

TEXAS TECHNOLOGICAL COLLEGE
Lubbock, Texas

MINUTES OF THE CAMPUS PLANNING COMMITTEE

Meeting No. 259

November 9, 1965

A meeting of the Campus Planning Committee was held at 1:30 p.m. on November 9, 1965, in Room 120 of the Administration Building. Members present were Mr. E. J. Urbanovsky, Mr. Nolan E. Barrick and Chairman M. L. Pennington. In addition, Miss Evelyn Clewell, Mr. John G. Taylor and Mr. O. R. Downing were present.

3109. Approval of Minutes

On motion by Mr. Barrick, seconded by Mr. Urbanovsky, the Minutes of Meetings Nos. 251, 252, 253, 254, 255, 256, 257 and 258 were approved.

3110. President's Approval of Minutes

President Goodwin approved the Minutes of Meetings Nos. 251 and 252 on October 7, 1965; 253 and 254 on October 11, 1965; 255 on October 12, 1965; and 256, 257 and 258 on October 21, 1965.

3111. Amendment One

Amendment 1 was successfully passed on November 2, 1965, and it is necessary to implement the building program as rapidly as feasible.

The program is to be developed in order to realize as much matching funds under the Higher Education Facilities Act as possible, and it will affect the timing of the projects.

From the remnants of the present 5¢ tax, \$1,500,000 is on hand for the Foreign Languages-Mathematics Building and the Chemical Research Building. The funds can be used to start other projects until bonds can be issued under the 10¢ tax. There would seem to be no reason that bonds could not be issued by the end of the winter and long before the funds will be needed for the two projects.

3112. Agricultural Facilities (CPC No. 93-64)

Horse Facilities

It was agreed that the plans worked out by Dr. Ellis and Miss Kirkwood are adequate. The site in general has been selected.

It was thought that the project could qualify as a teaching facility for matching funds.

Mr. Barrick agreed to rough out the plans and make a cost estimate. Mr. Downing agreed to erect the facilities with his staff.

3113. Athletic Department

Dr. Davis, Chairman of the Athletic Council, has stated that the Council would like to take a look at the feasibility of a field house in the near future, as there are some acute needs for additional dressing spaces, covered practice areas, etc.

(Dr. Earl Camp, Dr. Lyle C. Kuhnley and Mr. Bill Felty entered the meeting at 2:30 p.m.)

3114. Biology Building (CPC No. 99-65) (Pierce & Pierce)

A. Need for Additional Facilities

The committee presented "Justification of Need for Additional Facilities for the Department of Biology, Texas Technological College," which is attached to and made a part of the Minutes. (Attachment No. 586, page 1805)

It was agreed that the CPC members would study the report and that a special meeting would be held at 2 p.m. on November 10, 1965, in Room 120 of the Administration Building.

The Biology Faculty Committee was commended for the presentation and the tremendous amount of work which had been done in a very short time.

The study is based on the needs of the Biology Department for ten years, and the estimated number of net square feet needed is 190,588. Adding the necessary nonassignable space, the project as presented would probably require over 300,000 square feet.

It was thought that it may be necessary to secure priority of space showing that most critical, less critical and that which could be added later.

The discussion is to be continued on November 10, 1965.

(Dr. Camp, Dr. Kuhnley and Mr. Felty left the meeting at 3:40 p.m.)

Originally the Campus Planning Committee had suggested three members from the Biology Department and two from other areas of the campus. Dr. Kennedy checked with Dean Thomas, and it is the deans' recommendation that Dr. Thadis W. Box and Dr. Joseph L. Schuster be added to the committee. It was agreed to request the gentlemen to serve.

The CPC had felt that it would be well to have an off-campus member of the committee. However, it looks as if it will be necessary to forget it for the time being, and one can be added later if an appropriate individual can be found.

B. Architect's Contract

Mr. Barrick was requested to prepare a draft of the proposed contract.

C. Meeting

A copy of the report of the meeting held October 16, 1965, is attached to and made a part of the Minutes. (Attachment No. 587, page 1806)

3115. Business Administration Building (CPC No. 98-65)
(Page, Southerland & Page)

(Mr. Haskell Taylor and Miss Jerry Kirkwood entered the meeting at 2 p.m.)

A. Meeting with Architects

A meeting was held with Mr. Louis Page and Mr. Louis Southerland, representing the project architects, the Faculty Committee and the Campus Planning Committee on October 19, 1965. The same general information was covered as that in the meeting with the architects on the Biology Building. The architects asked that information be provided to show what the building should accomplish, the number of classrooms and the sizes, auditoriums, equipment, etc.

3115. Business Administration Building (CPC No. 98-65)
(Page, Southerland & Page) (continued)

B. Faculty Committee

Professor Haskell G. Taylor, Chairman, Dr. John Binnion and Dr. George Berry are the members of the Faculty Committee.

Professor Taylor indicated that Dean Heather has suggested two off-campus members and has a recommendation en route to the CPC. It was agreed to delay action until the recommendation from Dean Heather arrives.

C. Schedule

The following schedule has been suggested by Professor Taylor and the project architects:

Faculty Committee meeting	November 4, 1965
Faculty Committee meeting	November 11, 1965
Forward latest information to project architects	November 15, 1965
Period of time convenient to visit other facilities	November 16-20, 1965
Meeting with architects in Lubbock	November 23, December 3, December 14 and December 22, 1965

The CPC adopted the schedule.

It was agreed that the meeting on November 23, 1965, would be with the project architects, the Faculty Committee and the CPC at 1:30 p.m.

The information that the Faculty Committee has prepared was discussed. The request indicates that 150,000 square feet of assignable space would be needed. The needs are projected to 1972. The facilities as presented are designed for a student-teacher ratio of one to 20.

It was agreed that copies of the information presented would be prepared for all present, that a separate meeting would be held to discuss the information, and to forward the approved information to the project architects. The programming data presented is attached to and made a part of the Minutes. (Attachment No. 588, page 1807)

Professor Taylor said that his committee plans to have few changes from here on. A great deal of advance work has been done over the past several years by the Business Administration faculty.

D. Policy

The requests and recommendations are to be presented to the CPC for approval and transmission to the project architects.

E. Architect's Contract

Mr. Barrick will prepare the architect's contract.

F. Equipment

Mr. John G. Taylor reported that he is asking for a list by Thursday of this week, as it is needed for the cost figure, and the list must go with the application for matching funds. Any equipment requiring special facilities and which affect the building would also be needed for the application.

3115. Business Administration Building (CPC No. 98-65)
(Page, Southerland & Page) (continued)

G. Special Meeting

It was agreed that a special meeting will be held as soon as the information from the Business Administration Faculty Committee can be studied. Those requested to attend will be the Faculty Committee, Miss Jerry Kirkwood, the expeditor, Miss Evelyn Clewell and the CPC members.

(Professor Taylor, Miss Kirkwood and Miss Clewell left the meeting at 2:30 p.m.)

3116. Chemical Research Building (CPC No. 87-64)

Preliminary Plans and Specifications

The preliminary plans and specifications were approved at the last meeting of the Board of Directors. The project architects feel that they can provide all the information required of them for the application by December 16, 1965. At that time, Mr. Taylor will complete the application, with the help of Dr. Dennis.

A very great deal of discussion ensued on the advisability of constructing a tunnel under the basement floor for utilities. Dr. Dennis and the Faculty Committee have requested a crawl space for utilities under the basement floor in order to eliminate overhead pipes from the ceiling to the laboratory tables.

The architects have estimated that the tunnel would cost \$20,500 and that it probably would be necessary to eliminate sufficient equipment or other building costs to stay within the budget.

It was readily agreed that the facility would look much better if the utility service were from below. It was agreed that it would be easier to maintain the piping if it were not in the crawl space, and it was felt that it could be arranged neatly, carefully painted and could be relatively attractive.

After a very great deal of deliberation and with reluctance, the CPC members felt that they could not justify the expenditure of \$20,500 for the crawl space in view of the other needs for the building. It was agreed to instruct the project architects to serve the basement lab tables from overhead utility lines.

The question was considered again the following day when President Goodwin sent a note to the meeting that Dr. Dennis was disturbed by the decision and said that the deciding factor was the cost. If so, the savings could be made elsewhere in the building. Dr. Goodwin told Dr. Dennis that he would bring the request to the Chairman's attention.

The CPC again reviewed the request and the members felt that, in all good conscience, they could not recommend the change.

3117. Classroom-Office Building (New) (Foreign Languages-Mathematics)
(CPC No. 79-63)

All seems to be in order for a bid opening at 3 p.m. on December 2, 1965, in the Aggie Auditorium.

3118. Dormitory ExpansionA. Off-Campus Housing Projects

A review of the requests to date is as follows:

1. O'Meara-Chandler Corporation, 4140 Southwest Freeway, Houston

The Board of Directors approved the request for 968 spaces to be ready by September, 1966, adjacent to the southwest corner of the College property.

Zoning has been approved and groundbreaking ceremonies were held on October 28, 1965.

A request has been received under the date of October 29, 1965, for 3,000 additional spaces on the same plot of land. The request is attached to and made a part of the Minutes. (Attachment No. 589, page 1808)

2. University Housing Construction, Ltd., 11929 Elm, Omaha, Nebraska

The Board of Directors has approved the request for 850 spaces to be ready in September, 1966.

The company has had zoning difficulties at the 19th Street site, but does not wish to abandon it yet.

A request has been received under the date of November 4, 1965, for a second unit of approximately 800 to 1,000 students to go on land north of Fourth Street, if the group should construct the first facilities on the same land with permission of the College. The request is attached to and made a part of the Minutes. (Attachment No. 590, page 1809)

3. University Dormitory Development, Inc., 35 East Wacker Drive, Chicago, Illinois

The company has had considerable zoning problems at the 19th Street site. The Planning Board denied the request at a meeting last Tuesday night, November 2, 1965, and an appeal is to be made to the City Council.

The Board of Directors approved the request of the company for 700 + spaces to be ready in September, 1967.

A discussion was held on whether or not the additional requests from O'Meara-Chandler Corporation and University Housing Construction, Ltd., should be recommended for approval.

Mr. Barrick moved that we approve all the requests listed, as he feels that we have no right to pick and choose among prospective operators, so long as they understand that we guarantee nothing and that they operate in a manner to receive approval of the College. Mr. Urbanovsky seconded the motion. Mr. Barrick and Mr. Urbanovsky voted "aye," and the Chairman voted "no."

Mr. Barrick moved that future requests for off-campus dormitories that comply with the regulations established by the Board of Directors be approved and that they be handled in a routine administrative manner. The motion died for lack of a second.

3118. Dormitory Expansion (continued)

(Mr. Guy Moore, Director of Residence Halls, Mrs. Shirley S. Bates, Director of Residence Halls Food Service, and Mr. Howard Schmidt and Mr. Bob Messersmith representing the architects, entered the meeting at 3:40 p.m.)

B. On-Campus Housing1. Athletic Department

In view of past requests, the CPC had asked the Athletic Council if the members would like for the Athletic Department to be considered for facilities in the new project if men are to be housed there.

Dr. J. William Davis, Chairman of the Athletic Council, has said that the Athletic Council would like to be considered and would like to have a separate meeting with the CPC. A special committee composed of Dr. Davis, Mr. T. L. Leach, Mr. C. I. (Stoney) Wall and Athletic Director Polk Robison has been appointed to meet with the CPC. Dr. Davis said that they would prefer to lease equipment, etc., rather than to own it, and the Athletic Council Minutes mention that there would be an interest in a kitchen and dining room in the new facilities.

2. Food Consultant

It was considered by all present that it would be essential to secure the services of a food consultant. It was agreed some time back that Mr. Arthur W. Dana would be recommended to serve again.

A copy of Mr. Dana's offer of October 21, 1965, is attached to and made a part of the Minutes. (Attachment No. 591, page 1810)

It was felt that the offer seems to be in line, with the thought that Item 5d on page 3 needs additional clarification, as it seems to be a bit loose. The number of trips should be spelled out, and it was felt that Mr. Dana could specify the number needed as soon as he knows what the College wants him to do. Any additional trips should be paid for at actual travel plus per diem.

Mr. Barrick, Mrs. Bates and Mr. Taylor were asked to serve as a committee to consult with Mr. Dana on Thursday of this week on his offer.

3. Bond Counsel

It will be necessary to secure bond counsel in order to prepare the loan application to HHFA and issue the bonds.

4. Architect's Contract

Mr. Barrick agreed to prepare a contract for consideration of the CPC.

5. Traffic and Security

Traffic and security affect the operation of the proposed project, and the architects would like to look over the Traffic and Security Committee's shoulder as it prepares the report for the Board of Directors meeting in December. The residence hall project could help to bring the traffic and security problem to a head.

It was agreed to invite the project architects to attend the meeting of the Traffic and Security Committee in the President's office at 3 p.m. on November 11, 1965.

3118. Dormitory ExpansionB. On-Campus Housing (continued)6. Tour

Mrs. Bates presented copies of "Report of Residence Halls Tour October 22-27, 1965," which is attached to and made a part of the Minutes. (Attachment No. 592, page 1811)

7. Consulting Engineers

The project architects have recommended the firm of Bernard Johnson Engineers, Inc., of Houston as consulting engineers on the project, and the CPC has concurred in the recommendation.

8. Additional Information

The project architects were asked for information that they need, and it is as follows:

- a. It is important to get Mr. Dana here in order that progress can be made on the development of the foods area of the proposed complex. Mr. Dana will be here on November 11, 1965, at the invitation of the architects.
- b. The architects need to know if we plan to feed in units of 1,000 or 3,000. The result of the trip indicated that it is not necessary to hold the size of those being fed at 2,000. Many of the schools visited are going to the scramble system of service, and information on the size is needed before additional work can be done on the commons area and the dining room.
- c. The architects need to have the number of students per supervisor or counselor. If the project is to be coeducational, there must be agreement between men's and women's supervision on the number of residents per supervisor or counselor.

The architects reported that they have some 450 slides from the trip and would like to show them soon. They would like to have a meeting with the housing staff, the CPC and anyone else who should be invited.

Most of the residence halls visited were coeducational, and the results were good.

There seems to be good usage of small lounges in various areas of the residence halls visited, and about all the halls seem to have them. The architects would like to have one report meeting and then ask for a decision on the size of the supervisory units.

- d. The location of the power plant and utilities will affect the siting, and distance becomes a factor. A chilling plant is needed.

It was thought that the consulting firm should get the engineering survey under way at once, and that all architects involved should participate.

- e. A broad decision on outdoor recreation is needed. The group saw the use of outdoor tennis courts, volleyball courts, etc., to save land and to get enough exercise to work off excess energy. If it is not necessary to provide football or baseball fields, there could be a tremendous saving in land.

3118. Dormitory ExpansionB. On-Campus Housing7. Consulting Engineers (continued)

- f. The architects are to meet with the Traffic-Security Committee and the President on Thursday afternoon. The bus system of transportation from remote areas to the campus was the best the architects saw.

The architects are doing schematic work on towers, masses, shapes, etc., and going as far as feasible with the information available in order to be ready as soon as possible.

Mr. Moore said that the housing staff does not think that 2,000 students in the area will be the limit as had been previously thought.

It was agreed that there would be a meeting at 2 p.m. on November 11, 1965, in the Physical Plant Auditorium to view the slides and hear the presentation of the architects.

(Mrs. Bates and Messrs. Moore, Schmidt and Messersmith left the meeting at 4:30 p.m.)

3119. Greenhouse (Biology)

On October 12, 1965, the new bids and the cost to erect and provide the heating and cooling for the Biology Greenhouse were available. It was found that the total cost would be a bit over \$11,000.

In view of the original estimate and the present cost, even though it is more than a \$6,000 reduction from the first bids, it was agreed to include the Biology Greenhouse in the Greenhouse study under the priority list from constitutional building funds.

3120. Other ItemsA. Southwestern Public Service Company Easement

Mr. Taylor reported that the legal staff of Southwestern Public Service Company is looking over the proposed easement.

B. Director of College Facilities and Consulting Architect

It seemed to be the consensus that something needs to be done, but no constructive suggestion was offered.

C. Educational Television

The Chairman reported that President Goodwin has approved the addition of a room 17' x 40' to KTXT-TV station, in order to provide the required space for a new generator to handle the approved program. The estimated cost is \$7,000 +.

3121. Priority List

(Miss Clewell reentered the meeting after attending the Council of Deans meeting.)

All projects will be tempered by the application for matching funds.

1. MuseumMaster Plan

The master plan has been prepared and accepted.

It was agreed that a recommendation should be made for architects.

3121. Priority List1. MuseumMaster Plan (continued)

It was agreed that, since the Museum probably cannot be classified as a teaching facility, the approval of the Governor will be needed. It will not be necessary to secure the approval of the Coordinating Board, as it will be built from constitutional building amendment funds. It will be necessary to file the usual report of size, etc., with the Legislative Budget Board.

There will be no complication in combining Amendment 1 funds with the donated funds of the West Texas Museum Association.

The College is to finance the replacement of the square footage of the present Museum at the new site.

The new site is at the corner of Indiana Avenue and Fourth Street.

It is too early to prepare a time schedule, and one cannot be prepared until the architects are available.

It was doubted that the Museum will be eligible for matching funds, but Mr. Taylor said that he would scour the woods to see if he can find any.

It was felt that it would be unwise to spend much money on remodeling the existing Museum, as the site is the last one for a major educational building. It was thought that, with a minor amount of remodeling, the present Museum could be used for large classrooms if there is a need. It would be difficult to use it for anything except large classrooms, and Mr. Downing said that the air-conditioning system would not support the building for anything else.

2. Law School

It was agreed that little could or should be done until a dean is on the job.

3. Music Facilities

Dr. Hemmle submitted a request on June 8, 1965, and it was agreed to request Miss Clewell to evaluate it.

It was agreed that steps should be taken to activate the project as soon as feasible.

It was agreed to request a faculty committee after Miss Clewell has completed her study.

It was agreed to consider whether or not the facilities should be an addition to the present building or a new building. The answer cannot be determined until architects have had a chance to study it.

Additional steps will be played by ear.

4. Architectural Facilities

Mr. Barrick said that he could program the project by December 11 and could present the estimated square footage and cost at that time.

It was agreed to consider architects after the programming has been done.

3121. Priority List4. Architectural Facilities (continued)

It looks as if it would be best to have an addition to the present building.

It was agreed that nothing else can be done until the program is available.

5. Greenhouses

It was agreed that the Biology greenhouses should be included in the building program and that a committee should be requested to study the needs and report its findings.

6. Agricultural Plant Facilities

It was agreed to request Dean Thomas to suggest a committee to begin a study of the needs.

7. Farm Facilities

The moving of the horse facilities has been mentioned in Item 3112, page 1792.

It was felt that there may be no other needs at the moment, unless there is one to move the sheep and goat operation.

8. Chemistry - Undergraduate Facilities

There is a need for additional laboratories, classrooms and faculty offices, probably. It was agreed to ask Dean Kennedy to appoint a faculty committee to develop the program.

Site

There could be some difficulty in a proper site for the facility. It probably would be better to be close to the existing Chemistry Building. It possibly could be a part of the new Biology Building temporarily. The prospects could be investigated. Also, it might be possible to overflow temporarily into the old Science Building.

The meeting recessed at 6 p.m. to reconvene at 9 a.m. on November 10, 1965.

The CPC reconvened at 9 a.m. on November 10, 1965.

3121. Priority List (continued)9. Library

In view of the fact that the south basement and third floor are to be completed, the project could be delayed a bit with reference to some of the others, and the first thing that should be done would be to gather information and study the needs.

10. Power Plant, Utilities, Etc.

It has been agreed that a new heating plant will be essential and that an engineering survey will be necessary in order to establish the location and provide other needed information.

11. Engineering Survey

It was agreed that an engineering survey should have top priority.

3121. Priority List11. Engineering Survey (continued)

It was the consensus that cooling for the Biology and Chemical Research Buildings would need to be decided soon.

Mr. Downing agreed to work up a list of particulars for the engineering survey. As soon as it is available, the CPC is to make a recommendation on the survey.

12. Other Needsa. Civil Engineering

It was thought that some space is needed for a hydrology laboratory and testing facilities.

b. Home Economics

Dean Tinsley filed a request with President Goodwin on October 14, 1965, that set out the needs of Home Economics and included statistics.

It was agreed that classrooms, laboratories and faculty offices are needed by Home Economics, and Miss Clewell was requested to evaluate Dean Tinsley's request.

c. Home Management

There is some question as to whether or not the curriculum has changed in Home Economics to the extent that the present philosophy of Home Management may no longer be continued.

It was agreed that the Chairman would get in touch with Dean Tinsley for the philosophy.

d. Classroom and Office Building (New)

Miss Clewell reported that the spring schedule indicates a need and, since it would be two years before a major building could be ready, it was agreed not to sidetrack the idea.

e. Administration Building

Insufficient information is available on which to base a recommendation, but it was agreed that the idea should not be abandoned at this time.

f. Physical Plant

It was the consensus that there must be some additions to the Physical Plant headquarters building for physical plant expansion, and Mr. Downing was requested to estimate the needs, including space for the Texas Tech Press.

It looks as if space will be needed in the Physical Plant headquarters for the proposed Director of Facilities, and perhaps the Consulting Architect and the Environmental Health Engineer.

g. Agriculture

It was not known if Agriculture needs other facilities in particular, but there was some thought that the Master of Science in Agricultural Engineering would require at least a sheet metal building.

It was agreed that the Chairman will talk with Dean Thomas.

3121. Priority List12. Other Needs (continued)h. Engineering

Dean Bradford wrote a letter to Dr. R. C. Goodwin on October 9, 1965, in which he sets out the needs of the School of Engineering. A copy of the letter is attached to and made a part of the Minutes. (Attachment No. 593, page 1812)

i. Extension and Correspondence

It was the consensus that Extension and Correspondence is not hurting for space. At the time the Library was placed on the present site, it was agreed that the Extension and Correspondence building should be removed. However, it developed later that the space could not be spared. Mr. Millikin has requested that, if his facilities are to be moved, he be considered.

j. Computer Center

An addition has been requested, and it is being taken care of now.

k. Men's Physical Education

When the present structure was constructed in 1958, some of the requested facilities had to be eliminated in order to come within the budget. Dr. Kireilis has been requesting additional space each year in connection with his legislative appropriation.

Miss Clewell reported that the academic deans are studying the physical education requirements, and the study could affect the program and facilities. The facilities are overcrowded.

l. Women's Physical Education

The facilities are also overcrowded and cause some scheduling complication.

The deans' study could affect these facilities also.

m. Graduate and/or Research Facilities

It would be very difficult to decide what might be needed, but it was the consensus that it looks as if graduate and/or research facilities will be requested in individual projects, and a special facility could not be handled at the CPC level.

3122. Texas Tech Press Addition

It was agreed that the Texas Tech Press must have additional space in keeping with a recent request from Mr. Bengé Daniel. Mr. Downing will include it in his study of the Physical Plant area.

Mr. Taylor reported that the Press could fund a pretty good addition.

3123. Texas Tech Union

The request from Dean Allen and Mr. Longley has been included in past CPC Minutes, and thinking is to be done on how to implement the project.

Mr. Taylor reported that he is working on the idea of a central post office in the Union for the overall College.

3124. West Hall Renovation

The last material has been received, and the project is entirely complete. Everyone involved seems to be quite happy with the results.

The project, due to the time schedule, is the only one that has been negotiated at Texas Tech. The total cost was \$53,761.51, which was below the original estimate even though it was necessary to add \$2,000 more in electrical equipment.

M. L. Pennington
Chairman

The meeting adjourned at 11:40 a.m.

Campus Planning Committee
November 9, 1965
Attachment No. 586
Item 3114A

JUSTIFICATION OF NEED FOR ADDITIONAL FACILITIES
FOR THE DEPARTMENT OF BIOLOGY
TEXAS TECHNOLOGICAL COLLEGE

(A Report to the Campus Planning Committee, 9 November, 1965.)

A very short three weeks ago a question was asked of the Department of Biology.

"What facilities would it take to carry out a program in biology over the next ten year period?"

This may not have been the exact wording, but is essentially correct. A Departmental committee was appointed to closely evaluate our present programs in biology and reflect or more accurately predict the future. This was no easy challenge and especially in view of unpredictables such as the new Texas Commission on Higher Education, predicted enrollment in view of the work situation and opinion, and the establishment of professional schools in allied fields at Texas Technological College i.e., Pharmacy and Medical Schools.

To gain a better perspective of the answer to the question, we:

1. Visited several schools and talked with several noted individuals about facilities, programs and teaching methods.
2. Tried to analyze the students' needs from their point of view as well as ours, and
3. We also attempted to evaluate our own philosophy during the leisure time.

We attempted to answer the initial question by analyzing three functions of the department. First, at the freshman level, then the advanced undergraduate and finally the graduate and research level. Of these, the advanced undergraduate programs are most stable, most predictable and less subject to change in teaching methods and philosophy. This area provides a large number of needed semi-professional individuals who stand in their own right when compared with products of other institutions. In addition, this area provides the service function for other schools and departments without which they cannot grow or ask their students to build upon.

The freshman function is less predictable and depends on the total college enrollment and the continued use of general biology as a popular laboratory science, a subject needed by most individuals to prepare them for world problems in genetics, the population explosion, water resources and pollution, and organism diversity and interaction among other things. Accordingly, we have projected figures of freshman biology enrollment and have proposed newer teaching methods. While there may be some disagreement, the majority of us feel that the laboratory part plays the most important role in the development of useful citizens.

The graduate program is least predictable yet is an integral part of undergraduate training and research development. We have analyzed current areas of research which are vogue, tried to predict their future and attempted to look into the crystal ball ten years from now regarding the areas of most productive research. We are just entering doctorate training and we expect the entire graduate program to mushroom, especially as the staff is recruited and this latter is possible only with adequate facilities and a climate conducive to inquiry. We should not overlook the service function to other departments at this level.

Our projected plans then attempt to consider those aspects just listed. We think there is more than ample justification and our proposal is modest when compared with institutions accomplishing the same or less than we are at the present time. We cannot say we have considered everything in this short period

of time nor put everything in writing. We have considered our present space shortage, high student/teacher ration, high contact hour load as well. We have attempted to project a facility that we will not have out-grown before its completion as has been done repeatedly at other Universities.

The following material cites some predictions and projects the desirable facilities.

The rapid increase in enrollment in the Department of Biology has rendered the facility presently allocated to the Department for teaching and research inadequate to meet the demands for space to conduct these activities. The number of students taught and the number of semester hours taught in the Department during the Fall semester, 1965, represent an increase of three times those taught in the Fall of 1956. The total registration in the College increased from 8,055 in the Fall of 1956 to 16,200 in the Fall of 1965 (See Table I). The latter number is twice the former.

TABLE I Registration (Number of Students)
Fall Semester 1956 - 1965
Texas Technological College

<u>1956</u>	<u>1957</u>	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>	<u>1962</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>
8,055	8,566	8,770	8,866	9,178	10,212	11,183	12,036	13,827	16,305

During this same period total registration in the Department increased from 1,393 student registrations in the Fall of 1956, to a total of 3,743 student registrations in the Fall of 1965 (See Table II).

TABLE II Registration (Number of Students)
Fall Semesters 1956-65
Department of Biology
Texas Technological College

Course Level	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965
Lower	1241	1295	1414	1510	1596	1910	2194	2472	2755	3203
Upper	150	144	189	190	244	227	227	366	465	497
Grad.	<u>2</u>	<u>6</u>	<u>3</u>	<u>4</u>	<u>19</u>	<u>14</u>	<u>7</u>	<u>18</u>	<u>56</u>	<u>43</u>
Total	<u>1393</u>	<u>1445</u>	<u>1606</u>	<u>1704</u>	<u>1859</u>	<u>2151</u>	<u>2428</u>	<u>2856</u>	<u>3276</u>	<u>3743</u>

During this period the total number of semester hours taught increased from 4,160 in the Fall, 1956 to a total of 13,912 in the Fall of 1965 (See Table III).

TABLE III Registration (Semester Hours)
Fall Semesters 1959-65
Department of Biology
Texas Technological College

	1959	1960	1961	1962	1963	1964	1965
Graduate Courses (500 numbers and up)	12	60	42	21	54	136	115
Upperclass Courses (300 and 400 numbers)	570	716	681	720	1,066	1,339	1,415
Lowerclass Courses (100 and 200 numbers)	<u>4530</u>	<u>6090</u>	<u>7331</u>	<u>8394</u>	<u>9,484</u>	<u>10,618</u>	<u>12,382</u>
Total student semester credit hours	5112	6866	8054	9135	10,604	12,093	13,912

Thus, while the College enrollment has doubled, enrollment in the Department of Biology has tripled.

During the Fall of 1964, 207 undergraduates and 42 graduates were majoring in Biology. This increase in enrollment has been so rapid that instruction and research is badly hampered by lack of space.

The demands on space have been met partly since 1956 by the following actions:

- 1961 Remodeling of storage space in South Attic for research laboratories.
- 1962 Addition to Science Building which provided the following facilities for Biology:
 - One lecture Auditorium seating 217 students
 - Two laboratories seating 24 students each
 - Two small combination office-research rooms
 - One central storeroom
- 1964 Re-allocation of one office to the Department of Biology, Sc. 314.
Re-allocation of one small laboratory to the Department of Biology Sc. 310.
- 1965 Remodeling of storage space in the North Attic for Research laboratories.

However, this allocation of additional space has not been sufficient to meet the demands of increased enrollment. The following instructional changes have been necessary:

1. The three-hour laboratory period in General Botany and General Zoology has been reduced to a two-hour period.
2. Over-scheduling of advanced laboratory rooms has been necessary. Consequently, performing laboratory experiments necessitating student observations and work between laboratory periods has been quite difficult. Laboratory space must be free part of the day to allow students to make observations of experiments in progress.
3. The Biology Auditorium is being used for 38 hours each week for lectures in Biology. During the Fall, 1966, it will be used for 44 hours.
4. Additional evening laboratory in the freshman courses will be scheduled in the Fall of 1966.

Not only has laboratory and lecture space become overcrowded, but other facilities are quite inadequate. Greenhouse space is much too small, and only one small animal room is available for keeping laboratory animals.

Lack of office space and research space for additional staff has made recruiting difficult and will limit the recruitment of qualified staff in the future. Storeroom facilities are over-crowded.

A prediction of increased enrollment in the Department of Biology for the period 1965-1974 is based on the following calculations in Tables IV and V.

TABLE IV Predicted Enrollment
Based On
Student Registrations

Course Level	Students 1956	Students 1965	Number Increase	Prediction for 1974
Lower	1241	3203	1962	$3203 + 1962 = 5,165$
Upper	150	497	347	$497 + 347 = 844$
Graduate	2	43	41	$41 + 43 = 84$

TABLE V Predicted Enrollment
Based On Rate of Increase

Course Level	1956	1965	Number Increased	% Increase	Number Increase Based on %	Predicted
Lower	1241	3203	1962	160%	5124	8327
Upper	150	497	347	230%	798	1028
Grad.	2	43	41	--	--	--

New programs recently initiated include:

Bachelor of Science in Medical Technology

Master of Science, Major in Microbiology

Doctor of Philosophy, Major in Biology, Botany, Microbiology, and Zoology.

These programs will increase the demands for space.

The predicted enrollment for the general freshman courses is somewhere between 6500 and 7500. Laboratory facilities for these students will require 12 laboratory rooms each with a working capacity of 36 students. The scheduling of 13 three-hour laboratory periods is possible during the day. This number may be increased by four by scheduling evening laboratories.

$$\begin{array}{rcl}
 12 \times 13 & = & 156 = \text{No. laboratory sections} \\
 & \times 36 & = \text{No. students in each section} \\
 & \hline & 936 & \\
 & 468 & \\
 \hline & 5616 & = \text{No. of students accommodated}
 \end{array}$$

$$\begin{array}{rcl}
 12 \times 17 & = & 204 = \text{No. of laboratory sections if night} \\
 & \times 36 & \text{labs scheduled} \\
 & \hline & 1224 & \\
 & 612 & \\
 \hline & 7344 & = \text{No. of students accommodated}
 \end{array}$$

Two teaching assistants would be assigned to each laboratory section enrolling 36 students.

$$\begin{array}{rcl}
 156 & = & \text{No of laboratory sections} \\
 \times 2 & & \\
 \hline 312 & = & \text{No. of lab assignments} \\
 \div 4 & = & \text{No. of assignments per assistant} = 78 = \text{No. of Teaching Assistants}
 \end{array}$$

Increased graduations from Junior Colleges will increase the enrollment at the upper level of undergraduate work.

The space for staff is based on the following anticipated staff:

45 Professorial staff

150 Graduate students, which includes

78 Teaching Assistants (see above)

45 Research Assistants (one for each professorial staff)

27 Other graduate students

9 Classified Personnel, to include

1 Administrative Assistant (Business)

1 Receptionist-secretary

2 Typists

1 Greenhouse attendant

1 Animal caretaker

1 Storeroom supervisor

1 Storeroom clerk

1 Machinist - shop man

Present programs that will be strengthened by this facility are:

Immunology	Algology	Mycology
General Microbiology	Plant Taxonomy	Plant Pathology
Plant Physiology	Plant Morphology	Mammalogy
Ecology	Plant Anatomy	Ornithology
Invertebrate Zoology	Acarology	Genetics
Parasitology	Herpetology	Histology
Animal Physiology	Vertebrate Zoology	Embryology
Fungal Physiology	Developmental Embryology	

New programs made possible by this facility are:

Electron Microscopy	Protozoology
Virology	Cytogenetics
Microbial Genetics	Radiobiology

The present areas to be strengthened and the new areas to be added represent a rather broad base for graduate and undergraduate instruction and research not only for students majoring in biology but also for students majoring in agriculture, chemistry, education, geosciences, psychology and home economics. These areas in biology are representative of most of the Universities offering graduate work leading toward the Doctor of Philosophy Degree. With a few exceptions, only one man will be working in each area. As each area develops, additional staff will be added to these areas.

Areas that must be added are electron microscopy and radioisotopes. These tools of biological research are essential to the development of a strong graduate program.

In requesting space and designing a facility to meet the space needs of the Department, the entire instructional staff of the Department of Biology has been consulted.

Members of the staff of the Department have inspected the facilities and consulted with the staff of the Departments of Biology in the following institutions:

1. Florida State University
2. Rice University
3. University of Houston
4. University of Texas Dental School, Houston
5. Texas A & M University
6. The University of Texas

Heads of Departments of Biology at the following institutions have been contacted by telephone:

1. Indiana University
2. University of New Mexico

Preliminary building plans for new facilities at the following institutions have been examined:

1. Rice University
2. Texas A & M University
3. The University of Texas
4. University of New Mexico
5. University of Indiana
6. University of Minnesota
7. San Francisco State College
8. San Diego State College

We believe these proposed plans for the Department to be realistic, though somewhat conservative in the amount of research space requested.

We strongly recommend that they be used as the basis for providing a new facility for the Department of Biology.

The Committee for Planning
A Biology Facility for
Texas Technological College

PROPOSED BIOLOGY BUILDING

November 8, 1965

Suggested size and placement of specified rooms and types of utilities follows each request for space complex.

General Problems to be considered:

1. Student traffic during change of classes
2. Student traffic to Teaching Assistants and Counsellors Offices.
3. Reduction of mechanical vibration in most laboratories since microscopy is an integral part of training and research in biology.
4. Accessible rest rooms on each floor.

BIOLOGY OFFICE COMPLEX

1	Aux	Department Head Office	300
1	Aux	Conference Room	300
1	Aux	Administrative Assistant	160
1	Aux	Reception-Secretary Office	250
2	Aux	Stenographic Offices @ 100	200
1	Aux	Mimeograph, etc. Room	200
4	Aux	Faculty-Counselling Offices @ 200	800
Subtotal			2,210

Biology Office Complex

1. The 4 Faculty Counselling Offices are to be some distance from the main biology office, 2 adjacent to each other but on opposite sides of the main office. Interoffice communication systems are projected.

BIOLOGY LECTURE FACILITIES

No. of Units	Designation	Function	No. of Students	Suggested Net Space		
				Office	Training	Research
1	Lecture	Freshman Biology	800	-	11,200	-
1	Lecture	Advanced Biology	300	-	4,200	-
4	Lecture	Advanced Biology @ 1,400	100	-	5,600	-
2	Lecture	Advanced & Graduate Biol. @ 700	50	-	1,400	-
3	Seminar Rooms	Advanced & Graduate Biol. @ 420	30	-	1,260	-
Subtotal					23,660	

Biology Lecture Facilities:

1. The 300 seat lecture room will be used for comparative Vertebrate Anatomy, Anatomy and Physiology, General Bacteriology and Plant Taxonomy.
2. The 100 and 50 seat lecture rooms will be used for other Undergraduate and a few graduate courses.
3. The Seminar rooms are suggested to provide lecture facilities or discussion groups for very small classes in the 3 disciplines, Botany, Microbiology and Zoology. These should be situated separately but near areas of their respective disciplines.
4. All lecture rooms except seminar rooms should be equipped with projection facilities. The 800 seat auditorium and the 300 seat lecture rooms should contain facilities for closed circuit T V as well. Public address systems need not be provided in lecture rooms of 100 seats or below if they are acoustically satisfactory. The seminar rooms must have the facility to be darkened in the event that visual aids are used.

