P R O G R A M

D E S I G N A N A L Y S I S

R E C O M M E N D A T I O N S

O U T L I N E S P E C I F I C A T I O N S

GEORGE MASON COLLEGE

Of The

University of Virginia

Fairfax, Virginia

SAUNDERS & PEARSON, ARCHITECTS
Alexandria, Virginia

Anderson, Beckwith & Haible, Consulting Architects
Boston, Massachusetts

Holland Engineering, Consulting Site Engineers
Alexandria, Virginia

Paul L. Geiringer & Associates, Consulting Mechanical Engineers
Arlington, Virginia

Fortune Engineering Associates, Consulting Structural Engineers
Alexandria, Virginia

October 26, 1960
Rev. December 30, 1960
Rev. August 1, 1961

C O N T E N T S

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PROGRAM

The following program, revised August 8, 1960, is that furnished by The University. This program has been met with minor modifications agreed to by the University and the Architect:

BUILDING PROGRAM IN GROSS SQUARE FEET PER STAGE

	Stage I	Stage II	Stage III	Total I, II, III
Administration	7,677	0	0	7,677
Academic	19,769	3,538 (10,461 converted from Stage I Library)	14,155	37,462
Library	10,461	32,563	33,750	76,774 (Stage I Library converted to Acad. use)
Science	36,308	5,461	20,369	61,907
Physical Education	1,700	59,186	16,950	77,836
Union	0	23,560	24,050	47,610
Maintenance	0	12,325	0	12,325
Temporary Lounge and Kitchen Facilities	3,846	0	0	3,846
Totals	79,761	136,633 (plus 10,461 converted)	109,274	325,437

REVISED STAGE I PROGRAM
August 8th, 1960
Part 1

NOTE: Asterisks (*) indicate spaces to be air conditioned initially or provision made for future air conditioning.

A. ADMINISTRATION SPACE:		Square Feet
1. General Lobby		250*
2. a) Director's Reception and Secretary		200*
b) Inner Office		200*
3. a) Dean's Reception and Secretary		200*
b) Inner Office		200*
4. a) Assistant Dean's Reception and Secretary		200*
b) Inner Office		200*
5. Executive Conference Room for 30 Persons		850*
6. a) Business and Registrar's Reception and Secretaries		900*
b) Inner Office - Registrar		120*
c) Inner Office - Business Manager		120*
7. a) Adviser to Men Students' Reception and Secretary		150*
b) Inner Office		100*
8. Rest Area - Men		75*
9. Rest Area - Women		75*
10. Toilet		15*
11. Office Supply Room		185
12. Office Machine, Records and Files Room		400
13. Storage Room for Records and Files		400
14. a) Maintenance and Building Director's reception and Secretary (located in basement-150 sq.ft. total)		75*(taken at 1/2)
b) Inner Office (located in basement-150 sq.ft. total)		75*(taken at 1/2)
Net Total	(65%)	4,990
Circulation, toilets, Walls, Service, etc.	(35%)	2,687
Gross Total	(100%)	7,677

B. ACADEMIC SPACE:		Square Feet
1. Lecture Room with platform (capacity 250 stadium seating)		3,000*
2. Lecture Room - (capacity 100)		1,600*
3. Lecture Room - (capacity 100)		1,600*
4. Lecture Room - (capacity 50)		1,000*
5. Lecture Room - (capacity 50)		1,000*
6. Classroom - (capacity 32)		800*
7. Classroom - (capacity 32)		800*
8. Language Laboratory - (capacity 40)		1,000*
9. a) English Chairman's Office		150*
b) Instructor's Office		100*
c) Instructor's Office		100*
d) Instructor's Office		100*
10. a) Math. Chairman's Office		150*
b) Instructor's Office		100*
c) Instructor's Office		100*
11. a) Language Chairman's Office		150*
b) Instructor's Office		100*
c) Instructor's Office		100*
d) Instructor's Office		100*
12. a) Humanities Chairman's Office		150*
b) Instructor's Office		100*
13. a) Social Sciences Chairman's Office		150*
b) Instructor's Office		100*
14. Secretarial Pool		300*
Net Total	(65%)	12,850
Circulation, Toilets, Walls, Service, etc.	(35%)	6,919
Gross Total	(100%)	19,769

