, reducing contrast, employing low brightness ratios.

It is also agreed that

(1) Many poor installations of fluorescent lamps have been made.

(2) Fluorescent lamps must not be exposed to view because of glare.

(3) If properly shielded, the fluorescent lamp does not constitute a menace to vision,

irrespective of differences of opinion about ultraviolet emission from unshielded lamps.

Since the achievement of a reasonable brightness ratio requires that exposed fluorescent lamps shall not be used, the argument about the possible ill effects of exposed tubes is not germane to library lighting. One can therefore concentrate on the principles that must apply if best lighting is to be achieved. We agree... about the necessity of reducing brightness ratios and about the desirability of using high reflectances for walls, floor, and furniture....

Not only must the direct glare from fluorescent lamps (or any other lamps) be eliminated but reflected glare must also be abolished. This means that louvered fixtures must never be used: the fluorescent lamps must be shielded completely so that their images cannot constitute glare sources under any circumstances.

A second point is that the best visual conditions are obtained when lighting is produced by a uniformly luminous ceiling. Essentially the same effect can be obtained either by making the ceiling of translucent plastic with lamps above it, or by using dense translucent reflectors suspended below the ceiling and sending most of their light upward.

A third point is that the reflectances of the room surfaces should be much higher than those commonly used in the past. High reflectances not only reduce contrasts and help to diffuse the light; they also are economical. By using high reflectances instead of the conventional low values, one can often get twice the amount of useful light with no additional cost.

A table of specific recommendations follows.

TENTATIVE STANDARDS FOR OBTAINING BEST VISION

(1) Ceilings should be pure white (not "off-white") and should have initial reflectances of at least 0.80 (Munsell value 9.4).

(2) Wall surfaces (including chalkboards) should have reflectances of at least 0.50 (Munsell value 7.8) and chromas that do not exceed 4.

(3) Floors should have reflectances of at least 0.30 (Munsell value 6). Chromas should not exceed 4. The purpose of the foregoing high reflectances is to obtain

   (a) A bright, cheerful appearance for the room;
   (b) Low contrasts, to promote good vision;
   (c) A maximum of interflections of light among the various surfaces, to give a diffused quality to the light and freedom from shadows;
   (d) A maximum of useful light for a given lighting system.

(4) Desk tops and table tops should have reflectances of at least 0.30 (Munsell value 6) with chromas not exceeding 4. Lower reflectances will produce too much contrast with white paper and will tend to cause eye strain. These values for desk tops can be realized by using unstained wood or by covering the surface with a light-colored linoleum.

(5) Furniture and trim should preferably be as in (4). Lower values and higher chromas may be employed, but only if the size of the object is small compared with the distance at which it is viewed.

(6) Venetian blinds should be white and should be drawn at night.

(7) Average illumination at desk level, produced by the artificial lighting system, should be at least 20 lumens per square foot (20 "footcandles").

(8) Maximum brightness of a luminaire should not exceed 3 times the brightness of paper on the desk. Usually the eyes adapt themselves to the brightness of the paper, and any extended surface having a brightness of more than 3 times this value is a source of annoyance and possible eye strain. Even if the luminaire is completely out of the normal field of view, it is almost sure to cause trouble because of specular reflections if its brightness is more than 3 times the brightness to which the eyes are adapted.37

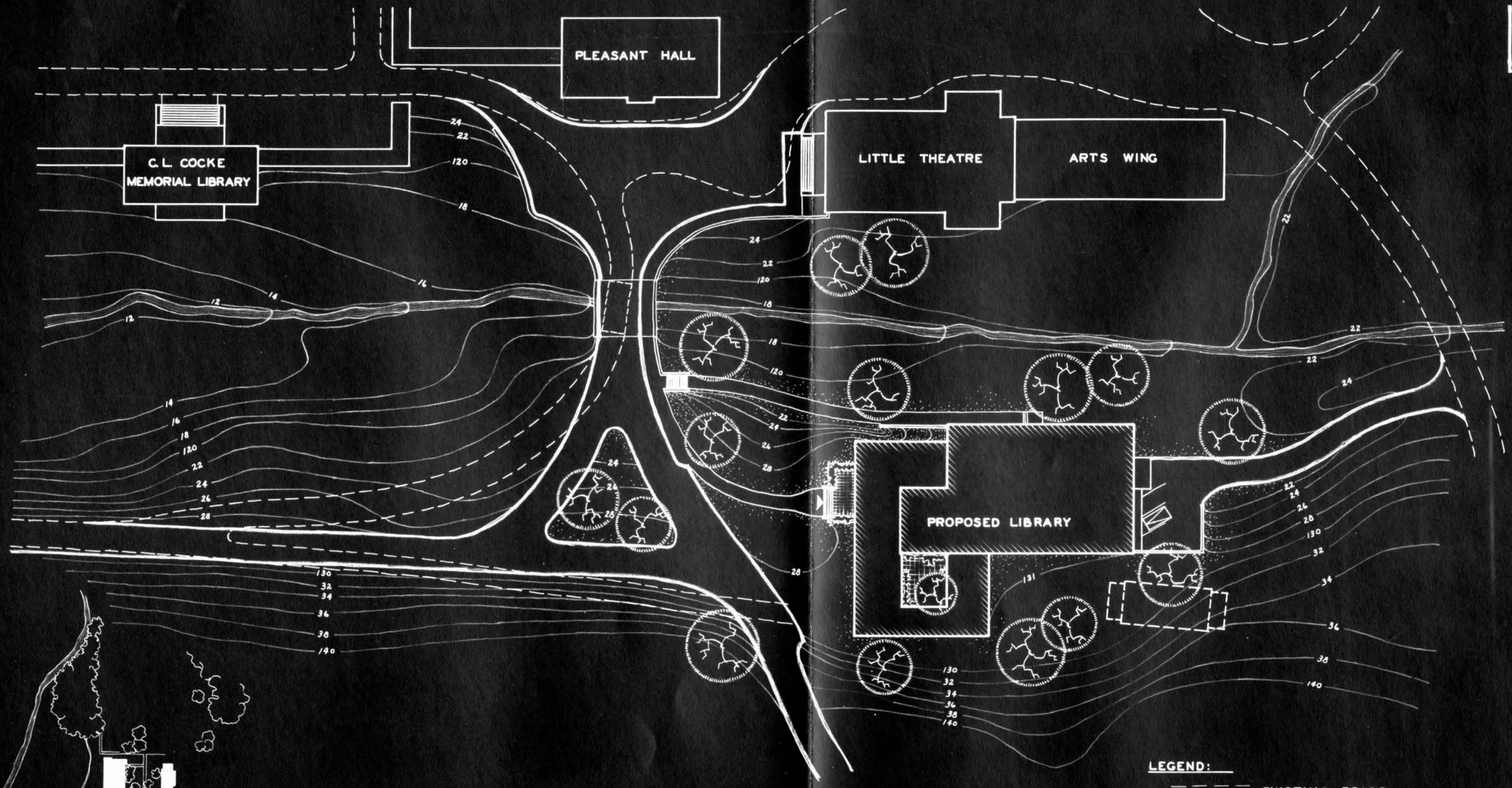
37 Ibid, p. 93.