FRESHMAN BIOLOGY TRAINING

6	Lab	Freshman Botany @ 1,500	36	-	9,000
6	Lab	Freshman Zoology @ 1,500	36	-	9,000
3	Aux	Botany Prep & Storage @ 3		-	1,050
3	Aux	Zoology Prep & Storage @ 350		-	1,050
1	Aux	Main Biol. Prep & Storage		-	700
1	Aux	Botany Demonstration-Examination Room		-	1,500
1	Aux	Zoology Demonstration-Examination Room		-	1,500
1	Aux	TV studio & Audio-Visual prep room		-	300
1	Aux	TV Master Control Panel Room		-	200
1	Aux	Biology Laboratory Coordinator Office	300	-	
1	Aux	Biology Lecture Coordinator Office	200	-	
72	Aux	Graduate Student Cubicles @ 50	3,700	-	
				<hr/>	<hr/>
				4,200	24,300
				<hr/>	
				28,500	

Report of the Freshman Biology Lab Committee

The committee submits the enclosed freshman biology laboratory space requirements based on the following premises:

1. Continued growth of the department enrollment will result in a 7,000 student freshman biology class in ten years.
2. Laboratory sections of the size recommended herein will be conducted by two persons each.
3. That all graduate students will spend at least one year teaching laboratory sections. (This should be included in catalogue material.)
4. That closed circuit TV will be provided for laboratory instruction.
5. That a permanent staff member will be hired to coordinate, prepare, and provide materials for labs.
6. Laboratory sections will be 3 hours in length.

Explanation of Requirements

1. 36 students x 12 labs x 13 periods per week (3 hrs. per period) = 5,616 student accommodations possible.
2. No storage facilities are to be provided in the lab proper. Thus, the need for one prep and storage room to serve each 2 labs.
3. A common main storage and prep room is provided for tanks and drums of specimens as well as special preparations.
4. The demonstration-quiz rooms will provide space for teaching and review machines as well as permanent displays. In addition, quiz setups of a departmental nature can be prepared and conducted at intervals.
5. Closed circuit TV room provides space for the broadcasting equipment, storage of tapes and special technique demonstrations.

Suggested Arrangement

1. Each two laboratories to have a small preparation-storage for that discipline, between with connecting doors.
2. The quiz-demonstration room for each discipline to be located immediately adjacent to the labs it serves.
3. The main preparation-storage room, the lab coordinator's office and the closed circuit TV room to be grouped together.
4. T. A. cubicles in locality of labs.

Suggestions for Basic Equipment and Services

1. All labs and demonstration-quiz rooms to be provided with light tight shades.
2. Lab tables to have utilities and each provided with microscope illumination. (Not separate illuminators for each microscope)
3. Locker for microscopes.
4. Each lab, prep room and demonstration room to have a sink, gas, compressed air.
5. Garbage disposals in each prep room.
6. Distilled water taps in all prep rooms.
7. Each prep room to be externally power vented to remove noxious fumes and odors.
8. The main prep-storage room to contain a stainless steel tank for washing preserved specimens.

ADVANCED BOTANY TEACHING COMPLEX

1	Aux	Herbarium	-	2,000
1	Aux	Herbarium prep room	-	625
1	Lab	Plant Taxonomy Laboratory	36	1,500
2	Lab	Plant Physiology Laboratories @ 1,200	32	2,400
1	Lab	Mycology-Plant Pathology Laboratory	36	1,500
1	Lab	Plant Morphology Laboratory	24	1,000
1	Lab	Plant Anatomy-Bryology Laboratory	24	1,000
1	Lab	Advanced Plant Anatomy Laboratory	15	800
1	Lab	Plant Disease Laboratory	15	800
1	Lab	Phycology-Paleobotany Laboratory	15	800
1	Aux	Plant Physiology-Plant Pathology Prep room	-	325
1	Aux	Plant Physiology Storage & Equipment room	-	150
1	Aux	Plant Pathology Storage & Equipment room	-	150
1	Aux	Plant Physiology Prep room	-	300
1	Aux	Coleoptile room	-	250
1	Aux	Tissue Culture room	-	160
1	Aux	Volatile Chemical storage room	-	200
1	Aux	Instrument and Balance room	-	280
1	Aux	Anatomy, Morphology and Taxonomy storage & prep room	-	625
Subtotal				14,865

Advanced Botany Teaching Complex

1. The Plant Physiology-Plant Pathology preparation room the Plant Physiology storage and equipment room, and the Plant Pathology storage and equipment room should be in a block between and opening into the plant pathology lab and one of the plant physiology labs.
2. The Coleoptile, Tissue Culture, Volatile Chemical storage and the Instrument and balance room should be associated with the plant physiology laboratories and if possible, adjacent to the Plant Physiology research facilities.
3. The Anatomy, Morphology and Taxonomy storage and prep room would be best placed near a complex of Anatomy, Morphology and Taxonomy laboratories.

Additional comments about service facilities and basic equipment

An overall preferred arrangement would be the grouping of these laboratories and auxiliary facilities adjacent to the Microbiology complex and not separated from Microbiology by the Zoology laboratory facilities.

The Herbarium prep room would be best placed adjacent to and opening into the Herbarium and the Graduate Research area for Plant Taxonomy.

All the laboratories to be provided with light tight shades.

The lab tables to be stationary and with microscope and light storage space.

ADVANCED ZOOLOGY TEACHING COMPLEX

1	Lab	Comparative Vertebrate Anatomy Laboratory	40	1,200
1	Lab	Anatomy & Physiology Laboratory	40	1,200
1	Aux	Anatomy & Human Physiology Storage		300
1	Lab	Animal Physiology Laboratory		1,400
1	Lab	Animal Physiology Laboratory		1,100
1	Aux	Animal Holding Room		250
1	Aux	Aquarium-Terrarium Room		846
1	Lab	Invertebrate Zoology Laboratory		1,200
1	Aux	Invertebrate Zoology Storage & Holding Room		375
1	Lab	Protozoology-Helminthology Laboratory		1,200
1	Aux	Protozoology Prep & Storage Room		375
1	Lab	Vertebrate Natural History Laboratory (undergraduate)		960
1	Lab	Vertebrate Natural History Laboratory (Graduate)		720
1	Aux	Vertebrate Storage Room		288
1	Aux	Vertebrate Prep Room		288
1	Aux	Fish & Reptile Collection		720
1	Aux	Vertebrate Collection & Prep Room		960
1	Aux	Invertebrate Collection		480
1	Lab	Histology-Embryology Laboratory	36	1,200
1	Aux	Histology Storeroom		120
1	Aux	Embryology Storeroom		120
1	Lab	Developmental Embryology Laboratory		864
2	Lab	Experimental Embryology Col Laboratories @ 80		160
1	Aux	Experimental Embryology Prep & Incubator Room		80
				<hr/> 16,406

Advanced Zoology Teaching Complex

1. The Comparative Vertebrate Anatomy Lab, the Anatomy and Physiology Lab and the Anatomy and Human Physiology Storage Room should have the facility to be exhausted of poisonous and noxious fumes. Closed circuit TC conduit.
2. The material for animal physiology, Protozoology and Invertebrate Zoology is more efficiently taught by projects which necessitates a separate lab for each course. The aquarium should be designed for both salt and fresh water species, and also for housing terraria. It would be shared by Physiology and the Invertebrate courses. Well water for the labs and aquarium is requested.

MICROBIOLOGY TEACHING COMPLEX

2	Lab	General Microbiology Laboratories @ 2000	40	4,000
2	Lab	Advanced Microbiology Labs (undergrad) @ 1000	24	2,000
1	Lab	Advanced Microbiology Lab (Graduate)	24	1,000
1	Aux	Animal Holding room		250
1	Aux	Microbiology storage room		400
1	Aux	Walk-in Refrigerator storage		140
1	Aux	Washing & Cleaning room		300
1	Aux	Microbiology Prep room		700
1	Aux	Stock Culture room		140
				<hr/> 8,930

Microbiology teaching complex

1. The animal holding room has projected temporary use in connection with one of the advanced microbiology labs.
2. All laboratories and the washing and cleaning room should have garbage disposals.
3. We would like each lab table to have the full complement of utilities and provide seating for 4 students.
4. The storage, refrigerator, washing, prep and stock culture rooms should be adjacent and connected and placed somewhat centrally to the teaching laboratories.
5. The labs should have the facility of being darkened for projection facilities. Labs to have TV circuit conduit, 2 autoclaves, 2 ovens and fumehood wall mounted and exhausted to the outside air from the inner wall. Each lab to have an incubator room of approximately 80 ft. square.

6. The Advanced Microbiology with the Adjacent Animal Holding Room should be equipped with a clean innoculating room of approximately 50 ft. square. Likewise for the Graduate Microbiology Lab; however, this lab will not require a separate incubator room since portable incubators will be used.
7. The washing room is to have an autoclave wall mounted as in 5 above. The prep room is to have 2 autoclaves and 2 ovens wall mounted as in 5 above.
8. The stock culture room is to have an inoculation hood.

ADVANCED BIOLOGY TEACHING AND RESEARCH COMPLEXES

Genetics and Cytogenetics

1	Lab	Genetics Laboratory	24	-	800	-
1	Lab	Genetics-Cytogenetics Lab	24	-	800	-
1	Aux	Genetics Office	-	200	-	-
1	Lab	Faculty Genetics Research Lab	-	-	-	200
1	Aux	Genetics prep kitchen room	-	-	-	120
1	Aux	Genetics storage room	-	-	-	150
4	Aux	Environmental chambers @ 24	-	-	-	96
1	Lab	Graduate Genetics Research Lab	-	-	-	800
4	Aux	Graduate Student cubicles @ 100	-	400	-	-
1	Aux	Cytogenetics office	-	200	-	-
1	Lab	Faculty Cytogenetics Research Lab	-	-	-	200
1	Aux	Cytogenetics prep room	-	-	-	100
1	Lab	Graduate Cytogenetics Research Lab	-	-	-	800
4	Aux	Graduate Student Cubicles @ 100	-	400	-	-
				1,200	1,600	2,466
				5,266		

Biometrics

1	Lab	Biometrics Laboratory	24	-	800	-
1	Aux	Biometrics Office	-	250	-	-
1	Lab	Faculty Biometrics Research Lab	-	-	-	100
1	Lab	Graduate Biometrics Research Lab	-	-	-	600
4	Aux	Graduate Student Cubicles @ 150	-	600	-	-
				850	800	700
				2,350		

Ecology

1	Lab	Limnology-Terrestrial Ecology Lab	24	-	1,200	-
1	Lab	Bio-ecology Laboratory	24	-	1,200	-
2	Aux	Environmental Control Rooms @ 120	-	-	240	-
<u>Ecology Research Complex</u>						
1	Aux	Bio-ecology office	-	200	-	-
1	Lab	Faculty Bio-ecology Lab	-	-	-	200
2	Lab	Graduate Bio-ecology Lab @ 800	-	-	-	1,600
2	Aux	Bio-ecology storage rooms @ 300	-	-	-	600
1	Aux	Darkroom	-	-	-	120
1	Aux	Printing darkroom	-	-	-	120
1	Lab	Graduate Terrestrial Ecology Research Laboratory	-	-	-	800
1	Lab	Graduate Aquatic Ecology Research Laboratory	-	-	-	800
1	Aux	Terrestrial & Aquatic Ecology Storage room	-	-	-	300
1	Aux	Terrestrial Ecology Office	-	200	-	-
1	Aux	Faculty Terrestrial Ecology Research Laboratory	-	-	-	200
1	Aux	Aquatic Ecology Office	-	200	-	-
1	Aux	Faculty Aquatic Ecology Research Laboratory	-	-	-	200
4	Aux	Environmental Control Rooms @ 80	-	-	-	320
20	Aux	Graduate Student Cubicles @ 80	-	1,600	-	-
				2,200	2,640	5,260
				10,100		

Radio-biology complex

1	Lab	Counting & Instrumentation room	-	-	120	-
1	Lab	Radiation prep lab	24	-	1,000	-
1	Aux	Isotope Vault	-	-	10	-
1	Aux	Darkroom	-	-	100	-
2	Lab	Radiation prep lab (research) @ 400	-	-	-	800
1	Aux	Radio-biology office	-	200	-	-
				200	1,230	800
				<hr/>		
				2,230		

Electron Microscope ComplexGroup I (Research)

2	Aux	Electron Microscope rooms @ 130	-	-	-	260
1	Aux	Darkroom (loading)	-	-	-	100
1	Aux	Darkroom (Printing)	-	-	-	100
1	Aux	Power & Compressor room	-	-	-	150
2	Lab	Prep rooms (clean) @ 100	-	-	-	200
1	Lab	Prep room	-	-	-	600
2	Aux	EM Faculty Offices @ 200	-	400	-	-
6	Aux	Graduate Cubicles @ 80	-	480	-	-
1	Lab	Cytology Lab	-	-	-	150

Group II (Training)

1	Aux	EM room	-	-	200	-
1	Aux	Darkroom	-	-	120	-
1	Lab	Prep room	-	-	500	-
1	Lab	Cytology Laboratory	24	-	1,000	-
				880	1,820	1,560
				<hr/>		
				4,260		

Advanced Biology Teaching and Research Complexes

1. The Genetics laboratory will have fixed furnishings only on 2 walls with utilities installed. Should be placed near the 4 environmental chambers and Genetics Research Lab. Only electricity to student tables. Room able to be darkened for projection.
2. The Cytogenetics Lab should have fixed furnishings with utilities. Only cold water, sinks and electricity to student tables. Placement near Genetics Research Lab. Room should have facility to darken for projection.
3. Genetics laboratories should have separate ventilation system from building to prevent fruit-fly contact with possible insecticides from other areas.
4. Graduate Genetics Research Lab should have an axillary air conditioning unit for stand-by use.
5. The Genetics kitchen should have an oversized sink, electric table top stove w/ kitchen hood, floor drain, autoclave and recess for refrigerator.
6. Ecology Labs should have standard utilities and softened well water.
7. Graduate Bio-ecology Research Labs should be insulated for critical temperature regulation, maintenance of saturated atmosphere, explosion proof and without windows.
8. Two Ecology environmental control rooms are to be accessible from the Limnology and from the Bio-ecology laboratories.
9. Radiobiology complex should be ventilated separately with filters.
10. The Isotope vault should be lightly shielded.
11. The electron microscope and 'clean' prep rooms should have positive air pressure.
12. The electron microscope laboratory should be furnished filtered air.

MICROBIOLOGY RESEARCH COMPLEX

6	Aux	Microbiology Offices @ 200	-	1,200	-	-
7	Lab	Faculty Microbiology Lab @ 400	-	-	-	2,800
1	Lab	Graduate Microbiology Culture Lab	-	-	-	2,000
1	Lab	Graduate Microbiology Analytical Lab	-	-	-	2,000
1	Aux	Cleaning & Washing room	-	-	-	200
1	Aux	Preparation Kitchen	-	-	-	500
1	Lab	Cold Temperature Lab	-	-	-	200
30	Aux	Graduate Student Cubicles @ 50	-	1,500	-	-
				2,700		7,700
				<hr/>		
				10,400		

Microbiology Research Complex

1. Six of the Faculty Microbiological Research Labs should be adjacent to respective Faculty Offices.
2. All Microbiology Research Labs are to have the complete complement of utilities including hoods.
3. The Cold Temperature Laboratory should have all utilities except a hood.

PLANT ANATOMY - BRYOLOGY RESEARCH COMPLEX

1	Lab	Faculty Plant Anatomy research lab	--	--	600
1	Lab	Graduate Plant Anatomy research lab	--	--	300
3	Aux	Graduate student cubicles @ 80	240	--	--
			<hr/>	<hr/>	<hr/>
			240	--	900
			<hr/>		
			1,140		

PALEOBOTANY RESEARCH COMPLEX

1	Aux	Paleobotany office	200	--	--
1	Lab	Faculty Paleobotany Research Lab	--	--	400
1	Lab	Graduate Paleobotany Research Lab	--	--	400
1	Aux	Paleobotany storage	--	--	200
			<hr/>	<hr/>	<hr/>
			200	--	1,000
			<hr/>		
			1,200		

PLANT ANATOMY-BRYOLOGY RESEARCH

This space is requested as a combination staff and graduate student facility

SPACE REQUESTED

1	staff research laboratory	600 sq. ft.
1	graduate research laboratory with connecting door	300 sq. ft.

SERVICES

1. Gas, compressed air, distilled water in both rooms
2. 220 wiring in staff research lab for a growth chamber
3. sink in both rooms
4. refrigerator in both rooms

PLANT MORPHOLOGY RESEARCH COMPLEX

1	Aux	Plant Morphology office	200	--	--
1	Lab	Plant Morphology research lab	--	--	750
1	Aux	Graduate Plant Morphology lab	--	--	300
			<hr/>	<hr/>	<hr/>
			200	--	1,050
			<hr/>		
			1,250		

MYCOLOGY - PLANT PATHOLOGY RESEARCH COMPLEX

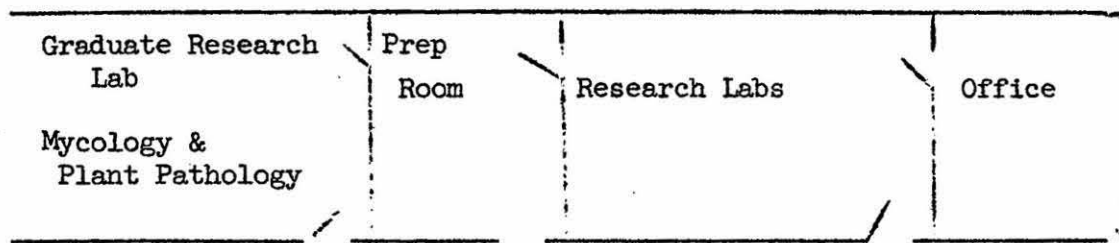
1	Aux	Plant Pathology office	200	--	--
1	Lab	Faculty Plant Pathology Research Laboratory	--	--	400
1	Aux	Plant Pathology prep room	--	--	325
1	Lab	Graduate Plant Pathology Laboratory	--	--	625
			<hr/>	<hr/>	<hr/>
			200	--	1,350
			<hr/>		
			1,550		

PLANT PHYSIOLOGY RESEARCH COMPLEX

4	Aux	Plant Physiology Offices @ 200	800	--	--
4	Lab	Faculty Plant Physiology research labs @ 400	--	--	1,600
4	Lab	Graduate Plant Physiology research labs @ 1,000	--	--	4,000
1	Aux	Plant Physiol. chemical storage and supply room	--	--	400
1	Aux	Avena room	--	--	200
1	Aux	Tissue culture room	--	--	120
1	Aux	Balance and weighing room	--	--	120
1	Aux	Instrument room	--	--	200
			800		6,640
			7,440		

Research space for Mycology and Plant Pathology -

The preferred arrangement of the office, laboratory, and prep room facilities would be as follows



The second choice would be to have the Graduate Research Lab (and prep room) across the hall.

1 office - 200 sq. ft. Floor to ceiling bookshelves 20 ft. long

1 Research laboratory - 400 sq. ft.

- 1 vented electric drier
- 1 double sink that will withstand caustic materials
- 1 unobstructed work surface, extending from both sides of the sink, with a total of 20 ft. x 32 in. with cabinets beneath
- 1 storage shelf, closed front, floor to ceiling, 10 ft. long
- 4 refrigerators, 2 incubators, 1 positive pressure inoculating chamber.

The lab to be serviced with gas, compressed air, distilled water, and 110 and 220 volt circuits

1 Preparatory room - 325 sq. ft. To service both the above research lab and the Graduate Research Laboratory.

- 1 vented hood
- 1 vented electric drier
- 1 autoclave
- 1 oven
- 1 garbage disposal
- 1 dishwasher
- 1 double sink that will withstand caustic materials and adjacent counter area.

The room to be externally power vented and to be serviced with gas, compressed air, distilled water, and 110 and 220 volt circuits.

1 Graduate research laboratory - 625 sq. ft.

- 1 double sink that will withstand caustic materials
- 1 unobstructed work surface, extending from both sides of the sink with a total of 30 ft. x 32 in. with counters beneath
- 1 storage shelf, closed front, floor to ceiling, 10 ft. long.

One side of the room should have built-in (formica topped) work areas that are 28 in. high and 36 in. deep, with feet and leg wells and drawers to the floor.

Total 1550 sq. ft.

RESEARCH AND OFFICE SPACE FOR PLANT PHYSIOLOGY

Premise: 4 full time staff members with the equivalent of 16 post doctorate and graduate students.

OFFICE - 4 @ 200 sq. ft. each

FACULTY RESEARCH - 4 @ 400 sq. ft. each

Each should be connected to the office and graduate research space provided for that professor and preferably in the area associated with plant physiology teaching laboratories and plant growth facility. Wet labs with chem. benches.

GRADUATE RESEARCH - 4 @ 1000 sq. ft. each

Wet labs with soapstone chem. benches - preferably arranged to form four cubicles for student desk and book case. Chemical fume hoods (one large or two small hoods for each lab) with gas, air, water, low pressure steam, and steam distillation cones in each. Distilled water must be piped to the laboratory.

CHEMICAL STORAGE AND SUPPLY ROOM

AVENA ROOM

TISSUE CULTURE ROOM

BALANCE AND WEIGHING ROOM

SPECIAL INSTRUMENT ROOM

Each lab and prep room to have a sink (two in the 36 student labs in addition to "Wet lab" set up), gas, compressed air, and distilled water, and 110 and 220 volt circuits.

Each prep room to be externally power vented with optional controls to remove noxious fumes and odors.

Each prep room to have a garbage disposal.

PHYCOLOGICAL RESEARCH

1	Aux	Phycology Office	216	--	
3	Aux	Graduate student offices @180	540	--	
2	Aux	Environmental light rooms @ 252	--	--	504
1	Lab	Phycology Research lab	--	--	612
1	Aux	Phycology equipment storage	--	--	288
1	Aux	Refrigerator-Incubator Room	--	--	216
			<u>756</u>	<u>--</u>	<u>1,620</u>
			<u>2,376</u>		

PLANT TAXONOMY RESEARCH

1	Aux	Plant Taxonomy office & research	700	--	--
1	Aux	Graduate taxonomy research laboratory	--	--	625
			<u>700</u>	<u>--</u>	<u>625</u>
			<u>1,325</u>		

PHYCOLOGICAL RESEARCH

Details relating to attached plans.

1. OFFICE FOR SENIOR INVESTIGATOR (Book cases, bench space, usual office furniture. This is office space only; not for research).
3. OFFICES FOR JUNIOR INVESTIGATORS (Essentially as above except slightly more bench space and correspondingly less book shelf space. These are large enough rooms for either one post-doctoral fellow or two graduate students. Possibly some microscopical work will be carried out in these offices, but all other research work to be in the central research laboratory.)

2. LIGHT ROOMS (Essentially the same as present facilities except for wire mesh shelves and a central island of shelves accessible from all sides. Light rooms to be insulated on all six sides. Each must have a separate compressor for cooling and be equipped with cut-out thermostats to prevent overheating.)
1. CENTRAL RESEARCH LABORATORY. Same as present except slightly larger. (Glass storage cabinets along all walls.) This will accommodate one senior investigator and up to five associates. ONE TRAINS GRADUATE STUDENTS MOST EFFECTIVELY BY WORKING WITH THEM: NOT BY PUTTING THEM OFF IN A SEPARATE LAB.
1. EQUIPMENT STORAGE ROOM (Lined with shelves for the storage of specialized equipment to be used exclusively by personnel working in central research laboratory. Should have but a single door and that opening through the central research laboratory.)
1. REFRIGERATOR-INCUBATOR ROOM (To hold 5-10 refrigerators, an equal number of incubators and ovens, plus a freezer. For storage of cultures at different controlled temperatures.)

GENERAL CONDITIONS

1. All rooms without exception to be solid wall construction, i.e., on windows of any kind.
2. No through traffic in central hall, and isolated from area of undergraduate instruction.
3. No vibrations can be permitted in the area. It interferes with photography at higher magnifications.

SPECIAL FACILITIES

Some greenhouse space is essential, but it need not be other than general, i.e., usual construction.

RESEARCH SPACE FOR PLANT TAXONOMY

The Herbarium and Herbarium preparatory room have been listed with the advanced undergraduate and graduate facilities.

The request for space for office and research for the plant taxonomist is based on the following premises:

1. That it will serve as a combination office and research room.
2. That it will be located next to the Herbarium with a connecting door.

The preferred arrangement would be between the Herbarium and the Plant Taxonomy Laboratory.

1 room of 700 sq. ft.

SERVICES

- 1 sink
- 1 refrigerator
- 1 unobstructed work surface at least 30 ft. by 28 inches with cabinets beneath
- 1 floor to ceiling bookshelf, 20 feet long
- 1 storage shelf, floor to ceiling, 10 feet long

The Herbarium prep room should be at the opposite end of the Herbarium and open into it and into the Graduate Research area for Plant Taxonomy.

1 room for graduate research -- 625 sq. ft.

SERVICES AND BUILT-INS

- 1 sink
- 3 refrigerators
- 1 unobstructed work surface of at least 30 ft. x 28 inches, cabinets beneath one side of room open for Graduate student work areas
- Gas, compressed air, distilled water, and 110 and 220 volt circuits.

Total -- 1,325 sq. ft. excluding Herbarium and Herbarium Prep Room.

INVERTEBRATE ZOOLOGY COMPLEX
(ACAROLOGY, PROTOZOOLOGY, PARASITOLOGY, INVERTEBRATE)

1	aux	Acarology office & research	576	--	--
3	aux	Offices @ 288	864	--	--
3	lab	Faculty research lab @ 288	--	--	864
1	aux	Aquarium-Terrarium room	--	--	800
3	lab	Graduate research lab @ 800	--	--	2,400
1	aux	storage & prep room	--	--	800
1	aux	Darkroom	--	--	120
2	aux	Environmental control rooms @ 200	--	--	400
			1,440		5,384
				6,824	

VERTEBRATE ZOOLOGY COMPLEX
(MAMMALOLOGY, ORNITHOLOGY, HERPETOLOGY, ETHOLOGY)

4	aux	offices @ 288	1,152	--	--
1	aux	steno offices	288	--	--
4	lab	Faculty research lab @ 288	--	--	1,152
1	aux	Bird-mammal collection room	--	--	960
1	aux	Ichthyology & Herpathology collection room	--	--	720
4	lab	Environmental research labs @ 720	--	--	2,880
1	aux	live animal collection room	--	--	240
1	lab	cold laboratory	--	--	288
1	lab	Graduate Vertebrate teaching lab	--	720	--
3	aux	Environmental control chambers (research) @ 100	--	--	300
			1,440	720	6,540
				8,700	

VERTEBRATE ZOOLOGY COMPLEX

1. The graduate Vertebrate teaching lab must connect with the two collection rooms.

ANIMAL PHYSIOLOGY COMPLEX

3	aux	offices @ 210	630	--	--
2	aux	secretary off. @ 126	252	--	--
1	lab	research lab	--	--	576
1	lab	Neuro and Muscle Physiol. research lab	--	--	716
1	lab	Faculty Research lab	--	--	524
2	lab	Graduate research lab @ 240	--	--	480
1	aux	Aquarium room	--	--	255
1	aux	Darkroom	--	--	110
1	aux	Darkroom (printing)	--	--	140
4	aux	Controlled temperature rooms @ 132	--	--	528
1	aux	Physiology storage	--	--	280
7	aux	Graduate student cubicles @ 98	--	--	693
1	aux	equipment cubicle	--	--	98
			882	--	4,400
				5,282	

1. The Neuro and muscle physiology must be surrounded by screen to mask the equipment from electrical disturbances.
2. The controlled temperature rooms are for the 4 temperature ranges, 0-5C, 5-15C, 15-25C, and 25-30C.
3. All laboratories and graduate cubicles to have utilities. 230 v. to research labs.

DEVELOPMENTAL EMBRYOLOGY COMPLEX

2	aux	offices @ 288	576	--	--
2	lab	Faculty research labs @ 288	--	--	576
1	lab	Graduate research lab	--	--	576
3	aux	cold laboratories @ 80	--	--	240
1	aux	darkroom	--	--	96
1	aux	prep room	--	--	410
1	aux	Embryology storage room	--	--	240
4	aux	Graduate student cubicles @ 180	720	--	--
			<u>1,296</u>	<u>--</u>	<u>2,138</u>
				3,434	

1. The cold labs will contain utilities and have the following temperatures: 5-10 C, 5-15 C, and 18+ 1 C.
2. The Embryology prep lab will have an autoclave and fume hood.
3. The graduate student cubicles will have utilities.

HISTOLOGY - EMBRYOLOGY

1	aux	office	200	--	--
1	lab	Histology Research	--	--	200
			<u>200</u>	<u>--</u>	<u>200</u>
				400	

GREENHOUSE FACILITY

1	aux	Greenhouse, conservatory - demonstration	--	2,700	--
1	aux	Greenhouse, Experimental botany	--	2,700	--
2	aux	Greenhouse, materials prep. @ 2,700	--	5,400	--
1	aux	Headhouse	--	800	--
1	aux	cold room	--	200	--
6	aux	controlled environment rooms @ 144	--	864	--
1	aux	greenhouse supervisor office	120	--	--
1	aux	chemical prep room	--	316	--
			<u>120</u>	<u>12,980</u>	<u>--</u>
				13,100	

1. Increased undergraduate enrollments in Phytobiology will continue with increased enrollments in the college and will most likely increase further with the expansion of the graduate program.
2. Demand for adequate greenhouse and special controlled environment facilities will increase with the initiation of the doctorate program in botany (1967) and continued development of the graduate program.
3. Successful recruitment of competent new staff members in experimental botany requires provision of adequate plant growth facilities.
4. The greenhouse facility will be used to propagate and provide plant material, both research and demonstration, for the freshman biology laboratories as well as material for undergraduate and graduate botany courses.
5. The plant growth facility will serve as a teaching laboratory for both graduate and undergraduate courses and accommodate the research requirements for the departmental staff and graduate students.
6. A permanent non-academic staff member will be hired to supervise and maintain the facility. He will also coordinate space and plan planting schedules as well as provide material for the various freshman laboratories.

PLANT GROWTH FACILITY

Glass houses

1. Conservatory - demonstration house
2. Experimental botany (careful control)
 - Plant Physiology
 - Plant Pathology
 - Virology
 - Genetics
 - Cytogenetics
3. Materials preparation (freshman and botany) labs

Headhouse

1. Open work room with potting benches, pot washer, sterilizer, and storage area for soil, pots and equipment
2. cold room
3. controlled environment rooms
4. Greenhouse supervisor office
5. Elevator
6. Chemical prep. room and laboratory

REQUIREMENTS AND SUGGESTED ARRANGEMENT

1. Suggest four separate 30 x 90 glasshouses with three completely separate 30 x 30 compartments in each, or two 30 x 180 houses with 30 x 30 compartments.
2. Houses must face north-south in length opening into headhouse at north end. Adequate space between houses should be provided to prevent shading.
3. Facilities for cooling, supplementary lighting, humidification and watering must be provided in the glasshouses. If air cooling is used rather than refrigeration for any of the houses, pads should be located on west side with exhaust to the east.
4. Houses should be hail-proof, rodent-proof, and if possible, insect-proof and storm-proof. Provisions for heating, preferably by steam, should be made.
5. If greenhouses are located on roof, a completely water-proof membrane must be placed in the floor which is resistant to decomposition and cracking. Drains must be provided for run-off water and floors leveled to prevent accumulation of any free-standing water. Elevator access to the headhouse should connect with loading dock on ground floor.
6. It is preferable to have the plant growth facility connected directly to the south end of the botany wing of the building to allow easy class and laboratory accessibility.

ANIMAL QUARTERS

1	aux	feed storage	--	140	--
1	aux	Washing & sterilization room	--	400	--
1	aux	general quarters	--	900	--
1	aux	contagious animal quarters	--	200	--
1	aux	caretaker office	--	140	--
			<u>140</u>	<u>1,640</u>	<u>--</u>
				1,780	

1. Washing and sterilization to have high pressure shower for cages, large autoclave, large sinks and incinerator.
2. Feed storage room should be vermin-proof.
3. The contagious animal room will have tile walls, a sterilizer, large sink, be vermin-proof with u.v. and chemical trough barrier and filtered air exhaust.
4. The animal quarters are to have separate ventilation from the rest of the building.

AUXILIARY SERVICE ROOMS

1	aux	Biology storeroom	--	3,000	--
1	aux	Narcotic vault	--	100	--
1	aux	shop	--	1,000	--
1	aux	Faculty lounge	--	500	--
1	aux	drafting-visual aids prep room	--	140	--
1	aux	general darkroom	--	120	--
1	aux	reading room	--	500	--
1	aux	refreshment facility	--	250	--
				<hr/> 5,610	<hr/>

1. The Biology storeroom should contain dishwashing facilities and be located near a freight elevator.
2. The Narcotic vault should be ventilated and have a combination safe lock.
3. The shop should be located near the Mechanical room and isolated from the Teaching Research rooms because of vibrations induced and electrical disturbances from motors.
4. The Faculty lounge should have rest room facilities or be located near them.
5. The soft drink refreshment space should be located convenient to the students but not to present a traffic problem to teaching labs.
Cannot be near Microbiology, Animal Quarters or Greenhouse.

TOTAL SPACE REQUEST 190,588 net

OFFICE 23,054

RESEARCH 50,333

TEACHING 117,201

less Greenhouse	104,221
and Animal Quart.	102,581
and Auxilliary Serv.	96,971
and Lecture	73,311

Facilities requested below do not include Greenhouse, Animal Quarters, Biology Office, Auxiliary Space, or Lecture Rooms:

Microbiology Teaching & Research

Total Space Request		19,730
Office space request (8 + 30)	3,100	(15.7%)
Advanced teaching	8,930	(45.2%)
Research, excluding offices	7,700	(39.1%)

Advanced Biology Teaching and Research

Total Space Request		24,206
Office space request (9 + 34)	5,330	(22.1%)
Advanced teaching	8,090	(33.2%)
Research, excluding offices	10,786	(44.7%)

Advanced Botany & Research

Total Space Request		31,146
Office space request (11 + 6)	3,496	(9.7%)
Advanced teaching	14,865	(47.8%)
Research, excluding offices	13,185	(42.5%)

Advanced Zoology & Research

Total Space Request		41,046
Office space request (14 + 4 + 3 steno)	5,258	(14.0%)
Advanced teaching	17,126	(41.6%)
Research, excluding office	18,662	(45.4%)

Total of all Biology Advanced Teaching, Research & Office excluding Greenhouse, Animal Quarters, Lecture Rooms and Main Office 116,528

Percent of this in:

Advanced Biology	20.8%
Advanced Botany	26.7%
Microbiology	17.0%
Advanced Zoology	35.5%

SPACE DEVOTED TO:

Biology Lecture facilities	23,660
Biology Offices (less counseling)	1,410
Freshman Biology Training Complex	
Including Offices (2 x 72)	28,500
Greenhouse facility including	
One Office	13,100
Animal Quarters including	
One Office	1,780
Auxiliary Services	<u>5,610</u>
TOTAL	74,060

45 faculty offices
146 grad student cubicles
6 steno offices

Campus Planning Committee
November 9, 1965
Attachment No. 587
Item 3314C

TEXAS TECHNOLOGICAL COLLEGE
Lubbock, Texas

Office of the Vice President
for Business Affairs

October 16, 1965

MEETING ON THE BIOLOGY BUILDING

A meeting on the proposed new Biology Building was held at 8 a.m. on October 16, 1965, in the Office of the President. Members of the Campus Planning Committee present were Mr. E. J. Urbanovsky, Mr. Nolan E. Barrick and Chairman M. L. Pennington.

Other persons present from the College were Dean S. M. Kennedy, Dr. Earl D. Camp, Dr. R. W. Strandtmann, Mr. Bill Felty, Mr. John G. Taylor and Mr. O. R. Downing. Representing the architects were Mr. George Pierce and Mr. Bob Deshayes.

Dean Kennedy reported that all the Science Departments had agreed that the most proper use of the new building would be for Biology, and it was his recommendation that the building be for Biology.

The brief history was reviewed. The fact that the building will depend on the successful passage of Amendment 1 on November 2, 1965, matching funds are to be requested under the Higher Educational Facilities Act and the first need is to file an application and that efforts should all be devoted to the filing of the application.

Mr. Pierce said he understood that the real goal is the application, that the time will be too short to design the permanent building, but the real problem is to develop the program of requirements; and they can develop the drawings that are necessary. After the application has been filed, there will be time to redraw the building, adhering to the program and budget; they could then do a good job of designing and development.

Mr. Pierce said that he had seen the application for Foreign Languages and Mathematics Building.

Site - Mr. Pierce saw no problem with the general site which is behind the present Science Building. There is no chilled water service in the area; there is a campus planning problem in the area; there should be a chilled water substation in the area; must decide whether the chilled water is to be a part of the building; if so, the size and the service. It is more than an engineering study, as it can materially affect the students in the area; it will require CPC study also.

The HHFA probably would recognize some cost of the chilling station.

Graduate facilities must be included also and they could be quite different, although there will be no problem for the architects.

It will be necessary to file for graduate facilities under Title II of the Higher Educational Facilities Act, and it may be wise to inquire of matching funds from other agencies such as NSF; NIH, etc. Title II of the Higher Educational Facilities Act could be better as NSF is averaging only about 25 percent. Mr. Pierce said he could not get ready for the NSF by January 1, 1965. It was thought that it would be well to check the field.