C. LIBRARY SPACE: Square Feet

The space used for the Library at this stage will be converted to Academic use at Stage II. The space allocation for the Stage II development will be:

Lecture Room - (capacity 100)		1,600*
Lecture Room - (capacity 100)		1,600*
Lecture Room - (capacity 50)		1,000*
Lecture Room - (capacity 50)		1,000*
Lecture Room - (capacity 50)		1,000*
Faculty Office		100*
Faculty Office		100*
Faculty Office		100*
Faculty Office		100*
Faculty Office		100*
Faculty Office		100*
Stage II - Academic - Net Total	(65%)	6,800
Circulation, Toilets, Wall, Service, etc.	(35%)	3,661
Stage II - Academic - Gross Total	(100%)	10,461

As a temporary measure this space will be adapted so as to provide the following Library space for Stage I:

1. Reading Areas: 7,000*
   a) History Reading Area
   b) General and Literature Reading Area
   c) Social Sciences Reading Area
   d) Science and Technology Reading Area
   e) Reference Area
   f) Periodical and Newspaper Reading Area to be separated from one another by bookstacks.

The areas together should have a capacity of 200 readers and 30,000 volumes. Using a standard of 25 sq.ft. per reader and 15 volumes per sq.ft., the area of the reading and stack space will total 7,000 sq.ft. (5,000 sq.ft. plus 2,000 sq.ft.).

LIBRARY SPACE (cont'd)			Square Feet
2.	Lobby, Circulation Desk Area and Catalogs		400*
3.	Office with Working Library with Science and Bibliography Collections		200*
4.	Work Room		350*
5.	Supply Room		100
6.	Typing Room (located in basement - 100 sq.ft. total)		50*(taken at 1/2)
7.	Audio-visual Equipment Room (located in basement-150 sq.ft. total)		75*(taken at 1/2)
8.	Book Store (located in basement-100 sq.ft. total)		50*(taken at 1/2)
	Net Total	(80%)	8,225
	Circulation, Toilets, Walls, Service, etc.	(20%)	2,056
	Gross Total	(100%)	10,281

D. SCIENCE SPACE:	Square Feet
1. Classroom - (capacity 64)	1,600*
2. Classroom - (capacity 32)	800*
3. Classroom - (capacity 32)	800*
4. Chairman's Reception and Secretary	150*
a) Inner Office	150*
5. Instructor's Office	100*
6. Instructor's Office	100*
7. Instructor's Office	100*
8. Instructor's Office	100*
9. Instructor's Office (may be postponed to a later stage for budgetary reasons)	100*
10. Instructor's Office (may be postponed to a later stage for budgetary reasons)	100*
11. Instructor's Office (may be postponed to a later stage for budgetary reasons)	100*
12. Instructor's Office (may be postponed to a later stage for budgetary reasons)	100*
13. a) Chemistry or Biology Laboratory - (capacity 32)	1,200
b) Storage Room	400
c) Preparation Room	400
d) Chemistry or Biology Laboratory - (capacity 32)	1,200
14. a) Chemistry or Biology Laboratory - (capacity 32)	1,200
b) Storage Room	400
c) Preparation Room	400
d) Chemistry or Biology Laboratory - (capacity 32)	1,200
15. a) Chemistry or Biology Laboratory - (capacity 32)	1,200
b) Storage Room	400
c) Preparation Room	400
d) Chemistry or Biology Laboratory - (capacity 32)	1,200