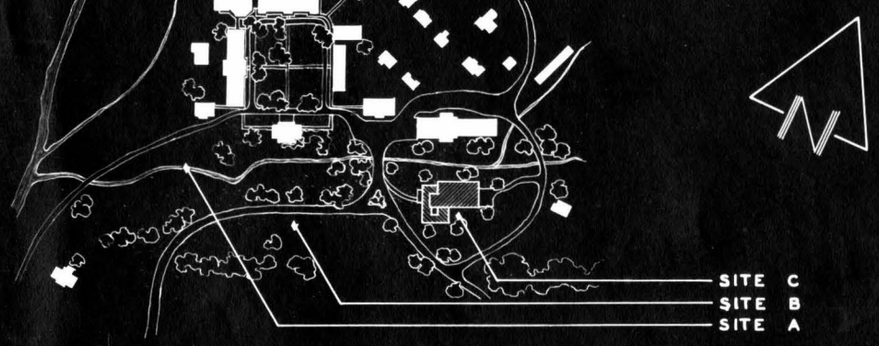
PART THREE: DESIGN

PRESENTATION

A LIBRARY
FOR
HOLLINS COLLEGE
VIRGINIA

JAMES O. DIXON V.P.I. 1952





OVERALL PLAN OF CAMPUS

SCALE: 200 FEET

LEGEND:

EXISTING ROADS

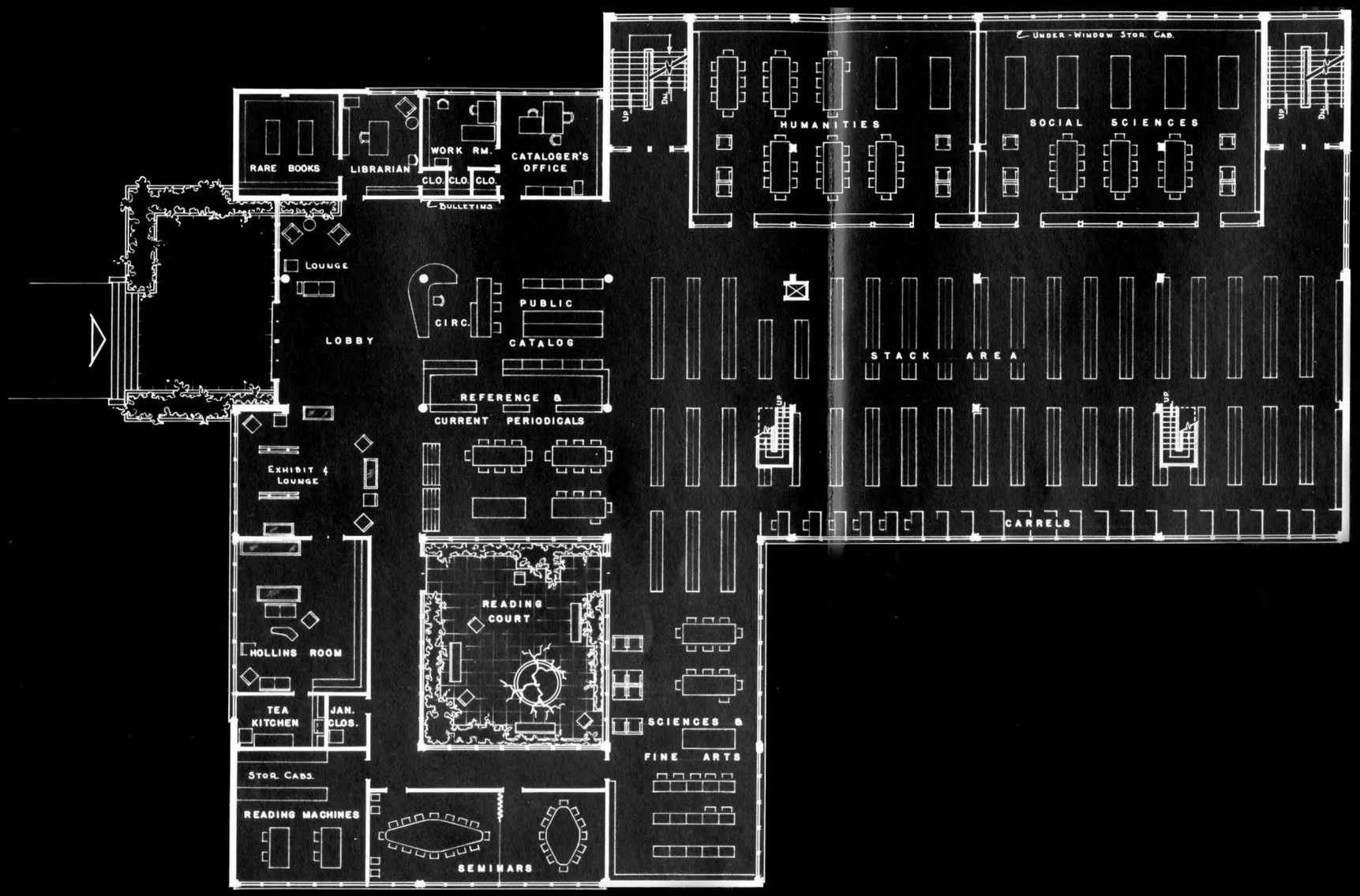
PROPOSED ROADS

PROPOSED WALKS

PROPOSED CHANGES IN CAMPUS

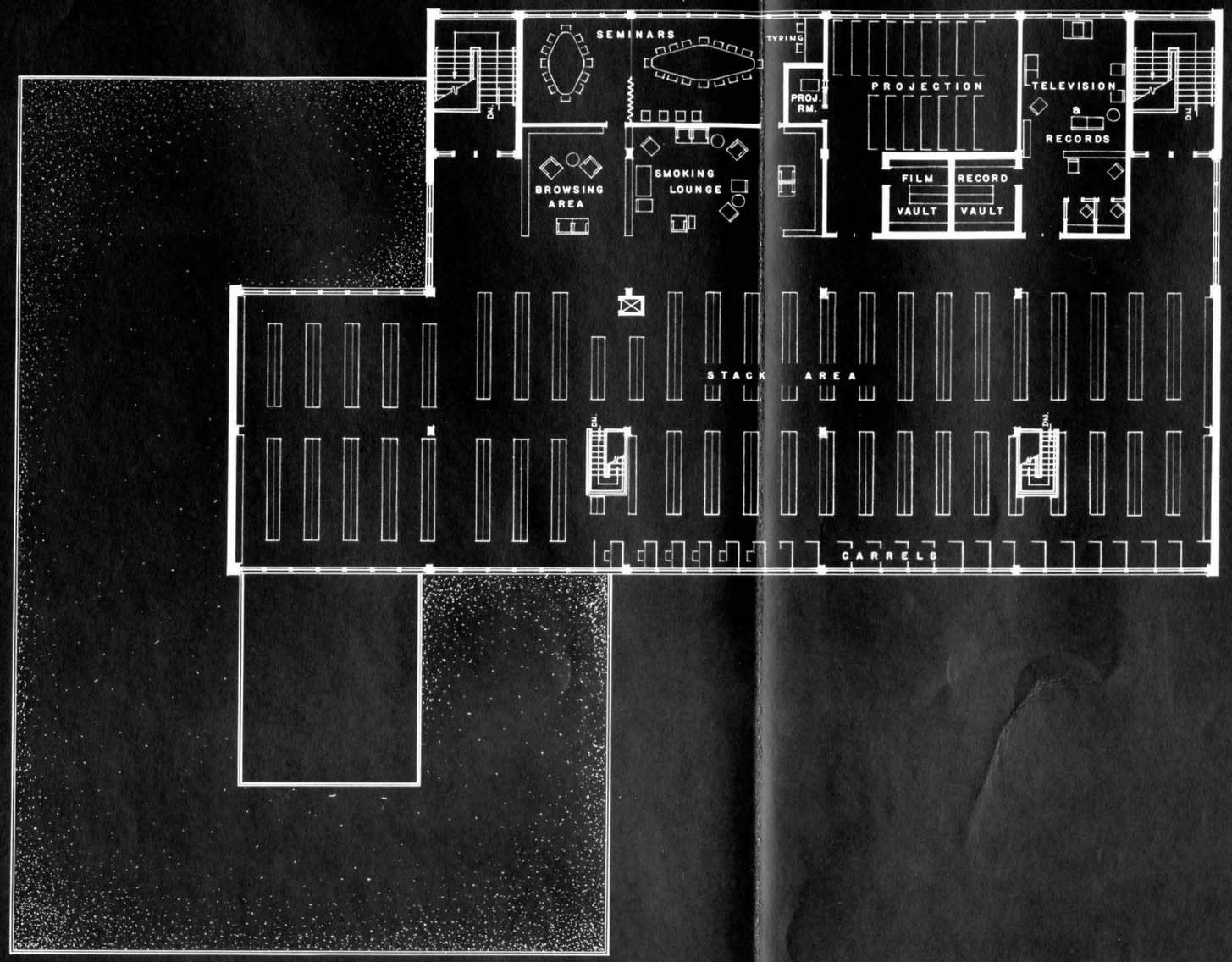
SCALE: 100 FEET

SITE DEVELOPMENT



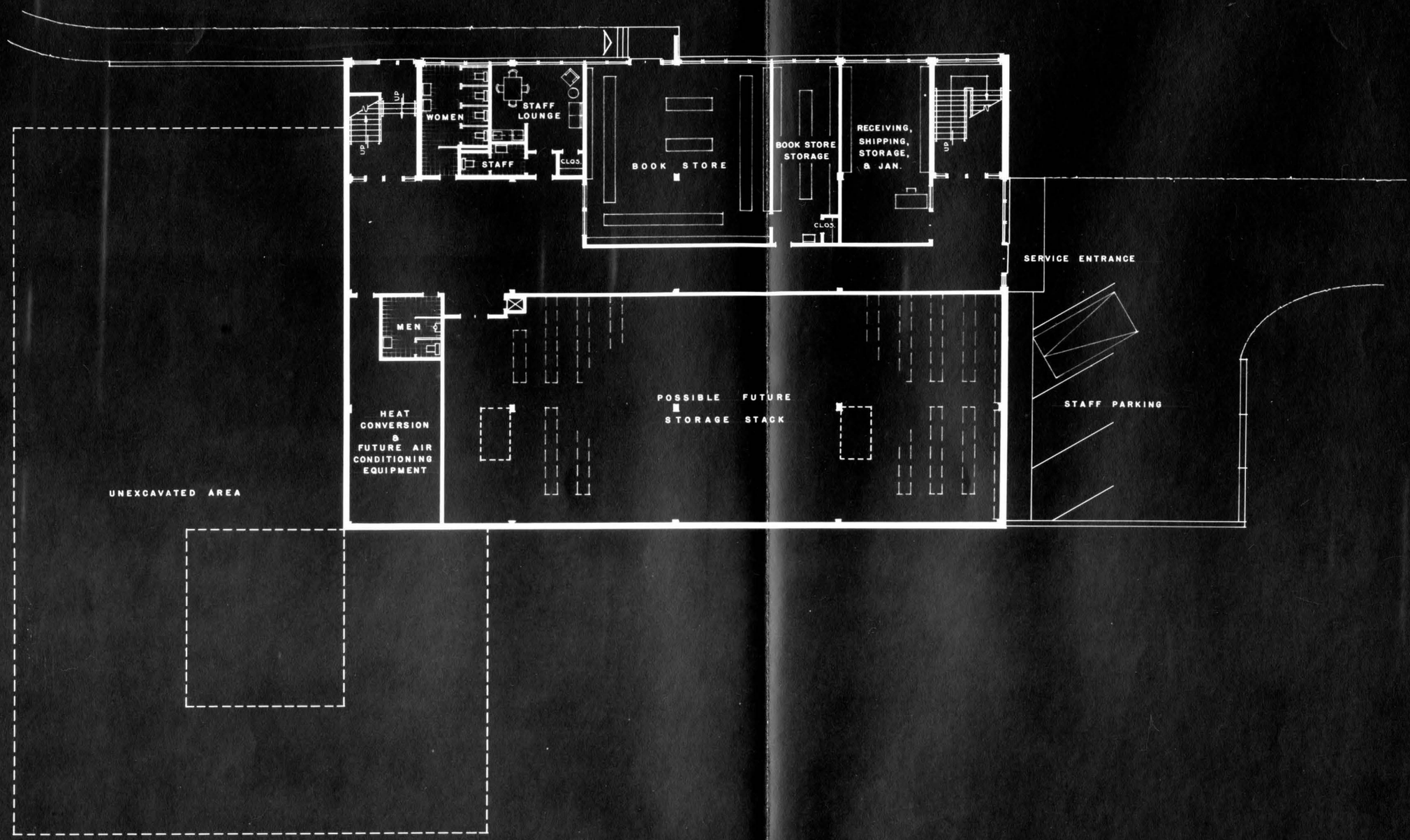
SCALE: 25 FEET

PLAN AT MAIN LEVEL



SCALE: 25 FEET

PLAN AT SECOND LEVEL



SCALE: 25 FEET

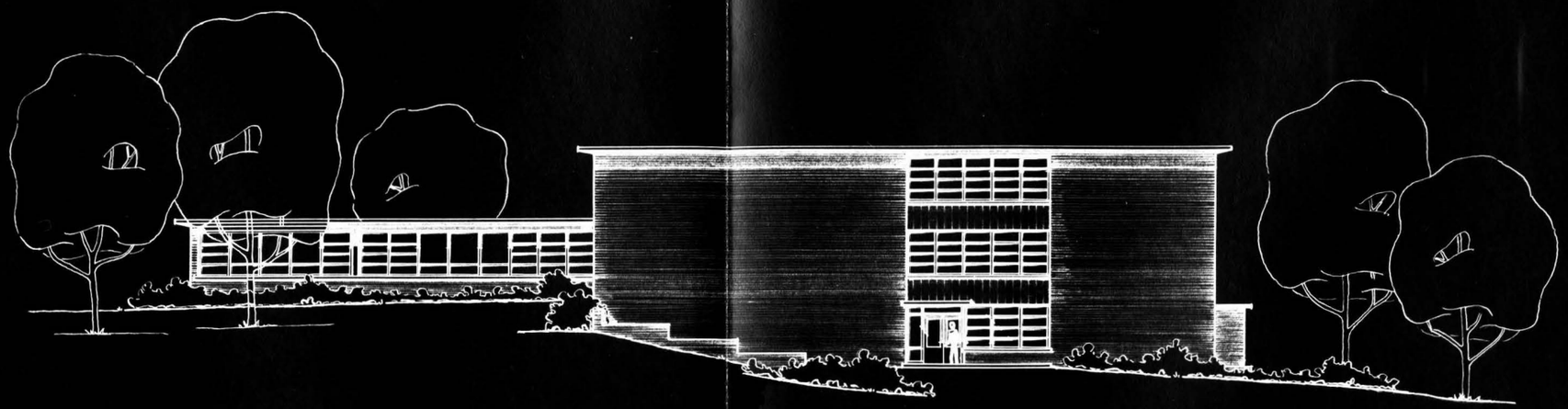
PLAN AT BASEMENT LEVEL

FROM THE SOUTHWEST