Meeting on the Biology Building (10-16-65)

Design - Mr. Pierce said that he understood that it must be acceptable to the Board; that he is to recognize the environment and must fit the building in. He knows that it will be necessary to sell the design that is made. The plan and function are the most important aspects and worrying can be done about the design later.

Committee - The Committee has reviewed the philosophy of the Board action. They understand the schedule and they need to get moving very rapidly.

Time Schedule - November 15, 1965 - A plan of requirements developed, reviewed and finally approved and one that can be lived with from here on. It gives about four weeks. It may be necessary to get subcommittees to do the work and to go through all the steps. The entire project is to be run through the Campus Planning Committee; the Committee should do work on the spaces, staff, and student loads through a period of time that the building is to suffice.

The architects would like to have copies of anything in the meantime, even if it is unofficial; they would even like to have it piecemeal, but all by November 15.

The architects hope to develop a building which can be used for any of the sciences.

The area studies for students and faculty determine even the sketch plan, the number of departments, the length of the academic plans, changes, student load, reasonable growth factor, number of classrooms, etc., are all needed.

The same information would be needed for lecture facilities.

Provisions should be for television usage.

Some information on the type of experimentation and plans should be given.

Mr. Pierce and Mr. Deshayes presented a list of items which they would like to have, and it is attached to and made a part of the minutes of Meeting No. 258.

The Committee is to worry about net space and not other, such as halls, stairs, etc.

Visiting Parties - It was recommended that the Committee see as many of the recent Science Buildings at other institutions as possible.

The quality and materials were discussed.

Other Committee Members - Other members were also discussed and it was thought that it would be well to get at least one from Agriculture.

Mr. Pierce said that the nature of the application and the time schedule are unusual and said that it may cause some undue expense on the part of the architects as they may not be able to use all of the development which is to be prepared in such haste. However, they could not see the degree of work at the time.

M. L. Pennington
Vice President for
Business Affairs

The meeting adjourned at 9:20 a.m.

Campus Planning Committee
November 9, 1965
Attachment No. 588
Item 3115C

TEXAS TECHNOLOGICAL COLLEGE
Lubbock, Texas

Office of the Supervising
Architect

October 27, 1965

Mr. Marshall Pennington
Vice President for Business Affairs
Campus

Dear Mr. Pennington:

Re: Proposed Business
Administration Building

Enclosed please find copies of information forwarded to
Page, Southerland and Page thus far.

Very truly yours,

/s/ Jerry Kirkwood
(Miss) Jerry Kirkwood
Office of the Supervising Architect

JK/si(g)

Enclosures 2

Memorandum No. 1 for file
October 20, 1965

Report No. 1 From School of Business Administration
Proposed new building for the School of Business Administration
October 23, 1965

MEMORANDUM NO. 1 FOR FILE
20 October 1965

RE: Programming Data
 Proposed Business Administration Building
 Texas Technological College
 Lubbock, Texas

TEACHING FACULTY
SCHOOL OF BUSINESS ADMINISTRATION, FALL 1965.

George G. Heather, Dean
 Office: BA 216

Germain Boer, Assistant Dean
 Office: BA 216

Seldon C. Robinson, Freshman Adviser
 (Also Management Faculty)

Graduate and undergraduate program in the following six departments:

1. Accounting
 Dr. Reginald Rushing, Head
2. Business Education and Secretarial Administration
 Dr. William R. Pasewark, Head
3. Economics
 Dr. Robert L. Rouse, Head (Also in Finance)
4. Finance
 Dr. Robert L. Rouse, Head (Also in Economics)
5. Management
 Dr. Fredis Lloyd Mize, Head
6. Marketing
 Dr. John A. Ryan, Head

Faculty members acting as advisers for various majors as well as being faculty members:

1. Dr. Rushing, Accounting
2. Dr. Ryan, Advertising, Marketing and Retailing
3. Dr. Pasewark, Business Education and Secretarial Administration
4. Dr. Rouse, Economics, Finance, International Trade
5. Dr. Mize, Management and Industrial Management
6. Mr. Dale, Prelaw
7. Mr. Clover, Public Administration

Teaching Faculty by Departments

Accounting

Professors 5
 Associate Professors 3
 Assistant Professors 4
 Instructors 1
 Part-time Instructors 6
 Teaching Assistants 10

 Total Full-time Faculty 13
 Total part-time and teaching assistants 16

Teaching Faculty by Departments

Business Education and Secretarial Administration

Professors 3
 Associate Professors 2
 Assistant Professors 3
 Teaching Assistants 3

 Total Full-time Faculty 8
 Total part-time and teaching assistants 3

Economics

Professors 2
 Associate Professors 5
 Assistant Professors 3
 Instructors 5
 Part-time Instructors 1
 Teaching Assistants 11

 Total Full-time Faculty 15
 Total part-time and teaching assistants 12

Finance

Professors 4
 Associate Professors 2
 Assistant Professors 3
 Instructor 1
 Part-time Instructor 4
 Teaching Assistants 7

 Total full-time faculty 10
 Total part-time and teaching faculty 11

Management

Professors 2
 Associate Professors 2
 Assistant Professors 3
 Instructor 1
 Part-time Instructor 3
 Teaching Assistants 6

 Total full-time faculty 8
 Total part-time and teaching assistants 9

Marketing

Professors 3
 Associate Professors 2
 Assistant Professors 1
 Instructors 4
 Teaching Assistants 5

 Total full-time faculty 10
 Total part-time and teaching assistants 5

School of Business Administration

Total number Professors 19
 Total number Associate Professors 16
 Total number Assistant Professors 17
 Total number Instructors 12
 Total number part-time Instructors 14
 Total number teaching assistants 42

 Total number full-time teaching faculty 64
 Total number part-time teaching faculty 56

Information taken from the Official College Roster dated 9-28-65

TEXAS TECHNOLOGICAL COLLEGE
Lubbock, Texas

SCHOOL OF BUSINESS ADMINISTRATION

Report No. 1

October 23, 1965

From School of Business Administration

Proposed new building for the School of Business Administration

A. Classrooms

1. Accounting Department
2. Business Education and Secretarial Administration Department
3. Finance Department and Economics Department
4. Management Department
5. Marketing Department

B. Offices

1. Deans' Office Complex
2. Department Heads' Office Complex
3. Faculty Office Complex

C. Other Rooms

D. Basement Area

E. Notes

A. CLASSROOMS

1. Accounting Department
New Business Administration Building

<u>No. Rooms</u>	<u>Student Capacity</u>	<u>Description of Rooms</u>
8	50	Semicircular rooms, tiered, tables curved, to fit in circular room, projection equipment, TV equipped
2	35	Laboratory rooms, tiered structure, individual adding machines and tables for students, drafting equipment, storage space, darkening facilities
2	25	IMB equipment, data processing equipment
2	25	Laboratory room or work rooms for IBM students, tables, chairs, storage cabinets for equipment
3	40	Data Processing classrooms, TV equipped, overhead projection equipment, tables, semicircular room or seating, tables curved to fit room, tiered structure

2. Business Education and Secretarial Administration Department
New Business Administration Building
10-22-65

<u>No. Rooms</u>	<u>Student Capacity</u>	<u>Description of Rooms</u>
4	33	Manual typewriters, lecture, desks 24 x 36. Stationary projection equipment and facilities for darkening room. TV closed circuit.
3	40	Electric typewriters and transcription. L-shaped desks 48 x 48. Stationary projection equipment and facilities for darkening room. Multiple listening stations. Desks arranged in pairs, aisle on both sides, to permit instructor to observe students. TV closed circuit.
1	36	Electric typewriters, lecture, duplicating and transcribing machines, L-shaped desks 48 x 48. TV closed circuit.
1	24	Office machines laboratory. L-shaped desks 48 x 48. Stationary projection equipment and facilities for darkening room.
1	48	Calculating machines, lecture, desks 24 x 36. Stationary projection equipment and facilities for darkening room. TV closed circuit.
1	40	Manual typewriters, desks 24 x 36. Stationary projection equipment and facilities for darkening room. Desks arranged in pairs, aisle on both sides, to permit instructor to observe students. TV closed circuit.

2. Business Education and Secretarial Administration Department
 New Business Administration Building
 10-22-65

<u>No. Rooms</u>	<u>Student Capacity</u>	<u>Description of Rooms</u>
1	40	Shorthand. Desks 24 x 36. Stationary projection equipment and facilities for darkening room. Multiple listening stations. Desks arranged in pairs, aisle on both sides, to permit instructor to observe students. TV closed circuit.
1	30	Methods-Seminar Laboratory. Manual typewriters, desks 24 x 36. Three display cases. Stationary projection equipment and facilities for darkening room. TV closed circuit. Storage of supplies and equipment for visual aids.
1	30	Dictation laboratory, desks 24 x 36. Multiple listening stations.
1		Office Research laboratory. Instruments to measure such factors as eye movement and respiration of persons and physical characteristics of machines and supplies. Motion picture camera.
1		Storage room.

3. Department of Finance and Department of Economics
 New Business Administration Building
 10-22-65

<u>No. Rooms</u>	<u>Student Capacity</u>	<u>Description of Rooms</u>
1	200	Large auditorium (a) Permanently installed projection equipment movie, opaque, overhead--with controls at the speaker's podium (b) Arm chairs (c) Darkening devices (d) Sound equipment
1	100	Slight tier, raised lecturn (a) Permanently installed projection equipment overhead, movie (b) Grid on chalkboard (c) Maps installed (d) Arm chairs (e) Darkening devices
2	75	Table and tiered (a) Closed-circuit TV (b) Arm chairs
1	75	Regular seating (a) Closed-circuit TV (b) Arm chairs
2	40	Tables (a) Permanently installed projection equipment overhead, movie, opaque (b) Maps installed (c) Grid on chalkboard (d) Darkening facilities

3. Department of Finance and Department of Economics
New Business Administration Building
11-22-65

<u>No. Rooms</u>	<u>Student Capacity</u>	<u>Description of Rooms</u>
1	40	Tiered (a) Permanently installed projection equipment overhead, movie, opaque (b) Maps installed (c) Grid on chalkboard (d) Darkening facilities
3	50	(a) Permanently installed projection equipment overhead, movie, opaque (b) Grid on chalkboard (c) Darkening devices
1	75	Tables and chairs (Economic Geography) (a) Permanently installed projection equipment overhead, movie (b) Grid on chalkboard (c) Maps installed (d) Arm chairs (e) Darkening devices
2	20	Seminar rooms (a) Maps and charts (b) Chalkboard

4. Department of Management
New Business Administration Building
10-22-65

<u>No. Rooms</u>	<u>Student Capacity</u>	<u>Description of Rooms</u>
1	20	Seminar type. Full use throughout fourteen cycles.
1	40	Tiered seats. Full use throughout fourteen cycles.
2	40	Regular classroom type. Full use throughout fourteen cycles.
2	50	Regular classroom type. Full use throughout fourteen cycles.
1	100	Regular classroom type. Used for four of fourteen cycles.
1	200	Auditorium type room. Used for three of fourteen cycles.
1	40	Tiered classroom area plus stage at front separated from classroom area by one-way glass partition. Capacity for forty students in tiered area. Used for seven of fourteen cycles.
1	40	Tiered classroom area and demonstration area at front. Darkened for projection. Wall area for "Productrol or Pert-type charts." Blackboard at front. Capacity of tiered area 40 students. Full use throughout fourteen cycles.
2	20	Adjacent to room described above. Tables and chairs. Blackboard, darkened for projection, wall area for charts, input-output connection to Computer Center for one room; key punch area in one room; full use throughout fourteen cycles.

5. Marketing Department
 New Business Administration Building
 11-22-65

<u>No. Rooms</u>	<u>Student Capacity</u>	<u>Description of Rooms</u>
2	40	Business Statistics laboratories. Tables and chairs, tables attached to floor. Electrical outlet to each table. Storage space for calculators and supplies. Each calculator chained to table. Work space of 20 x 20 inches for each table exclusive of spaces occupied by calculators. Overhead projector, filing cabinets and darkening facilities.
2	30	Equipped with arm tablet chairs
1	40	Equipped with arm tablet chairs. Tiered structure.
2	60	Arm tablet chairs. Chairs attached to floor and arranged in fan shape on tiers. Audio-visual equipped, darkening facilities.
1	30	Special purpose room to be used as advertising laboratory and classroom. Special L-shaped desks with typewriters and tilting tops. Audio-visual equipped, darkening facilities.
1	30	Merchandising room, tables and chairs, Audio-visual equipped, darkening facilities.

B. Offices

<u>No. Rooms</u>	<u>Capacity</u>	<u>Description of Rooms</u>
1. Deans' Office Complex		
1	Appropriate for Dean	
7	Appropriate size	Assistant Deans, Advisers, etc.
1	6 secretaries	Secretarial and reception area
1	20	Conference Room Small utility room for refrigerator and stove attached
1		Area for files and workroom with direct access to basement and storage area
2. Department Heads' Office Complex		
7		Appropriate size for department heads offices, preferably with windows
1	12	Conference room
1	6 secretaries	Secretarial and reception area
1		File room
1		Storage room

5. Marketing Department
New Business Administration Building
11-22-65

B. Offices

<u>No. Rooms</u>	<u>Capacity</u>	<u>Description of Rooms</u>
2. Department Heads' Office Complex		
1		Work and machine room that will accommodate: Offset duplicator, fluid duplicator, electrostatic duplicator, typewriter, adding machine, punch card input equipment, paper cutter, collator, work table, shredder
3. Faculty office complex		
120	120	Individual offices
80		Offices for part-time faculty (equivalent of 2 per office)
Office facilities or positions for 60 graduate assistants		

C. Other Rooms

1	500	General purpose- tiered
4	20	Seminar rooms
1	25	Seminar room
1	20	Faculty reading room
1	20	Conference room for Honor Students
1	20	Reference room for Graduate Students
1	20	Conference room for visitors
1	30	Meeting room and files for BA student organizations Tables and chairs, files
1		Nice lounge for women faculty and staff members

D. Basement area

Full basement area finished and suitable for mailroom, mimeographing room, duplicating equipment and food service. Centralized food and beverage area for students, isolated from classrooms and offices. Faculty food and beverage area with small refrigerator and stove.

E. Notes

1. Requested space is based on anticipated enrollment of 6000 students.
2. Present ratio of male and female students in BA are 78 percent male and 22 percent female.
3. Faculty offices to be located away from classroom and student interruption.

TEXAS TECHNOLOGICAL COLLEGE
Lubbock, Texas

SCHOOL OF BUSINESS ADMINISTRATION
October 30, 1965

Change No. 1 to Report No. 1

From School of Business Administration

Proposed New building for School of Business Administration

A. Classrooms

1. Accounting Department

Delete the last three (3) items:

- 2 rooms capacity 25 IBM Equipment, data processing equipment
- 2 rooms capacity 25 Laboratory room or workrooms etc.
- 3 rooms capacity 40 Data Processing classroom etc.

<u>Add</u>			
<u>No. Rooms</u>	<u>Capacity</u>	<u>Description of Rooms</u>	
3 classrooms	20	Lecture rooms for IBM (unit records) Storage space for cards and trays, storage cabinets, 3 filing cabinets, 21 large tables, 21 chairs	
1 lab room	20	Lab room for IBM (unit records) Room to house: 2 sorters, 2 interpreters, 1 reproducer, 1 collator, 21 tables, 21 chairs, storage cabinet for cards and continuous forms, storage for panel boards and wires	
1 lab room	20	Lab room for IBM (unit records) Storage cabinet for cards. Room to house: 6 key punches, 6 verifiers, 3 tables, 15 chairs	
1 lab room	20	Lab room for IBM (unit records) Storage space for cards, continuous forms, panel boards & wire. Room to house: 4 Accounting machines, 21 tables and 21 chairs	
4 classrooms	40	Lecture rooms for electronic equipment, large tables (41) and 41 chairs, 4 filing cabinets, storage cabinets	
1 lab room	40	Lab room to house computer, Card cabinets, large storage cabinets for cards, contin- uous forms, tape reels, 1 filing cabinet, 21 tables, 41 chairs	
1 lab room	30	Lab room with storage space for cards, continuous forms, wires, panel boards, 1 filing cabinet, 16 tables, 43 chairs, 6 key punches, 6 verifiers, 2 sorters, 2 interpreters, 1 collator, 1 reproducer	

School of Business Administration (10-30-65)

3. Finance Department and Economics Department

Add:

<u>No. Rooms</u>	<u>Capacity</u>	<u>Description of Rooms</u>
1 lab room	30	Lab room for Finance. 30 calculators, 30 tables & 30 chairs

5. Marketing Department

Delete:

1	30	Merchandising room, tables and chairs, audio visual equipped, darkening facilities
---	----	--

B. Offices

1. Deans' Office Complex

Add:

1	10	Conference Room. Large table, 10 chairs.
1		Machine & work room, well insulated for sound; to house automatic typewriters, card punch machine, and other office machines of this type. This room can be located in basement area with direct access from Deans' office

C. Other Rooms

Add:

1	30	General purpose room for Business Games, merchandising etc. 31 tables and 31 chairs, audio visual equipped, darkening facilities
1		Production room-20 tables and 20 chairs, storage cabinets, audio visual production equipment, darkening facilities, storage cabinets for audio production supplies and equipment
2	10	Office space for consulting and emeritus professors
1	400	Student reading room and study area

Delete:

In item 6 of Report No. 1, delete the word Graduate

D. Basement Area

Add:

Sub basement area for storage

NOTES: All auditoriums and seminar rooms considered suitable for use by all Departments

Campus Planning Committee
November 9, 1965
Attachment No. 589
Item 3118A-1

O'Meara-Chandler Corporation 4140 Southwest Freeway Houston, Texas 77027
MO7-7585

October 29, 1965

Mr. M. L. Pennington
Vice President
Texas Technological College
Lubbock, Texas

Dear Mr. Pennington:

Please consider this letter as a formal request by Mr. Solon Clements, and the O'Meara-Chandler Corporation for approval to erect additional student housing for some 3,000 beds.

Our present plan would now appear to suggest a starting date during the year of 1967. Naturally, your board's suggestion to an earlier or possibly later starting date would be the first requisite to our firm plans.

Our operation would be of the same mode as that now planned for the first complex near your campus.

Our financing has been obtained, and will be available as our mutually agreed schedule requires.

The city of Lubbock has approved our overall master plan that would provide housing for the additional 3,000 students.

Should this request require supporting data similar to our initial request, please advise and we will provide all instruments required.

Thank you for your consideration.

Yours very truly,

O'MEARA-CHANDLER CORPORATION

/S/ Paul W. Chandler, Jr.

Paul W. Chandler, Jr.
Vice President

PWC/mj

CC Mr. Solon Clements

Campus Planning Committee
November 9, 1965
Attachment No. 590
Item 3118A-2

UNIVERSITY HOUSING CONSTRUCTION, LTD.

11929 Elm Street, Omaha, Nebraska
Telephone: Area Code 402 333-7373

2556 Golf Road, Glenview, Illinois
Telephone: Area Code 312 Park 9-1155

November 4, 1965

M. L. Pennington
Vice President for Business Affairs
P.O. Box 4610
Lubbock, Texas

Re: Apartments for Approved
Student Housing for men.

Dear Mr. Pennington:

As you will recall since our original discussion with you on May 17, 1965, we have proceeded to acquire options and proceed with application.

On October 13, 1965, we received the acceptance of our application for 850 to 1,000 students. We wish to thank you and the Board for their favorable consideration.

We are now acquiring a parcel of sixteen acres contiguous to the campus which was discussed with you this morning in your office.

At this time, we would appreciate the Board of Directors' consideration and approval of additional units commencing in 1967 of one to three buildings as the University may require. Each building would have a capacity of 1,000 students.

Cordially,

/s/Millard R. Seldin

Millard R. Seldin
President

MRS/lc

Campus Planning Committee
November 9, 1965
Attachment No. 591
Item 3118B-2

ARTHUR WILLIAM DANA
Food Operations Consultant

Equipment Design and Layout . . . Management Counsel

Associates
Richard E. Fletcher
George J. Kraft

11 East 44th Street
New York, N. Y. 10017
Phones: (Area Code 212)
682-3365 682-3382

October 21, 1965

Mr. M. L. Pennington
Vice President for Business Affairs
Texas Technological College
Lubbock, Texas

Dear Mr. Pennington:

I am pleased to offer the following tentative proposals on the following project which is still in its tentative stage of size. It is my understanding that the high-rise dormitory and its dining halls may accommodate either about 2000 students or about 3000 students. The services outlined below would be provided.

1. Preliminary

- a. Program: Determine design and layout criteria as they relate to space requirements, circulation, design criteria for the various functional areas, and any other aspects as they relate to the functioning of food service facilities.
- b. Equipment Requirements:
 - i. Compute capacities and quantities based upon menu patterns, portion size standards or consumption projections, multiple batches, etc.
 - ii. Compute utility requirements for mechanical engineers.
 - iii. Compute budget estimate of equipment purchase cost.
 - iv. Compile brochures of standard equipment.
- c. Preliminary Plans:
 - i. Develop preliminary schematic plan in 1/8" scale for discussion thereof.
 - ii. Prepare final preliminary plans in 1/8" or 1/4" scale.

2. Working Drawings and Specifications

- a. Prepare detailed layout or working drawings at 1/4" scale.
- b. Provide rough-in layout, sanitary base and wall opening plans.
- c. Provide elevation drawings of equipment to supplement specifications.
- d. Prepare written specifications suitable for comprehensive bidding.

Mr. M. L. Pennington

-2-

October 21, 1965

- e. Recommend list of bidders, analyze bids, and advise on letting of contract.

3. Inspection

- a. Check and approve shop drawings and buy-out brochures.
- b. Check and approve installation for adherence to specifications.
- c. Provide written "punch list" of items to be remedied.
- d. Check and approve items on "punch list" after remedy.

4. Conferences

- a. Attend conferences, as required, with interested parties.

5. Fees and Payments

- a. The tentative maximum fee for the foregoing services as they relate to a facility for 2000 students would be \$16,000; for 3000 students, \$25,000.
- b. The basis for payment would be for time spent by myself and my associates at the following hourly rates:

A. W. Dana	\$25.00
Senior Associate	18.50
Senior Draftsmen	12.50
Junior Draftsman	8.00
- c. The Food Consultant would be provided with accurate area plans at 1/8" and 1/4" from which the Food Consultant can make suitable tracings and working drawings for the area in which he is to work.
- d. The Food Consultant would absorb the cost of blue print and travel expenses up to and including a reasonable level to be negotiated beyond which he would be reimbursed for any recognized and authorized expenditures above the agreed-upon level. The Food Consultant would provide specifications on stencils or offset masters for reproduction by others and would provide the original tracings and/or sepia prints for reproduction (by others) of final working drawings.
- e. If for any reason this project should be cancelled or our services discontinued, all work performed to date of receipt of such notice would be paid for on the above-mentioned hourly basis.
- f. Invoices in relation to the work performed would be submitted monthly by the Food Consultant for payment.

Mr. M. L. Pennington

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October 21, 1965

- g. If after the approval of the preliminary working drawing layout in 1/4" scale, and if after the work has proceeded on final drawings, substantial changes in layout are required as a result of architectural, mechanical or Owner's changes, the cost of such changes would be determined and paid for, over and above the basic fee, to the extent that the total time and charges therefor exceed the maximum fee.

I would hope that the opportunity would be presented to review some preliminary building schemes before developing a final proposal.

Sincerely,

S/signed

Arthur W. Dana

Arthur W. Dana

AWD:co(j)

Campus Planning Committee
November 9, 1965
Attachment No. 592
Item 3118B-6

TEXAS TECHNOLOGICAL COLLEGE
Lubbock, Texas

Office of the Director
of Food Service

REPORT OF RESIDENCE HALLS TOUR

October 22-27, 1965

On this tour I concentrated on food service areas in the schools visited, particularly the largest food service area operated, and the philosophy of each with regard to the maximum number of students served by one area.

However, when possible, I also tried to see as much as possible of the residence halls areas: student rooms, public areas, lounge areas, study rooms, snack bars, etc. Some of the information in this report will probably duplicate that in the report of the architects. It may be helpful, however, to have the information from another point of view, or for re-emphasis of the information.

I am giving as much information as possible regarding each school. Some of the information may not be pertinent to our immediate purpose of the tour, but I am including them as a matter of record and for future use.

At the close of the report, I am summarizing the information most pertinent to the decisions needed in the early stages of planning for construction of new residence halls.

S/signed

Shirley S. Bates

Shirley S. Bates
Director of Food Service

UNIVERSITY OF WISCONSIN

Current Enrollment - 29,000

Single students in university residence halls - 7,500

Single students in private residence halls - 2,000

Room and board rate - approximately \$920.00 for nine months

Size of food service units (except newest) - 500 - 900 students

Newest Residence Halls Complex - 3,200 students

3 residence halls and commons building

2 are 10 stories, 1 is 13 stories, grouped around Commons.

(Residence units completed at 1 year stages)

1st unit started April 1, completed August 1, following year

2nd unit, same schedule, 1 year later

13 story unit - started middle of November, completed middle of July (1½ years for construction)

Commons built in conjunction with last unit

No food service for first unit for 2 years; none for second unit for 1 year.

Office of the Director
of Food Service
Report of Residence Halls Tour
October 22-27, 1965

Construction costs - housing only (excluding land cost) \$4,200 per student; including food service, \$5,100.

Some features of residence halls

Carpeted hallways
Floor lounges (approximate size of 2 student rooms)
Snack Bars located in two (attractively decorated and do good business. Located on 1st floor, near other public areas.)

Determination of size of residence halls complex

Was based on number of students who could be served meals in the Commons. Decided on six serving lines, each to serve approximately 500 students.

Gordon Commons (Arthur W. Dana was consultant)

Dining Rooms - Six - each seating around 300, plus one for 150 used for special groups dinners, buffets, etc. Students assigned to specific dining room, being sure both men and women students assigned to each. Issued meal ticket for that specific dining room. Two located on lower level, where main kitchen located. Four on upper level serviced by freight elevator.

Kitchen - Main kitchen on lower level. Includes receiving dock, dry storage, frozen and regular refrigerated walk-ins, linen storage, custodial storage, bakery area (do own baking, except bread and rolls from central bakery), preliminary produce preparation, roasting, steam cooking, and all other main preparation. Also office for food production managers and chefs.

"Satellite Kitchens"

One for each pair of dining room and counters. Final preparation, such as frying, grilling, cooking of fresh and frozen vegetables in high speed steamer done in these areas. Other hot foods, such as roasts, scalloped dishes, etc., brought up from main kitchen in labeled heated cabinets. Cold items - salads, desserts, etc., brought up in cabinets and placed in pass-through refrigerators behind counters. Most salads and desserts portioned and served onto plate at counter. When milk delivered to dock, it is divided out and sent to each serving area.

Dishwashing Room

One for each pair of dining rooms. Use Hobart Flight Type machines. Dish window size of one tray. Conveyor from window to scrapping area is the new "self-cleaning" type. Past scrapping area conveyor has both belt and gravity-type roller conveyor. Pans which do not have food baked on run through dishmachine. Those with baked-on food sent to potwashing area on lower level.

Office of the Director
of Food Service
Report of Residence Halls Tour
October 22-27, 1965

Serving Hours

Breakfast	6:55 - 8:00	
Lunch	11:00 - 1:20	(only 2 lines open from 11:00 to 12:00)
Dinner	5:30 - 6:30	

Friday noon through Sunday noon, only 4 dining rooms used.

Managerial Staff

Manager, 2 dietitians, production supervisor and service supervisor, Assistant Production Supervisor (chef), Assistant Service Supervisor, 6 Cafeteria Supervisors (middle management - each has 2 assistants, remaining service employees students)
Also chef on each shift
(2 snack bars take part of the Service Supervisors' time)

Kitchen Employees

Approximately 50 full-time, but over 50% of man hours are students. Use student employees for almost everything; including frying, grilling, vegetable cooking in "Satellite" areas.

Employees are state Civil Service, minimum \$2.50 per hour, average about \$2.80. Students start at \$1.25 per hour, and they have no trouble getting them. Allowed to work to 20 hours weekly. Work record becomes part of permanent University record.

Kitchen employees charged for meals. Sold punch card for 13 meals per week, at \$.50 per meal.

Menu

Use 6 weeks cycle menu. Menu very similar to ours.
At lunch, seconds on everything, except salads and desserts.
At dinner, except meats, salads, and desserts.
At breakfast, everything except eggs (limit to two) and juice.
Unlimited milk, but only two glasses at a time.

Guest Policy

Rates - Breakfast .50, Lunch .85, Dinner 1.25, Sunday Dinner 1.65. Must buy ticket. Staff guest rates same as student. If student residence halls organization has guests, charged to that organization.

Interesting features observed

Receiving dock closed in with overhead doors and fly fans.
Receiving refrigerators in this area for temporary storage until distributed.

Office of the Director
of Food Service
Report of Residence Halls Tour
October 22-27, 1965

Interesting features observed (continued)

Linen room in receiving area.
Areas marked in receiving area for storage of empty baskets, potato chip boxes, egg crates, etc., to be picked up.
Area for washing milk cans and roller conveyor takes to dock after washing.
Room for storage of floor scrubbing machines, etc.
(Have night scrubbing program in kitchen and other areas through residence halls custodial services.)
Ingredients area where all ingredients weighed up for following day and distributed to proper area.
Artifax mixer for mixing meat loaf, salad greens, fruit cup, etc.
Mixers elevated so bowls may be removed without removing beaters.
Portable griddles and fryers (downstairs for those 2 dining rooms and upstairs for those 4).

MICHIGAN STATE UNIVERSITY

Room and Board Charges - \$825 for three terms

Housing Organization

Use 1 Residence Assistant per house of 50-55 (upperclass student; receives room and board)
Resident Advisor for 600 students, and two assistants
(Have 3 apartments per 600 students)
Building manager responsible for everything. Has under him Head Secretary, Food Service Manager, Building Supervisor in charge of custodial and minor maintenance. Works with Head Advisor who reports to Dean of Students.

All Assistants in housing are staff jobs. One is to co-ordinate food service, but has no authority over operation. Does work on menus with a food service managerial person from each unit.

No centralization in food service except storage.

General

Allow TV in bedrooms with special permit. (Apparently, anyone applying receives permit.)
Use venetian blinds and provide rods for side panels only, which students furnish if they wish. May not put up full-width curtains.
Have central phone system
Bus service on campus operated by university. Students may buy pass, drivers can't take money. Pass either \$8 or \$12 per term. Mr. Andrews wasn't sure. On 40 minute class schedule, buses run every 30 minutes. Also use for field trips; may be chartered.
Use incinerators - double stack unit
Have coin-operated hair dryers

Office of the Director
of Food Service
Report on Residence Halls Tour
October 22-27, 1965

Food Service

Largest unit for 1,400, with 10,000 sq. ft. dining space.
Don't want larger units. Had one for 3,000 and didn't like.
(Was all on one level and apparently quite spread out.)
Allow seconds at lunch on everything except dessert; at dinner everything except meat and dessert.
Use duplicate ID card for meal ticket. Is in file, numbered.
Student gives number to checker, checker flips file to that number and checks picture.

Scramble Cafeteria

Serves 1,400. Use 2 double hot food sections, 2 salad and dessert areas, 1 beverage area with service available from 2 sides.
Serves 1,400; have served as many as 30 per minute, 900 in 30 minutes.
Entire area open - no partition between serving area and kitchen, or serving area and dining room.

(Mr. Andrews and the resident advisor were very pleased with this. We didn't get to talk to anyone in food service. Don't have self-bussing of dishes. Student employees picking up dishes on carts - very noisy. Not always seats available. The dining area was very noisy and there seemed to us to be a great deal of confusion. They said they never had bottlenecks, but we observed several.)

UNIVERSITY OF MICHIGAN

Note: We did not spend very much time here and none on food service, except for a quick trip through the kitchen of the South Quadrangle, which I had seen before. It is very adequate, but does not have anything new or startling. They have a new commons building on the North Campus, which had been open for about a month. It was not open on Saturday evening, and is not in full operation as yet.

General Information

7,000 in residence halls
600 in co-ops
1,200 married student apartments

South Quadrangle

2 floors per house of about 170, with 1 floor lounge
Elevator stops every other floor
Have housemother and 5 or 6 staff people (upperclass students) per house.
Have 119 doubles, tripled now
Room and board - triple room \$895 per student (9 months)
double room 950
single room 1,080

Office of the Director
of Food Service
Report on Residence Halls Tour
October 22-27, 1965

Parking

No Freshmen allowed cars unless married or over 21, then issued special permit.
In addition to parking lots have 4 parking garages and planning 2 more.
Staff permit \$10.00 per semester, \$5.00 summer term.
Guest Parking - .50 day, regardless of time used.
Lots are metered - charge .25 per eight hours.

General

Organization somewhat like Michigan State, with unit manager responsible for everything
Use a large number of student employees, but are having increasing difficulty getting them
Salaries of regular employees very high (janitors \$400 per month) - Living expenses so high in Ann Arbor can't live even on salaries paid
Most full-time employees live in surrounding communities.

UNIVERSITY OF PITTSBURGH

Food Service (Contracted out to Saga. Talked with Manager and Production Manager. One said served 3,000; other said 7,500.)

Located in basement under towers, with kitchen under one tower, and one dining room under each of other two towers. Circular shape around core of towers. Each dining room has 4 cafeteria counters.
Has been open 3 years. Have bakeshop; also bakes for snack bar. Do no butchering; buy portion control meats. Have grills behind counters for eggs, steaks, etc. Salad and dessert counters not refrigerated. One dishroom with conveyor coming in from each dining room with dish-machine at end of each conveyor.

Have contract food service and also sell \$20.00 meal ticket books. Choice of two entrees, same choice on salads and desserts, more on vegetables.

Serve two hours at lunch and dinner, 1-3/4 at breakfast.

Employees - 240 - 15% labor hours are student.

Residence Halls

All towers for men, but are using floors 8-12 in Tower C this year for graduate women and 13-15 for freshman women.
Elevators (2) stop every 3rd floor. Elevator floor has small lounge.
Use 1 graduate assistant per floor.
Rooms vary; some single, some double, some have one small window, some double windows.
Rooms built around central core, which contains baths, laundry facilities, etc.
Have floor phones only, but any student may have private line installed.

Office of the Director
of Food Service
Report on Residence Halls Tour
October 22-27, 1965

Residence Halls (continued)

Corridors are carpeted.
Have one central desk in main lobby connecting towers.

(Note: One young lady I talked to said she had no objections to living in the towers and found the facilities very good, except for two things. The accoustics are very bad and there is much transmission of noise; she misses having a lounge and kitchenette on every floor as they do in their women's residence halls that she had lived in before.)

INDIANA UNIVERSITY

Enrollment - 23,000; house - 10,700, plus married housing
Build centers, or groups of residence halls, for 1,000 - 1,300
students with food service in commons building.
Coeducational, except one center for girls only, 2 for men only.
Have a manager and assistant for each group.
Director of Counseling for residence halls system.
Remainder of responsibilities under Director of Residence Halls,
including Administrative Dietitian, responsible for all food
service.
Sometimes finance through HHFA, sometimes not. Find private
financing sometimes cheaper and less time consuming.
\$5,200 per student construction cost.
Use a decorator for each project. Fee paid is 10%. Prepare
specifications and university takes competitive bids.
Use carpet in halls - 50% less maintenance, 10% less heat, quieter
(students studying in rooms more since carpet used).
Provide drapes in rooms, rather than using blinds.
Use loose furniture. If financing HHFA, borrow money separately
for this.
Have central lounge area (larger in women's) and floor lounges.

Commons Building

Kitchen, 2 dining rooms (each has folding partition to divide
into 2 rooms), Lobby with mail boxes and night depository
(for room and board payment), and office for area manager
all on 1st floor
Basement has snack bar and recreation areas
Second floor has library for area

Libraries

Have one librarian in charge of libraries, with one library
in each residence center. Use money from vending machines
(\$18,000 to 25,000 per year.) Each area receives \$2,000
per year for books, magazines, etc.

Size Determination

They don't want to go over 1,400, because they feel food
preparation suffers above that, and even if not, there is a
psychological effect from "mass feeding". They had been
checking with Wisconsin and didn't think anything was being
saved by going to 3,000.

Office of the Director
of Food Service
Report on Residence Halls Tour
October 22-27, 1965

INDIANA STATE UNIVERSITY

Sycamore Towers Commons

Serves 1,800, opened this fall.
Used a consultant, but he was with a commercial concern.
Director of Food Service said they were not consulted in early planning stage and spaces were not well planned, but rather "what was left". She was having a number of problems with equipment, and also with management. The management problems resulted from poor space relations, especially for storage.
Have 45-50 full time employees (unionized) and 65 student employees, but are having trouble getting students to work.
Dining room on 2 levels, with balcony effect. Restricts table arrangement.