SCIENCE SPACE (cont'd)		Square Feet
16. a)	Chemistry or Biology Laboratory - (capacity 32)	1,200
b)	Storage Room	400
c)	Preparation Room	400
d)	Chemistry or Biology Laboratory - (capacity 32)	1,200
17. a)	Physics and General Science Laboratory - (capacity 32)	1,200
b)	Storage Room	400
c)	Preparation Room	400
d)	Physics and General Science Laboratory - (capacity 32)	1,200
18. a)	Drawing Laboratory - (capacity 32)	1,200*
b)	Connecting Office	150*
19.	Balance Room	300*
20. a)	General Storeroom Receiving, etc. with freight elevator or dumbwaiter to 100 sq.ft. storeroom on each floor (not included in square footage)	800
b)	Adjoining Office, Storeroom Manager	150*
21.	Science Work Shop	400*
22.	Greenhouse	300
	Net total (65%)	23,600
	Circulation, Toilets, Walls, Service,etc. (35%)	12,708
	Gross Total (100%)	36,308

E. TEMPORARY PHYSICAL EDUCATION SPACE		Square Feet
1. a) Men's Locker Room and Dressing Area (200 lockers) (located in basement - 600 sq.ft. total)		300 (taken at 1/2
b) Shower and Drying Rooms (located in basement - 260 sq.ft. total)		130 (taken at 1/2
2. a) Women's Locker Room and Dressing Area (200 lockers) (located in basement - 680 sq.ft. total)		340 (taken at 1/2
b) Shower and Drying Rooms (located in basement - 260 sq.ft. total)		130 (taken at 1/2
3. Equipment Storage Room (located in basement - 410 sq.ft. total)		205 (taken at 1/2
Net Total	(65%)	1,105
Circulation, Toilets, Walls, Service, etc.	(35%)	595
Gross Total	(100%)	1,700

F. TEMPORARY LOUNGE AND KITCHEN FACILITIES:		
1. Lounge and Kitchen (located in basement - 5,000 sq.ft. total)		2,500 (taken at 1/2
Net Total	(65%)	2,500
Circulation, Toilets, Walls, Service, etc.	(35%)	1,346
Gross Total	(100%)	3,846

GEORGE MASON COLLEGE

Revised Program for Stages II and III

August 8, 1960

Note that air conditioned spaces are not indicated

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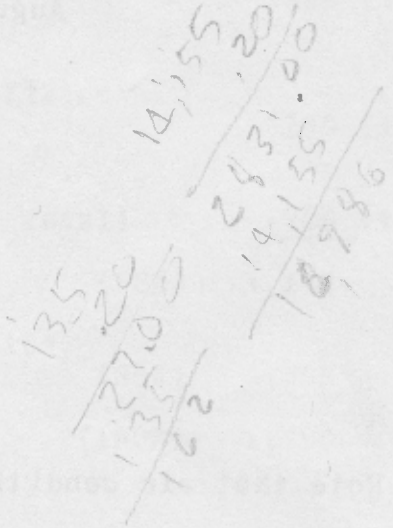
ADMINISTRATION SPACE:

STAGE II
No new construction

STAGE III
No new construction



ACADEMIC SPACE: Square Feet

STAGE II
10,461 sq.ft. converted to Academic use from Stage I Library.

Lecture Room with platform - (capacity 200)(stadium seating)		2,300
Net Total	(65%)	2,300
Circulation, Toilets, Walls, Service, etc.	(35%)	1,238
Gross Total	(100%)	3,538

Stage III

Lecture Room - (capacity 100)	1,600
Lecture Room - (capacity 100)	1,600
Lecture Room - (capacity 50)	1,000
Lecture Room - (capacity 50)	1,000
Seminar Room - (capacity 25)	750
Seminar Room - (capacity 25)	750
Seminar Room - (capacity 25)	750
Seminar Room - (capacity 25)	750
Instructor's Office	100
Instructor's Office	100
Instructor's Office	100
Instructor's Office	100
Instructor's Office	100
Instructor's Office	100
Instructor's Office	100
Instructor's Office	100
Instructor's Office	100
Instructor's Office	100
Instructor's Office	100
Net Total (65%)	9,200
Circulation, Toilets, Walls, Service, etc. (35%)	4,955
Gross Total (100%)	14,155