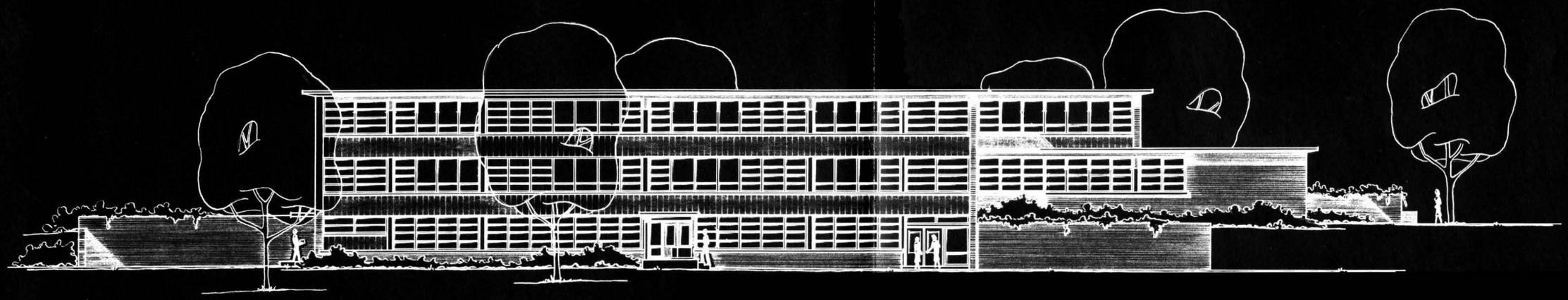
FROM THE SOUTHEAST

SCALE: 25 FEET

ELEVATIONS



FROM THE NORTHEAST



FROM THE NORTHWEST

SCALE: 25 FEET

ELEVATIONS

CONSTRUCTION NOTES:

(1) FRAME: REINFORCED CONCRETE.

(2) FLOORS: SLAB, TWO-WAY CONCRETE JOISTS WITH TILE FILLERS ("SMOOTH CEILING" SYSTEM).

(3) PARTITIONS: PREFABRICATED STEEL WITH SOUND-ABSORBING INSULATION.

(4) FIRE PARTITIONS: SOLID BRICK.