<u>Serving Hours</u>	Breakfast	7:00 - 8:00
	Lunch	10:30 - 1:15 (but close 12:30 - 1:00)
	Dinner	4:30 - 6:15

UNIVERSITY OF ILLINOIS

Largest food service units are for 1,800, and don't want any larger. Feel that the larger the unit, the more complicated the organization becomes. However, they finally admitted that they guessed anything larger than 1,800 just "scared them".
The food service unit I visited was the conventional straight-line cafeteria type for 1,800. There were two counter rooms, one of which had 2 counters. (This was an afterthought, the counter having been cut and divided.) A part of the counter rolls out and grill is rolled in for eggs, steaks, etc., on remodeled counters not possible. Grill for these in kitchen. Dish room located at far end of dining room from kitchen and service counters, which was causing all sorts of problems - supervision, returning clean dishes to counter areas, etc.
Seconds on everything except meat and dessert.
Use 7-week menu cycle.
Use student employees mostly for counter service and some in dish-room. Are having increasing trouble getting students to work. Do not have much difficulty keeping their management positions filled, but have been steadily raising salaries. (Beginning salary for unit manager being raised another \$1,100 this year.)

SOUTHERN ILLINOIS UNIVERSITY

Visited the University Park Residence Halls and Commons.
Total of 1,800 students in area.

Residence Halls

First floor contains lobby area, lounge, study room, office and apartment for Resident Advisor. (Most of furniture for this area was not yet in.)
Each floor, or house, has small study room, lounge approximately size of two student rooms, laundry room, room with 2 hair-washing sinks and one coin-operated dryer, and small kitchenette.

Office of the Director
of Food Service
Report on Residence Halls Tour
October 22-27, 1965

Residence Halls (continued)

Use suite plan, with connecting bath between each 2 rooms.
Bath small with 30" shower and commode. Very small
lavatory in each room.
Use loose furniture. Drapes rather than blinds.

Commons Building

Includes cafeteria, snack bar, experimental kitchen, recreation
space, office for area head. (Basement not completed -
recreation space and snack bar in this area.)

Food Service

Scramble type cafeteria. Planned much better than Michigan
State. Did not have the feeling of confusion we felt
there. However, were there after peak of service.
They're very pleased with it. Can serve 30 per minute.
However, dining space gets so crowded they sometimes have to
close doors for short period of time. Also, conveyors cannot
carry dish load. Students place trays on rack and student
employee removes them and places on conveyor. Have
trayveyor that goes down under floor, across, and comes up
in dishroom. Do have some problem with it turning trays
over, of which we saw an example. Used roller type conveyor,
but will go back to belt type, as they are not pleased with
it.

Serving Hours

Breakfast	7:00 - 8:15	
Lunch	11:15 - 1:15	Sat., 11:30 - 12:30
Dinner	5:00 - 6:15	Sun., 12:15 - 1:15
Sunday Breakfast	8:00 - 9:00	Rolls and Coffee 9:00 - 10:00

Dining Area

One dining room seating 624; 2 seating approximately 150 each.

Personnel

Supervisory - 1 Manager, 2 Food Production Managers, and 2
Asst. Production Managers
Employees - 51 full time, but use many students for service,
cleaning of all types, dishwashing, and vegetable preparation.
Student employees receive \$1.00 per hour minimum, may work a
maximum of 120 hours per month. Referred through Student
Work Center. Are allowed to pre-register to aid scheduling.
(Noted students not required to wear uniforms. Wearing
bib-type apron over street clothes for serving at counter.
Some not wearing hairnets, boys not wearing caps.)

Seconds

At breakfast, on everything except fruit or juice; lunch,
except dessert; dinner, except meat and dessert.

Office of the Director
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Report on Residence Halls Tour
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Menu

Do not use master menu. Managers in each area plan own menus; reviewed by Director of Food Service. Do not offer choices, except on occasion with unpopular items, such as liver.

Guest Rates

Breakfast \$.80, Lunch \$1.00, Dinner \$1.25
Residence halls organizations may have guests, but pay for at regular rate from social account.

Size Determination

Didn't want to go above 1,800, because felt the "personal touch" would be lost.

SUMMARY

General Trends in Residence Halls Facilities

Floor or House Lounge

All are making provision for this. Houses vary from 50 to 150. Space is usually about size of two student rooms. Location usually in area near elevators. First floor lounge space is then smaller, except Indiana University provides very large public lounge area in women's halls.

Study Rooms

All are making provision for this. Some providing small study area for each house, others providing large central area, and some are providing both. Some small typing rooms also being provided. Indiana University and University of Michigan have libraries.

Laundry Facilities

Most are providing small area on each floor; some provide central area, usually in basement. Ironing area usually on each floor.

Hair Washing

Some provision being made in women's halls. Providing hair-washing sinks and coin-operated dryers. Some are in laundry area. Southern Illinois has separate room for this on each floor.

Carpeting

All except Michigan State and Southern Illinois were using carpet in hallways. None had had it for a very long period of time, but Wisconsin and Indiana

Office of the Director
of Food Service
Report of Residence Halls Tour
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Carpeting (continued)

University had run tests. Indiana found it required 50% less maintenance and 10% less heat. Also, was so much quieter that students are studying in their rooms more.

Drapes vs. Blinds

The trend seems to be to provide drapes in the rooms rather than blinds, due to maintenance problems and an effort to have a uniform appearance from the outside. However, Michigan State wanted their students to be able to add their own "personal touches". Provide blinds and rods for side drapes, which the students may add if they wish. This does not affect outside appearance, as the drape does not extend over the window. (They are not allowed to put up full-width curtains or drapes.)

Use of Decorator

All are using the services of a decorator. Michigan State has one on the staff full-time. The others employ a decorator for each project. Specifications are then written for furnishings, etc., and university takes competitive bids.

Provision for Staff Quarters

All provide an apartment for the Resident Advisor (Counselor, Supervisor or other title). Most provide one bedroom; some provide two. Michigan State provides small apartment for assistants. (2). Policy varies for Resident Assistants (similar to our Wing Advisors). Some want them to have roommates; some don't. This depends on their philosophy of supervision and counselling.

Food Service

Size of Units

With the exception of Wisconsin and Pittsburgh, 1200-1800 seems to be the current trend. I was not able to determine at Pittsburgh why they had gone to 3,000, as we did not talk to anyone involved in the planning. Wisconsin had done a great deal of preliminary work to arrive at the 3,000 figure, and it is working very satisfactorily for them. The reasons given by the other schools for staying at 1,800 or less were: management complications, loss of quality, psychology of mass feeding, loss of personal touch, and "it scares me." Frankly, I think the latter is the big reason.

Office of the Director
of Food Service
Report of Residence Halls Tour
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Size of Units (continued)

At Wisconsin, with the arrangement of 6 dining rooms, use of satellite kitchens, use of 2 levels to keep as compact as possible, etc., I was not conscious of any of the factors used as arguments against this size. Obviously, good organization and good, adequate supervision are required, but this is also true at 1,800. In the dining room I had much less of a feeling of confusion, mass feeding, and impersonality at Wisconsin than I did at some of the others. The kitchen and all related facilities are extremely well-planned, providing a smooth flow in production and in distribution to the service areas.

Indiana University had been comparing with Wisconsin on labor hours, management personnel, etc., and didn't feel they were doing much better at 3,000. However, Wisconsin is down, in the unit, to 11 hours labor per 100 meals. (Ours, overall, this year will probably run about 15 hours per 100 meals. However, their figure includes employee meals, and ours is based on actual student meals only.)

Personnel

All have 40-hour week for all personnel. Salaries are much higher than ours. With the exception of Wisconsin, they do not charge for meals or deduct meals from salary. Provide meals on duty only, but do not deduct from classified salary. Other benefits similar to ours, except some pay for insurance.

General Policies

Menus, guest rates, guest policy in most are very comparable to ours. Some give more seconds than we do, but menus, especially lunch, not as large as ours, and servings, especially on meat, are smaller. Most use more student labor than we do, but all except Wisconsin and Southern Illinois are having increasing difficulty, both in securing them and in dependability.

CONCLUSION AND RECOMMENDATIONS

Size

From the above observations, I believe the most practical size for future food service units at Texas Technological College to be for around 3,000 students. A facility of this size will have to be very carefully planned to overcome the problems which most of the people contacted were afraid of. I think this can be accomplished by the following means:

Office of the Director
of Food Service
Report on Residence Halls Tour
October 22-27, 1965

1. Problems of mass preparation

Proper planning of preparation areas so that final cooking of critical items, such as fried, broiled, etc., is done near point of service, and a sufficient number of serving areas to make this possible without preparing too far in advance.

2. Psychology of mass feeding, and loss of personal touch

Breaking the dining rooms and serving areas up into small enough areas that each has the appearance and a feeling of a separate unit. There was much less feeling of "mass feeding" and impersonality in Wisconsin's dining rooms than in some of the units for 1,200, and less than in our Consolidated Cafeteria.

As to the loss of the personal touch, to me much of this is lost long before 3,000 is reached. A certain amount can always be maintained, however, through the employees and supervisors in the various serving units.

3. Problems of Management

This size unit will definitely require good, strong, management. However, for a unit this size we should be able to pay a salary that will enable us to get the type management needed. For example, if we build for 6,000 students, 2 food service units for 3,000 each, rather than 3 for 2,000 each, would require 2 top managers, versus 3 for the 3 units of 2,000.

(We are going to have to face facts regarding personnel, anyway. The 40 hour week, both for managers and employees, is not prevalent only in the areas visited, but is beginning to be more prevalent in the Lubbock area as well. Also, our salaries are going to have to be increased substantially. I realize that the areas visited are in generally higher salary areas than Texas Tech, and we cannot compare employee salaries with theirs. However, we are competing with them for management personnel and I am actually embarrassed when asked about our management salaries.)

Type

After observing the "scramble" system I am still not convinced that it is preferable to the straight line type cafeteria. The people who have it are pleased, but there are several problems involved.

If 30 people per minute go through a cafeteria line, considerably more seating space must be provided. Also, the dishwashing facilities are overtaxed, and more china, silver, and glassware are required.

Office of the Director
of Food Service
Report on Residence Halls Tour
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Type (continued)

One of my main concerns, however, is being able to prepare critical food items quickly enough. This would either require more equipment and personnel, or necessitate much preparation in advance. (For example, at one of these, I observed chicken for the evening meal being fried at 1:30 P.M.)

If there is any feeling in the part of anyone concerned that we should go "Scramble", I certainly do not have a closed mind regarding this. However, I would want everyone to consider it very carefully from all aspects. I would also want to consult with Mr. Dana on this. (Incidentally, the Manager at Wisconsin came to them from a "Scramble" System. In their early planning they considered it and decided against it, largely for some of the reasons mentioned above.)

Residence Halls Proper

I feel that our rooms and furniture are superior to any that I saw. However, I do not feel that we are providing enough facilities of other types, such as floor lounges, study rooms, typing rooms, etc., and believe that a great deal of consideration should be given these areas.

Campus Planning Committee
November 9, 1965
Attachment No. 593
Item 3121-12h

TEXAS TECHNOLOGICAL COLLEGE

School of Engineering
Lubbock, Texas
79409

Office of the Dean

October 5, 1965

Dr. R. C. Goodwin, President
Texas Technological College
Lubbock, Texas

Dear Dr. Goodwin:

On July 27th I wrote to you in reply to your request for criteria upon which plans for our next building program could be predicated for ultimate, maximum effectiveness. In that letter I pointed out the great need for a positive formulation by the Board of Directors of the path which Texas Tech is to take into the future; precisely "where" it is "going". The Board should make a clear-cut decision regarding which areas are those in which the most outstanding academic achievement shall be sought, and precisely what are the objectives by which the College may rise to the impressive heights of academic excellence which we desire for it.

In my previous letter, I took great care to avoid any discussion pertaining to the specific needs of the School of Engineering. I purpose now to define those needs, some of which are of great urgency.

There are four buildings which must receive consideration in the current building program. They are:

1. Fluid Dynamics Laboratory
2. Materials Science Research Laboratory
3. Human Performance Laboratory
4. Nuclear Science Center

A brief explanation of the essentiality of these buildings follows:

Fluid Dynamics Laboratory

For many years now, it has been evident that a serious deficiency exists within Engineering, with respect to the teaching of undergraduate laboratory techniques in the field of fluid dynamics and hydraulics. In the last two ECPD inspections, we have received considerable criticism regarding the lack of acceptable laboratories in the Department of Civil Engineering. In the report voted upon at the Committee's last meeting on October 4th, of this year, the Department of Civil Engineering received a shorter accreditation than did most of the other departments in the School of Engineering, because of this deficiency. I requested not less than a four year accreditation for Civil Engineering, thinking that it would be 1968 before a building program could be undertaken which would provide for a large Fluid Dynamics Laboratory. I am confident that we should have received only two years for Civil Engineering, if the 1968 building program had not been brought into the discussion. As it is, it will be necessary for us to show definite progress by 1968, and have a Fluid Dynamics Laboratory either completed or under construction; otherwise, it is quite evident that a most serious situation will obtain, insofar as continuing accreditation of our Civil Engineering Department is concerned. In addition to the immediate requirements by our accrediting agency, considerable improvement should be effected within the Department of Civil Engineering, to the end that adequate research facilities shall be provided for use by the water resources institute, and for the ensurance that

Texas Tech shall be in a position to continue adequate research in a field so vitally important to the economy of West Texas.

Materials Science Research Laboratory

Because of the continually increasing numbers of students on the Tech Campus, we now find ourselves in a most difficult position insofar as the effective prosecution of research in any department of Engineering is concerned. Particularly do we need to accord great emphasis to the interdisciplinary aspects of our graduate program, especially the doctoral. If this program is to grow, we must move rapidly into materials research, providing laboratories offering facilities for all departments in science and Engineering. Certainly, matching funds are obtainable from the Federal Government for construction of this type.

Human Performance Laboratory

Within the Department of Industrial Engineering, we are assembling one of the finest staffs specializing in Human Performance extant in the United States. Dr. Erwin R. Tichauer is recognized as one of the world's leading authorities on biomechanics: the science dealing with man's relationship to machines. Biomechanics is a relatively new field of study in our country, which means that we have the opportunity of moving into a field of endeavor in which competition would be relatively slight, and in which Texas Tech might well achieve a distinguished reputation in a comparatively brief period of time. In addition, a Human Factors Laboratory of moderate size would serve as an excellent and impressive asset in the establishment of a medical school in the West Texas area. Once again, the importance of the need to support our graduate program strongly, in both academic and research sectors, is greatly stressed. The Human Factors Laboratory should be another important aspect of the increased emphasis which must be exhibited by Texas Tech in the field of graduate research capabilities.

Nuclear Science Center

I have emphasized, on several occasions, the potentially dangerous situation existing on the Tech Campus in regard to the handling of radioactive materials. I believe that it is most urgent that we complete the Chemical Engineering-Nuclear Science Building, so that we can move all radioactive materials, as well as the Nuclear Engineering and Nuclear Physics facilities into this building at the earliest possible moment. As you know, the foundation and the utility tunnel, as well as general architectural work on this building, has been finished. The cost of completion of the entire building would be relatively low, according to the preliminary plans made at the time of the construction of the Chemical Engineering portion of the building. It is extremely regretful that we do not have this Nuclear Science feature in full operation at the present time, since it would undoubtedly be a tellingly cogent point in Lubbock's attempt to obtain the 200 Bev Accelerator. Certainly, the completion of this building in the very near future would minimize the danger of radioactive contamination and would, without question, contribute materially to the success and widest applicability of research now being carried on with radioisotopes. Concentration of equipment now scattered throughout the Campus into the Nuclear Science Center would, similarly, ensure its better utilization, as well as provide an additional incentive toward improved research methods.

There are several situations which need consideration at this time, such as the extremely crowded conditions in the Department of Architecture and Allied Arts; the really desperate lack of freight elevator facilities in the Electrical Engineering Building; and the serious lack of classroom and undergraduate laboratory space in the Departments of Chemical, Mechanical, and Industrial Engineering. All of these require deep consideration; yet prior study and decision upon the question of just which is of most vital importance to the future development of Texas Tech, is mandatory. With Amendment 1 now passed, advantage should be taken of the ability to acquire

assistance in the form of federal funds, in every needful quarter. We must have the answer to the question of where Texas Tech proposes to go, before we can begin to evolve a clear order of priority for this development. It is my feeling that we must give our greatest emphasis to graduate research, for it is here that both our reputation and our fortune (as relating to dissemination of federal monies); our greatest usefulness; and our greatest capability for interaction with the community, the region, the state, and the nation as a whole are concerned, are to be achieved, and I respectfully request that these building requirements be given your maximum consideration, toward ensuring the development of Engineering and of the College.

Very sincerely yours,

John R. Bradford,
Dean of Engineering

JRB:md

TEXAS TECHNOLOGICAL COLLEGE
Lubbock, Texas

MINUTES OF THE CAMPUS PLANNING COMMITTEE

Meeting No. 260 November 10, 1965

A meeting of the Campus Planning Committee was held at 2 p.m. in Room 120 of the Administration Building. Members present were Mr. E. J. Urbanovsky, Mr. Nolan E. Barrick and Chairman M. L. Pennington. Others present were Miss Evelyn Clewell, Mr. John G. Taylor, Mr. O. R. Downing, Dean S. M. Kennedy, Dr. Earl D. Camp, Dr. Lyle C. Kuhnley and Mr. Bill Felty.

3125. Biology Building (CPC No. 99-65) (Pierce & Pierce)

The members of the CPC had been requested to study the presentation of the Faculty Committee, entitled "Justification of Need for Additional Facilities for the Department of Biology," after the meeting recessed last evening and before it reconvened this morning.

At the morning continuation, considerable time was devoted to a discussion of the presentation.

The Chairman attempted to summarize the discussion as follows:

The preparation is very good and represents a great deal of good, hard work done in a minimum of time.

The presentation would seem to present an ideal. Some lead time is necessary, but it looks as if it will not be possible to afford 10 years at the present time.

The CPC was of the opinion that the philosophy of establishing the program prior to setting the budget is sound and has resulted in a good overall study. The request for 190,588 net square feet could result in a structure of some 350,000 square feet. The 50,000 square feet for research would almost be doubled by nonassignable space.

As for matching funds, it is reported that between \$7 million and \$8 million will be available in Texas to cover the applications filed on January 7, 1966, with the Coordinating Board. All the institutions of higher learning in Texas will compete for the funds. The Business Administration project is No. 1 on the priority list for matching funds, and the Biology Building will be No. 2.

The overall college needs probably total \$25 million to \$30 million.

When the applications are filed for matching funds, it will be necessary to have a specific priority list, as the first project on a school's list gets additional rating points in the competition. The applications will have to be filed in order of priority.

The philosophy of the undergraduate, graduate and research programs has not been fully identified at Texas Tech. It has seemed in the past as if the undergraduate program has been predominant, with attempts being made to have an adequate research and graduate program to strengthen the undergraduate program, yet build the institution into a university of the first class. If research or the graduate program are to play more prominent roles, the needs should be recognized in the development program of projects.

Applications for matching funds for research and graduate space would have to be filed under Title II rather than Title I of the Higher Education Facilities Act. Under Title II, there is an appropriation for the United States, and the institutions within all the states compete through Washington.

3125. Biology Building (CPC No. 99-65) (Pierce & Pierce) (continued)

It will be essential to reduce the overall scope of the Biology project at the present time and to get the information to the project architects as soon as possible.

Two priority lists were suggested, the first being for the space designated if there are no matching funds and, second, the space designated if there are matching funds.

After a great deal of study of the presentation, the overall needs of the department, the past and predicted growth and the other items, the CPC members agreed that a recommendation would be made for a \$3 million building, plus matching funds, the costs to be gross including equipment, architect's fees, etc.

The members of the CPC had hoped that development of the program would produce a budget which could be funded and regret that the study produced one which cannot. However, it is felt that the efforts have been well worth the trouble, as the needs would probably never have been established otherwise.

A great deal of discussion ensued, and some of the thoughts and ideas presented appear below.

Dr. Camp said that the Biology Department needs twice as much graduate space as it now has, and that it is necessary to get ready for the Ph.D. program which has been approved.

Dean Kennedy stated that for the school policy, it looked to him as if there might be some adjustment on entrance requirements in the future; but he doesn't believe that the adjustments will ever reach the freeze point, as there are so many good undergraduate students.

If future increases in enrollment run about the same, the impact of the women students will be felt in the areas they enter, as there is a much higher rate of increase among women students. Housing seems to determine the choice of a school for women students. Women students consistently enroll in Biology, and the growth in Biology will parallel the women's enrollment at the freshman level.

The advanced level is up some. The upper level has a rate of increase lower than that of the overall college, and the graduate enrollment is questionable.

It will be necessary to provide for the big freshman enrollment, to make provisions less rapidly at the upper level but with enough to start at the graduate level.

Dean Kennedy said that the period from 1900 to 1940 was the era of accentuation on chemistry; 1940 to the present time there seems to be a breakthrough for mathematics, with mathematics in its heyday, and building on physics. The next decade's growth will be in the area of biological sciences.

Mr. Taylor raised the question of what effect the Coordinating Board might have on the college enrollment if an attempt is made to channel more students into the junior colleges. Dean Kennedy thought that it could have some effect, but he doubted that the junior colleges could tool up sufficiently soon enough.

The number of requested laboratories for the advanced courses were discussed. Dr. Camp said the need is determined, in part, by the needs from other departments and schools. For example, Dean Thomas has said that the Ph.D. in Agriculture would be impossible or difficult without the Botany course.

3125. Biology Building (CPC No. 99-65) (Pierce & Pierce) (continued)

There was discussion on the number of laboratories and the students which could be served. There was additional discussion on how to go about preparing the information for resubmission to the CPC. It seemed to be the consensus that the Biology Department would recommend a priority list for space for \$3 million and matching funds. It was felt that there would be little delay in the project if matching funds were not obtained from the January 7 application, as the architects would go right on planning either way. Probably six months will be necessary to design the project. If Business Administration receives matching funds on the January 7 application, the Biology Building will be No. 1 on the Texas Tech list for matching funds at the next application cutoff date.

Speed is still important at this stage of the game in order to file the application.

There is the possibility that funds under the Higher Education Facilities Act which have been allotted to other states can be transferred if unused. The Coordinating Board staff feels that Texas Tech is No. 4 on the priority list to secure unused funds from other states. The need is determined by the number of unfilled applications. It will be helpful to Texas to secure additional funds if there are a good many unfilled applications.

M. L. Pennington
Chairman

The meeting adjourned at 4 p.m.

TEXAS TECHNOLOGICAL COLLEGE
Lubbock, Texas

MINUTES OF THE CAMPUS PLANNING COMMITTEE

Meeting No. 261 November 16, 1965

A meeting of the Campus Planning Committee was held at 1:30 p.m. on November 16, 1965, in Room 120 of the Administration Building. Members present were Mr. E. J. Urbanovsky, Mr. Nolan E. Barrick and Chairman M. L. Pennington. Others present were Miss Evelyn Clewell, Dr. Earl D. Camp, Dr. Lyle C. Kuhnley, Mr. John G. Taylor, Mr. O. R. Downing and Mr. Bill Felty.

3126. Biology Building (CPC No. 99-65) (Pierce & Pierce)

At the last meeting, the faculty committee had been requested to reduce the square footage requested in order to come within a budget of \$3 million plus matching funds.

Drs. Camp and Kuhnley said that the new facilities would provide 54,750 square feet for lecture, laboratory and associated teaching services; 10,350 square feet for offices, including graduate student cubicles; and 28,146 square feet for research without offices.

The faculty committee members have looked at certain areas with the idea of additions later. They tried to include enough space to take care of the large freshman enrollment and to design sufficient laboratory space to provide for upper-class courses without overcrowding.

They have attempted to provide enough research space for the faculty to initiate the doctoral program and attract and hold competent faculty.

They have planned for five years in the refined version. Future additions probably would be largely at the graduate level and for faculty research. The facilities requested are primarily for undergraduate work. Of the space on hand, 61.4 percent is assigned to lectures and laboratories; 17.4 percent to offices; 21.2 percent to research.

The faculty committee had met and discussed means to reduce the request and finally just had to pull it down to the limit.

They went to the form presented on the reductions and a copy of the revised request agreed on at the meeting is attached to and made a part of the Minutes. (Attachment No. 594, page 1818)

The entire group went over each section of the request and discussed it at length.

Comments are as follows:

Greenhouse Facility

The faculty committee would like the greenhouse space as close to the building as possible. Ideas vary on whether it would be better to have the space on the roof or on the ground. There would be a large number of students involved. The amount requested would be the entire request and it would not be necessary to add anything in the future. The space could be less but the request seems to be reasonable.

It was agreed that the request would be subject to study by the architects and others.

3126. Biology Building (CPC No. 99-65) (Pierce & Pierce)Microbiology Teaching Complex

It would be new but is needed for the Master's and Ph.D. programs.

There is a large growth in this area.

Ecology

It is anticipated that there will be 120 graduate students within 10 years.

The Radiobiology complex caused the most departmental discussion.

It was agreed to accept the request with refinements to be made promptly and the material to be sent to the architects as the basic working program with explanations of the space involved, utilities and arrangements.

M. L. Pennington
Chairman

The meeting adjourned at 3:30 p.m.

Campus Planning Committee
November 16, 1965
Attachment No. 594
Item 3126

TEXAS TECHNOLOGICAL COLLEGE
Lubbock, Texas

Office of the Supervising Architect

November 17, 1965

Mr. George Pierce
Pierce & Pierce, Architects
2217 Welch
P. O. Box 13319
Houston, Texas

Dear Mr. Pierce:

Re: Biology Building

Enclosed is the revised program for the Biology Building. This program has the approval of the Campus Planning Committee. When you have had time to assimilate the data as presented, I feel that you should carefully evaluate the proposed budget and present your ideas of revisions which may be necessary and if adjustments in net assignable space are needed. The net assignable space has been based on the assumption that the building will be 60 percent efficient, i.e., net assignable space
gross area

It is assumed that the building budget will include a proportional share of a Central Chilling Station.

The lecture facility for 500 students must include related facilities not defined in the program such as projection room rear screen projection area and preparation room. It is my belief that the television studio should also be located in this area in order to share whatever related facilities would be common to the studio and the lecture room.

In preparation of the application, it is our desire to apply for the maximum amount under Title I, the undergraduate portion of the program. For the final presentation we may want to use some different designations in order to gain the maximum benefit under the Title I portion of the program.

On page 2 "Freshman Biology Training" - the 60 auxiliary graduate student offices or cubicles need not be 60 separate spaces, but can be combined into several larger spaces. The thought has been expressed that some of these offices might be adjacent to the freshman laboratories in order that the graduate student who is conducting the freshman laboratory would be available more readily.

We apologize for the delay in getting the program to you but hope, as a result of the additional study, the program will be more complete.

Yours truly,

/s/ Bill Felty

Bill Felty
Assistant Supervising Architect

BF/si(g)

CC: Mr. M. L. Pennington

MODIFIED REQUEST FOR PROPOSED BIOLOGY FACILITIES

November 15, 1965

Utilities Extension	\$ 100,000
Site Development	20,000
Project Contingency	130,000
Scientific Equipment	120,000
Greenhouse Space @ \$8.50	100,000
Fees - Arch., Eng., Consulting	220,000
Movable Equipment	80,000
Resident Inspection	20,000
Audiovisual and Communications Equip.	25,150

SUBTOTAL \$ 815,150

Cost of Nonassignable Area	\$1,473,940
Cost of Assignable Area	
88,400 sq. ft. x \$25.00	2,210,910

BUILDING SUBTOTAL \$ 3,684,850PROJECT TOTAL \$ 4,500,000

Amount of Space Assignable	88,400
Amount of Space Designed	<u>91,006</u>
Amount of Designed Space	
Not Allowed	- 2,606

GREENHOUSE FACILITY

1	aux	Greenhouse conservatory demonstration	--	--	2700	--
1	aux	Greenhouse, experimental botany	--	--	2700	--
2	aux	Greenhouse, materials prep. @2700	--	--	5400	--
1	aux	Headhouse	--	--	800	--
1	aux	Greenhouse supervisor office	--	120	--	--
			--	120	<u>11,600</u>	--
					11,720	

Previous Request 13,100

BIOLOGY OFFICE COMPLEX

					<u>Office</u>
1	aux	Department Head Office			200 sq. ft. net
1	aux	Conference room			300
1	aux	Administrative Assistant			140
1	aux	Reception-Secretary Office			200
2	aux	Stenographic Offices @ 100			200
1	aux	Mimeograph, etc., room			200
2	aux	Faculty-Counseling Offices @ 160			<u>320</u>
					Subtotal 1,560 sq. ft. net

Previous Request 2,210 sq. ft. net

BIOLOGY LECTURE FACILITIES

<u>No. of Units</u>	<u>Designation</u>	<u>Function</u>	<u>No. of Students</u>	<u>Office</u>	<u>Train- ing</u>	<u>Research</u>
1	Lecture	Freshman Biology	500	-	7,000	-
1	Lecture	Advanced Biology	150	-	2,100	-
1	Lecture	Advanced & Graduate Biology	50	-	700	-
2	Seminar Rooms	Advanced & Graduate Biology	30	-	<u>840</u>	-

Previous Request 23,660 sq. ft. net

Subtotal 10,640

FRESHMAN BIOLOGY TRAINING

		No. of Students	Office	Train- ing	Research
4	Lab	Freshman Botany @ 1,152			
4	Lab	Freshman Botany @ 1,152	32-36	4,608	-
4	Aux	Freshman Zoology @ 1,152	32-36	4,608	-
2	Aux	Botany Prep & Storage @ 288	-	576	-
2	Aux	Zoology Prep & Storage @ 288	-	576	-
1	Aux	Main Biol. Prep & Storage	-	432	-
1	Aux	TV Studio & Audiovisual Prep Room	-	300	-
1	Aux	TV Master Control Panel Room	-	200	-
1	Aux	Biol. Laboratory Coordinator Office	160	-	-
1	Aux	Biol. Lecture Coordinator Office	160	-	-
60	Aux	Graduate student cubicles @ 50	3,000	-	-
			3,320	11,300	-
				14,620	-

Previous Request 28,500

ADVANCED BOTANY TEACHING COMPLEX

1	Aux	Herbarium & Graduate Research	-	-	1,440	-
1	Aux	Herbarium Advanced Botany Prep. Room	-	-	288	-
1	Lab	Advanced Botany (Tax., Morph.)	36	-	1,152	-
2	Lab	Advanced Botany (Physiology) laboratories @ 1,152	32	-	2,304	-
1	Lab	Mycology-Plant Pathology- Anatomy Laboratory	36	-	1,152	-
1	Aux	Advanced Botany Prep Room	-	-	288	-
		Plant Physiology area to include the following:				
1	Aux	Instrument & Balance Room	-	-	120	-
1	Aux	Plant Physiology prep room	-	-	200	-
1	Aux	Coleoptile room	-	-	120	-
1	Aux	Tissue culture room	-	-	160	-
1	Aux	Volatile chemical storage room	-	-	106	-
1	Aux	Ultraviolet Room	-	-	120	-

Previous Request 14,865

Subtotal 7,450

ADVANCED ZOOLOGY TEACHING COMPLEX

1	Lab	Comparative Vertebrate Anatomy Laboratory	32	--	1,000	--
1	Lab	Anatomy & Physiology Laboratory	32	--	1,000	--
1	Aux	Anatomy & Human Physiology Storage	--	--	300	--
1	Lab	Animal Physiology Laboratory	24	--	1,000	--
1	Lab	Animal Physiology-Dev. Embryology Laboratory	24	--	1,000	--
1	Aux	Animal Holding Room	24	--	250	--
1	Aux	Aquarium-Terrarium Room for Physiology, Invertebrate Zoology	--	--	500	--
1	Lab	Invertebrate Zoology-Ecology- Histology-Embryology Laboratory	32	--	1,000	--
1	Aux	Invertebrate Zoology-Ecology Storage & Holding Room	--	--	150	--
1	Aux	Physiology-Dev. Embryology Prep. & Storage Room	--	--	200	--
1	Lab	Vertebrate Natural History Laboratory (undergraduate)	24	--	960	--
1	Aux	Vertebrate Storage Room	--	--	200	--
1	Aux	Vertebrate Prep Room	--	--	200	--
					7,760	--

Previous Request 16,400

MICROBIOLOGY TEACHING COMPLEX

2	Lab	General Microbiology Labs @ 1600	40	--	3,200	--
1	Lab	Advanced Microbiology Labs (Undergrad.) @ 1,000	24	--	1,000	--
1	Lab	Advanced Microbiology Lab (Graduate)	24	--	1,000	--
1	Aux	Animal Holding Room	--	--	250	--
1	Aux	Microbiology Storage Room	--	--	400	--
1	Aux	Walk-in Refrigerator Storage	--	--	140	--
1	Aux	Washing & Cleaning Room	--	--	300	--
1	Aux	Microbiology Prep Room	--	--	400	--
1	Aux	Stock Culture Room	--	--	140	--
Previous Request 8,930					6,830	

ADVANCED BIOLOGY TEACHING AND RESEARCH COMPLEXES

Genetics and Cytogenetics

1	Lab	Genetics Laboratory	24	--	800	--
1	Aux	Genetics Office	--	160	--	--
1	Lab	Faculty Genetics Research Lab	--	--	--	200
1	Aux	Genetics Prep Kitchen Room	--	--	--	120
1	Aux	Genetics Storage Room	--	--	--	150
4	Aux	Environmental Chambers @ 24	--	--	--	96
1	Lab	Graduate Genetics	--	--	--	530
1	Aux	Cytogenetics Office	--	160	--	--
1	Lab	Cytogenetics Research Lab	--	--	--	200
1	Aux	Cytogenetics Prep Room	--	--	--	100
1	Lab	Graduate Cytogenetics Research Lab	--	--	--	530
Previous Request 5,266			320		800	1,926
					3,046	

Biometrics (omitted)

Previous Request 2,350

Ecology

2	Lab	Ecology Research Labs @ 400	--	--	--	800
1	Aux	Storeroom	--	--	--	200
1	Lab	Graduate Student Research Lab	--	--	--	400
1	Lab	Ecology Research (Limnology)	--	--	--	400
2	Aux	Offices @ 160	320	--	--	--
			320	--	--	1,800
Previous Request 10,100					2,120	

(Partially combined with other areas)

Radio-Biology Complex

1	Lab	Counting & Instrumentation Room	--	--	120	--
1	Lab	Radiation Prep Lab	24	--	1,000	--
1	Aux	Isotope Vault	--	--	10	--
1	Aux	Darkroom	--	--	100	--
2	Lab	Radiation Prep Lab (Research) @ 400	--	--	--	800
1	Aux	Radio-Biology Office	--	160	--	--
			160	--	1,230	800
Previous Request 2,230					2,190	

Electron Microscope Complex

Group I (Research)

2	Aux	Electron Microscope Rooms @ 130	--	--	--	260
1	Aux	Darkroom (loading)	--	--	--	100
1	Aux	Darkroom (printing)	--	--	--	100
1	Aux	Power & Compressor Room	--	--	--	150
2	Lab	Prep Rooms (clean) @ 100	--	--	--	200
1	Lab	Prep Room	--	--	--	600
2	Aux	EM Offices @ 160	--	320	--	--
1	Lab	Cytology Lab	--	--	--	150

Group II (Training)

1	Aux	EM Room	--	--	200	--
1	Aux	Darkroom	--	--	120	--
1	Lab	Prep Room	--	--	500	--
1	Lab	Cytology Lab	24	--	<u>1,000</u>	--
				320	<u>1,820</u>	<u>1,560</u>
Previous Request 4,260					<u>3,700</u>	

MICROBIOLOGY RESEARCH COMPLEX

4	Aux	Microbiology Offices @ 160	-	640	-	-
5	Lab	Microbiology Research Lab @ 300	-	-	-	1,500
1	Lab	Graduate Microbiology Culture Lab	-	-	-	1,000
1	Lab	Graduate Microbiology Analytical Lab	-	-	-	1,000
1	Aux	Cleaning & Washing Room	-	-	-	200
1	Aux	Preparation Kitchen	-	-	-	400
1	Lab	Cold Temperature Lab	-	-	-	200
15	Aux	Graduate Student Cubicles @ 50	-	<u>750</u>	-	-
				<u>1,390</u>		<u>4,300</u>

Previously requested 10,400

5,690

PLANT ANATOMY - BRYOLOGY RESEARCH COMPLEX

1	Lab	Plant Anatomy Research Lab	-	-	-	600
1	Lab	Graduate Plant Anatomy	-	-	-	<u>300</u>
						<u>900</u>

Previously requested 1,140

900

PALEOBOTANY RESEARCH COMPLEX

omitted

Previously requested 1,200

omitted

PLANT MORPHOLOGY RESEARCH COMPLEX

omitted

Previously requested 1,250

omitted

MYCOLOGY - PLANT PATHOLOGY RESEARCH COMPLEX

1	Aux	Plant Pathology Office	-	160	--	--
1	Lab	Plant Pathology Research Laboratory	-	--	--	400
1	Aux	Plant Pathology Prep Room	-	--	--	200
1	Lab	Graduate Plant Pathology Laboratory	-	--	--	400
				<u>160</u>		<u>1,000</u>

Previously requested 1,550

1,160

PLANT PHYSIOLOGY RESEARCH COMPLEX

3	Aux	Plant Physiology Offices @ 160	-	480	-	-
3	Lab	Plant Physiology Research Labs @ 400	-	-	-	1,200
2	Lab	Graduate Plant Physiology Research Labs @ 800	-	-	-	1,600
1	Aux	Plant Physiology Chemical Storage & Supply Room	-	-	-	200
1	Aux	Instrument Room	-	-	-	200
				<u>480</u>		<u>3,200</u>

Previously requested 7,440

3,680

PHYCOLOGICAL RESEARCH

1	Aux	Phycology Office	-	160	-	-
2	Aux	Environmental light rooms @ 252	-	-	-	504
1	Lab	Phycology Research Lab	-	-	-	612
1	Aux	Phycology Equipment Storage	-	-	-	218
1	Aux	Refrigerator-Incubator Room	-	-	-	216
				<u>160</u>		<u>1,550</u>

Previously requested 2,376

1,710

PLANT TAXONOMY RESEARCH

1	Aux	Plant Taxonomy Office	-	160	-	-
1	Aux	Taxonomy research Laboratory	-	-	-	240
				<u>160</u>		<u>240</u>

Previously requested 1,325

400

INVERTEBRATE ZOOLOGY COMPLEX
(ACAROLOGY, PROTOZOOLOGY, PARASITOLOGY, INVERTEBRATE)

1	Aux	Acarology Office	-	160	-	-
1	Aux	Acarology Research	-	-	-	340
1	Aux	Office	-	160	-	-
1	Lab	Invert. Zool. Research Lab @ 300	-	-	-	300
2	Lab	Graduate Research Lab @ 530	-	-	-	1,060
1	Aux	Storage & Prep Room	-	-	-	200
				<u>320</u>		<u>1,900</u>

Previously requested 6,824

2,220

VERTEBRATE ZOOLOGY COMPLEX
(MAMMALOGY, ORINTHOLOGY, HERPETOLOGY, ETHOLOGY)

4	Aux	Offices	-	640	-	-
1	Aux	Steno Office	-	140	-	-
4	Lab	Vert. Zool. Research Lab @ 300	-	-	-	1,200
1	Aux	Bird-Mammal Collection Room	-	-	-	860
1	Aux	Ichthyology & Herpetology Collection Room	-	-	-	620
4	Lab	Environmental Research Labs @ 300	-	-	-	1,200
1	Aux	Live Animal Collection Room	-	-	-	240
1	Lab	Graduate Vertebrate Research Lab	-	-	-	530
				<hr/> 780		<hr/> 4,650

Previously requested 8,700

5,430

ANIMAL PHYSIOLOGY COMPLEX

3	Aux	Offices @ 160	-	480	-	-
1	Lab	Research Lab	-	-	-	400
1	Lab	Neuro and Muscle Physiology Research Lab	-	-	-	660
1	Lab	Zool. Research Lab	-	-	-	400
3	Lab	Graduate Research Lab @ 240	-	-	-	720
1	Aux	Aquarium Room	-	-	-	200
1	Aux	Physiology Storage & Equipment	-	-	-	200
				<hr/> 480		<hr/> 2,580

Previously requested 5,282

3,060

DEVELOPMENTAL EMBRYOLOGY COMPLEX

1	Aux	Offices	-	160	-	-
1	Lab	Embryol. Research Lab	-	-	-	350
1	Lab	Graduate Research Lab	-	-	-	350
3	Aux	Cold Laboratories @ 80	-	-	-	240
1	Aux	Embryology Storage Room	-	-	-	200
				<hr/> 160		<hr/> 1,140

Previously requested 3,434

1,300

HISTOLOGY - EMBRYOLOGY

Previously requested 400

omitted

ANIMAL QUARTERS

1	Aux	Feed Storage	-	-	100	-
1	Aux	Washing & Sterilization Room	-	-	400	-
1	Aux	General Quarters	-	-	800	-
1	Aux	Contagious Animal Quarters	-	-	200	-
1	Aux	Caretaker Office	-	140	-	-
				<hr/> 140	<hr/> 1,500	

Previously requested 1,780

1,640

AUXILIARY SERVICE ROOMS

8	Aux	Controlled Environment Chambers @ 100	-	-	800	-
1	Aux	Biology Storeroom	-	-	1,400	-
1	Aux	Narcotic Vault	-	-	100	-
1	Aux	Shop	-	-	650	-
1	Aux	Faculty Lounge	-	-	300	-
1	Aux	General Darkroom	-	-	150	-
1	Aux	Reading Room	-	-	300	-
1	Aux	Refreshment Facility (Candy & Soft Drink - Students)	-	-	200	-
Previously requested 5,610					3,900	

Explanation of Space Requirements,
Suggested Arrangement and
Utilities for Each Complex

1. General problems to be considered:

- a. The design should accommodate student traffic during the 10 minute change of class period. The 500 seat lecture room traffic should not complicate the traffic (approximately 500 students) associated with the freshman biology laboratories.
- b. The teaching facilities for freshman students should not interfere with the advanced biology classes, the main biology office, the main biology storeroom or the research areas.
- c. Mechanical vibration should be kept minimal since high magnification microscopy is an integral portion of training and research in biology.
- d. Rest rooms should be available on each floor.
- e. A 30-50 gal. per hour still should be installed in the mechanical room and fed pre-heated demineralized water. The cooling coils should be fed cold tap water. A 200-300 gal. storage tank should gravity feed the laboratories.