LIBRARY SPACE:		Square Feet
STAGE II		
100,000 Volume Stack Area @ 15 vol./sq.ft.		6,666
Reading Space - (capacity 500)		12,500
Librarian Space, Offices, Control Counter, etc.		2,000
Net Total	(65%)	21,166
Circulation, Toilets, Walls, Service, etc.	(35%)	11,397
Gross Total	(100%)	32,563
STAGE III		
100,000 Volume Stack Area @ 15 vol./sq.ft.		6,667
Reading Space - (capacity 700)		17,500
Visual Aids, Offices, etc.		2,833
Net Total	(80%)	27,000
Circulation, Toilets, Walls, Service, etc.	(20%)	6,750
Gross Total	(100%)	33,750

SCIENCE SPACE:		Square Feet
STAGE II		
Lecture Demonstration Auditorium - (capacity 200) (stadium seating)		2,300
Adjoining Preparation Room - Biology		150
Adjoining Preparation Room - Chemistry		150
Adjoining Preparation Room - Physics		150
Classroom - (capacity 32)		800
Net Total	(65%)	3,550
Circulation, Toilets, Walls, Service, etc.	(35%)	1,911
Gross Total	(100%)	5,461
STAGE III		
Lecture-Demonstration Room - (capacity 200)		2,300
Adjoining Preparation Room		150
Adjoining Preparation Room		150
Lecture-Demonstration Room - (capacity 100)		1,600
Adjoining Preparation Room		200
Lecture-Demonstration Room - (capacity 100)		1,600
Adjoining Preparation Room		200
Laboratory - (capacity 32)		1,200
Laboratory - (capacity 32)		1,200
Laboratory - (capacity 32)		1,200
Laboratory - (capacity 32)		1,200
Storage Room		600
Storage Room		600
Executive Office		150
Reception and Secretary		150
Inner Office		120
Inner Office		120
Instructor's Office		100
Instructor's Office		100
Instructor's Office		100
Instructor's Office		100
Instructor's Office		100
Instructor's Office		100
Net Total	(65%)	13,240
Circulation, Toilets, Walls, Service, etc.	(35%)	7,129
Gross Total	(100%)	20,369

PHYSICAL EDUCATION SPACE:		Square Feet
STAGE II		
Men's Locker Room and Dressing Area (800 lockers)		2,400
Shower and Drying Rooms		390
Women's Locker Room and Dressing Area (800 lockers)		2,720
Shower and Drying Rooms		390
Cage w/2000 Spectators		36,000
Office Space		700
Equipment Storage Space		1,790
Net Total	(75%)	44,390
Circulation, Toilets, Walls, Service, etc.	(25%)	14,796
Gross Total	(100%)	59,186
STAGE III		
Equipment Storage		1,500
Team Lockers		3,000
Indoor Pool 100' x 65'		6,500
Net Total	(65%)	11,000
Circulation, Toilets, Walls, Service, etc.	(35%)	5,950
Gross Total	(100%)	16,950

CAMPUS UNION SPACE:		Square Feet
STAGE II		
Faculty Lounge		600
Lunch Room to serve 500 at one time		9,000
Kitchen		2,700
Student Lounge		3,000
Net Total	(65%)	15,300
Circulation, Toilets, Walls, Service, etc.	(35%)	8,260
Gross Total	(100%)	23,560
STAGE III		
Student Lounge		3,000
Faculty Lounge		600
Lunch Room to serve 500 at one time		9,000
Kitchen		3,000
Net Total	(65%)	15,600
Circulation, Toilets, Walls, Service, etc.	(35%)	8,450
Gross Total	(100%)	24,050

MAINTENANCE SPACE:			Square Feet
STAGE II			
Shops	Approximately		3,500
Truck Storage	Approximately		1,500
Equipment Storage	Approximately		3,000
Net Total		(65%)	8,000
Circulation, Toilets, Walls, Service, etc.		(35%)	4,325
Gross Total		(100%)	12,325

It is anticipated that the indicated auditorium of approximately 20,000 square feet would be needed.