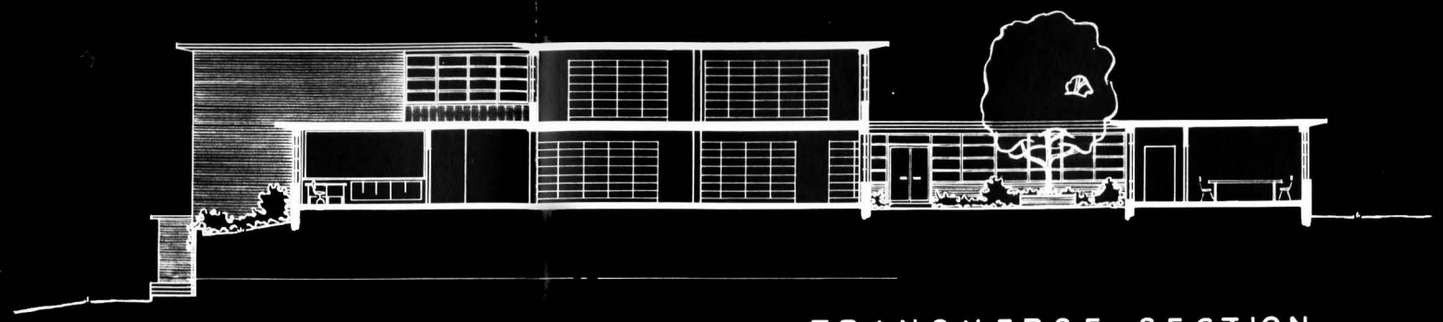
(5) CEILINGS: SOUND-ABSORBING TILE CEMENTED TO SLAB ("ECONACOUSTIC").

(6) EXTERIOR: WALLS, BRICK; CONCRETE COLUMNS EXPOSED; STANDING-SEAM COPPER SPANDREL COVERING.

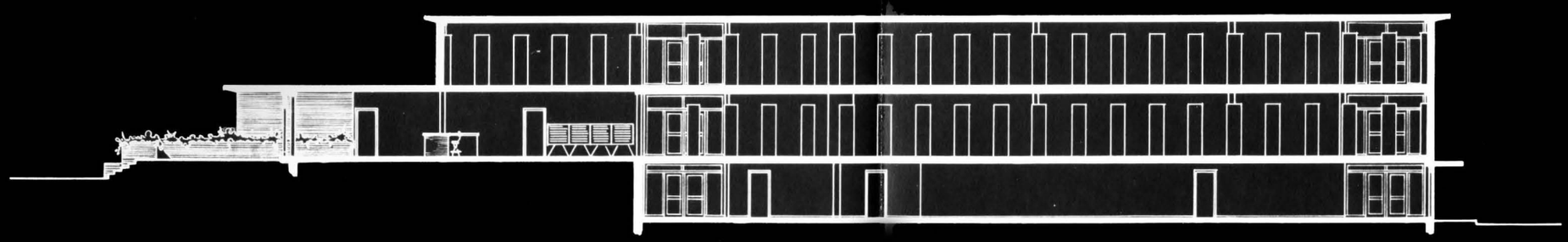
(7) WINDOWS: ALUMINUM SASH, DOUBLE-GLAZED FIXED UNITS, SINGLE-GLAZED AWNING-TYPE VENTILATORS.

(8) ROOFING: 5-PLY, 20 YEAR BOND BUILT-UP.

(9) MECHANICAL EQUIPMENT: STEAM HEAT; BOOK LIFT; FIRE ALARM SYSTEM; FLUSH LENS FLUORESCENT FIXTURES IN READING AREAS; EGGCRATE FLUORESCENT FIXTURES IN STACK AREAS; FLOOR OUTLETS.



TRANSVERSE SECTION

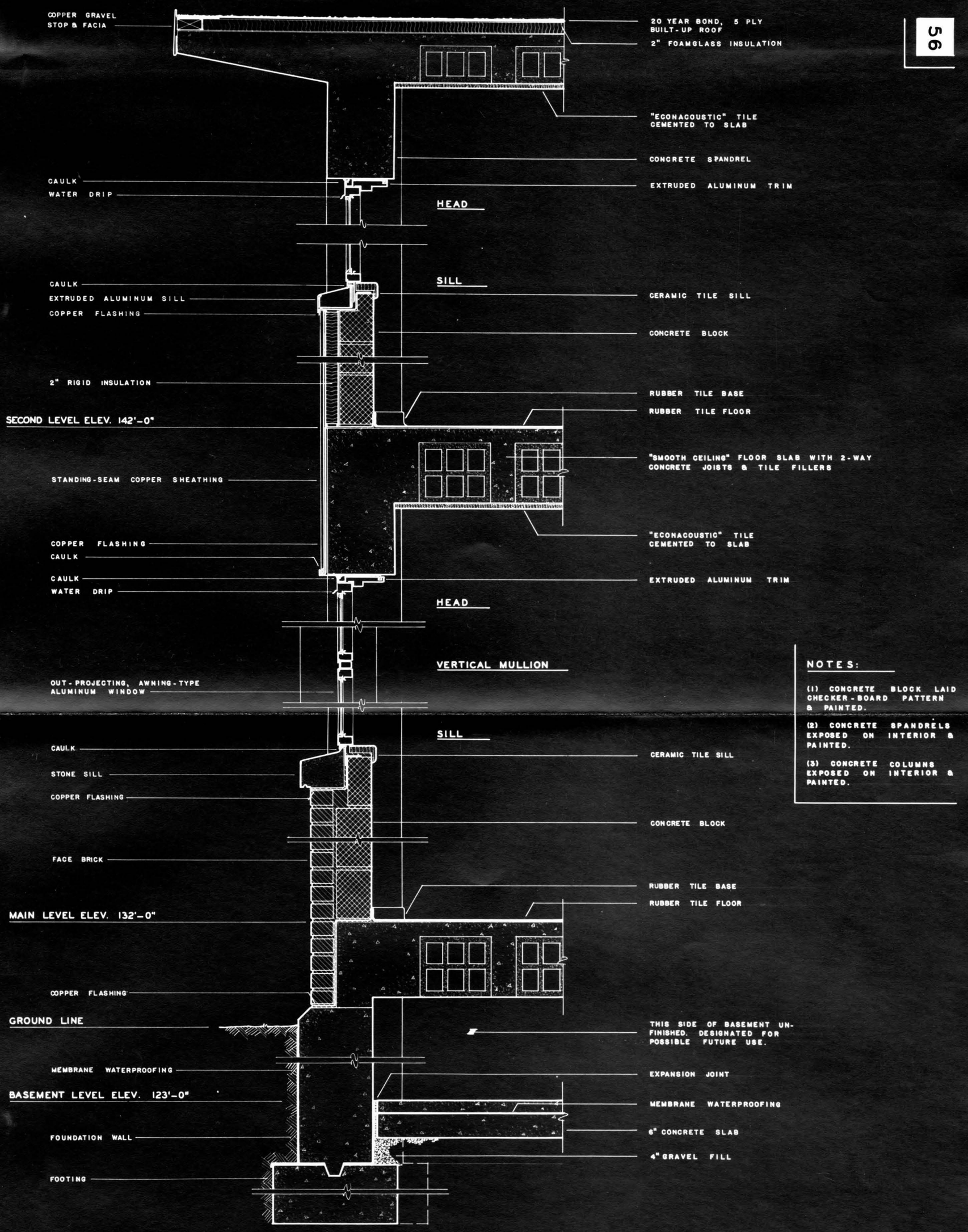


LONGITUDINAL SECTION

(NOTE: SECTION OFFSET AT BASEMENT LEVEL THRU HALLWAY & SERVICE ENTRANCE.)