2. Greenhouse facilities:

- a. The greenhouses will be utilized for propagation of plant materials to be used in freshman botany, advanced and graduate botany courses and research by faculty and graduate students in the fields of phycology, plant physiology, plant pathology, virology, genetics and cytogenetics.
- b. We suggest four separate 30 x 90 glasshouses with three completely separate 30 x 30 compartments in each, or two 30 x 180 glasshouses with 30 x 30 compartments.
- c. Glasshouses should be north-south oriented lengthwise opening into a headhouse at the north end. Adequate space should be provided to prevent shading.
- d. The glasshouses should be hail-proof, rodent-proof, and if possible, insect-proof and storm-proof. Materials other than glass may be used provided the strength and spectral qualities are not affected by exposure to solar radiation.
- e. Provisions for heating, preferably by steam, should be made. Facilities for cooling, supplementary lighting, humidification and watering must be provided in the glasshouses. If air cooling is used rather than refrigeration, pads should be located on the west side with exhaust to the east.
- f. If greenhouses are located on the roof of the main biology building, a completely water-proof membrane must be placed in the floor which is resistant to decomposition and cracking. Drains must be provided for run-off water and floors leveled to prevent accumulation of any free standing water. In this case, there must be an elevator connecting the headhouse with the loading dock on the ground floor.

2. Greenhouse facilities: (continued)

- g. It is preferable to have the plant growth facility connected directly to the south end of the botany wing of the building to allow easy class and laboratory accessibility.
- h. The headhouse will contain a greenhouse supervisor's office and an open work room. The work room will have potting benches, a pot washer, a sterilizer, a storage area for soil, pots and equipment and will also be used for chemical preparations.

3. Biology office complex:

- a. Except for the faculty-counselling offices, all rooms should be in the same area, some inter-connecting.
- b. The two faculty-counselling offices should be some distance from the main biology office and the freshman teaching complex. Interoffice communication systems are requested.

4. Biology lecture facilities:

- a. The 150 seat lecture room will be used for comparative vertebrate anatomy, anatomy and physiology, general bacteriology, plant taxonomy and plant physiology.
- b. The 50 seat lecture room will be used for some of the undergraduate and graduate courses.
- c. The seminar rooms will provide facilities for lecture or discussion groups for small classes. These should be situated separately but near areas of general departmental activity.
- d. All lecture rooms except seminar rooms should be equipped with projection facilities. The 500 seat auditorium and the 150 seat lecture room should contain facilities for closed circuit television as well. Public address systems need not be provided in lecture rooms of 50 seats or below. The seminar rooms must have the facility to be darkened in the event that visual aids are used.

5. Freshman Biology training.

- a. Continued growth of the department enrollment will result in a freshman biology class enrolling 4,000 to 6,000 students within the next few years.
- b. Laboratory sections of the size herein will be conducted by two persons each.
- c. All graduate students will spend at least one year teaching laboratory sections. (This should be included in the College Catalogue.)
- d. Closed circuit television will eventually be used for laboratory instruction.
- e. A permanent staff member will be hired to coordinate, prepare and provide materials for laboratories.
- f. Laboratory sections will be three hours in length; later the length may be reduced to two hours.
- g. Explanation of requirements:
 - 1. $32 \text{ students} \times 8 \text{ labs} \times 13 \text{ periods per week}$
 $(3 \text{ hours per period}) = 3,328 \text{ students}$
 - 2. $36 \text{ students} \times 8 \text{ labs} \times 13 \text{ periods per week}$
 $(3 \text{ hours per period}) = 3,744 \text{ students}$
 - 3. $32 \text{ students} \times 8 \text{ labs} \times 20 \text{ periods per week}$
 $(2 \text{ hours per period}) = 5,120 \text{ students}$
 - 4. $36 \text{ students} \times 8 \text{ labs} \times 20 \text{ periods per week}$
 $(2 \text{ hours per period}) = 5,760 \text{ students}$

5. Freshman Biology training. (continued)

5. Consequently, laboratories should be designed to accommodate 8 laboratory tables, each seating four students. Also, a demonstration table should be placed the entire length of one wall. This table should be a partial duplication of the student laboratory tables. Consequently, each laboratory would seat 32 students. When space became critical, each laboratory could seat 36 students by making use of the wall table.
6. Each table seating four students should be provided with a small sink, hot and cold water, gas, compressed air, an electrical receptacle with four outlets, and be equipped with four lockers to secure microscopes.
- h. No storage facilities are provided in the laboratory proper; thus, the need for one prep and storage room to serve two laboratories. A common main biology storage and prep room is provided for tanks and drums of specimens as well as special preparations. Each prep room is to be provided with all utilities, distilled water, garbage disposals and be externally power vented to remove noxious fumes. The main prep room should be provided with a stainless steel tank for washing preserved specimens.
- i. Suggested arrangement:
Each two laboratories should have a small preparation and storage room between them with connecting doors (see the sketch below). The main preparation and storage room, the laboratory coordinator's office, the closed circuit television room and the graduate student cubicles should be grouped together.

Plan for Freshman Botany Laboratories

Lab	Prep	Lab	Lab	Prep	Lab
-----	------	-----	-----	------	-----

The above plan should be duplicated for Freshman Zoology.

6. Advanced Botany teaching complex.

- a. An overall preferred arrangement would be to have the plant physiology and plant pathology teaching and research facilities in an "across the hall" complex or certainly where there is easy access of plant pathology teaching and research areas to the plant physiology prep room. It is preferred to have these facilities on the same floor as, or with relatively close elevator access to the headhouse-greenhouse area. Also, the facilities should be grouped so that they are close to the Microbiology complex and not separated from it by zoology facilities.
- b. The Herbarium prep room should be placed adjacent to and opening into the Herbarium and the graduate research area for plant taxonomy and serviced with a sink and adjacent counter area, gas, compressed air, vacuum, distilled water, and 110 and 220 volt circuits. The prep room to have as much unobstructed work surface as possible with cabinets beneath, floor to ceiling storage shelves 14 to 16 inches high x 18 inches deep along one side of the room, and room for three refrigerators and a vented electric drier.
- c. The plant physiology preparation room should be adjacent to the plant physiology lab.
The plant physiology prep room to service the plant pathology-mycology research facility as well as the plant pathology-mycology and plant physiology teaching facilities. The plant physiology prep room to be externally power vented, to be serviced with steam (for autoclave), gas, compressed air, vacuum, distilled water, and 110 and 220 volt circuits, and to contain:
 - 1 vented hood with all utilities and steam distillation cones
 - 1 vented electric drier

6. Advanced Botany teaching complex. (continued)

- 1 autoclave
- 1 oven
- 1 garbage disposal
- 1 dishwasher
- 1 double sink and adjacent counter area that will withstand caustic materials (soapstone) and adjacent working surface
- d. The Coleoptile, Tissue Culture, Volatile Chemical Storage, U.V. and the Instrument and Balance rooms should be associated with the plant physiology laboratory and if possible adjacent to the plant physiology research facilities. The U.V., Tissue Culture, and Coleoptile rooms should be in a complex opening into a common vestibule to allow dark entrance to rooms. The Coleoptile room to be provided with completely moisture resistant surfaces (including walls, etc.) with humidification to maintain 90% relative humidity.
- e. The advanced botany prep room would be best placed near a complex of anatomy, morphology, and taxonomy laboratories.
- f. All the laboratories to be provided with light tight shades and TV circuits. The lab tables to be stationary and with microscope and light storage space. Each lab and prep room to have a double sink (two in the 32 student labs) and adjacent counter area, gas, compressed air, vacuum, distilled water, and 110 and 220 volt circuits. The two plant physiology laboratories should have all utilities and soapstone benches.
- g. See the sketch below for suggested room arrangement:

Office	Plant Pathology & Mycology Research	Plant Pathology Research	Pl. Path. Prep	Adv. Bot. Lab Pl. Physiol.	Physiol Prep	Adv. Bot. Lab Pl. Physiol.
--------	---	-----------------------------	-------------------	--	-----------------	--

Plant Pathology & Mycology Lab	Adv. Bot. Prep	Adv. Bot. Lab	Herb. Prep	Herbarium	Pl. Taxonomy Office & Res.
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7. Advanced Zoology teaching complex.

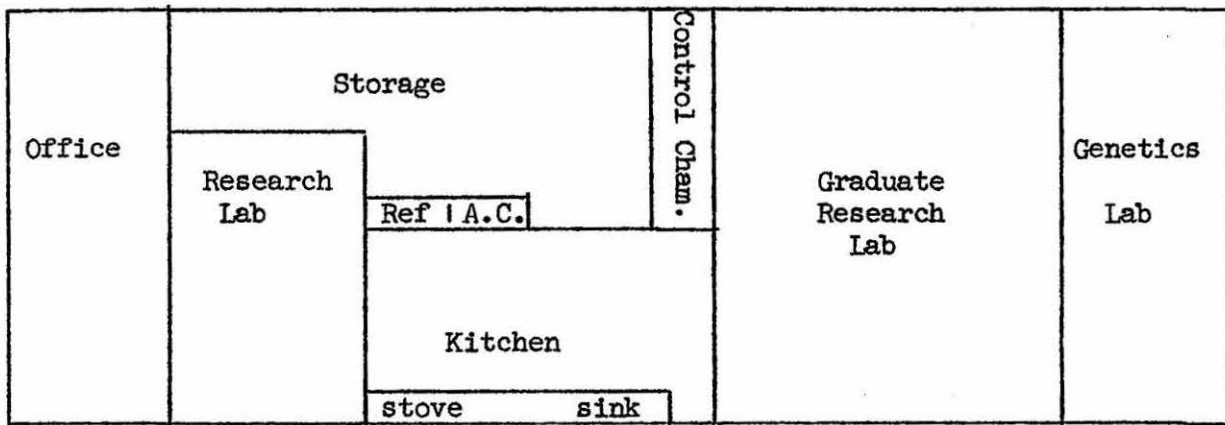
- a. All laboratories should have student tables equipped with all utilities.
- b. The animal physiology and animal physiology-developmental embryology laboratories should be equipped with fume hoods.
- c. The animal holding room should have a large sink for washing cages, garbage disposal and a floor drain.
- d. The aquarium should be designed for both salt and fresh water species, and also for housing some terraria. A source of well water is requested for the aquarium-terrarium room and for the invertebrate zoology laboratory.
- e. The anatomy and physiology storage room should have a stainless steel tank for washing preserved specimens.
- f. The vertebrate prep room should have common plumbing utilities.

8. Microbiology teaching complex.

- a. All laboratories are to be equipped with recessed autoclaves and hot air ovens, walk around student tables that have hot, cold and distilled water, gas, vacuum, compressed air and electrical outlets.
- b. Provision should be made for closed circuit television in the 2 large microbiology laboratories.
- c. Flush mounted windows (if any) and light fixtures are recommended.
- d. The advanced microbiology (undergraduate) and the 2 general microbiology laboratories should have built-in incubator rooms 4 x 6 with thermostatic control at 35+ 1° C.
- e. The advanced microbiology (undergraduate) laboratory should have a clean room, approximately 50 square feet, for inoculations.

9. Genetics and Cytogenetics

- a. The genetics laboratory should have fixed furnishings only on 2 walls with utilities installed. This laboratory should be a part of the genetics research complex. Only electricity, cold water and sinks need be provided to the student tables.
- b. The genetics laboratories should have a separate ventilation system to prevent fruit-fly contact with possible insecticides from other areas.
- c. The genetics research laboratory should have an auxiliary air conditioning unit.
- d. The genetics kitchen should have an oversized sink, electric table top stove with a kitchen-type hood, floor drain, autoclave and a recess for a refrigerator.
- e. See sketch below for suggested room arrangement.



10. The Ecology complex.

- a. The ecology research laboratories should have all standard utilities, softened well water, construction and facilities for maintaining a saturated atmosphere, rust-proof metal fixtures, shock-proof electrical switches and outlets. No windows need be provided.
- b. The ecology storage room should have an oversize sink for washing aquaria and all standard utilities.
- c. The graduate student and limnology research lab should be equipped with standard utilities.

11. The Radiobiology complex.

- a. This complex should be ventilated separately from the rest of the building and should be filtered.
- b. The isotope vault should be lightly shielded.

12. The Electron Microscope complex.

- a. The electron microscope and "clean" prep rooms should have filtered positive air pressure.
- b. The power and compressor room should have 230v.-3 phase electrical service.
- c. The prep room should have a fume hood and all utilities.

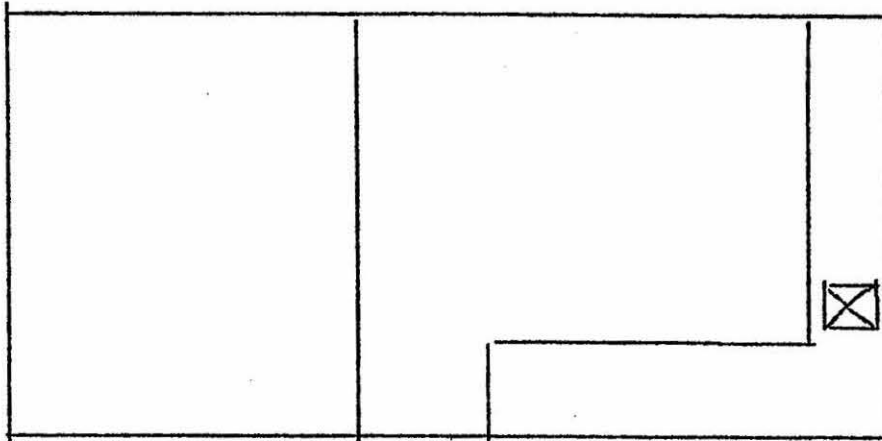
13. The Microbiology Research complex.

- a. Four of the microbiology research laboratories should be adjacent to respective offices.
- b. All microbiology research laboratories should have the complete complement of utilities. The graduate microbiology laboratory-analytical should have a fume hood installed.
- c. The cold temperature laboratory should be accessible by animal and plant physiologists as well and should have all utilities except a fume hood.

14. The Plant Anatomy-Bryology Research complex.

- a. The space is requested as a combination staff and graduate student facility.
- b. There should be a connecting door between the 2 laboratories. Both laboratories should be serviced with gas, compressed air, vacuum, distilled water, and 110 and 220 V circuits, a double sink and adjacent counter area that will withstand caustic materials.
- c. See sketch below for suggested arrangement.

Plant Anatomy and Bryology Research Facility



15. The Plant Pathology-Mycology Research complex.

- a. The faculty office should have bookshelves 16 feet long, ceiling to floor.
- b. The research laboratory should have an autoclave, garbage disposal, vented electric dryer, double compartment sink and adjacent soapstone counter area, unobstructed working surfaces extending from both sides of the sink with formica tops and cabinets below.
- c. The graduate research laboratory should have a double sink, garbage disposal and an adjacent soapstone counter and unobstructed working surfaces extending from both sides of the sink as in b above. One working bench should have leg wells.
- d. The suggested room arrangement is given below and may be placed near the plant physiology complex or near the advanced botany teaching complex.

Plant Pathology-Mycology Research Facility

Office	Research Lab	Graduate Research Lab	Prep	Adv. Bot. Lab
--------	-----------------	-----------------------------	------	---------------------

16. The Plant Physiology Research complex.

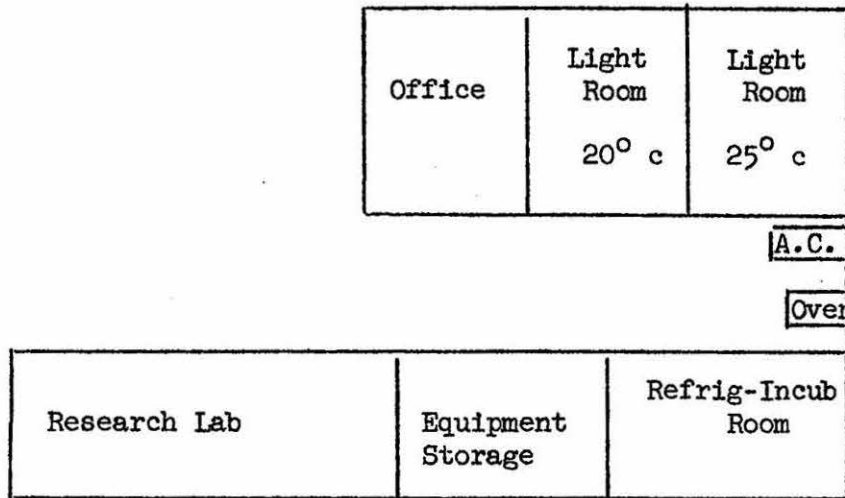
- a. Each research laboratory should be connected with the respective office.
- b. The research laboratories should be serviced with all utilities. The graduate plant physiology laboratories should have chemical type fixed furnishings arranged to form 4 cubicles.
- c. Chemical fume hoods (1 in each faculty research lab and 1 large or 2 small in each graduate research lab) should be serviced with all utilities including steam distillation cones and be vented.

17. Phycological Research

- a. The environmental light rooms should be insulated on all 6 sides. Each should have a separate cooling compressor and be equipped with cut-out thermostats to prevent over heating. Each room should have a central island of wire mesh shelves, accessible from all sides.

17. Phycological Research (continued)

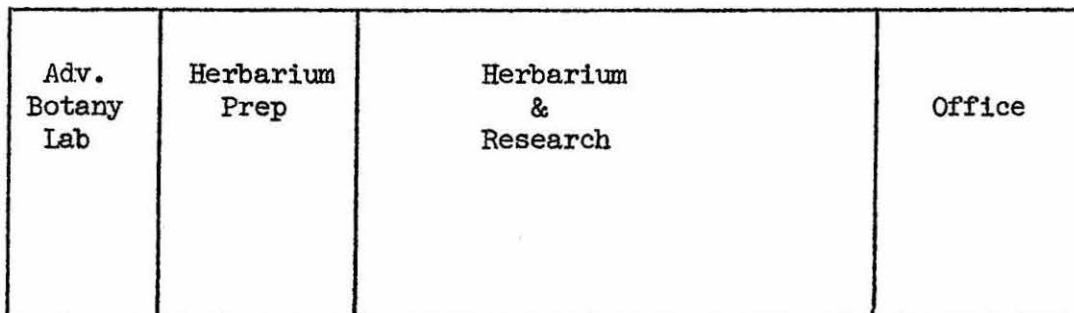
- b. The equipment storage room should have a single door opening into the research laboratory.
- c. The refrigerator-incubator room should accommodate 5-10 refrigerators, an equal number of incubators and ovens, plus a freezer for storage of cultures at different controlled temperatures.
- d. The research laboratory should be serviced with an autoclave and all utilities.



18. The Plant Taxonomy Research complex.

- a. The office and research laboratory should be adjacent to the herbarium but on the opposite end from the herbarium prep room.
- b. The research laboratory should have benches with several feet of unobstructed working surface. The room should be serviced with all utilities and 115 and 230 V electrical outlets.
- c. The suggested arrangement is sketched below.

Plant Taxonomy Research Facility



19. Invertebrate Zoology Complex

- a. The acarology research laboratory should have a sink, hot and cold water and be provided with electrical outlets.
- b. The invertebrate zoology laboratories should be provided with all utilities.

20. The Vertebrate Zoology Complex

- a. The research laboratories should be provided with sinks, hot and cold water and one of the laboratories to have distilled water.
- b. The environmental research laboratories should have the facility of keeping temperatures between 25° C and ambient.
- c. The graduate research laboratory should connect to the collection rooms.

21. The Animal Physiology Complex

- a. A 140 sq. ft. area within the neuro-muscle physiology laboratory should be screened to mask equipment from electrical disturbances.
- b. The aquarium room should be supplied with well water in addition to other standard utilities.
- c. The research laboratories should have standard utilities, distilled water and also provided with 230 V electricity.

22. The Developmental Embryology Complex

- a. The research laboratories should have all utilities and provided with or have access to an autoclave and a fume hood.
- b. The cold laboratories should contain utilities and provide the following respective temperature ranges, 5-10° C, and 5-15° C, and 18± 3° C.

23. The Animal Quarters

- a. The washing and sterilization room should have a high pressure shower for cages, a large autoclave, large sinks and an incinerator.
- b. The feed storage room should be vermin-proof.
- c. The contagious animal quarters should have tile walls, a steam chamber for disinfecting cages, a large sink. The room should be vermin-proof provided with U.V. and a chemical trough barrier and have a filtered air exhaust.
- d. The animal quarters should be ventilated separately from the rest of the building.

24. Auxiliary Service Rooms

- a. The controlled environmental chambers may be located in a block. These will provide services for individual research projects and will be assigned to those projects only for their duration. Controls should include temperature to 3° C, light cycling and humidity. Special type construction is suggested.
- b. The main biology storeroom should contain dishwashing facilities and be located near a freight elevator.
- c. The narcotic vault should be ventilated and have a combination safe-type lock.
- d. The shop should be located near the mechanical room and isolated from the teaching and research rooms because of vibrations and electrical disturbances induced by motors.
- e. The faculty lounge should be located in the general area of the main biology office complex and near rest rooms.
- f. The refreshment facility should be located convenient to the students but not to present a traffic problem to teaching laboratories. This facility cannot be located near Microbiology, Animal Quarters, Radio isotope activity, Greenhouse facilities or research areas.

TEXAS TECHNOLOGICAL COLLEGE
Lubbock, Texas

MINUTES OF THE CAMPUS PLANNING COMMITTEE

Meeting No. 262 November 19, 1965

A meeting of the Campus Planning Committee was held at 4 p.m. on November 19, 1965, in Room 120 of the Administration Building. Members present were Mr. E. J. Urbanovsky and Chairman M. L. Pennington. Mr. Bill Felty sat in for Mr. Barrick. Mr. John G. Taylor was also present.

3127. Business Administration Building (CPC No. 98-65)
(Page, Southerland & Page)

The purpose of the called meeting was to review the material presented by the faculty committee prior to the meeting on Tuesday afternoon, November 23, 1965, with the architects and faculty committee.

The total classrooms requested: 40, including one of 500, 2 of 200 and 2 of 100; 26 specially equipped laboratories, including 13 for Secretarial Administration courses, 9 seminar rooms, and 5 conference rooms. There appears to be duplicate equipment requested, such as projectors, screens, calculators, etc.

It looks as if there could be more joint uses by departments of equipment and space and some requests for equipment might be consolidated into one room. The request needs to be reevaluated to see how many rooms are duplicated.

Questions of the advisability of the tiered and curved rooms were raised.

Could not several rooms completely equipped be used by several departments, not several rooms for each department? For example, projection equipment is requested for: 8 rooms, 2 labs for Accounting, 7 labs in Business Education and Secretarial Administration, 8 rooms for Economics and Finance, 3 rooms for Management, and 4 rooms for Marketing labs.

Specially equipped rooms for a certain department limit the use of the rooms for other classes.

It would look as if one consulting office for emeritus staff is sufficient in the dean's complex.

The student reading room should be deleted in line with college policies.

The room of 500 probably should be deleted since 2 rooms of 200 are requested. Are 2 rooms with 200 capacity really needed?

The conference room for honor students, meeting room for student organizations and 4 seminar rooms in the dean's complex probably should be deleted. Each department has requested seminar rooms.

The data processing equipment would seem to be excessive and the request for space could be out of proportion. Seven classes are offered this fall.

For Business Education and Secretarial Administration, it looks as if some lab rooms, like shorthand rooms and dictation rooms, could be combined. Could not office machines and the calculating room also be combined?

It is doubted that the Economics request for one room of 75 for Economic Geography is needed for that course. Only 2 sections are offered now.

3127. Business Administration Building (CPC No. 98-65)
 (Page, Southerland & Page) (continued)

The equipment requests would seem to be the ultimate and probably excessive.

Probably not all of the specially equipped rooms are needed at this time.

Summary of General Comments:

1. More attention should be paid to the multiple uses of departmental spaces.
2. The capacities requested in most areas appear to be unrealistic.
3. There probably are too many offices requested but possibly could be used by others for the time being.
4. Too much capacity has been requested for rooms of 200 and up.

3128. Chemical Research Building (CPC No. 87-64) (Pitts, Mebane, Phelps & White)

The Chairman reported that Mr. Harold Hinn had called him on the evening of November 18, 1965, before he left for his European trip and suggested an investigation of more use of the real estate in connection with the Chemical Research Building. He thought it would be well to go east as far as possible and to go higher if necessary.

He did not necessarily wish to eliminate the Research Building plans but thought that it would be best to restudy the needs of the Chemistry Department and lose some time on the facilities if necessary in order to get better usage of the site.

The Chemical Research Building probably is in the ideal location for additional classrooms, laboratories and faculty offices for the Chemistry Department. Some consideration of a better rearrangement would seem to be in order.

It was agreed that the Chairman would consult with Dr. Dennis for his thoughts and, if it is necessary, the engineers and architects would be stopped on the drawings.

On November 23, 1965, Dr. Dennis concurred in the thought that it would be well to reconsider the need for additional facilities on the site.

3129. Classrooms

Temporary Buildings

The Chairman reported that on November 17, 1965, Mr. Hinn, Mr. Furr and Mr. Martin suggested that it would be well to consider temporary classrooms, prefabricated, probably metal, for an additional 5,000 students, to be ready by the beginning of school next September.

It was estimated that 50,000 square feet would be sufficient and that the cost would probably not exceed \$4 per square foot or \$200,000 for the space.

It was suggested that the site should be near the new Museum site at 4th and Indiana.

It was thought that the temporary space should be for classrooms for lecture courses, primarily freshmen, in view of the prospective increase this fall. There could be 4,000 new students, and another freshman class probably will enroll in 1967 before any permanent facilities can be constructed.

It probably would be necessary to provide surface transportation.

3129. ClassroomsTemporary Buildings (continued)

After discussion, it was thought that it would be well to see how many additional students Texas Tech can handle with the facilities on hand by using all feasible time during the day, evenings, Saturday, noon hour, and perhaps by starting classes at 7:00 a.m. or 7:30 a.m.

At the remote area, there would be the problem of wind, dust, heat and a lack of landscaping.

It was thought that it might be wise to look at other places also to see if there might be one more advantageous.

Faculty offices would be needed in the vicinity.

The question was raised as to whether or not it might be possible to teach some of the courses by television in the residence halls rooms or elsewhere.

It was agreed to check all possible space and see what might be made available.

It will be two years before any permanent buildings can be erected.

3130. HousingOff-Campus

The Chairman reported that on November 18, 1965, Mr. Harold Hinn suggested that the two off-campus housing groups be requested to provide enough housing for 1966, and suggested that they each be asked to erect another unit by that time.

The Chairman reported that on November 19, 1965, he asked Mr. Solon Clements to see if the O'Meara-Chandler project could be increased. Mr. Clements said that he would check. He asked Mr. Leroy Elmore on November 21, 1965, to check with Mr. O'Meara and Mr. Seldin.

M. L. Pennington
Chairman

The meeting adjourned at 5:35 p.m.

TEXAS TECHNOLOGICAL COLLEGE
Lubbock, Texas

MINUTES OF THE CAMPUS PLANNING COMMITTEE

Meeting No. 263 November 23, 1965

A meeting of the Campus Planning Committee was held at 1:30 p.m. on November 23, 1965, in Room 120 of the Administration Building. Members present were Mr. E. J. Urbanovsky, Mr. Nolan E. Barrick and Chairman M. L. Pennington. Others present from the college staff were Miss Evelyn Clewell, Mr. John G. Taylor, Mr. O. R. Downing and Miss Jerry Kirkwood.

Business Administration Faculty Committee members present were Chairman Haskell Taylor, Dr. John E. Binnion and Dr. George W. Berry. Others present from the Business Administration faculty were Dean George G. Heather, Dr. William R. Pasewark, Dr. John A. Ryan, Dr. F. L. Mize, Dr. Reginald Rushing and Dr. Robert Rouse.

The project architects were represented by Mr. Louis Southerland and Mr. Madison Mills.

3131. Business Administration Building (CPC No. 98-65)
(Page, Southerland & Page)

Mr. Southerland and Mr. Mills presented the first schematics covering the general big ideas developed in the study so far. Included were the floor plans, cross sections, pedestrian and traffic flow studies, general overall plans, and possible chilling station.

The development indicated a taller element for the faculty offices and classrooms and laboratories in a lower section.

The tiered classrooms requested caused a different building structure and it is necessary to, in effect, stack such classrooms. Attempts were made to keep a regular module.

An attempt was made to develop plans which would prevent as many vertical traffic problems as possible by arranging the spaces with heavy student traffic on the first three floors. Some of the area would be below the ground level. Attempts were made to group classrooms and laboratories by departments as much as possible.

The large student reading room requested, the location of stairs in compliance with the fire code, and the needs of traffic handling and the possible arrangement of floor areas with large spans, such as the 500 capacity auditorium requested, the two 200 capacity auditoriums, the 100 capacity classrooms, etc., were discussed.

The tentative site is south and across the street from Men's Halls 9 and 10. The faculty offices would be located in a tower to the west and could contain as many as 13 levels and have 120 single offices, 40 double, and 60 cubicles for student assistants. The size of the tower could be some 48' x 100'.

The size of the structure as laid out would be approximately 200,000 square feet and would be on a site 324' x 284' approximately. The estimated cost by the architects is approximately \$17.50 per square foot.

The items presented in the detailed study were gone over one by one and each department head gave the results of the study for his department by describing the present size, plans and reasons for development. Basically, the overall request was designed to accommodate 6,000 students in Business Administration by 1972.

3131. Business Administration Building (CPC No. 98-65)
(Page, Southerland & Page) (continued)

The 500 capacity auditorium requested would be more for special uses by the School and the College than for classes. It was pointed out that the Business Administration School has pioneered in large classes and adequate space has not always been available. Use was made of Chemistry 101 until the classes outgrew it. Since then, the Aggie Auditorium, with 240 capacity, has been used. There is no way to determine, at the moment, how many sections there would be with 500 students.

It was agreed that there would be many college uses for an auditorium with a capacity of 500, but it was the consensus that it would have to be for the entire college's use. The availability of a 500 capacity auditorium would determine, to a large measure, its location.

The two 200 capacity units requested were also discussed in detail, including the number of cycles that the facilities would be used by the Business Administration School. The discussion indicated that the Business Administration School probably could justify two 200 capacity classrooms now, although the School could not use them all the available cycles.

Each department head went over his request and answered all questions raised by those present.

Mr. Southerland felt that probably a little under 70 percent of the space would be available as assignable.

It was the consensus that the proposed building is using a great deal of land and study should be made to make more efficient utilization of the space.

It was agreed that it would be well to reverse location of the deans' and the department heads' office space in the office element.

M. L. Pennington
Chairman

The meeting adjourned at 6:15 p.m.

TEXAS TECHNOLOGICAL COLLEGE
Lubbock, Texas

MINUTES OF THE CAMPUS PLANNING COMMITTEE

Meeting No. 264 November 24, 1965

A meeting of the Campus Planning Committee was held at 8:30 a.m. on November 24, 1965, in Room 120 of the Administration Building. Members present were Mr. E. J. Urbanovsky, Mr. Nolan E. Barrick and Chairman M. L. Pennington. Others present from the College were Miss Evelyn Clewell, Miss Jerry Kirkwood and Mr. John G. Taylor.

The project architects were represented by Mr. Louis Southerland and Mr. Madison Mills.

3132. Business Administration Building (CPC No. 98-65)
(Page, Southerland & Page)

The meeting was called to review the information received the preceding day and to make specific recommendations to the architects. The general thoughts expressed were as follows:

Everyone present would like to be able to get all the space requested. There seem to be a good many highly specialized rooms which would restrict the use of the facilities by others, as it is always hard to put other classes in a specially equipped room.

There possibly could be more rooms requested than will be needed with better scheduling. At the present time, few classes seem to be scheduled on Saturday, although about one-half of the classes are scheduled outside of the present Business Administration Building. With better scheduling, many could be included.

Disappointment was expressed that there were not as many general facilities as anticipated. Classrooms with 40 capacity seemed to be small for tiers and probably none under 75 should be tiered unless there is a specific reason.

Others on campus are requesting auditoriums from 500 to 800 capacity.

It may be possible to defend the 100 percent growth by 1972, but some doubt was expressed.

All departments want calculating rooms which causes limited and restricted use. In view of the number of projectors requested, there was some question as to whether or not the chase with the projectors in it could be justified or just how it might be handled.

Few Business Administration classes are scheduled in the afternoon after 2 p.m., and very few on Saturday.

If the approximate space requested were provided, would the Business Administration faculty insist on the more desirable schedule for classes in the School or would others who would have to use the building in order to justify it have the opportunity for equally good schedules?