A chapel might also be erected at this stage.

Site Development:

Extensive study of the site, survey and geological data pertaining thereto, in consultation with Anderson, Beckwith and Haible and Holland Engineering, has resulted in the arrangement shown by the Master Site Plan.

The Town of Fairfax has recently built a new Principal street, named University Drive, through town terminating at a point on the north boundary of the site as indicated and, upon the start of construction of this project, they plan to extend this new street along the north line of the site to Chain Bridge Road (Route 123).

After study and consultation with Town, County and State officials, and after consideration of the direction from which a large, if not the largest percentage of enrollment would come, it became clearly evident that the main approach to the site is via this new University Drive. The future widening of Chain Bridge Road and development of other traffic ways south and west of the College will demand a second approach to the site from Chain Bridge Road. The road pattern is thus arranged for accomplishment of this second approach road at the Stage II development of the College.

Together with the approach roads, the principal site circulation is by means of a loop road in order to serve the various elements around the ultimate building complex independently, allowing room for expansion beyond that forseen at this time. This loop connects all parking, and service roads connect the service areas as indicated.

Facilities for activities involving participation by the public have

been arranged to afford maximum access by such public without having to cross the circulation of Campus activity.

The buildings are so dispersed as to assign the main branches of the curricula by buildings, so composed and related to each other as to facilitate proper instructional activity in the most favorable environment possible. Maximum attempt has been made to create a complex which affords pleasant courts and gardens, and interesting vistas and mass compositions from a maximum number of positions in and around the grounds and various courts.

A minimal amount of landscape planting is contemplated in the Stage I program for economy reasons. However, it is expected that only a minimal amount of grading will be done in Stage I allowing for a maximum amount of the natural growth on the site to remain until such time as further development takes place.

The bulk of the car parking (500 in Stage I, 3000 ultimately) has been arranged to the east and northeast portions of the site where the terrain slopes off to the east. These slopes provide opportunity to semi-hide the parked cars from the buildings. Such hiding is further advanced by means of leaving some of the natural growth, supplemented by new materials to be planted in the areas where grading would destroy natural growth.

The building complex arrangement and orientation has come about as a result of studies involving several intertwined considerations. These sought to achieve reasonable and logical use of land, and maximum economy in site grading and utility lines, and at the same time to accomplish the maximum in variety, interest and beauty from the total

composition of buildings and grounds.

Building Design:

As in all building design, the exterior form of these proposed buildings generates from and is a direct reflection of the simple concrete structural framing system proposed, and a direct reflection of the plans and the function of the various rooms. Effort has also been made to reflect the materials and scale that Thomas Jefferson employed in the University buildings at Charlottesville. Further, since the design expression made in Stage I will establish that for the entire development in the years to come, considerable study has been made and care taken to create a design with College character, one with the same kind of freshness, straight forwardness and honesty of purpose as found in the Jeffersonian works at Charlottesville, yet one of simplicity, permanence and economy.

The materials then are brick with white or off-white trim of white vinyl coated smooth concrete, enameled steel windows and masonry panels. These materials are inexpensive, yet relatively maintenance free.

Preliminary structural investigations of structural framing systems indicate that concrete construction with concrete plate slabs will be the most economical and logical method of building. This frame would then be enclosed with brick and the panel-window assembly indicated above.