SCALE: 25 FEET

ARCHITECTURAL SECTIONS



NOTES:

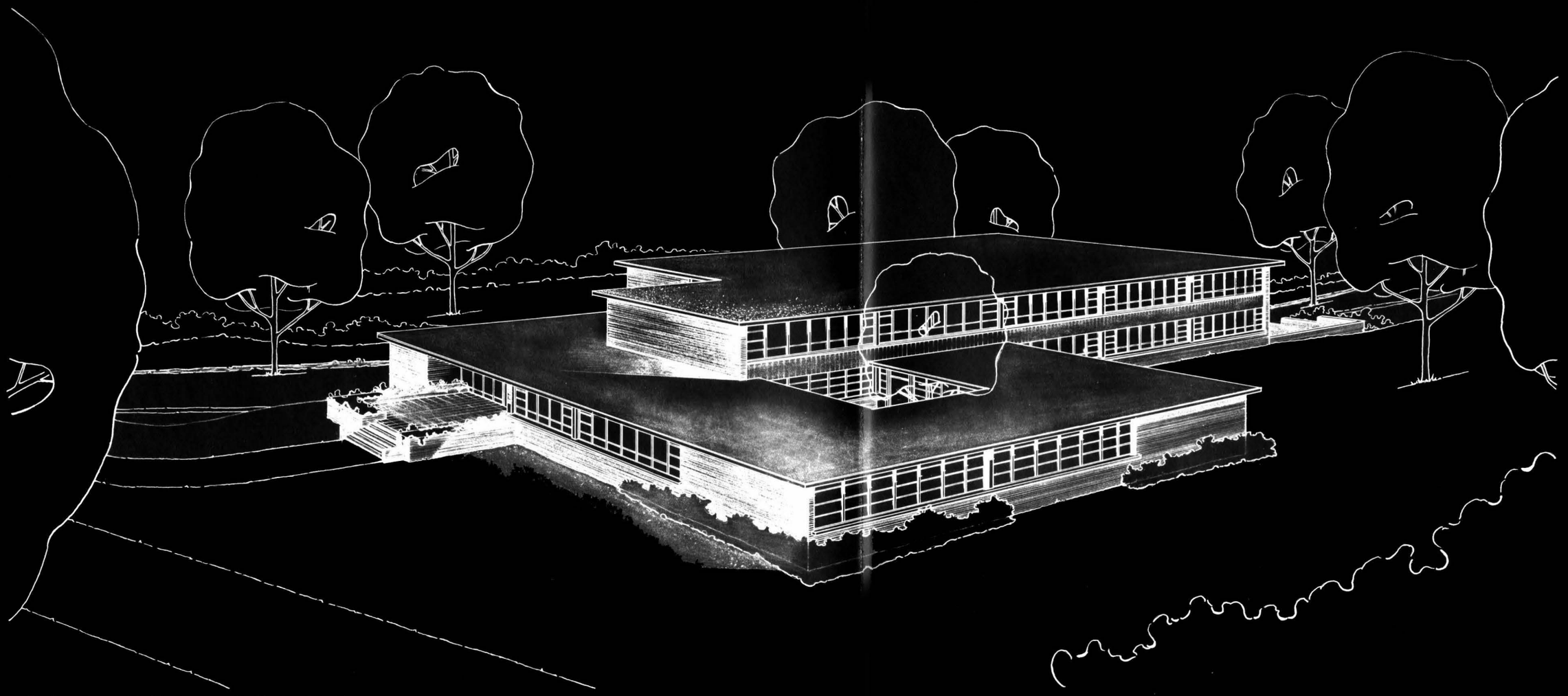
(1) CONCRETE BLOCK LAID CHECKER-BOARD PATTERN & PAINTED.

(2) CONCRETE SPANDRELS EXPOSED ON INTERIOR & PAINTED.

(3) CONCRETE COLUMNS EXPOSED ON INTERIOR & PAINTED.

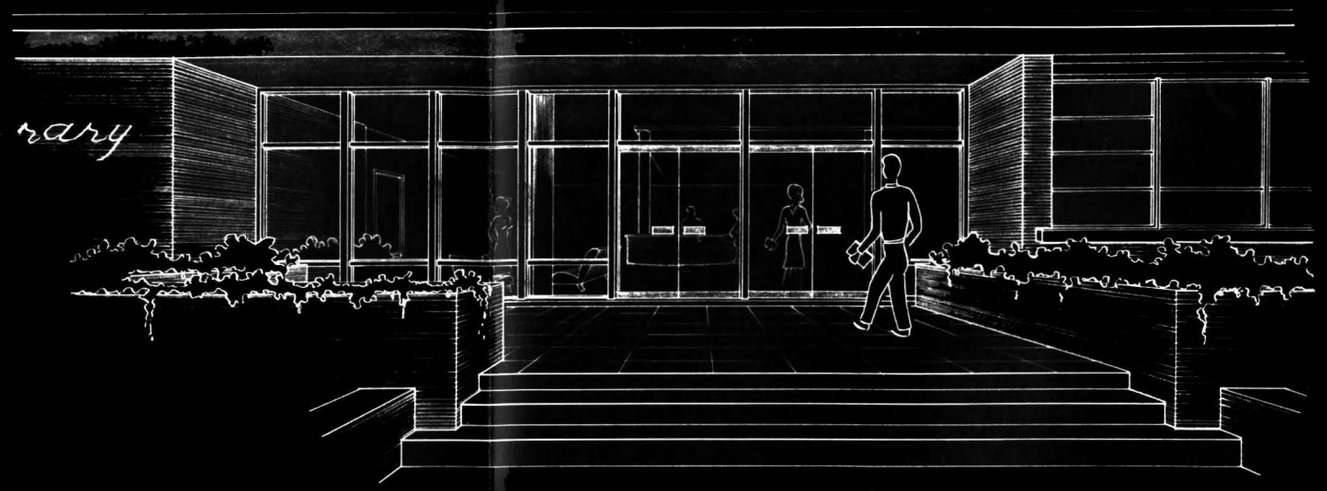
SCALE: ONE FOOT

TYPICAL WALL SECTION



FROM THE SOUTH

PERSPECTIVE



THE ENTRANCE

THE READING COURT

DESIGN PROCEDURE

DESIGN PROCEDURE

GENERAL:

The preceding drawings present the results of a planning study, based on Parts One and Two, of a library to fulfil the needs of Hollins College. A major part of the effort put forth on the scheme was concentrated upon the solution of the many intricate planning problems, with merely a complementary study of the structure and the mechanical equipment needed for the building. It is important to note that present trends in the design of modular libraries have greatly influenced the design.