It was the consensus, in view of the fact that the Business Administration Building is No. 1 on the priority list in order to provide maximum relief to the College for classrooms and laboratories, other than Science, that it would be well to plan basically for the 100 percent request, subject to a correction of possible scheduling problems and less specialized use. Otherwise, it would be necessary to reduce the amount of the facilities requested.

3132. Business Administration Building (CPC No. 98-65) (Page, Southerland & Page)

It was agreed that all of the rooms could not be equipped if they were obtained and there would be no need for all of the equipment at the beginning. The equipment could be added as needed as the years go by.

(Professor Haskell Taylor, Chairman of the Business Administration Building Faculty Committee, entered the meeting at 9 a.m. and the Chairman reviewed the developments to that point with him.)

It was agreed to group special rooms, general classrooms and offices.

As for the computer, Professor Taylor said that he had included enough space and the request for the computer as apparently no decision has been made on whether or not the 1401 will be part of the Computer Center or is still available for the Business Administration Building.

The reading room for 400 students was discussed.

The University of Texas Business Administration faculty reported that the 300 capacity reading room is insufficient and the Texas Tech faculty committee thought that 400 would be in line. As for equipment, it would need only tables and chairs and perhaps some reference books, stacks, etc.

The question of the institutional policy for reading rooms was discussed along with the proposed auditorium.

The general consensus seemed to be that the reading room would be nice if it could be afforded, although the College policy at the moment is to provide no reading rooms. If the room is included, it was agreed that it would have to be open to any student who wished to use it. There could be some question as to whether or not the 400 capacity reading room would be more important to the College than classrooms, laboratories or faculty offices for other departments farther down the priority list.

As the consensus seemed to indicate that both the reading room and the auditorium would be good, if they could be afforded, it was agreed to ask the architects to work in both in such a manner that alternate bids could be taken and still allow the schedule for the preparation of the application for matching funds under the Higher Educational Facilities Act. Outside availability should be provided for both facilities and the architects were requested to work on the elements as a separate unit pending a campus-wide study.

(The meeting recessed at 10:45 a.m. and reconvened at 11:00 a.m., and Dr. John E. Binnion and Dr. George W. Berry, the other members of the Business Administration Faculty Building Committee, entered the meeting.)

The preceding developments were reviewed with Drs. Binnion and Berry.

Modifications, as recommended at the meeting on the preceding day, were discussed and it was agreed that Miss Kirkwood and the architects would be sure that the modifications were correct and of record.

The discussion of the proposed big rooms, the different characters of usage within the spaces, modifications of some of the rooms, the questions of tiered rooms, and more use of the land site were felt to be enough for the architects to rework the tentative plans and re-present.

3132. Business Administration Building (CPC No. 98-65) (Page, Southerland & Page)

It was thought that the study might include the best usage for the top floors by possibly the laboratories which would be held the longest times.

The arrangement of the building for possible additions in the future was discussed and it was felt that the gate should be open for future additions, although it is possible that the building will be of such scope that it will not be practical to add to it in the future.

The architects raised a question of the cooling plant, and it was agreed that it would be part of the Engineering study with the esthetics of its arrangements to be considered but it would be omitted from the Business Administration project.

Mr. Taylor felt that the tiered rooms for case study courses would need some consideration.

It was agreed to request the department heads to carry their programs farther along in the development and perhaps it would settle some of the questions raised.

It was agreed that the architects would return to Lubbock on December 3, 1965.

Some discussion of materials and maintenance costs took place. It was agreed that materials which could be used to provide minimum maintenance and still come within the estimated cost of \$17.50 per square foot should be considered.

It was agreed that there would be a committee meeting in the afternoon of Mr. Barrick, Miss Clewell, Miss Kirkwood, and the Business Administration Faculty Committee to go as far as possible in classifying the requested classrooms by showing those which would have special uses, those which would need to be tiered, those which could have more uses than presently shown, those which would be strictly for Business Administration, and the general rooms which could be used for the entire campus.

M. L. Pennington
Chairman

The meeting adjourned at 12:40 p.m.

TEXAS TECHNOLOGICAL COLLEGE
Lubbock, Texas

MINUTES OF THE CAMPUS PLANNING COMMITTEE

Meeting No. 265 November 30, 1965

A meeting of the Campus Planning Committee was held at 3 p.m. on November 30, 1965, in the Plan Room in the Physical Plant headquarters building. Members of the Campus Planning Committee present were Mr. E. J. Urbanovsky, Mr. Nolan E. Barrick and Chairman M. L. Pennington. Other members of the college staff present were Mr. John G. Taylor and Mr. O. R. Downing.

The project architects were represented by Mr. Howard Schmidt and Mr. Bob Messersmith.

3133. Dormitory Expansion

On-Campus Housing

The architects had prepared scale models of various schemes and had them set up on the plot plan. They presented the thoughts and philosophy behind each. A number of meetings has been held with the housing staff and the staff suggested three residential units of approximately 350 each, with a counselor and relief counselor for each. They preferred 52 students per floor with a lounge, and would be willing to go as high as 550 in each unit with two counselors.

Everyone has agreed that the core plan, and the inspection trip bore it out, seems to be the preferred method within the residential towers. The elevator, toilets, typing room, ironing room, janitor's closets, stairs, lounge, storeroom for trunks and formals, etc., would be in the center core, and no bedrooms would be across from each other.

With 11 floors, each tower could house 572.

The architects reported that they have studied and priced six different concepts, and the one presented seems to be best. The corridors would be only four feet wide with carpets and less expensive wall materials.

It was agreed that the plan as presented would provide the best floor arrangement, and the housing staff concurs.

1. Commons Building

In one plan, there would be three levels:

a. Lower

Food preparation and receiving.

b. Second

Four dining rooms, each to serve 750 with 400 seating capacity each. Provisions for subdivisions by folding walls. The rooms would have lower ceilings and lower light intensity, as recommended by Mr. Dana and as borne out by the results of the inspection trip.

c. Third

Area manager's office, secretaries' office, student offices, game rooms, service desk for games, reading and study room. Size 240' x 275', with 66,000 square feet.

3133. Dormitory ExpansionOn-Campus Housing (continued)2. Mail Service

Mail service was discussed. There is a study under way as to whether or not it would be better for the College to have a central post office, probably in the Student Union, and do away with mail delivery over the campus, or continue the present system. The architects said that they would need to have a decision soon. December 7 would be preferable, but not later than December 10.

Commons Bldg.

A good bit of discussion ensued on how much commons area to build now and how much in the future.

An alternate to the 66,000 square feet on the third level of the commons building was discussed and the architects presented a plan showing the space partially under two towers with connecting facilities between.

It was agreed to omit the 66,000 square feet on the third floor of the commons building and to tie two towers together with the facilities arranged at the lower levels of the towers and the connecting facility.

3. BudgetSquare Footage

The women's halls on 19th Street have 185,000 square feet which average at 230 square feet per student. Men's 9 and 10 have 240 square feet per student. Scheme 2, which would be the one with the commons area beneath the residential units, would provide 250 square feet per student.

The square footages in the kitchens and dining rooms of the new women's halls are 25 square feet per student. Men's 9 and 10 have 23 square feet per student, and alternate No. 2 would provide 19 square feet per student.

The residential area of the new women's halls provides 205 square feet per student and includes all space except the kitchen and dining room. Men's 9 and 10 have 201 square feet and alternate No. 1 in the proposed plan would have 219 square feet.

Using the same unit prices, which would provide only a rough estimate at this time, the women's hall on 19th cost \$3,550 per student space, Men's 9 and 10 also cost \$3,550 per student, and alternate No. 2 would cost about \$3,850 per student.

4. Site

After a great deal of discussion, it was agreed to recommend the site at the northwest corner of the intersection of Flint Avenue and 15th Street. The architects were requested to study the site further and report.

5. Financing

There was a good bit of discussion on how much money could be borrowed from HHFA for construction of the facilities. Representatives of the HHFA visited the campus some months ago and stated that they would like for Texas Tech, which has built more housing than most institutions, to be a guinea pig to see if it would be possible to secure funds for additional units over the years.

3133. Dormitory ExpansionOn-Campus Housing (continued)5. Financing

The financing and the arrangement of the facilities for the first units would determine the future course to be followed for additions. For instance, if the site is to accommodate 3,000 to 3,400 students in the next 3 or 4 years, how much kitchen and dining room area could be provided at this time?

It was agreed that it would be very helpful to visit the HHFA office in Fort Worth and secure guidance from the officials there.

A trip was arranged for Mr. Schmidt, Mr. Messersmith and Mr. Taylor to visit the HHFA regional headquarters in Fort Worth on Friday, December 3, 1965.

(The trip was made, and Mr. Taylor reported after his return that the interest rate of 3 percent has caused a great many additional institutions to request funds from the HHFA, and although Congress has made funds available, no funds have been allocated for use yet. The regional office is taking applications and working them with the hope that money will be available soon.)

(Due to the increased demand, procedures similar to those followed in the past will be used, and any oversizing of the first portion of the project for later usage would have to be borne by the owner. The annual limit has been raised to \$4 million. The officials suggested that if Texas Tech wants to file for one-half of the total project, \$4 million could be requested during this fiscal year and \$4 million during the next, which begins next July 1.)

(It looks as if it may be a bit difficult to borrow enough money fast enough for one-half of the proposed project for the area.)

---The architects left the meeting at 5:45 p.m.---

3134. Chemical Research Building (CPC No. 87-64)
(Pitts, Mebane, Phelps & White)

A discussion was held on the suggestion to redo the plans for the facility in view of increasing the size and adding undergraduate facilities.

After discussion, it was agreed that the architects would be requested to cease working on the project until the Board meeting on December 11, 1965, and to do some thinking on how additional use of the site could be made, using as much as possible of the plans developed to date.

On Wednesday afternoon, December 1, 1965, the Chairman called Mr. Russell Phelps of Pitts, Mebane, Phelps & White, and asked the architects to stop further work on the Chemical Research Building pending the meeting of the Board on December 11, 1965.

Mr. Phelps said that he would comply and confirmed the action by memorandum dated December 1, 1965, and received on December 3, 1965. A copy of the memorandum is attached to and made a part of the Minutes. (Attachment No. 595, page 1830)

M. L. Pennington
Chairman

The meeting adjourned at 6 p.m.

Campus Planning Committee
November 30, 1965
Attachment No. 595
Item 3134

PITTS MEBANE PHELPS & WHITE

Architects & Engineers

470 Orleans Street
Beaumont, Texas

TE 2-2567 / 713

MEMORANDUM TO FILE NO. 15
December 1, 1965

Re: Chemistry Research Building
Texas Technological College
Lubbock, Texas

On Wednesday afternoon, December 1, 1965, Mr. Marshall Pennington, Vice President of Business Affairs, Texas Technological College, Lubbock, Texas, called to instruct us to stop any further work on their Chemistry Research Building pending their Board Meeting on December 11, 1965.

Mr. Pennington stated that the College wanted to consider expanding this facility to include building areas for undergraduate work. He asked that we give some thinking to this and stated that it was their intent to continue our firm as their Architects and Engineers for this facility.

PITTS, MEBANE, PHELPS & WHITE

/s/ Russell R. Phelps

Russell R. Phelps

RRP/eh (g)

cc: Mr. Marshall Pennington
Mr. Nolan Barrick
Mr. Ross Zumwalt
Mr. George Smith (W. C. Buchanan Co.)
LWP RRP RW FFB MB

TEXAS TECHNOLOGICAL COLLEGE
Lubbock, Texas

MINUTES OF THE CAMPUS PLANNING COMMITTEE

Meeting No. 266 December 3, 1965

A meeting of the Campus Planning Committee was held at 1:30 p.m. on December 3, 1965, in Room 208 of the Student Union Building. Members present were Mr. E. J. Urbanovsky, Mr. Nolan E. Barrick and Chairman M. L. Pennington. Other members of the college staff present were Miss Evelyn Clewell and Miss Jerry Kirkwood.

The School of Business Administration was represented by the Faculty Building Committee composed of Chairman Haskell Taylor, Dr. John E. Binnion and Dr. George Berry. Other members of the Business Administration faculty present were Dean George G. Heather, Dr. F. L. Mize, Dr. William R. Pasewark, Dr. John Ryan and Dr. Reginald Rushing.

The architects were represented by Mr. Louis Southerland and Mr. Madison Mills.

3135. Business Administration Building (CPC No. 98-65)
(Page, Southerland & Page)

A. Layout Schemes

Mr. Southerland presented two proposed layout schemes and presented Scheme B first. It had the auditorium and study room to the east, the office tower to the west and the laboratories and classrooms in between, and was designed to use the least amount of land.

He went over each of the three elements in detail and answered all questions presented.

The auditorium as shown in the scheme would be over the reading room, with easy access to both without interfering with the use of the rest of the building.

Entry to the building would be made at the ground level, and there would be one floor below and two above, and would provide the least amount of vertical traffic.

Mr. Southerland then presented Scheme A. The scheme had the same facilities, but was arranged in a less compact fashion. The reading room and auditorium would be at the southwest corner, and the large classrooms would be off in wings for more horizontal traffic and less vertical.

Again, the philosophy of design was given and the questions answered.

(Dean Heather, Dr. Mize, Dr. Pasewark, Dr. Ryan and Dr. Rushing left the meeting.)

B. Site

It was agreed to recommend the site across the street and south of Men's 9 and 10.

Preference was expressed for Scheme B, and the proposed arrangement of spaces was approved.

It was agreed to include the auditorium with a capacity of 500 in the project, with the understanding that it would not be equipped as an auditorium in the usual sense, but would be arranged as a large lecture room, and that it should be referred to as a lecture room. The study of arrangement is to continue, as it may be better to reorient it in a different direction.

3135. Business Administration Building (CPC No. 98-65)
(Page, Southerland & Page)

B. Site (continued)

It was agreed to include the study area, provided it is convertible to future classrooms.

In view of the bids opened the previous day on the Foreign Languages-Mathematics Building, it was agreed that a cost of \$18 per square foot for the proposed facilities would seem to be in line.

Plan B. calls for 186,703 square feet, and it was estimated that, with using \$500,000 as a round figure for equipment and \$100,000 for utility extension, the total budget could run \$4,300,000. The architects explained that they had used the same square footages per student as those used in the Business Administration Building at The University of Texas. The amount varies by type of space and is indicated in the tabulations presented by the architects. In the refinements of the drawings, further study will be made to provide needed adjustments in the layout of the individual rooms. The architects would like to have the layout of proposed equipment from all departments for which it is available, and Professor Taylor provided the architects with some of the departmental layouts and said that he would procure the others as soon as possible.

It was agreed to recommend Scheme B, with more study to be given to the elevations, rearrangement of the study area and large lecture room, with the number of floors and the towers to be left open for the time being. The architects said that, in Scheme B, the tower unit could be as high as 12 stories.

The tabulation of the revised requests for space and facilities which was prepared by the architects is attached to and made a part of the Minutes. (Attachment No. 596, page 1833)

The tabulations of square footage are shown on pages 13 and 14 of the report.

M. L. Pennington
Chairman

The meeting adjourned at 3:35 p.m.

TEXAS TECHNOLOGICAL COLLEGE
Lubbock, Texas

SCHOOL OF BUSINESS ADMINISTRATION

Based on the School of Business Administration Report No. 1, and Changes No. 1 and 2, and Supplementary Revisions Nos. 1 and 2.

Proposed New Building for the School of Business Administration

A. Classrooms*

1. Accounting Department (A)
2. Business Education and Secretarial
Administration Department (B)
3. Finance Department and Economics Department (F)
4. Management Department (M)
5. Marketing Department (MK)

B. General Classrooms and Supporting Facilities (G)

C. Offices

1. Deans' Office Complex (D)
2. Department Heads' Office Complex (DH)
3. Faculty Office Complex (O)

D. Notes

E. Area Tabulations

* Room designations determined by departmental prefix, departmental room number, usage suffix. Suffixes: C- Classroom, L- Laboratory, S- Seminar, G- General, O- Office.

Under Usage, "Special" denotes a space to be used initially for Business classes primarily or entirely; "general" denotes use by other disciplines initially, but for future Business School use.

A. CLASSROOMS

1. Accounting Department

<u>Rm. Desig.</u>	<u>Capacity</u>	<u>Usage</u>	<u>Description of Space</u>
A-1-C	50	Special	Curved seating, tiered, tables curved to fit room, projection equipment, TV equipped, equipment fixed. (22 sq. ft. per student)
A-2-C	50	Special	
A-3-C	50	Special	
A-4-C	50	Special	
A-5-C	50	General	Curved, tiered seating
A-6-C	50	General	
A-7-C	50	General	
A-8-C	50	General	
A-9-L	35	Special	Laboratory rooms, individual adding machines and tables for students, storage space at end of room, darkening facilities, equipment fixed, 6 outlets each side of room, 2 at each end. (23 sq. ft. per student)

A. CLASSROOMS (continued)

1. Accounting Department

<u>Rm. Desig.</u>	<u>Capacity</u>	<u>Usage</u>	<u>Description of Space</u>
A-10-L	35	General	Typical lecture room seating and equipment. (23 sq. ft. per student)
* A-11-C	20	Special	Lecture rooms for IBM (unit records storage space for cards and trays, storage cabinets, 3 filing cabinets, 21 large tables, 21 chairs. (30 sq. ft. per student)
A-12-C	20	Special	
A-13-C	20	General	Typical lecture room.
A-14-L	20	Special	Lab room for IBM (unit records) room to house 2 sorters, 2 interpreters, 1 reproducer, 1 collator, 21 tables, 21 chairs, storage cabinet for cards and continuous forms, storage for panel boards and wires. (35 sq. ft. per student)
A-15-L	20	Special	Lab room for IBM (unit records), storage cabinet for cards, room to house 6 key punches, 6 verifiers, 3 tables, 15 chairs. (30 sq. ft. per student)
A-16-L	20	Special	Lab room for IBM (unit records), storage space for cards, continuous forms, panel boards and wire. Room to house 4 accounting machines, 21 tables and 21 chairs. (35 sq. ft. per student)
A-17-C	30	Special	Lecture room for electronic equipment, large tables (31) and 31 chairs, 4 filing cabinets, storage cabinet. (30 sq. ft. per student)
A-18-C			
A-19-C	30	General	Typical lecture room (30 sq. ft./student)
A-20-C		General	Typical lecture room (30 sq. ft./student)
A-21-L	30	Special	Lab room to house computer, card cabinet, large storage cabinets for cards, continuous forms, tape reels, 1 filing cabinet, 16 tables, 31 chairs. (23 sq. ft. per student)
A-22-L	30	Special	Lab room with storage space for cards, continuous forms, wires, panel boards, 1 filing cabinet, 16 tables, 43 chairs, 6 key punches, 6 verifiers, 2 sorters, 2 interpreters, 1 collator, 1 reproducer. (35 sq. ft. per student)

* A-11-C through A-16-L located in close proximity to each other.
 A-11-C through A-22-L located in same general area.

A. CLASSROOMS (continued)

2. Business Education and Secretarial Administration

<u>Rm. Desig.</u>	<u>Capacity</u>	<u>Usage</u>	<u>Description of Space</u>
B-1-L	40	Special	Manual typewriters, lecture, desks, 24 x 42. Stationary projection equipment and facilities for darkening room. TV closed circuit. (32 sq. ft. per student)
B-2-L	40	Special	Typical lecture rooms (future use like B-1-L, adjacent to B-1-L) (32 sq. ft. per student)
B-3-L	40	General	
B-4-L B-5-L	40	Special	Electric typewriters and transcription L-shaped desks 42 x 48. Stationary projection equipment and facilities for darkening room. Multiple listening stations, desks arranged in pairs, aisle on both sides to permit instructor to observe students. Tv closed circuit. (34 sq. ft. per student)
B-6-L	40	General	Typical Lecture Room, but with mechanical facilities for future use like B-4-L. Adjacent to B-4-L and B-5-L. (34 sq. ft. per student)
B-7-C	36	Special	Electric typewriters, lecture, duplicating and transcribing machines, L-shaped desks 42 x 48, TV closed circuit. (34 sq. ft. per student)
B-8-L	24	Special	Office machines practice laboratory, L-shaped desks 42 x 48. Stationary film strip projection equipment and facilities for darkening room. (30 sq. ft. per student)
B-9-C	36	Special	Calculating machines, lecture desks 24 x 36. Stationary projection equipment and facilities for darkening room, desks arranged in pairs, aisle on both sides to permit instructor to observe students. TV closed circuit. (23 sq. ft. per student)
B-10-L	40	Special	Shorthand. Desks 24 x 42. Stationary projection equipment and facilities for darkening room. Multiple listening stations. Desks arranged in pairs, aisle on both sides to permit instructor to observe student. TV closed circuit. (34 sq. ft. per student)
B-11-L	30	General	Typical classroom. Future use: Methods-Seminar Laboratory, manual typewriters, desks 24 x 42, 3 display cases, stationary projection equipment and facilities for darkening room. TV closed circuit. Storage of supplies and equipment for visual aids. (36 sq. ft. per student)
B-12-L	30	General	Typical classroom. Future use: Dictation laboratory, desks 24 x 42, multiple listening stations similar to language lab. (30 sq. ft. per student)

A. CLASSROOMS (continued)

2. Business Education and Secretarial Administration

<u>Rm. Desig.</u>	<u>Capacity</u>	<u>Usage</u>	<u>Description of Space</u>
B-13-L	-	General	Typical classroom or unfinished space for future developments as: Office Research Laboratory. Instruments to measure such factors as eye movement and respiration of persons and physical characteristics of machines and supplies. Motion picture camera. Locate away from teaching areas. (500 sq. ft.)
B-14-L	40	Special	Manual typewriters, desks 24 x 42. Stationary projection equipment, and facilities for darkening room. Desks arranged in pairs, aisle on both sides to permit instructor to observe students. TV closed circuit. (32 sq. ft. per student)
B-15-G	-		Storage room (200 sq. ft.)
B-16-G	-		Storage room (200 sq. ft.)

3. Finance Department and Economics Department

<u>Rm. Desig.</u>	<u>Capacity</u>	<u>Usage</u>	<u>Description of Spaces</u>
F-1-C	200	General	Large auditorium with: (a) Permanently installed projection equipment, movie, opaque, overhead, with controls at the speaker's podium. (11 sq. ft. per student) (b) Tablet Arm Chairs (c) Darkening devices (d) Sound equipment
F-2-C	100	General	Slight tier, raised lectern with: (a) Permanently installed projection equipment overhead, movie. (11 sq. ft. per student) (b) Grid on chalkboard (c) Maps installed (d) Table Arm Chairs (e) Darkening devices
F-3-C	75	Special	Tiered lecture room with: (a) Fixed tables (b) Chairs (c) Closed circuit TV (22 sq. ft. per student)
F-4-C	75	General	Tiered lecture room. (22 sq. ft. per student)
F-5-C	75	General	Regular seating (a) Closed circuit TV (b) Tablet Arm Chairs (c) Permanent map space (16 sq. ft. per student)

A. CLASSROOMS (continued)

3. Finance Department and Economics Department

<u>Rm. Desig.</u>	<u>Capacity</u>	<u>Usage</u>	<u>Description of Spaces</u>
F-6-L	40	Special	Tiered lab with fixed tables. (a) Permanently installed projection equipment overhead, movie, opaque. (b) Maps installed (c) Grid on chalkboard (d) Darkening devices (23 sq. ft. per student)
F-7-L	40	Special	Laboratory with tablet arm chairs. (a) Permanently installed projection equipment overhead, movie, opaque.. (b) Maps installed (c) Grid on chalkboard (d) Darkening facilities (18 sq. ft. per student)
F-8-C	50	Special	Lecture Room
F-9-C	50	General	(a) Permanently installed projection equipment, overhead, movie, opaque.
F-10-C	50	General	(b) Grid on chalkboard (c) Darkening devices (16 sq. ft. per student)
F-11-L	75	General	Tables and chairs (Economic Geography) (a) Permanently installed projection equipment, overhead, movie (b) Grid on chalkboard (c) Maps installed (d) Arm chairs (e) Darkening devices (18 sq. ft. per student)
F-12-S*	20	Special	Seminar Room (a) Maps and charts (b) Chalkboard (18 sq. ft. per student)
F-13-S*	20	General	Seminar Room. (18 sq. ft. per student)
F-14-L	30	Special	Lab room for Finance. 30 calculators, 30 chairs, and 30 tables. (23 sq. ft. per student)

*May be located where space is best available.

4. Department of Management

<u>Rm. Desig.</u>	<u>Capacity</u>	<u>Usage</u>	<u>Description of Space</u>
M-1-S	20	General	Seminar type. Full use throughout fourteen cycles. (18 sq. ft. per student)
M-2-C	50	General	Regular classroom type. Full use through eight of fourteen cycles. (16 sq. ft. per student)
M-3-C	50	General	Tiered classroom type. Full use through eight of fourteen cycles. (16 sq. ft. per student)
M-4-C	100	General	Regular classroom type. Used for four of fourteen cycles. (16 sq. ft. per student)

A. CLASSROOMS (continued)

4. Department of Management

<u>Rm. Desig.</u>	<u>Capacity</u>	<u>Usage</u>	<u>Description of Space</u>
M-5-C	200	General	Auditorium type room. Used for three of fourteen cycles. (11 sq. ft. per student)
M-6-L*	40	Special	Simulation Laboratory: Classroom area with stage at front separated from CR with one-way glass viewing window: Control room with four seminar type rooms (10-12 capacity) around it. Special equipment in control room: Intercom and taping system, input-output connection to computer center, key punch area. Used for seven of fourteen cycles.
M-7-L*	40	Special	Tiered classroom area and demonstration area at front. Darkened for projection. Wall area for 6' "productral or PERT-type" charts, blackboard at front, storage space, full use throughout fourteen cycles. (estimate 1400 sq. ft.)
M-8-L*	20	Special	Adjacent to room described above.
M-9-L*	20	Special	Tables and chairs Blackboard Darkened for projection Wall area for charts used during projection. Full use throughout fourteen cycles. (23 sq. ft. per student)

* M-6-L, M-7-L and M-8-L and M-9-L adjacent to each other.

5. Marketing Department

<u>Rm. Desig.</u>	<u>Capacity</u>	<u>Usage</u>	<u>Description of Space</u>
MK-1-L	40	Special	Business Statistics Laboratory. Tables and chairs, tables attached to floor. Electrical outlet to each table. Storage space for calculators and supplies. Each calculator chained to table. Work space of 20" x 20" for each table exclusive of space occupied by calculators. Overhead projector, filing cabinets, and darkening facilities. (23 sq. ft. per student)
MK-2-L	40	General	Typical classroom. (adjacent to MK-1-L) provide electrical service for future use as Business Statistics Laboratory.
MK-3-C	30	Special	Equipped with tablet arm chairs. (16 sq. ft. per student)
MK-4-C	30	General	
MK-5-C	40	Special	Equipped with tables and chairs. (23 sq. ft. per student)
MK-6-C	60	Special	Fixed tablet arm chairs; audiovisual equipped; darkening facilities. (16 sq. ft. per student)
MK-7-C	60	General	
MK-8-L	30	Special	Advertising laboratory and classroom. Special L-shaped desks with typewriters and tilting tops. Audiovisual equipped, darkening facilities. (32 sq. ft. per student)

B. GENERAL CLASSROOMS AND SUPPORTING FACILITIES

<u>Rm. Desig.</u>	<u>Capacity</u>	<u>Description of Spaces</u>
G-1-C	500	General usage lecture hall, tiered or sloping floor, theater type seats with folding tablet arm audiovisual equipment and chalkboard. (Combine with G-9-G as separate but connected unit) (12 sq. ft. per student)
G-2-S G-3-S G-4-S G-5-S G-6-S	14 - 28	Seminar rooms, equipped with tables and chairs, chalkboards and map rails. Sizes and locations may vary to suit best usage of available space.
G-7-G		Lounge for women faculty and staff.
G-8-G		Production room - work tables and counters, audiovisual production equipment, darkening facilities, storage cabinet for production supplies and equipment (320 sq. ft.)
G-9-G	400	Reading-Study Room with reference area for students and faculty reading area. (See G-1-C above)
G-10-O G-11-O	5	Office space for consulting and emeritus professors.
G-12-G		Mail Room
G-13-G		Vending machine room or alcove. Locate away from classrooms and other quiet areas.
G-14-G		Faculty food and beverage area.
G-15-G		Storage Areas.

C. OFFICES

<u>No. Rooms</u>	<u>Capacity</u>	<u>Description of Rooms</u>
1. <u>Deans' Office Complex</u>		
1	Appropriate for Dean	
7	Appropriate Size	Assistant Deans, Advisers, etc.
1	Six Secretaries	Secretarial and reception area
1	20	Conference room; small utility room for refrigerator and stove attached.
1		Area for files and workroom with direct access to basement and storage area.
1	10	Conference room, large table, ten chairs.
1		Machine and workroom, well insulated for sound, to house automatic typewriters, card punch machine, and other office machines of this type. This room can be located in basement area with direct access from dean's office.

C. OFFICES

<u>No. Rooms</u>	<u>Capacity</u>	<u>Description of Rooms</u>
<u>2. Department Heads' Office Complex</u>		
7		Appropriate size for department heads office preferably with windows.
1	12	Conference room
1	Six Secretaries	Secretarial and reception area
1		File room
1		Storage room (250 sq. ft.)
1		Work and machine room that will accommodate: offset duplicator, fluid duplicator, electrostatic duplicator, typewriter, adding machine, punch card input equipment, paper cutter, collator, work table, shredder.
<u>3. Faculty Office Complex</u>		
120	1 each	Individual office (160 sq. ft. each)
40	2 each	Offices for part-time faculty (240 sq. ft. each)

Office facilities of positions for 60 graduate assistants

D. NOTES

1. Requested space is based on anticipated enrollment of 6,000 students.
2. Present ratio of male and female students in BA is 78 percent male and 22 percent female, but female enrollment will probably increase.
3. Faculty offices to be located away from classroom and student interruption.
4. All auditoriums and seminar rooms considered suitable for use by all departments.

TABULATIONS OF AREAS

SCHEME A

Basement	56,328
Ground Floor	50,394
First Floor	42,233
2nd - 11th Floors @ 4,354	43,540
12th Floor (mech)	<u>3,168</u>
Total	195,663 sq. ft.

Scheme A Modified

Basement	46,344
Ground Floor	50,394
First Floor	44,537
2nd Floor, mechanical area	6,912
2nd - 11th Floors @ 4,354	43,540
12th Floor (mech)	<u>3,168</u>
Total	194,895 sq. ft.

SCHEME B

Basement	41,962
Ground Floor	34,186
First Floor	39,171
Second Floor	29,030
3rd - 11th Floors @ 4,354	39,186
12th Floor (mech)	<u>3,168</u>
Total	186,703 sq. ft.

PROGRAMMED NET AREAS

Classrooms

Department of Accounting	19,750
Department of Business Education and Secretarial Administration	15,942
Department of Finance and Economics	14,400
Department of Management	9,580
Department of Marketing	6,640
General Use and Other Rooms	<u>19,450</u>
Subtotal	85,762 sq. ft.

Offices

Deans' Complex	4,350
Departmental Offices	4,500
Faculty Offices	<u>32,400</u>
Subtotal	<u>41,250</u> sq. ft.

Total Net Programmed Areas 127,012 sq. ft.

TEXAS TECHNOLOGICAL COLLEGE
Lubbock, Texas

MINUTES OF THE CAMPUS PLANNING COMMITTEE

Meeting No. 267

December 7, 1965

A meeting of the Campus Planning Committee was held at 10 a.m. on December 7, 1965, in Room 120 of the Administration Building. Members present were Mr. E. J. Urbanovsky, Mr. Nolan E. Barrick and Chairman M. L. Pennington. Others present were Mr. O. R. Downing and Mr. John G. Taylor.

The architects were represented by Mr. Howard Schmidt and Mr. Bob Messersmith.

3136. Dormitory Expansion (CPC No. 97-65)

Housing

On-Campus

The architects and Mr. Taylor reported on the meeting on December 3, 1965, with the HHFA officials in Fort Worth.

The HHFA officials said that Scheme B as presented is workable. They gave no magic figures for the square footage per student or for the size of lounges, dining rooms, etc. The development is to be the school's philosophy and not that of the HHFA as long as the owner does not overdo the project.

The HHFA has not been provided with any money this year. Congress has authorized \$300 million this year and for the next two years. However, the Bureau of Budget has not made money available at this time. The applications on hand with the HHFA exceed the \$300 million now. No decision has been made on how the applications will be rated. It probably will not be possible to get more than \$4 million per school per year.

The HHFA cannot oversize the facilities for future projects, as so many schools have requested funds in view of the three percent interest rate.

The HHFA can participate in the construction of a power plant as part of the project and can participate in the steam tunnel lines, although they can bear only a pro rata part if the lines are oversized.

The officials of the HHFA were very cooperative but, at the present time, their hands are pretty well tied.

a. Residential Towers

Eleven floors are proposed, with 52 persons per floor for a total of 572 in each tower.

The plans have been refined since the last meeting.

(1) Elevators

The plans indicate two elevators with a place for a third as an alternate. Two elevators would be acceptable, but would be in the lower limits of the recommendations. The cabs would hold 13 people.

The architects were requested to investigate larger cabs and make a further study with only two elevators. It was thought that the larger cabs would be able to move the residents faster. The larger cabs would preclude the necessity for a third elevator, which would cost approximately \$5,000.

3136. Dormitory Expansion (CPC No. 97-65)HousingOn-Campusa. Residential Towers (continued)(2) Center Core

The possibility that the center core is too tight was discussed, and the architects proposed to study the possibility of adding two more rooms on each floor to see if the addition would ease the tight condition.

The architects and engineers were requested to make the study.

(3) Ground Level

The trash collection and the concession machines have been removed from the first floor at ground level to the basement. The counselor's and assistant counselor's apartments, dry cleaning area, meeting rooms, lounges, snack bar, toilets, phones, offices, recreation room, etc., would be on the ground level under the two residential towers with a connecting unit.

(4) Basement

The floor would contain a concession room, linen room, TV room for 40 to 50 people with permanent seating (it would be the only one in the tower, although the recreation room could be used on special occasions), laundry, small study room, trunk storage, hall association storage, exit areaway, small toilets for help (lockers would be in the dining room-kitchen area) and trash room.

Whether or not the trash is to be burned or hauled away is still a problem, and the architects will continue to study it. There would be the problem of lifting the trash to the ground level.

(Mr. Urbanovsky left the meeting to attend his class.)

b. Dining Room and Kitchen (Commons Area)(1) First Floor

It was agreed that mail service probably should be included in the area. Such services as barber shop, beauty shop, branch bookstore, etc., would come at a later date when the addition would not be so expensive.

The dining area will eventually comprise four rooms, each seating 400, with eventual capacity for 3,000 +.

The serving-dishwashing area and personnel area, etc., would be on the dining room level, which would be at ground level.

(2) Lower Area

The lower area would be below ground level in order to facilitate the entrance to the dining areas by the students. The area would contain the mechanical space, locker and toilet rooms for the help, area manager's office, kitchen equipment space, etc.

3136. Dormitory Expansion (CPC No. 97-65)HousingOn-Campusb. Dining Room and Kitchen (Commons Area)(2) Lower Area (continued)

The architects reported that the HHFA probably could finance the entire basement area in the first addition. Only two of the upstairs dining rooms, on the other hand, could be financed in the first unit.

c. Square Footages and Estimated Costs

The architects presented a schedule on the square footages and estimated costs and phases of construction with two towers being added in each of the years 1967, 1968 and 1969, and another with three towers for occupancy in 1967 and three more in 1969. As some of the figures became obsolete during the meeting, the copies presented will not be included in the Minutes. The architects will present refined schedules at the Building Committee meeting on Friday in order to be as up to date as possible.

d. Plot Plan

In the first plan presented, including parking, the complex would cover 18.5 acres.

As requested at the last CPC meeting, space had been provided near the halls similar to that on the south side of the new women's complexes on 19th Street to provide ingress and egress for cars for dates.

Parking is quite a problem, and various schemes were studied and discussed.

It was agreed to consider bringing the units of the complex closer together in order to get a higher density of use.

The architects reported that, in order to proceed as expeditiously as possible with the plans, a meeting of the Board of Directors before the February meeting could be necessary. The architects offered to meet in Dallas or anywhere else that might be convenient to the Board of Directors.

(The meeting recessed at 12:10 p.m. and reconvened at 1 p.m.)

The arrangement of the buildings on the site were again studied and discussed.

After a thorough discussion, the architects were requested to study the arrangement of the six towers and the central area to use the least amount of land acceptable, with consideration for the density, esthetics, etc., and to place the best proposal on the plot plan for review by the Building Committee on Friday.

It will be necessary for the architects to know by the weekend whether there are to be two or three residential units.

(Mr. Schmidt and Mr. Messersmith left the meeting at 1:50 p.m.)

(Mr. Bob White of Pitts, Mebane, Phelps & White, and Mr. Earl Sherman, Field Engineer for the HHFA, entered the meeting.)

3137. Classroom-Office Building (New) (Foreign Languages-Mathematics)
(CPC No. 79-63) (Pitts, Mebane, Phelps & White)

A. General Contractor

Since the bid opening on December 2, 1965, a check was made on the ability of the Bennett Construction Company to do the general construction on the site in the stipulated period of 420 days.

The results indicated and it was the consensus that Mr. Bennett would be able to do a job of the size contemplated. Arrangements would be made for proper supervision by a clerk of the works, and Mr. Bennett would be asked to provide a very capable superintendent.