Sloping roofs have been employed in order to provide attic spaces for housing the various pieces of unsightly mechanical equipment. And what with the extremely hot and humid summer climate of the Washington

area, these roofs have been raised approximately 18" above the cap slabs as indicated to effect an umbrella-like arrangement for circulating natural breezes under them through screened louvers or grilles. Exhaust and intake ducts would also terminate through portions of these louvered or grilled attic enclosures.

Mechanical Design:

Preliminary mechanical studies by engineering consultants, Paul L. Geiringer & Associates, engaged for the purpose, have led to the provision for a year-round airconditioning and controlled humidity system, as the hot, humid summer weather of the Washington area makes cooling during this period a "must" in order for this institution to compete with other colleges of the area which are now so airconditioned.

Preliminary electrical studies in consultation with the power and telephone companies have led to the provision for high voltage underground electric service from Chain Bridge Road and underground telephone service from University Drive. Distribution within the building complex will be underground also.

See detailed engineering report following the Outline Specifications hereinafter for the details of studies and recommendations by the consulting mechanical engineers.

Site:

(1) That test borings, soil percolation and ground water temperature tests be authorized as soon as possible in order that detailed structural and mechanical investigations, necessary to proper development of these facets of the project, can be advanced.

(2) That, in view of the fact that the topographic survey prepared by the Virginia Department of Highways is based upon aerial interpolative methods and may therefore contain inaccuracies, a field check be made, and if found necessary, a complete topographic survey based upon field instrumentation be authorized as soon as possible.

(3) That, in view of the favorable one cent ($0.01) per KW electric power rate available to the State which makes electricity competitive with coal and gas, heating be accomplished by means of a heat pump system and that in view of the hot, humid summer climate of the Washington metropolitan area, the cooling cycle of the heat pump unit be employed, all in accordance with the mechanical engineering recommendations by Paul L. Geiringer & Associates bound hereinafter.

Note: All three of the above recommendations were approved by the State and have been or are being performed.

Excavation, Grading: Per contour plan to extent necessary for Stage I only.

Footings, Foundations: Reinforced concrete per ACI, CRSI standards; as determined by structural engineering and design.

Exterior Walls: Face brick masonry with white vinyl coated concrete columns, other trim; masonry spandrel panels.

Floor, Stair Construction: Ground floor slabs of Concrete on membrane, on gravel capillary bed; upper floors of reinforced concrete per ACI, CRSI standards; as determined by strucutural engineering studies and design.

Roof Construction: Combustible frame and deck with slater's felt and slate shingles. (Alternate for concrete shingles) (Alternate for incombustible frame and deck).

Partitions: Masonry non-bearing, exposed and painted or plastered in various locations as required by detailed requirements to be determined later.

Floors: Resilient tile on concrete throughout except in corridors, stairs, toilets, locker rooms, special areas to be determined from detailed requirements. Terrazzo in corridors and stairs, terrazzo and/or quarry tile in toilets.

Windows: Factory enameled steel sash with neoprene gasketed ventilating sections.

Clear glass all openings except in special locations which would require special glass.

Utilities: Storm and sanitary lines and structures per Fairfax County and State codes. Water service per water company, Code requirements; main sized for ultimate development; hydrants as required by County, State and insurance regulations. Electric and telephone service per power company, telephone company and Code requirements, regulations.

Plumbing: Per State, County Codes, best engineering practice, per engineering report bound herewith.

Heating, Ventilating, Air Conditioning: Heat pump system, supplying year-round humidity controlled air heating (and cooling for certain areas), supplemented as and when necessary with convected heating under windows. Mechanical ventilation as required to meet detailed requirements in various spaces. All per engineering report bound herewith.

Electrical: Per National Electric Code; per engineering report bound herewith. Alternate bid for inclusion of conduit for future paging system.

Roads & Walks: Medium duty standard highway specification bituminous pavements with gravel shoulders for all roads and parking areas shaded in yellow on site plan. (Alternate for adding concrete curbs and gutters). Scored concrete with brick insert pattern as indicated for all walks throughout.