In general two major aims have been the determining factors in all decisions affecting the design. Primary consideration has been given the desire for flexibility and functional efficiency in planning. Second has been the desire to provide a building which, from the outside, would appear informal yet dignified, and from the inside, would be quietly attractive and inviting to all who enter. The success of the design, in terms of service to the readers, is felt to be primarily dependent upon the flexibility and the achievement of a quiet atmosphere in the building.

The discussion in this section covers only the basic concepts and theory of the scheme; only the major decisions are presented. It is hoped that the design as presented will have constructive value in the future planning of a library for Hollins.

SITE SELECTION:

The site plan of the campus on page 49 shows the three sites compared for possible use as a library site. Several items have been considered in the selection of the general location. The first consideration was given to the relation of the academic buildings and of the dormitories. This relation is important in order that the new library efficiently serve the needs of faculty and students alike throughout the day. In addition, it is desirable that a library for Hollins be so located as to capitalize on the natural beauty of the rural setting of the college without in any way encroaching upon the charm and dignity of the existing campus. Also, the desire to use a simple modern treatment for the exterior of the building influenced the selection of the general area. All three of the sites compared were suitable in this respect because they are in the portion of the college property that promises to become the new quadrangle.

SITE "A": This site was rejected primarily because its distance from the academic buildings would make it virtually impossible for students or faculty to use the library between classes. Also, transportation of books from the library to the classroom would become rather a problem because of the distance. In addition to these reasons, the designer felt that a building on site "A" would not be able to capitalize on its surroundings. The northern exposure, which is most appropriate for large expanses of glass, looks out on the college's power plant, with only a suggestion of the beautiful hills behind it. Also, the building would be set on perhaps the lowest point of the campus, and there would be little opportunity for vista either from within or from without the building.

SITE "B": While this site is in better relationship with the academic buildings than is site "A", it is still felt to be a bit too far removed from them. But the foremost reason for its rejection as a library site was the fact that a building as large as the new library necessarily would be would definitely encroach upon the layout of the present campus. The designer feels that the present informal, winding approach to the heart of the campus should not be changed except for elimination of the present traffic bottleneck at the bridge, a point which

will be discussed below. A library on site "B" would in all probability necessitate building a new approach road because it would take up the area that is now roadway.

SITE "C": This site was selected for the new library because it satisfies all the general considerations mentioned above, and at the same time it offers several advantages over the other two. A building on this site would be in good proximity to the academic buildings of the campus--Pleasant Hall, the present library building, the theatre, and the fine art building--as well as to the dormitories and the faculty residences. The site is large enough and is set off enough that a large building could, with proper care for planting of trees and shrubs, be made to fit naturally and beautifully into its surroundings. Further, the slope of this site offers excellent opportunity for a basement level with one side completely above ground and requiring only a minimum amount of grading and filling around the rest of the building. The service entrance of the building would require a minimum of new roadway, and it, too, would be above ground level. The total of these considerations made site "C" seem the logical place in which to locate the new library building.

GENERAL TREATMENT OF CAMPUS:

It was the designer's desire to change as little of the existing campus as necessary in making the addition of so important a building as the new library. It was felt, however, that the enlargement of the bridge and the addition of a new egress route to the highway (indicated on the large site plan, page 49) would serve both to enhance the new building and to remove the traffic bottleneck that is apparent on all occasions when large crowds come to the campus. Enlargement of the drive area in front of the theatre building tends to further alleviate congestion at the entrance to the south quadrangle and to the parking area beyond the theatre.

THE MODULE:

A tentative planning module was selected on the basis of information on the modules used in recent library buildings. For the proposed library of the State University of Iowa, a module of 19'-6" by 27'-0" was selected as a medium between economy and planning efficiency.[38] The most economical planning module was found to be 13'-6" by 19'-6". The ceiling heights in this building were set at 8'-4", and all floors were designed for full

38 "University Libraries," Building Types Study 119, Architectural Record, Nov., 1946.

stack load for maximum flexibility. Because of the complete flexibility of this plan, it was used as a prototype for the basic module in the scheme presented here.

As a result of his studies of other modular libraries, the designer selected the "Iowa" module for the purpose of this thesis. It was hoped that this would offer an opportunity to approach the ideal suggested by MacDonald.[39]

STRUCTURE:

Selection of the structure for the scheme presented was made on the basis of information discussed in Part Two. With the use of the "Smooth Ceiling" system of floors,[40] the maximum amount of flexibility throughout the building was obtained because there would be no beams projecting below the ceiling to hamper free movement of partitions to any desired location. With the use of movable steel partitions, the flexibility of a loft building was obtained.

Although it was pointed out in Part Two that dry construction has proved to be most economical in modular building, it was felt that the use of concrete structure was most logical in

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39 Supra, p. 40.
40 A floor system patented by Smooth Ceiling Systems, Inc. See Sweet's Catalog, 1952, Vol. I, Sect. 3.

this scheme. The "Smooth Ceiling" system is a concrete slab system, and it was felt that very little would be saved if steel columns and spandrels were used. With concrete structure throughout, whole sections of the building would be formed and poured at the same time. If steel columns were used, there would still be the problem of fireproofing, and in all probability, concrete would be used for that since it would be on the job. The difference in size of the concrete and the steel columns is negligible, so there would be no saving of space if steel were used. Another consideration, though a minor one, was the current steel shortage. It was felt that no delay in operations would be incurred if concrete were used, whereas there might be if steel were selected.