(At 2:20 p.m., Mr. Frank Bennett entered the meeting.)

Mr. Bennett said that he would have no problem handling the finances, and that the Lubbock National Bank is his financial source. He said that his office staff is very small. He does his own estimating and field service and, as a result, his overhead is low.

He said that he has some of the best superintendents in Lubbock and suggested that the architectural firms of Atcheson, Atkinson & Cartwright, Haynes & Kirby, and Stiles, Roberts & Messersmith be requested for confirmation. He said that he is very particular about the project supervision himself.

He said that some time back he was in a financial bind temporarily, due to a large loss on a building project. However, he has recovered. His father is associated with him for financial purposes only.

He offered Mr. C. L. Lewis as his superintendent, listed the projects that he has done and suggested references.

Mr. Bennett said that he does not have another project at the present time.

He was told that there would be a clerk of the works.

B. Subcontractors

Mr. Bennett said that Roche Newton would be the mechanical contractor, Tarver Electric would do the electric work, and glass glazing would be done by either Lubbock Glass or Pittsburgh Plate Glass. Caprock Stone or Lubbock Stone, whichever is low bidder, would provide the cast stone. The terrazzo subcontractor is a toss-up as he hasn't decided just who is the low bidder, and he can't until the alternates are taken.

Lydick and Texas Roofing Companies would be a toss-up for the roofing. Mr. Bennett does his own dry wall, concrete, lathing and plastering work. The painting contractor would be John Hall.

C. Time of Contract

Mr. Bennett said that 420 days is satisfactory with him.

It was agreed to recommend acceptance of the low bid.

M. L. Pennington
 Chairman

The meeting adjourned at 2:50 p.m. to open bids on the Library addition.

TEXAS TECHNOLOGICAL COLLEGE
Lubbock, Texas

MINUTES OF THE CAMPUS PLANNING COMMITTEE

Meeting No. 268 December 8, 1965

A meeting of the Campus Planning Committee was held at 10 a.m. on December 8, 1965, in Room 120 of the Administration Building. Members present were Mr. E. J. Urbanovsky and Chairman M. L. Pennington. Other members of the college staff present were Miss Evelyn Clewell, Mr. O. R. Downing and Mr. John G. Taylor. Mr. Nolan E. Barrick had to devote the day to his classes.

3138. Approval of Minutes

The Minutes of Meetings Nos. 259, 260, 261 and 262 were approved.

3139. President's Approval of Minutes

President Goodwin approved the Minutes of Meetings Nos. 259 and 260 on November 22, 1965, and Nos. 261 and 262 on November 30, 1965.

3140. Amendment 1

The Council of College Presidents has appointed a bond committee to implement the issue of bonds. The committee has met in Dallas and made arrangements with Mr. Hobby McCall as bond counsel and Mr. John Clayton, III, with the First National Bank of Dallas, to act as adviser; arranged for a subcommittee to consult Mr. Paul Phy, Head of the Bond Department in the Attorney General's office, and Mr. K. I. Kimbrough, Chief Clerk in the Office of the Comptroller.

The subcommittee has met with Mr. Phy, and it looks as if it will be necessary to have an Attorney General's opinion on how the tax is to be allocated over the next two years, which are the last two years of the current ten-year period.

Since the meetings, it has been learned that the Teachers Colleges Board of Regents, in meeting on November 5, 1965, and at the request of the presidents of the teachers colleges, voted to engage Mr. J. P. Gibson of Austin as bond counsel to make the arrangements for the issue.

A conflict seems to have developed in view of the action of the Teachers College Board of Regents and the entire Council of College Presidents, and clarification is being sought.

3141. Agricultural Facilities (CPC No. 93-64)

Horse Facilities

It was agreed to ask Mr. Downing to work with Miss Kirkwood in an attempt to get the project under way, as he will have some staff members available to begin work next month.

3142. Biology Building (CPC No. 99-65) (Pierce & Pierce)

(Miss Clewell entered the meeting at 10:30 a.m.)

A. Space Request

There is some question that one department can justify the amount of space and the number of specialized spaces requested. It would be difficult for the specialized space to be assigned to another department.

3142. Biology Building (CPC No. 99-65) (Pierce & Pierce)A. Space Request (continued)

In view of the amount of space and the specialized use, it was agreed to ask Miss Clewell, Mr. Barrick and Mr. Felty to meet with the Biology Faculty Committee to clarify the use of the space and that which would be available for assignment to other departments prior to the time that Biology would need it and before other facilities could be constructed.

A 500 capacity lecture room is in the plans, and Miss Clewell reported that the Biology Department has a 237 seat lecture room now which is used from 8 a.m. until 4 p.m., and the department is planning to take classes to 500. If it does, the 500 capacity lecture room will be needed. There probably would be no conflict with the proposed lecture hall for 500 in the Business Administration Building, as it would be available for more usage by other departments.

B. Greenhouse

A good bit of discussion ensued on the greenhouse space requested by Biology, its location, how much might be on the roof in the vicinity and in a remote area. Since it is a specialized study, it was agreed to ask a committee, composed of Mr. Felty, Mr. E. W. Zukauckas and a person to be appointed by Dr. Camp of the Biology Department, to make an analysis of the need and a recommendation to the Campus Planning Committee as soon as possible.

It was agreed to recommend that, if the greenhouse space is in connection with the Biology Building, it would be part of Pierce & Pierce's contracts and, if not, it would be part of another contract to come later.

C. Architect's Contract

Mr. Barrick is still working on it.

D. Application

The Campus Planning Committee has been authorized by the Board to file an application. The architects are working along that line, and nothing additional is needed from the architects at the next meeting.

It was agreed to prepare for the Building Committee a general summary of the project showing the philosophy, lead time, square feet, summary of the classrooms and laboratories, sizes, number of floors, something on the greenhouse if it can be ready, the estimated cost, etc., and Mr. Taylor will ask Mr. Felty to prepare it.

E. Site

The recommended site is to the west of the present Science Building.

3143. Business Administration Building (CPC No. 98-65)
(Page, Southerland & Page)A. Application

Although the Campus Planning Committee has authorization to file the application, the architects have made some study drawings which would be of interest and useful to the Board of Directors. The drawings would indicate, to some extent, the scope of the project, including the proposed tower, although none would be presented as final.

3143. Business Administration Building (CPC No. 98-65)
(Page, Southerland & Page)

A. Application (continued)

It was agreed that Miss Kirkwood would be asked to prepare a summary of the proposed Business Administration Building, much as that indicated on the Biology Building. Mr. Taylor agreed to contact Miss Kirkwood.

B. Architect's Contract

Mr. Barrick is preparing the architect's contract.

C. Equipment

The department has presented a list of requested equipment, but the refinement of the space usage will affect the equipment to be ordered in the near future. Miss Kirkwood is working on the list.

3144. Chemical Research Building (CPC No. 87-64)
(Pitts, Mebane, Phelps & White)

A. Revised Plans and Specifications

The Board of Directors, at the meeting this week, will consider the advisability of attempting to get more use from the building site, in view of the needs of the Chemistry Department. Accordingly, the project architects were requested on December 1, 1965, to suspend further development of the plans until the Board has made a decision.

Mr. Bob White estimated that the architectural plans are 61.5% complete, structural plans 19.5%, mechanical 30% and fixed laboratory furniture 74%. The plans could be completed on December 20, 1965, to the extent necessary to file the application for funds with the NSF, and construction drawings and specifications could be completed for review on January 20, 1966.

If the present plans were to be changed and rearranged for inclusion of undergraduate work, two months would be required to complete the new program design and at least three and one-half months would be necessary for the completion of construction drawings and specifications. The new planning could be completed by June 5, 1966. If the facility is enlarged in scope, additional time would be necessary for construction.

The architects have completed approximately 46.1% of the contract document phase, the total cost of which is \$30,391. If the new addition were to be a simple extension, the only major change would be the mechanical portion, which is quite expensive in a science building, and \$14,400 of the fee would reapply. If the building were to be redesigned, about the only part of the work that could be salvaged would be the laboratory plans, and approximately \$8,800 of the fee would reapply.

The Campus Planning Committee had agreed with the idea that it would be wise to secure more use of the site if possible.

The Chairman reported the suggestions to Dr. Dennis, who agreed that additional classroom and laboratory space is needed, and that it would be well to have not only undergraduate space but some additional graduate space in the new facilities.

However, after study by the department, there was a great deal of apprehension over the possibility of additional delay, as the department is desperate for space. The idea of another two and one-half years or so before there could be new space caused the

3144. Chemical Research Building (CPC No. 87-64)
(Pitts, Mebane, Phelps & White)

A. Revised Plans and Specifications (continued)

faculty of the Chemistry Department to recommend that the plans for the Chemical Research Building be continued in order that some facilities could be available with the least amount of delay.

A copy of Dr. Dennis' letter of December 2, 1965, is attached to and made a part of the Minutes. (Attachment No. 597, page 1846)

After reviewing the circumstances at length, the CPC voted to recommend to the Board of Directors that the recommendation of the faculty of the Department of Chemistry be accepted.

B. Overhead Utilities in the Basement

Attached to and made a part of the Minutes is a letter dated November 18, 1965, from the faculty of the Department of Chemistry. (Attachment No. 598, page 1847)

3145. Classroom-Office Building (New) (Foreign Languages-Mathematics)
(CPC No. 79-63) (Pitts, Mebane, Phelps & White)

A. General Contract

Bids were opened at 3 p.m. on December 2, 1965, in the Agriculture Auditorium and read aloud to 75 interested persons. The bid tabulation is attached to and made a part of the Minutes. (Attachment No. 599, page 1848)

The Campus Planning Committee agreed to recommend the award of a contract to the Bennett Construction Company of Lubbock, the low bidder, in the amount of \$1,104,230 as follows:

\$1,136,230 Base Bid
 - 7,000 Alternate 1
 - 5,000 Alternate 4
 -20,000 Alternate 5

\$1,104,230 Final Bid

B. Elevator Contract

The CPC recommended the award of a contract to the Hunter-Hayes Elevator Company of Dallas, the low bidder, in the amount of \$10,700. The bid tabulation is attached to and made a part of the Minutes. (Attachment No. 600, page 1849)

C. Decorator

It was agreed that no recommendation for a decorator will be made at this time.

3146. Field House

On November 24, 1965, Dr. J. William Davis, Chairman of the Athletic Council, and Mr. Polk F. Robison, Athletic Director, visited with the Chairman and requested that a field house for athletics be given a No. 1 priority for the Athletic Department, even over the request for new space for athletes in one of the new halls.

They reported that the Athletic Department is bursting at the seams and in dire need of dressing rooms for sports other than football, offices, area for work in off-season sports and area

3146. Field House (continued)

for in-season sports during inclement weather, space in order to do something for the faculty and staff, indoor track, handball courts, etc. Space is needed, for instance, to run football plays in season when the weather is too bad to be out.

Dressing rooms are needed for all sports except golf and swimming.

Procedure wise, they requested that it be brought before the Board.

A. Site

It would be helpful if the facilities could be arranged in the area of the track and baseball activities. The location and use would need to be considered in various aspects of a long-range plan.

B. Finance

The request for a field house is a result of the unanimous agreement of the coaches of all sports and the entire Athletic Council.

Dr. Davis said that Dr. Robert L. Rouse, member of the Athletic Council, is head of the Finance Committee, and the financial report showing the condition of the Athletic Department will be available next month.

They felt that it would be possible to finance the field house from cash balances and estimated that it would cost between \$300,000 and \$500,000, although they have much to learn and study.

The Athletic Council has appointed a subcommittee, which is ready now to work on the immediate need and the long-range plan.

It was the consensus that the request of the Athletic Council be presented to the Board of Directors, subject to the study of an overall plan and a satisfactory site, which will be most difficult.

3147. Housing

A. Off-Campus

1. University Housing Construction, Ltd.

Attached to and made a part of the Minutes for record purposes is a copy of the memorandum dated November 24, 1965, in which the Board of Directors authorized University Housing Construction, Ltd., to move the 1966 dormitory from the 19th Street site to the Fourth Street site of the Blankenship 16 acres, and approved additional spaces for 1967 on the tract in order to justify the land costs. (Attachment No. 601, page 1850) The spaces are to be from 800 to 1,000 each of the two years.

2. David C. Casey, Lubbock

Formerly listed as U. S. (Bob) Robinson, Lubbock. Mr. Casey has taken over the property from Mr. Robinson and has filed a request for approval of his application for 818 spaces for men in 1967 at the old Tower Theater site with a parking garage on Main Street. The project has received approval of the Lubbock Zoning Board and the City Council, and Mr. Casey has agreed to abide by the regulations of the Board of Directors.

The CPC voted to recommend approval of the application from Mr. Casey.

3147. Housing (continued)B. On-Campus1. Athletic Department

It was agreed that an exploration will be made to determine the feasibility of including the athletes and some kitchen and dining space in the new building. There is a good possibility that it would be quite difficult to work in the dining and kitchen area, although it would seem feasible to provide rooms for athletes.

It was agreed that further exploration would be in order before a firm recommendation is made.

2. Food Consultant

It was the recommendation of the Campus Planning Committee that the offer from Mr. Dana as Food Consultant for the new complex across Flint Avenue be approved. A copy of Mr. Dana's proposal has been studied by all involved and is attached to and made a part of the Minutes. (Attachment 602, page 1851)

3. Bond Counsel

It was the recommendation of the Campus Planning Committee that Mr. Paul Horton of McCall, Parkhurst and Horton, be asked to handle the bonds, and that a specific proposal would be presented at the February meeting of the Board of Directors. Mr. Horton has been the bond counsel for dormitory revenue projects for a long time, and the results have been very good.

4. Loan Application

It was recommended that the Board authorize the filing of an application with the HHFA as soon as practicable.

5. Architect's Contract

Mr. Barrick is working on the development of the contract.

6. Projecta. Site

It was agreed to recommend the site at the northwest corner of 15th Street and Flint Avenue.

b. Residential Areas

It was agreed to recommend three towers, two for women and one for men.

The towers would have 11 floors of residential rooms to house between 572 and 616 in each, depending on the space needed for the core. In addition, the first floor at ground level and the basement would contain the other facilities needed for the unit.

c. Dining Room and Kitchen Area

The center portion, originally referred to as the commons, would contain the kitchen, dining room and offices.

d. Budget

The architects have presented tentative figures indicating that a total project in the area for 3,432 students would cost in excess of \$15 million. In view of the later

3147. HousingB. On-Campus6. Projectd. Budget (continued)

developments, it was agreed to request the architects to present a revised budget for the meeting of the Building Committee on Friday, December 10, 1965.

The recommendation would be subject to adequate financing, and it is possible that sufficient funds could not be borrowed from HHFA.

3148. Library (CPC No. 12-58)Completion of South Basement and Third Floor

Bids were opened and read aloud at 3 p.m. on December 7, 1965, in the Agricultural Auditorium in the presence of 29 interested persons. A copy of the bid tabulation is attached to and made a part of the Minutes. (Attachment No. 603, page 1852)

1. General Contractor

A check was made on Mr. Ed Lampe and his building experience. He has been a contractor for only a short period of time, but has a long record as a successful superintendent on construction. However, his construction record is good.

He would be his own superintendent and has no other commitments. If he should get another job, he would continue on the Texas Tech job or provide a replacement who would be satisfactory to the College.

He has no problem in making bond and is financially able to carry the project as needed.

His subcontractors are satisfactory.

The Campus Planning Committee agreed to recommend the award of the contract for general construction to Ed Lampe Building Contractor, Lubbock, Texas, the low bidder, in the amount of \$155,205.

2. Elevator

The CPC agreed to recommend the award of the contract for elevator work to the Hunter-Hayes Elevator Company, Dallas, Texas, the low bidder, in the amount of \$1,746.

3149. Other ItemsA. Southwestern Public Service Company Easement

A revised copy of the proposed instrument has been received from the Southwestern Public Service Company, and Mr. Taylor is in the process of attempting to check with each member of the Campus Planning Committee.

In view of the request from the City for a 24" waterline along Indiana extended, it was agreed to consult with the Southwestern Public Service Company officials to see if they would like to have an easement along the same route. It is believed that they originally did not care where their line crossed the campus, and the College suggested that it be along Flint. A new location might facilitate the installation.

3149. Other Items (continued)B. Director of College Facilities and/or Consulting Architect

Exploration is continuing for a proper solution to the needs.

C. City of Lubbock

The city of Lubbock has requested an easement along Indiana extended for a 24" waterline, with a 10' permanent easement and a 70' working easement.

The Campus Planning Committee voted to recommend the granting of an easement, subject to a satisfactory agreement to be developed later for presentation to the Board of Directors for approval and, after that, for the city of Lubbock to secure legislative approval.

D. Classrooms (Temporary)

Miss Clewell has suggested that she make a quick study to see how much additional use of classrooms might be obtained in the next two years as a preliminary to making a decision on temporary facilities.

3150. Priority ListA. Museum

Mr. Bob Snyder, Chairman of the West Texas Museum Association, and Dr. Earl Green, Director of the Museum, have requested the number of square feet that Texas Tech will furnish and the estimated cost.

The Museum Board members need to make plans for the number of square feet and money to be provided by the West Texas Museum Association in order to make preparations for the drive. They could provide for some alternates in their portion. They need to work out a time schedule and would like to meet with the Campus Planning Committee as soon as feasible.

The CPC voted to comply with the request at the earliest opportunity.

B. Power Plant, Utilities, Etc., Survey

It was agreed to recommend the employment of engineers for a survey of future needs, in keeping with the procedures set out by Mr. Downing in his letter of December 1, 1965, which is attached to and made a part of the Minutes. (Attachment No. 604, page 1853)

As Zumwalt & Vinther made the last survey and the results have been quite good, it was agreed to reexamine the former contract, as it is possible to have an extenuation of terms, with a specific recommendation to be made to the Building Committee on Friday, December 10, 1965.

C. Texas Tech Union

In view of the fact that the money would be borrowed from the HHFA for the needed addition, it looks as if it would be better to delay a recommendation until more is known of the loan for the new residence halls.

M. L. Pennington
Chairman

The meeting adjourned at 2:35 p.m.

Campus Planning Committee
December 8, 1965
Attachment No. 597
Item 3144A

TEXAS TECHNOLOGICAL COLLEGE
Lubbock, Texas 79409

Department of Chemistry

December 2, 1965

Mr. M. L. Pennington, Vice President
Texas Technological College
Lubbock, Texas

Dear Mr. Pennington:

Your discussion with me today about the plans for housing the Chemistry Department now and in the future is sincerely appreciated. I am in accord with the idea that plans for a private home, business building or academic building should be made so that through orderly additions the future may be cared for. The present plans for the Chemistry Research Facility were made with the idea that additions could be made in such way that both graduate and undergraduate needs can be met. The present plans do not provide all the research space we shall need, but, with the money that is available, it seems to be all that we can do now, and we have resigned ourselves to this - with the exception of supplying utilities from overhead in the basement.

Actually, the more I think of it the more reasons appear that we should go ahead with the present plans. I shall not quote old adages about "half-a-loaf," etc.

The only reasons that occur to me to be in favor of "stop now and proceed as rapidly as we can with new and better plans" would have to be based on an assurance of increased allotment and a time schedule that would permit rather rapid construction of new facilities.

As always, I am going to abide by the decisions made by the Administration and the Board of Directors. It is my recommendation that we proceed with the construction of the proposed research facility and begin planning now for the additional space needed for undergraduate and graduate work. It will be disastrous for the department if we do not get the needed research space soon.

Sincerely yours,

/s/ Joe Dennis

Joe Dennis, Head
Department of Chemistry

JD:ms(b)

cc: Dr. R. C. Goodwin, President
Dr. J. A. Adamcik
Dr. J. A. Anderson
Dr. A. L. Draper
Dr. R. G. Rekers
Dr. R. J. Thompson

Campus Planning Committee
 December 8, 1965
 Attachment No. 598
 Item 3144B

TEXAS TECHNOLOGICAL COLLEGE
 Lubbock, Texas
 79409

Department of Chemistry

November 18, 1965

Dr. R. C. Goodwin, President
 Texas Technological College
 Lubbock, Texas

Dear Dr. Goodwin:

In a letter to Mr. Barrick dated October 19, 1965, certain mistakes in plans proposed for a Chemical Research Facility were mentioned. Carbon copies of the letter were sent to you, Mr. White, Mr. Pennington and the members of our building committee. In the last paragraph of that letter I pointed out our serious objection to having the utility lines supplying the basement laboratory tables brought in from overhead. This will be very unattractive, and every time a change has to be made or new utility outlets placed, the maze of pipes will be increased. It is our experience in laboratories that such additional outlets will be needed through the years, and provision for easy installation can be made at the time the laboratory is constructed. Certainly there can be no improvement in appearances as the years go by. We shall have to sacrifice the appearances of the laboratory in order to gain any flexibility. The representatives of the architectural firm with whom we talked, Mr. White and his colleagues, all agreed with us that this is correct. They had a plan proposed which showed a partial sub-basement which would permit servicing the basement laboratories from below. This gives great flexibility in that new lines can be added at any time without marring the appearance of the laboratories. We think this is an excellent plan. It seems that the estimated increase in cost to do this is about \$20,000. We are perfectly willing to attempt to save this much money, if necessary, on steam lines and in other necessary areas of equipment which can be purchased later from grant funds.

If it not be feasible to adopt the architect's plan for the sub-basement, we are perfectly willing to see the basement utilities supplied in chases in the floor, as they are in the present building. Such chases are going to be necessary for the drain lines, in any event, and they could simply be expanded to include the other utilities.

We are willing to work on this problem in an attempt to solve it. Nevertheless, we want the record clear - we do not approve servicing the laboratories in the basement from overhead. Let the responsibility for the decision to do this rest forever where it belongs. We hope some satisfactory solution can be had.

It is our understanding that the Campus Planning Committee voted to recommend that these services be supplied from overhead. We wish to point out that the proposed users of this facility had no voice at all in the matter. We were not represented at the meeting at which this was done.

Sincerely yours,

/s/ Joe Dennis

Chemistry Department Building Committee
 /s/ Joe A. Adamcik
 /s/ John A. Anderson
 /s/ Arthur L. Draper
 /s/ Robert G. Rekers
 /s/ Richard J. Thompson
 Joe Dennis, Chairman

ms

cc: Chairman, Planning Committee, Board of Directors
 Mr. Nolan E. Barrick, Campus Planning Committee
 Mr. M. L. Pennington, Campus Planning Committee
 Mr. Elo J. Urbanovsky, Campus Planning Committee

GENERAL CONSTRUCTION BID TABULATION
 Foreign Languages-Mathematics Building
 Texas Technological College
 Lubbock, Texas
 December 2, 1965

	Bennett Const. Co.	R. G. Ferrell Company	Arvol D. Hayes Const. Co.	H. A. Padgett Company	V. and N. Const. Co.	Wohlfeld Const. Co.
Acknowledge Receipt of Addenda 1 thru 2	X	X	X	X	X	X
BASE PROPOSAL	\$1,136,230	\$1,170,600	\$1,233,000	\$1,230,000	\$1,174,467	\$1,238,829
Deduct Alt. 1 Painted wall finish in lieu of vinyl wall covering	7,000	5,800	5,850	6,990	7,500	6,786
Deduct Alt. 2 Omit two display cases	300	414	350	196	200	322
Deduct Alt. 3 Smooth sand cast stone in lieu of exposed aggregate	8,000	12,753	8,500	8,650	9,000	7,025
Deduct Alt. 4 Substitute precast exposed aggregate finish in lieu of precast terrazzo for stairs	5,000	15,078	N. C.	5,904	6,000	3,500
Deduct Alt. 5 Omit "Duranodic" finish and substitute alumilited alum. finish	20,000	20,200	20,500	20,946	21,513	20,200
Deduct Alt. 6 Substitute blumcraft handrail No. 112 W/AF-B in lieu of spec. handrail at stairs and curtain walls	9,500	6,600	10,500	6,490	7,029	10,000
Deduct Alt. 7 Omit "terrabond" terrazzo floor and substitute vinyl asb. at basement corridor, 2nd flr. corr. & waiting	3,800	3,868	3,900	4,000	4,119	3,679
Deduct Alt. 8 Omit "terrabond" terrazzo flr. and substitute vinyl asb. at basement & 2nd flr. stair areas	1,100	1,112	1,100	1,140	1,185	449
Deduct Alt. 9 Omit "terrabond" terrazzo floor and substitute vinyl asbestos at ground floor corridor	1,800	1,791	1,800	1,796	1,907	1,524
Deduct Alt. 10 Omit ceramic tile & substitute gyp. wallboard with vinyl wall covering on 2nd flr. corr. walls & returns	1,000	1,800	1,000	790	800	1,300
Deduct Alt. 11 Omit ceramic tile & substitute paint on basement corridor walls	1,800	1,780	1,800	1,811	1,970	1,780
Deduct Alt. 12 Omit ceramic tile & substitute paint on ground floor corridor walls	2,000	1,894	1,900	1,986	2,140	1,894

GENERAL CONSTRUCTION BID TABULATION
 Foreign Languages-Mathematics Building
 Texas Technological College
 Lubbock, Texas
 December 2, 1965

2

	Bennett Const. Co.	R. G. Ferrell Company	Arvol D. Hayes Const. Co.	H. A. Padgett Company	V. and N. Const. Co.	Wohlfeld Const. Co.
Bid Security Attached (X)	X	X	X	X	X	X
SUBCONTRACTORS						
1. Plumbing						
2. Heating, Ventilating & Air Cond.						
3. Combined bid for 1 & 2 above	R. Newton Plbg. Co.	R. Newton Plbg. Co.	Don Seal Mech. Contr.	Anthony Co.	R. Newton Plbg. Co.	R. Newton Plbg. Co.
4. Electrical	Tarver El.	Watco El.	Tarver El.	Watco El.	Tarver El.	Tarver El.

ELEVATOR BID TABULATION
 Foreign Languages-Mathematics Building
 Texas Technological College
 Lubbock, Texas

December 2, 1965

	Esco Elevators, Inc.	Hunter-Hayes Elevator Co.	Otis Elevator Co.
ACKNOWLEDGE RECEIPT OF ADDENDA 1 THRU	X	X	X
BASE PROPOSAL	\$11,294 - 202 Telegram mod. \$11,092 Base Bid	\$10,700	\$10,889
Deduct Alt. E-1 Omit car enclosure power unit, controls, interlocks, door operators, piping, wiring & maintenance.	-6,264	-7,293	-9,970
Bid Security Attached (X)	X	X	X

Campus Planning Committee
 December 8, 1965
 Attachment No. 601
 Item 3147A-1

TEXAS TECHNOLOGICAL COLLEGE
 Lubbock, Texas

Office of the Vice President
 for Business Affairs

November 24, 1965

DOCKET ITEM

TO: Mr. J. Roy Wells

Please include the following in the Board Agenda:

University Housing Construction, Ltd., has been unable to start construction at the site east of College on 19th Street for men's housing to be ready by 1966. Mr. Seldin has requested approval of the Board of Directors to move the 1966 dorm from the 19th Street site to the Fourth Street site of the Blankenship 16 acres, and approval of additional spaces for 1967 on the tract in order to justify the land costs.

As it is essential to have men's housing in 1966, the members of the Board of Directors were polled on November 16 and 17, 1965, with the recommendation that the request of University Housing Construction, Ltd., dated November 16, 1965, signed by Millard R. Seldin, be approved. The voting was as follows:

Mr. Harold Hinn	"Aye"
Mr. Roy Furr	"Aye"
Mr. Retha Martin	"Aye"
Mr. Alvin R. Allison	"Aye"
Mr. J. Edd McLaughlin	"Aye"
Mr. R. Wright Armstrong	"Aye"

Mr. Armstrong said that Mr. Allen was out of the country and could not be reached. He suggested that the other two new Board members not be polled, as they have had no opportunity to become aware of the Board's action and would be placed in a position of voting for a project without background information.

M. L. Pennington
 Vice President for
 Business Affairs

MLP:b

Copies to:

Mr. R. Wright Armstrong	Mr. Millard R. Seldin
Mr. Harold Hinn	Mr. Wesley B. (Dub) Blankenship
Mr. Roy Furr	Mr. Leroy Elmore
Mr. Retha Martin	Mr. E. J. Urbanovsky
Mr. Alvin R. Allison	Mr. Nolan E. Barrick
Mr. J. Edd McLaughlin	Mr. John G. Taylor
Mr. Herbert R. Allen	Mr. O. R. Downing
Dr. R. C. Goodwin	Mr. Guy J. Moore
	Mr. R. B. Price

Campus Planning Committee
December 8, 1965
Attachment No. 602
Item 3147B-2

ARTHUR WILLIAM DANA
Food Operations Consultant

Equipment Design and Layout---Management Counsel

Associates
Richard E. Fletcher
George J. Kraft

11 East 44th Street
New York, N.Y. 10017
Phones: (Area Code 212)
682-3365 682-3382

November 15, 1965

Mr. M. L. Pennington
Vice President for Business Affairs
Texas Technological College
Lubbock, Texas

Dear Mr. Pennington:

In accordance with my discussion with Messrs Barrick and Taylor, I have revised my letter and tentative proposals of October 21, 1965, to provide more details concerning the size of the project, number of trips, and a new element: phasing of installation in at least two stages over a period of years.

The capacity of the dining hall facilities will be for an ultimate total of approximately 3000-3200, with the first installation to serve approximately 1200.

In summary, the revised proposal, enclosed herewith, amplifies:

Item 1-b (Equipment Requirements)
Item 3 (Inspection)
Item 4 (Conferences and Trips)
Item 5 (Fees and Payments)

In connection with Item 4 (Conferences and Trips), the number of trips that would be needed for foreseeable meetings, inspections, etc., was developed together with Howard Schmidt and Robert Messersmith.

I should like to take this opportunity to stress the need for appointing a manager for the new facility at the earliest possible date. The many details involved in planning increase (in complexity) geometrically compared with the arithmetical increase to 3000; this will be further complicated by the phasing of capacity from an initial 1200 to the ultimate stage.

These problems include:

1. Projections of food quantities to be stored and handled, based upon sample menu patterns, present consumption, etc.
2. Determination of utensil requirements, so that my computations for storage equipment will be coordinated properly.
3. Development of recipes and formulas so that issue of ingredients can be controlled from the facilities' stores.
4. Development of initial and ultimate staffing projections (both for supervisors, regular workers and student workers) so that optimum labor man hours per 100 meals served can be planned for and realized.

5. Thorough participation in planning, so as to be able to administer more effectively the facility from the standpoint of proper use of layout and equipment. This is especially important in the first few months of operation.

I have discussed this matter with Mrs. Bates, who, I am sure, will amplify the importance of this recommendation.

Sincerely,

/s/ Arthur W. Dana

Arthur W. Dana

AWD:co(b)

cc

Mr. John G. Taylor, Business Manager

Mr. Nolan E. Barrick

Mrs. Shirley S. Bates

ARTHUR WILLIAM DANA
Food Operations Consultant

Equipment Design and Layout---Management Counsel

Associates
Richard E. Fletcher
George J. Kraft

11 East 44th Street
New York, N.Y. 10017
Phones: (Area Code 212)
682-3365 682-3382

November 15, 1965

Mr. M. L. Pennington
Vice President for Business Affairs
Texas Technological College
Lubbock, Texas

Dear Mr. Pennington:

Superseding my letter of October 21, 1965, I am pleased to offer the following firm proposal for my services in the design and layout of food facilities serving ultimately about 3000 residents. The first phase would probably serve about 1200. The services outlined below would be provided:

1. Preliminary

- a. Program: Determine design and layout criteria as they relate to space requirements, circulation, design criteria for the various functional areas, and any other aspects as they relate to the functioning of food service facilities.
- b. Equipment Requirements:
 - i. Compute capacities and quantities based upon menu patterns, portion size standards or consumption projections, multiple batches, etc.
 - ii. Compute utility requirements for mechanical engineers.
 - iii. Compute budget estimate of equipment purchase cost.
 - iv. Compile brochures of standard equipment.
 - v. In connection with the Central Food Facilities, determine what additional mobile equipment and what previously-planned fixed equipment should be procured.
- c. Preliminary Plans:
 - i. Develop preliminary schematic plan in 1/8" scale for discussion thereof.
 - ii. Prepare final preliminary plans in 1/8" or 1/4" scale.

2. Working Drawings and Specifications

- a. Prepare detailed layout or working drawings at 1/4" scale.
- b. Provide rough-in layout, sanitary base and wall opening plans.
- c. Provide elevation drawings of equipment to supplement specifications.
- d. Prepare written specifications suitable for comprehensive bidding.

Mr. M. L. Pennington

-2-

November 15, 1965

- e. Recommend list of bidders, analyze bids, and advise on letting of contract.

3. Inspection

- a. Check and approve shop drawings and buy-out brochures.
- b. Check rough-in installations.
- c. Check and approve installation for adherence to specifications.
- d. Provide written "punch list" of items to be remedied.
- e. Check and approve items on "punch list" after remedy.
- f. Assist in demonstration of layout to supervisors.

4. Conferences and Trips

- a. Attend conferences with interested parties and make inspections in accordance with the following schedule:

- b. Schedule of Trips re Basic Fee

	<u>Trips</u>	<u>*Man Days</u>
i. Meetings on Preliminary Design Development	5 (on one visit, two persons)	11
ii. Meeting on Final Working Drawings	1	2
iii. Bid Opening: Present Day Before and After	1	3
iv. Construction: Check Rough-In	1	2
v. Semi-Final Installation Inspection and Punch List	1	1
vi. Final Inspection and Punch List	2 (two persons)	4
vii. Follow-Up Inspection on Correction of Shortcomings	<u>1</u>	<u>2</u>
Total Basic Trips:	12	25 Man Days

*For reference to expected per diem expense allowance.

- c. The above trips will be made by myself or my Senior Associate; on the important trips, my personal visits will be assured on the basis of 10 days notice; however, every effort to respond to shorter notice, if and when needed, will be made.

5. Fees and Payments

- a. The maximum fee for the foregoing services and reimbursements for travel and blue prints would be \$25,000, in accordance with the number of trips set forth in Item 4-b above. Any authorized trips in excess of this number would be paid for as an "extra." The allowance for blue prints is set forth in Item 5-c.

b. The basis for payment would be:

i. For time spent by myself and my associates at the following hourly rates:

A. W. Dana	\$25.00
Senior Associate	18.50
Senior Draftsman	12.50
Junior Draftsman	8.00

ii. For travel expense (per trip): Jet Coach plane and airport transportation and insurance, estimated (for 12 trips) \$3200

Per diem local expense \$12.00; estimated (for 25 man days) \$ 300

iii. Reproduction expenses as described in Item 5-c; estimated \$ 300

c. Included in the allowance for blue prints would be up to and including six (6) sets of prints for all preliminary drawings and one sepia for reproduction by others for final working drawings. The cost of sets of prints in excess of the above number would be reimbursed at cost. The Food Consultant would also provide specifications on stencils or offset masters for reproduction by others.

d. The Food Consultant would be provided with accurate area plans at 1/8" and 1/4" from which the Food Consultant can make suitable tracings and working drawings for the area in which he is to work.

e. If for any reason this project should be cancelled or our services discontinued, all work performed to date of receipt of such notice would be paid for on the above-mentioned hourly basis, and all travel expenses and blue print expenses would be reimbursed at cost.

f. Invoices in relation to the work performed would be submitted monthly by the Food Consultant for payment.

g. If after the approval of the preliminary working drawing layout in 1/4" scale, and if after the work has proceeded on final drawings, substantial changes in layout are required as a result of architectural, mechanical or Owner's changes, the cost of such changes would be determined and paid for, over and above the basic fee, to the extent that the total time and charges therefor exceed the maximum fee. This paragraph applies also to any revisions in plans that might be required between the completion of the initial stage of occupancy and making ready for the next stage.

I trust that this proposal will meet with the approval of all concerned and that I shall have the privilege of serving the College in this project.

Sincerely,

/s/ Arthur W. Dana

Arthur W. Dana

AWD:co(b)

cc

Mr. John Taylor, Business Manager

Mr. Nolan E. Barrick

Mrs. Shirley S. Bates

GENERAL CONSTRUCTION BID TABULATION
Library Building-Phase II
Texas Technological College
Lubbock, Texas
December 7, 1965

	R. G. Farrell Company	Ed Lampe Building Contr.	H. A. Padgett, Jr.	V. and N. Constr. Co.	John C. Pickett	W. B. Abbott
BASE PROPOSAL		\$155,205	\$178,288	\$172,746	\$173,265	\$159,986
Bid Security Attached		X	X	X	X	X
SUBCONTRACTORS						Qualifica- tions to bid: -\$1,650 if speakers omitted;
1. Plumbing						-\$7,400 if Daybright fixtures used.
2. Heating, ventilating and air conditioning						Anthony
3. Combined Bid for 1 & 2		M. P. Todd	Anthony	M. P. Todd	Anthony Pickett	Anthony
4. Electrical		Watco	Watco	Watco	Elect.	Amco

ELEVATOR BID TABULATION

	Esco Elevators	Hunter-Hayes Elevator Co.	
BASE PROPOSAL		\$1,746	
Bid Security Attached		X	

Campus Planning Committee
December 8, 1965
Attachment No. 604
Item 3150B

TEXAS TECHNOLOGICAL COLLEGE
Lubbock, Texas

Department of Building Maintenance
and Utilities

December 1, 1965

Mr. M. L. Pennington
Chairman, Campus Planning Committee
Texas Technological College
Lubbock, Texas

Subject: Utility Survey

Dear Mr. Pennington:

Architectural firms have been engaged to design new buildings for the College, and others will follow in the near future. At the present time the heating plant and chill water station are loaded to capacity, with other utilities (gas, sewer, water, and electrical) being inadequate to serve the anticipated expansion.