THE PLAN:

One of the major basic assumptions that led to the development of this scheme was the desire for relatively small reading rooms of an intimate character that would not be possible had large, high-ceilinged rooms been used. The two major reading areas on the north side of the building were not walled in on the corridor side. Instead, cabinets, topped by glass screening to a height of five and one-half feet, were employed to indicate the separation between corridor and reading room. It was felt that

these cabinets afforded an open feeling to the rooms that would not have been possible had solid walls been used. At the same time, the glass screening, in combination with acoustically treated walls and ceiling, forms an effective sound barrier. The use of low ceilings in these rooms aids in achieving a feeling of intimacy.

The placement and arrangement of the reading rooms was governed by the desire to have them adjacent to the stack, where passage from one area to the other would be simple and direct. Another consideration for their placement was the designer's concept of library lighting and window treatment. That concept includes the use of large glass areas on the northern exposure. The one reading room that has east-west exposure is blanked off on the south by solid wall. The use of venetian blinds should effectively control glare during the hours of the day when it might become a problem to the east or to the west.

The first floor location of the main reading areas followed from the desire to effectuate control of entrances directly from the main desk. The two small reading areas, that is, the browsing area and the smoking lounge, on the second level are directly related to the stack.

Placement of the main circulation desk, the catalog, the processing department, and the bibliographical material was determined by the necessity for concentration of these facilities in order to minimize circulation difficulties for the staff. This area was studied carefully, since the most efficient service to the reader results from the most efficient arrangement of the working area. The scheme presented is felt to be successful in this respect.

The exhibition space was placed next to the lobby area in order to make it an interesting and stimulating part of the library building. Exhibits placed here will be seen by more students than would be likely in any other location.

The Hollins Room was placed just off the lobby to give direct access on those occasions when it is used for small literary readings or gatherings. It is felt that this room is important enough to the life of the students and faculty to warrant its prominent location.

The reading court came directly from the desire to furnish an outdoor reading area in which effective control could be realized. Another means of achieving such an area might have been the provision of a second-floor deck for reading. However, the

designer felt that the introduction of an open area within the building would add more in the way of openness to the scheme. The planting that is possible on the ground level would greatly enhance the building from the standpoint both of the people within the building and of those using the court itself.

The remainder of the building is occupied by stacks, carrels, and the smaller elements of library plan. Partitions are used as sparingly as possible in order to keep the building open in concept and in use. This is in agreement with the librarian's desire for a completely open stack. It is considered that the effectiveness of the concept in practice will depend upon the cooperation of the students.

The designation of the area on the basement level as possible future storage stack was the result of uncertainty on the designer's part as to how accurately the growth of book collections can be estimated. Although statistics compiled by Rider in 1938 showed that research libraries were doubling in size every sixteen years,[41] that figure already showed a decline by 1945. According to Miss Doerr, the Hollins collection has tripled in size over the past twenty years, but it would be unreasonable to plan for a collection that would continue at

41 Burchard and others, op. cit., p. 15.

this rate. The figure of 125,000 volumes upon which this scheme was based was Miss Doerr's estimate of the size of a carefully weeded collection that would fulfil the needs of Hollins. Stack space for this number of volumes is provided on the main level and the second level. The basement storage space was planned for a possible increase over this estimate. It is important to note that the area would have to be air conditioned before it could be used for stack because it is completely below grade level.

One other item of major importance in the planning of the building was the need for maintaining effective control of the two entrances on the basement level. These entrances were demanded by fire-safety considerations at the base of the fire stairs. These stairs may be used for floor to floor travel, but the exits must be marked for emergency use only. Alarms on the exit doors have been assumed as an effective means of preventing their use at other times.

In developing the scheme, the designer has kept in mind the possibility that it may not be financially possible to construct at one time as large a library as is needed. If such proves to be the case, it may be found desirable to have a design that can be completed in stages. For that reason, the

basement and main levels have been planned to house all of the basic facilities for the readers and the staff. The upper level is almost entirely stack space and could be omitted in the original construction.

MATERIALS:

The use of brick for the exterior of the building was felt to be necessary to obtain a reasonably close relationship with the other buildings on campus. Stack bond is recommended as an expression of the use of brick merely as curtain wall.

The use of standing-seam copper sheathing to cover the spandrels from the head of one strip of windows to the sill of those above was decided upon because of the warm tone it would add to the exterior appearance of the building. Copper is an expensive material, and less costly materials might have been selected, but the expense of this item was felt to be justified because of the architectural enhancement it lends to the building.

Aluminum windows have been used because of their long life with a minimum of maintenance. Although the cost of such windows is high, it was felt that the savings in maintenance over the long life of the building would justify their use.

Selection of interior materials was based primarily on the need for quiet and light in the library. Light-colored, sound-reducing materials were used wherever possible.

MECHANICAL EQUIPMENT: LIGHTING

The use of fluorescent lights with flush egg-crate fixtures in the stack were based on the desire for bright, well-diffused light throughout the area. Lens fixtures were selected for the reading areas because they have been shown to be least likely to produce glare on the working surface.[42] The general appearance of these fixtures is bright and attractive and is considered suitable for the desired effect throughout the building.

HEATING AND AIR CONDITIONING:

Heat for the building will be provided by the college's central power plant with only a minimum amount of heat conversion equipment to be provided in the building itself. Since large expanses of windows are used throughout the building, it is suggested that fin-type convectors be used just below the windows.

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42 Ibid, p. 91.

Air conditioning is considered not feasible for the building because of the moderate fall and spring climate. Ventilation will be achieved throughout the building by natural means. The library will not be used during the hot summer months because there is no summer school program. The amount of money required for air conditioning can be spent more effectively for equipping the library.

CONCLUSIONS

CONCLUSIONS

As a result of the work presented in this thesis, important factors in the design of a new library for Hollins can be noted. As stated in the original program, the primary criteria for the design of the building must be service to the readers. Of first importance in effectuating this aim is the careful study of the functional relationships of the various technical library operations. This must be kept in mind to provide for the efficient function of the staff; hence, the maximum service to the reader. However, the continuance of that service requires that the building be designed for maximum flexibility in order to meet the changing needs of an expanding college.

The flexibility of the library will depend largely upon the integration of structure, mechanical equipment, and materials used. This is largely an engineering problem, involving considerations of economy. A successful library for Hollins can result only from the coordination of the recommendations of specialists in these fields with the requirements of the planning and the design of the building. Successful coordination of all the elements mentioned herein will result in an efficient, quiet, and pleasant "laboratory" for the use of an expanded book collection by the students and faculty of Hollins College.

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VITA

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