It appears that a decision should be made to engage the services of a consulting engineering firm to make a review and study of data on the following:

1. Present operation.
 2. Loads.
 3. Cost and efficiency.
 4. Inspection of existing facilities and evaluation of their future use.
1. Present Operation: In April, 1959 a survey and report on air conditioning requirements and proposed water cooling plant systems was presented by Zumwalt and Vinther. This survey was to include the following:
 - a. Hold conferences with the proper authorities to determine the most logical approach to air conditioning on the campus. During these conferences the Engineers would seek to develop the air conditioning requirements of the various geographical areas on the campus as related to tentative times for installation of comfort cooling.
 - b. Estimate the cooling load requirements of all existing and proposed buildings on the campus which are to be air conditioned.
 - c. Determine the optimum means to supply refrigeration effect to those buildings, with a cost analysis comparing central station refrigeration systems versus individual plants in each building.
 - d. Determine by examination of the present tunnels on the campus which of those tunnels may be reused and what modifications will be required and the extent of requirements for additional tunnels if central station cooling is indicated.
 - e. Determine the most desirable location or locations for water chilling equipment and routes of distribution of such chilled water for all buildings involved, if central station cooling is indicated.
 - f. Prepare economic studies of the optimum method of driving refrigeration compressors (steam turbine driven centrifugal, electric motor driven, absorption units, or other).
 - g. Conduct such other investigations as have direct bearing on the ultimate execution of the work.

- h. Prepare master plans for the ultimate accomplishment of the objective.
- i. Prepare tentative cost estimates of those several logical subdivisions.
- j. Prepare a report encompassing their findings and recommendations.

This study should be reviewed and expanded to present campus planning and estimated growth, also establish the upper limits of estimated future requirements and recommend the utility system to best meet the needs of the College.

Steam generation must also be considered and should follow the same guide lines as set forth in the air conditioning survey as the type of prime mover on air conditioning compressors will dictate steam demand, also pressures which the boilers must be designed to operate, or if gas turbines should be used, gas pressures would be a factor to consider. Here a time element is of great importance as the gas company must bring a new gas line to a location which will serve the new heating and chilling station. They have indicated a willingness to do so, but must be given a place to terminate their line, and also the pressure desired.

Pressure on city water mains is inadequate to serve high rise type buildings, and some means of boosting pressure must be studied. If buildings are fed from one source and Campus sprinkler systems from a separate meter, a cost study may reveal it would be cheaper to install one large booster station than smaller ones in each building.

Existing sanitary sewer mains in many instances are very flat, and overloaded at present time. Some method of diverting some existing lines now flowing in a south or east direction into the new line extending west and north to the new City disposal plant should be studied, also sewage lift station at Fourth Street and Indiana Avenue must be enlarged.

The electrical distribution system now is extremely flexible - more so probably than the back up distribution provided by the power company. Expansion of present electrical sub-stations, or construction of new ones must be studied and coordinated with the City of Lubbock.

Storm sewer lines may, or may not come under this study. We are all aware, however, of this need.

2. Loads: Present steam generating and water chilling capacities should be plotted against existing connected loads, and how these may be connected to a new steam generating, and water chilling plant in a manner which would provide flexibility and economical operation.

Electrical demands on existing high voltage lines, and extensions to new facilities must be provided as a guide line for determining new services required.

At present, water is supplied from a 12" water main on east side of College Avenue, also a 16" main which crosses Campus north to south, and running along a line west of Science Building and immediately east of Plant Science Building. This line will not be adequate to serve the demands of the College. These demands must be estimated and requirements should be placed in the hands of City planners as soon as possible.

The new City disposal plant northwest of the City is probably large enough to provide for our immediate expansion, but anticipated flows should be plotted for future expansion purposes.

All existing gas lines on campus are loaded to capacity. New gas service must be provided to all new construction where such service is required.

3. Cost and Efficiency: This is an area which will require extensive study in the area of steam generation, and production of chill water for air conditioning. With the advent of gas turbines, waste heat boilers, and many other methods of achieving total energy, a system which would provide the most economical operation, and overall savings to the College should be provided.

Size of chill water lines, steam lines, and tunnels to accommodate these, and distance to buildings which they will serve should, to a large degree, dictate the location of a new steam and chill water station, or chill water stations, if cost studies should reveal more than one to be most economical.

4. Inspection of Existing Facilities, and Evaluation of Their Future Use: Existing boilers, tunnels, steam lines, electrical lines should be inspected, and interwoven into the expanded program to obtain their maximum usage.

No longer can environmental control in the areas of heating, cooling, refrigeration, filtering of ventilating air, and humidity control be neglected. In many areas this must be under constant surveillance to prevent damage to research projects, books, and valuable documents. To accomplish this, sensing, and recording devices are now available, and their savings in man hours to make these checks will pay for this equipment in a very few years. This should be explored to its fullest extent in this survey.

Utility and operating costs for previous years are available in this office, also present steam generating capacities, and connected loads for all buildings served from central heating plant, and utility, prints of underground electric, water, sewer, gas, and tunnels are also available.

Sincerely yours,

/s/ O. R. Downing

O. R. DOWNING,
Director

ORD/lv(b)

cc: Mr. E. J. Urbanovsky
Mr. John Taylor

TEXAS TECHNOLOGICAL COLLEGE
Lubbock, Texas

MINUTES OF THE CAMPUS PLANNING COMMITTEE

Meeting No. 269 December 9, 1965

A meeting of the Campus Planning Committee was held at 1:30 p.m. on December 9, 1965, in Room 120 of the Administration Building. Members present were Mr. E. J. Urbanovsky, Mr. Nolan E. Barrick and Chairman M. L. Pennington. In addition, Miss Evelyn Clewell, Mr. O. R. Downing and Mr. John G. Taylor were present.

3151. Engineering Survey

Mr. Taylor and Mr. Downing have checked the contract with Zumwalt and Vinther for the heating and air-conditioning survey of some years ago and the contract can be used for an additional two years if it still fits the need.

Mr. Downing had asked the local representative of Zumwalt and Vinther for figures and interpretations and had thought they would be available during the afternoon. It was agreed to postpone further action until the figures are available.

However, if the figures should not be available in time in order to make a recommendation, it was agreed to recommend to the Building Committee that Zumwalt and Vinther be engaged to make the survey, subject to a satisfactory agreement and terms to be approved by the Building Committee between meetings.

3152. Temporary Classrooms

A. Temporary Facilities

Mr. Barrick and his staff spent much of the day checking on possible ways to provide quick, economical classrooms and reported that the public schools have been adding temporary buildings for a good while. The facilities consist of wood construction and wood floors with heating, plumbing, lighting, two classrooms for 50 students each with a small toilet in between each room, at a cost of \$11,000 per building or approximately \$6 per square foot.

If the buildings could be grouped in one area, some economy could be achieved by having central toilets.

When there is no longer a need, it would be relatively simple to move, sell, haul off or do whatever the College wishes to do with the buildings. The sale price would depend on the demand and the amount of use to which the buildings have been subjected.

The public schools contract the construction of the buildings.

In addition to the economy, the big advantage of using buildings of this type would be the fact that the additional units could be added as needed and would provide enough flexibility to be located near the heart of the campus to prevent a surface transportation problem.

The method used by the public schools is the cheapest and fastest means to achieve additional classrooms.

The next investigation concerned the Butler buildings, which are prefabricated metal.

The Butler buildings would provide the best chance of salvage and resale. The company advocates a building 150' x 300' or 45,000 square feet and the size is based on that of a cotton warehouse. The estimated cost is \$7.50 to \$10.00 per square foot. However, the Butler representative estimated that the cost would be \$9.00 per square foot with heat, light, partitions, etc.

3152. Temporary ClassroomsA. Temporary Facilities (continued)

The raw building with a slab floor would sell at \$3.14 per square foot or \$141,300.00. By adding partitions, heating, etc., the cost would easily run to \$9.00 per square foot.

If a larger building with a higher ceiling could be purchased, there would be a possibility that it could become the field house for athletics in the future.

Smaller units would cost more per square foot.

B. Additional Space Needs

Miss Clewell presented a study which had been prepared under a very hard schedule. The report indicated that it would be possible to add a maximum of 991 classes in the existing space if all possible rooms were used from 8:00 a.m. to 5:30 p.m. There would be so many complications that it would be impossible to achieve the absolute maximum but it was thought that 60 percent would be a fair figure. Sixty percent of the 991 classes would indicate that 594 additional classes could be accommodated next fall, providing the faculty is available and the students would take the courses at the times offered. Most of the classes would have to be the lecture type.

It would be essential for everyone to have the willingness to make it work. Generally the faculty and students are willing to tolerate necessary hardships if they understand the circumstances and if there is a permanent solution in sight.

Laboratories would be more difficult, as they are more specialized. There is probably enough laboratory space available to get by next fall. It would be very tight and would require stringent scheduling.

Registration would be a very big problem and it would be absolutely necessary to schedule for maximum efficiency. The number of students could be handled but there should be some margin for safety, as there may be more than the 2,083 additional students estimated for next fall.

Faculty offices are the most critical space problem of all. There are only two vacancies on the campus at the present time, and at least 30 offices are needed for the fall of 1966.

With everyone thinking of all possible spaces, it was agreed that the following places should be checked for possible usage as classrooms, laboratories and/or faculty offices:

- Museum
- Student Union
- Naval Training Center
- The Armories
- The Student Centers at the
- Churches near the campus
- Quonset Hut, west of the
- Textile Engineering Building
- City Auditorium
- Basement of the Psychology Building
- Physical Plant Room
- Traffic and Security Garage
- Portion of one of the top floors
- of the Library
- Department Workrooms

3152. Temporary ClassroomsB. Additional Space Needs (continued)

It was agreed that the information would be checked as rapidly as possible. If the class schedule were to start at 7:30 a.m., two more cycles could be added each week.

C. Summary

Four of the wooden buildings, with two classrooms for 50 in each, and two more of the same type with 16 faculty offices in each, would be sufficient for the fall of 1966. The cost would probably be in the vicinity of \$75,000 if all were provided. The wooden temporary buildings could be provided fairly fast, and seem to be the most economical solution and could provide the maximum flexibility. Another advantage would be the location, which could be close to the center of the campus.

A tentative site suggested was to the north of the lot west of the Library. The location would be fairly ideal.

There is no consideration of the evening schedule, and it could be used as a safety measure.

Spring, 1967

It looks as if the Foreign Languages and Mathematics Building could be ready for use in the spring of 1967, and would provide 62 offices and some 16 classrooms.

Fall, 1967

The Business Administration Building should be on the line by that time and would provide 140 offices and many new classrooms.

The Biology Building should not be far behind the Business Administration Building.

Depending on Board action on Saturday, the Chemical Research Building could provide some fairly early relief also.

In summary, it looks as if the critical period is the fall of 1966, and if the proposed spaces were provided, the College could get by until some of the permanent buildings were in use.

M. L. Pennington
Chairman

The meeting adjourned at 5:30 p.m.

TEXAS TECHNOLOGICAL COLLEGE
Lubbock, Texas

AGENDA FOR THE JOINT MEETING
OF THE CAMPUS AND BUILDING COMMITTEE AND CAMPUS PLANNING COMMITTEE
TO BE HELD IN THE PLAN ROOM, PHYSICAL PLANT BUILDING
December 10, 1965
4 p.m.

3151. Agricultural Facilities

OK Horse Facilities

Consider the recommendation of the CPC to move the facilities across the freeway to a location that has been approved for some years, in keeping with the plans prepared by Miss Kirkwood and approved by the faculty of the School of Agriculture; and authorize the Building Maintenance Department to do the work in the estimated amount of \$59,000, *Req. funds*

*ity list
high school
OK*
3152. Biology Building (CPC No. 99-65) (Pierce & Pierce)

*affairs
imposed at
certain new
ways of sch.
reference
fresh - new
appl. and
that like*
The Board of Directors has authorized the CPC to file an application by January 7, 1966, for matching funds under the Higher Education Facilities Act. However, the CPC would like to present a summary of the development to date and to discuss it with the Building Committee.

Mr. Bill Felty is the Coordinator for the project, which is No. 2 on the Priority List.

*Page, Southern
Page*
OK 3153. Business Administration Building (CPC No. 98-65)

The Board of Directors has authorized the CPC to file an application by January 7, 1966, for matching funds under the Higher Education Facilities Act. However, the CPC would like to present a summary of the developments to date and some of the preliminary sketches to indicate the possible size and shape of the project.

Miss Jerry Kirkwood is the Coordinator for the project, which is No. 1 on the Priority List.

*Pitts, et al -
tail end
- money*
3154. Chemical Research Building (CPC No. 87-64)

Consider the recommendation of the CPC that the recommendation of the faculty of the Chemistry Department to continue the development of the Research Facility be approved. .

3155. ~~Classroom Office Building (New)~~ (Foreign Languages-Mathematics)

Bldg 4 ds, Tail end money

OK

General Contract

*1,350,000
450,000 matching
H.C. 1/2*

Consider the recommendation to award the construction contract to the Bennett Construction Company of Lubbock, the low bidder, in the amount of \$1,104,230 as follows:

\$1,136,230 Base Bid
- 7,000 Alternate No. 1
- 5,000 Alternate No. 4
-20,000 Alternate No. 5
\$1,104,230 Final Bid

Elevator Contract

OK

Consider the recommendation of a contract award to the Hunter-Hayes Elevator Company of Dallas, the low bidder, in the amount of \$10,700.

3156. Field House

*get a lot more for
Sept 1961*

Consider the request of the Athletic Council and the recommendation of the CPC for a field house to provide additional dressing facilities and work area for out of season sports, practice during inclement weather, etc.

3157. Housing

On-Campus

A. Project

1. Site

Consider the recommendation of the site at the northwest corner of 15th and Flint.

2. Residential Areas

Consider the recommendation to have 3 towers, 2 for women and 1 for men, each tower to have 11 floors of rooms and to house between 572 and 616 in each, subject to further refinement and to provide the usual needed facilities on the ground level and basement.

On-Campus (continued)

A. Project

3. Dining Room and Kitchen Area

The total area, when the entire complex is completed, would have 4 dining rooms of 400 capacity each, with the required facilities at the ground level. However, under HHFA regulations, it will be possible to only construct approximately one-half of the complete facilities in the first contract. It is thought that the full basement could be provided under the first loan.

Consider the refined recommendation which will be presented at the Building Committee meeting.

4. Budget

The revised figures are being reworked and will be presented to the Building Committee on Friday.

B. Food Consultant

OK Consider the approval of the proposal from Mr. Arthur W. Dana as Food Consultant in the contract amount of \$25,000. His duties would be in keeping with those performed on previous units, the results of which were most satisfactory.

C. Bond Counsel

OK Consider the recommendation of the CPC to ask Mr. Paul Horton of McCall, Parkhurst and Horton of Dallas, to serve as Bond Counsel, with a specific proposal to be presented to the Board of Directors at the February, 1966, meeting. *Committee is in between meetings - necessary to move faster*
Mr. Horton has been the Bond Counsel for the Dormitory Revenue Projects for a long time and the results have been very good.

D. Loan Application

OK Consider the recommendation to authorize the filing of an application with the HHFA as soon as practicable and to do all things necessary in order to file the application.

3157. Housing

Off-Campus

1. O'Meara-Chandler Corporation, 4140 Southwest Freeway, Houston

Consider the recommendation to approve the request for 3,000 additional spaces on the plot of land adjacent to the southwest corner of the College property. (The Board of Directors has approved 968 spaces to be ready by September, 1966.)

2. David C. Casey, Lubbock

Formerly listed as U. S. (Bob) Robinson, Lubbock. Mr. Casey has taken over the property from Mr. Robinson and has filed a request for approval of his application for 818 spaces for men in 1967 at the old Tower Theater site with a parking garage on Main Street.

The project has received approval of the Lubbock Zoning Board and the City Council, and Mr. Casey has agreed to abide by the regulations of the Texas Tech Board of Directors.

Consider the recommendation to approve the request from Mr. Casey.

3. add'l units in '66

O'Meara - 1 only, 97 1/2

Selling, says will have up + trying to

3158. Other Items

Educational Television

Consider approval of the addition of one room, 17' x 40', to KTEXT-TV, the Educational Television Station, in order to provide the required space for a new generator to handle the approved program. The construction would be performed by the Maintenance staff at an estimated cost of ~~\$7,000.~~

7,147.

Water Easement, City of Lubbock

The City of Lubbock has requested an easement along Indiana extended for a 24" waterline with a 10' permanent easement and 70' working easement.

Consider the recommendation to grant the easement, subject to a satisfactory agreement to be developed later for presentation to the Board of Directors for approval and after that for the City of Lubbock to secure the necessary Legislative approval.

Classroom (Temporary)

A separate report and recommendation will be provided for the Building Committee.

Authorizing Bldg Comm. to work with CPC on materials + type, up to \$100,000

Engineering Survey

Consider the recommendation of the CPC to approach Zumwalt & Vinther to do the survey in keeping with the general criteria developed by Mr. Downing, subject to the preparation of a firm proposal to be presented to the Building Committee of the Board for approval between meetings if necessary, in order to move as expeditiously as possible.

3159. Library (CPC No. 12-58)

Completion of South Basement and Third Floor

1. General Contract

Consider the recommendation of the CPC to award the general construction contract to Ed Lampe Building Contractor, Lubbock, Texas, the low bidder, in the amount of \$155,205.

2. Elevator Contract

Consider the recommendation of the CPC to award the elevator contract to Hunter-Hayes Elevator Company, Dallas, Texas, the only bidder, in the amount of \$1,746.

TEXAS TECHNOLOGICAL COLLEGE
Lubbock, Texas

AGENDA FOR THE JOINT MEETING
OF THE CAMPUS AND BUILDING COMMITTEE AND CAMPUS PLANNING COMMITTEE
TO BE HELD IN THE PLAN ROOM, PHYSICAL PLANT BUILDING
December 10, 1965
4 p.m.

3151. Agricultural Facilities

Horse Facilities

OK

Consider the recommendation of the CPC to move the facilities across the freeway to a location that has been approved for some years, in keeping with the plans prepared by Miss Kirkwood and approved by the faculty of the School of Agriculture; and authorize the Building Maintenance Department to do the work in the estimated amount of \$59,000.

3152. Biology Building (CPC No. 99-65) (Pierce & Pierce)

*2 CPC
sup or
disseminate
redundancy*

The Board of Directors has authorized the CPC to file an application by January 7, 1966, for matching funds under the Higher Education Facilities Act. However, the CPC would like to present a summary of the development to date and to discuss it with the Building Committee.

Mr. Bill Felty is the Coordinator for the project, which is No. 2 on the Priority List.

3153. Business Administration Building (CPC No. 98-65) (Page, Southerland & Page)

as 3152

The Board of Directors has authorized the CPC to file an application by January 7, 1966, for matching funds under the Higher Education Facilities Act. However, the CPC would like to present a summary of the developments to date and some of the preliminary sketches to indicate the possible size and shape of the project.

Miss Jerry Kirkwood is the Coordinator for the project, which is No. 1 on the Priority List.

3154. Chemical Research Building (CPC No. 87-64) (Pitts, Mebane, Phelps and White)

Consider the recommendation of the CPC that the recommendation of the faculty of the Chemistry Department to continue the development of the Research Facility be approved.

Handwritten notes

3155. Classroom-Office Building (New) (Foreign Languages-Mathematics)

General Contract

OK

Consider the recommendation to award the construction contract to the Bennett Construction Company of Lubbock, the low bidder, in the amount of \$1,104,230 as follows:

\$1,136,230 Base Bid
- 7,000 Alternate No. 1
- 5,000 Alternate No. 4
-20,000 Alternate No. 5
\$1,104,230 Final Bid

Elevator Contract

OK

Consider the recommendation of a contract award to the Hunter-Hayes Elevator Company of Dallas, the low bidder, in the amount of \$10,700.

3156. Field House

Consider the request of the Athletic Council and the recommendation of the CPC for a field house to provide additional dressing facilities and work area for out of season sports, practice during inclement weather, etc.

More study needed and development of idea will be done

3157. Housing

On-Campus

A. Project

1. Site

Consider the recommendation of the site at the northwest corner of 15th and Flint.

2. Residential Areas

Consider the recommendation to have 3 towers, 2 for women and 1 for men, each tower to have 11 floors of rooms and to house between 572 and 616 in each, subject to further refinement and to provide the usual needed facilities on the ground level and basement.

See further study regarding location of add'l dormitories campus - Bldg Comm. will meet soon -

On-Campus (continued)

A. Project

3. Dining Room and Kitchen Area

The total area, when the entire complex is completed, would have 4 dining rooms of 400 capacity each, with the required facilities at the ground level. However, under HHFA regulations, it will be possible to only construct approximately one-half of the complete facilities in the first contract. It is thought that the full basement could be provided under the first loan.

Consider the refined recommendation which will be presented at the Building Committee meeting.

4. Budget

The revised figures are being reworked and will be presented to the Building Committee on Friday.

B. Food Consultant

Consider the approval of the proposal from Mr. Arthur W. Dana as Food Consultant in the contract amount of \$25,000. His duties would be in keeping with those performed on previous units, the results of which were most satisfactory.

OK subject to negotiated contract if conditions change

C. Bond Counsel

OK Consider the recommendation of the CPC to ask Mr. Paul Horton of McCall, Parkhurst and Horton of Dallas, to serve as Bond Counsel, with a specific proposal to be presented to the Board of Directors at the February, 1966, meeting.

Mr. Horton has been the Bond Counsel for the Dormitory Revenue Projects for a long time and the results have been very good.

...already ready to proceed

D. Loan Application

Consider the recommendation to authorize the filing of an application with the HHFA as soon as practicable and to do all things necessary in order to file the application.

OK... ready - location, size, etc.

3159. Library (CPC No. 12-58)

Completion of South Basement and Third Floor

1. General Contract

OK

Consider the recommendation of the CPC to award the general construction contract to Ed Lampe Building Contractor, Lubbock, Texas, the low bidder, in the amount of \$155,205.

2. Elevator Contract

OK

Consider the recommendation of the CPC to award the elevator contract to Hunter-Hayes Elevator Company, Dallas, Texas, the only bidder, in the amount of \$1,746.

TEXAS TECHNOLOGICAL COLLEGE
Lubbock, Texas

MINUTES OF THE CAMPUS PLANNING COMMITTEE

Meeting No. 270 December 10, 1965

A meeting of the Campus and Building Committee of the Board of Directors and the Campus Planning Committee was held at 4 p.m. on December 10, 1965, in the Plan Room, Physical Plant Building.

Members of the Building Committee present were Mr. Harold Hinn, Chairman, Mr. Herbert Allen and Mr. C. A. Cash. Other members of the Board of Directors in attendance were Chairman R. Wright Armstrong, Mr. Alvin R. Allison, Mr. Roy Furr, Mr. J. Edd McLaughlin, Mr. Retha R. Martin and Dr. Fladger F. Tannery.

Members of the Campus Planning Committee present were Mr. E. J. Urbanovsky, Mr. Nolan E. Barrick and Chairman M. L. Pennington. Others present from the College were President R. C. Goodwin, Dr. W. M. Pearce, Mr. J. Roy Wells, Mr. John G. Taylor, Mr. O. R. Downing, Miss Evelyn Clewell, Miss Jerry Kirkwood and Mr. Bill Felty.

In order that the results of the meeting of the Board of Directors may be included in the Campus Planning Committee Minutes for record purposes, the action taken by the Board at the meeting on December 11, 1965, will follow that of the Campus and Building Committee for each item.

Mr. Howard Schmidt and Mr. Bob Messersmith, Architects, were present for the discussion of on-campus housing.

3153. Agricultural Facilities

Horse Facilities

Approved the moving of the facilities across the freeway to a location that has been approved for some years, in keeping with the plans prepared by Miss Kirkwood and approved by the faculty of the School of Agriculture, and authorized the Building Maintenance Department to do the work in the estimated amount of \$59,000, the amount to be paid from Building Funds.

(The Board of Directors approved.)

3154. Biology Building (CPC No. 99-65) (Pierce & Pierce)

An informative summary of the scope, size of rooms, number of stories, square footage and estimated costs was prepared by Mr. Felty, Coordinator for the project, and presented to the Building Committee, with the statement that it represents the developments to date for use in the application for matching funds which must be filed by January 7, 1966. There will be further refinements and improvements, and additional study is to be made on some of the room sizes and square footage. The summary is attached to and made a part of the Minutes. (Attachment No. 605, page 1861)

The Building Committee requested the CPC to carry on with the program now under way.

3155. Business Administration Building (CPC No. 98-65)
(Page, Southerland & Page)

Miss Jerry Kirkwood, Coordinator for the project, had prepared an informative summary of the developments of the project to date. It was presented to the Building Committee as an indication of the developments to be used in filing the application for matching funds by January 7, 1966. The summary is attached to and made a part of the Minutes. (Attachment No. 606, page 1862)

The Building Committee requested the CPC to carry on with the program now under way.

3156. Chemical Research Building (CPC No. 87-64)
(Pitts, Mebane, Phelps & White)

The Building Committee felt that, with the passage of Amendment 1 and the availability of additional money, the early plans for the project did not go far enough to utilize maximum planning for research, graduate and undergraduate needs in the project. The CPC was instructed to work with the architects, restudy the site development and plan for maximum space utilization and growth, on the basis that all of the facilities could not be built now but could be added later.

(The Board of Directors approved.)

3157. Field House

The Building Committee felt that more study is needed on the development of the idea. It is to be done and presented at a later date.

(The Board of Directors approved.)

3158. Foreign Languages-Mathematics Building (CPC No. 79-63)
(Pitts, Mebane, Phelps & White)

A. General Contract

Awarded the construction contract to Bennett Construction Company of Lubbock, the low bidder, in the amount of \$1,104,230, as follows:

\$1,136,230 Base Bid
 - 7,000 Alternate No. 1
 - 5,000 Alternate No. 4
 - 20,000 Alternate No. 5
 \$1,104,230 Final Bid

B. Elevator Contract

Awarded a contract to the Hunter-Hayes Elevator Company of Dallas, the low bidder, in the amount of \$10,700.

(The Board of Directors approved.)

3159. Housing

A. On-Campus

1. Project

The Building Committee wanted to take another look at the inside of the campus for additional housing and, if space is not available, to go outside, meaning across Flint.

At the Board meeting, the Building Committee recommended a further study regarding the location of additional residence halls on campus. The Building Committee will meet soon.

(The Board of Directors approved.)

2. Food Consultant

Approved the acceptance of the proposal from Mr. Arthur W. Dana as Food Consultant in the contract amount of \$25,000 for the entire proposed complex, if the project is approved.

(The Board of Directors approved, subject to a renegotiated contract if the conditions should change, meaning if facilities other than the proposed complex were built.)

3159. HousingA. On-Campus (continued)3. Bond Counsel

Approved Mr. Paul Horton of McCall, Parkhurst and Horton of Dallas as bond counsel, with a specific proposal to be presented to the Board of Directors at the February, 1966, meeting, or to the Building Committee between meetings if it is necessary to move faster.

(The Board of Directors approved.)

4. Loan Application

Authorized the filing of an application with the HHFA as soon as practicable and to do all things necessary in order to file the application if the project is approved.

(The Board of Directors approved.)

B. Off-Campus1. O'Meara-Chandler Corporation, 4140 Southwest Freeway, Houston

Delayed action on the recommendation to approve the request for 3,000 additional spaces on the plot of land adjacent to the southwest corner of the College property, pending further action and clarification.

(The Board of Directors approved.)

2. David C. Casey, Lubbock

Deferred action on the request for approval of an application for 818 spaces for men in 1967 at the old Tower Theater site, pending further action and clarification.

(The Board of Directors approved.)

3. Additional Housing Units in 1966

The report was made to the Building Committee that the request had been conveyed to the O'Meara-Chandler group and Mr. Seldin for additional units in 1966.

Mr. O'Meara reported that his group could not build more than 968 units by 1966. Mr. Seldin said that he will have approximately space for 1,000 by 1966 and is trying to see what he can do on a second thousand for 1966.

4. University Dormitory Development, Inc., Chicago, Illinois

Approved the request for a 60-day extension from February 6, 1967, on the McClellan property, subject to approval of the Foundation Board.

(The Foundation Board and the Board of Directors approved the extension.)

3160. LibraryCompletion of South Basement and Third Floor1. General Contract

Approved a contract award to Ed Lampe Building Contractor, Lubbock, Texas, the low bidder, in the amount of \$155,205.

3160. LibraryCompletion of South Basement and Third Floor (continued)2. Elevator Contract

Approved a contract award to Hunter-Hayes Elevator Company, Dallas, Texas, the only bidder, in the amount of \$1,746.

(The Board of Directors approved.)

3161. Other ItemsA. Educational Television

Approved the addition of one room, 17' x 40' to KTXU-TV, the educational television station, in order to provide the required space for a new generator to handle the approved program. The construction would be performed by the Maintenance staff at an estimated cost of \$7,000.

B. Water Easement, City of Lubbock

Approved the request of the City for an easement along Indiana extended for a 24" waterline with a 10' permanent easement and 70' working easement, subject to a satisfactory agreement to be developed later for presentation to the Board of Directors for approval and, after that, for the City of Lubbock to secure the necessary legislative approval.

C. Classrooms (Temporary)

Agreed to ask the Board of Directors to authorize the Building Committee to work with the CPC on materials and type for temporary classrooms in an amount not to exceed \$100,000.

The Board of Directors approved, with the added stipulation that the Building Committee could act between meetings.

D. Engineering Survey

Approved the employment of Zumwalt & Vinther to make the general survey, in keeping with the criteria developed by Mr. Downing and the proposal by the engineers, in the amount of \$10,000.

(The Board of Directors approved.)

M. L. Pennington
Chairman

The meeting adjourned at 10:30 p.m.

Campus Planning Committee
 December 10, 1965
 Attachment No. 605
 Item 3154

PROPOSED BIOLOGY BUILDING (CPC 99-65) (PIERCE & PIERCE)

Prepared by Bill Felty

General Site: located west of the existing Science building.

Philosophy: The new building is expected to accommodate the anticipated increase in enrollment thru the 1972 fall registration, and assumes that the present policy of offering biology as a freshman laboratory service course for all non-majors will be continued. The freshman enrollment constitutes the major student registrations to the Biology Department. At the end of the 1972-73 school year it will be necessary to add additional facilities for freshmen or to limit the freshman enrollment or to reduce or eliminate the laboratory instruction.

The second major area of emphasis in this building program will be research space for graduate students and faculty. New facilities in research areas are needed to provide for Biology majors, graduate level service for other majors such as doctoral candidates in Agriculture and for the proposed new Medical School, as well as research space and related facilities for faculty. It has become increasingly apparent in recent years that research space must be provided for the faculty engaged in graduate instruction in order to obtain and retain the services of highly qualified individuals.

New Facilities: The program as proposed provides for two programs not presently offered: The Radio Biology Complex (Radioisotope Research) and the Electron Microscope Complex and new facilities for live animals.

Other new and/or expanded facilities include:

A. In the Advanced Biology Teaching Complex

Coleoptile room, tissue culture room, volatile chemical storage and ultraviolet room.

B. In the Advanced Zoology Teaching Complex

The aquarium, terrarium room

C. In the Microbiology Teaching Complex

Walk-in cold rooms, animal holding room

D. In the Advanced Biology Teaching and Research Complexes

4 environmental chambers and cytogenetics office and research laboratory

E. In the Vertebrate Zoology Complex

4 environmental research laboratories, live animal collection room

F. In the Animal Physiology Complex

The neuro and muscle physiology research laboratory, and aquarium room

G. Developmental Embryology Complex

3 cold laboratories

H. Auxiliary Service Rooms

8 controlled environment chambers, a shop and a reading room

Spaces Provided The proposed building includes the following:

- 40 - laboratories for graduate and undergraduate instruction
- 42 - research laboratories
- 23 - offices for faculty
- * 9 - cubicles for graduate students (2 large rooms)
- 3 - lecture rooms (seating capacity: 1-500, 1-150, 1-50)
- 1 - TV control
- 2 - seminar
- 4 - offices administrative personnel
- 2 - reading rooms, about 300 square feet
- 1 - instrument room
- 1 - shop
- 4 - darkrooms
- 36 - preparation and storage rooms
- 20 - special temperature, clean rooms and growth rooms
- 11- animal and collection rooms
- 4 - greenhouses @ 2700 sq. ft. each

*Contains office space for 60 graduate students-teaching assistants

SUMMARY NET ASSIGNABLE SPACE

The net assignable space contained in this proposal is as follows:

Office	10,230 sq. ft.
Training	53,230 sq. ft.
Research	<u>27,546 sq. ft.</u>

91,006 sq. ft. net assignable space

Building: The building contains basement, 6 floors and penthouse for greenhouses and animal runs.

<u>SPACE SUMMARY:</u>	<u>GROSS AREAS</u>
Basement	20,140
1st Floor	26,084
2nd Floor	23,300
3rd, 4th, 5th and 6th Floors	69,344
Roof	<u>4,782</u>
TOTAL	143,650

Preliminary Estimate of Cost

The project budget is \$3,000,000 plus 1/3 matching funds from grants for a total of \$4,500,000 prorated as follows:

Utilities Extension	\$100,000
Site Development	20,000
Project Contingency	130,000
Scientific Equipment	120,000
Greenhouse Space @ \$8.50 sq. ft. (gross space)	100,000
Fees - Arch., Eng., Consulting	220,000
Movable Equipment	80,000
Resident Inspection	20,000
Audiovisual and Communications Equip.	<u>25,150</u>

SUBTOTAL \$815,150

Cost of nonassignable area	\$1,473,940
Cost of assignable area 88,400 sq. ft. x \$25	2,210,910

BUILDING SUBTOTAL \$3,684,850

PROJECT TOTAL \$4,500,000

10 December 1965

Proposed Business Administration Building
(CPC No. 98-65) Page, Southerland & Page
Prepared by Miss Jerry Kirkwood

The new building for the School of Business Administration is proposed to be located southeast of the intersection of Flint Avenue and 15th Street. This site is within the area of concentrated male and female housing and would border the north side of the pedestrian mall which has been proposed to extend west along the Library axis.

A program of net space required by the School of Business Administration has been presented by the School of Business Administration Building Committee based upon a projected enrollment of 6,000 students in 1972. Enrollment in the School, fall semester 1965, was some 3,486.

The program submitted reflects the Committee's conscientious consideration of teaching methods in order that the facility would provide, to the best of their knowledge, for any change in methods or personnel. The net programmed space as submitted has been defended satisfactorily by each department head--based upon the established number of class and laboratory cycles available and the before mentioned projected enrollment of 6,000 students in 1972.

It is assumed that the School will steadily grow with the College but that the entire space requested could not be occupied by the School of Business Administration to full utilization in the year of 1967 when the building could possibly be completed. Therefore, of the net programmed classroom and laboratory space of 85,762 square feet, there exists 43,625 square feet of general classroom space which would be available to relieve needs until the growth of the School of Business Administration warrants the equipping of the space for special uses. Thus, a saving in the initial cost of specialized equipment would be realized. Additional equipment as needed could then be requested upon a departmental basis as needs arise. It is anticipated that the spaces would have been designed for the various special uses in the beginning so that no extensive remodeling would be required in the future.

Included in the net programmed space for offices is 41,250 square feet. The number of spaces requested for faculty occupancy for the School of Business Administration is 160. The same type of reasoning as given to classroom and laboratory space programmed applies to the number of offices programmed. The office space which could not be occupied by the School of Business Administration in 1967 would relieve the overall critical shortage of office space until other facilities could be provided. A "built-in" office expansion for the School of Business Administration has been included in the program based upon a student-faculty ratio projected to 1972.

Presently, based upon preliminary studies presented by Page, Southerland & Page, the entire facility would include 186,703 square feet. The functions of the facility lend themselves nicely to virtually three separate units described as follows.

The classrooms and laboratories would be included within a structure which would become two floors in height above grade and one floor below grade. Connected physically to the west of the classroom and laboratory unit by circulation areas only--would be the structure housing offices and related spaces. A vertical organization into approximately 12 floors has been derived from a desire to remove the faculty offices from the student traffic and noise producing areas. Due to the nature of office space - structurally - it is both feasible and desirable to remove this complex from the classroom and laboratory unit which requires another volume of space.

It is planned that two elevators in the office complex would serve the vertical traffic. Vertical traffic in the lower classroom and laboratory element would be served by adequate stairways only.

The requested general usage lecture hall and study area--with maximum student use and traffic--is a one floor above grade and one floor below grade unit. Because of the greater student traffic and noise--and the anticipated use by

the entire student body--the result is the placement of this element within itself and removed from the classroom and laboratory element which will eventually be used principally by the School of Business Administration.

It is possible, using this program as a basis, to complete and file the application for matching funds with the proper authorities by 7 January 1966.

Based upon the architect's evaluation of the net programmed space compared with current building costs, an estimated budget of \$3,450,000 would be required for the School of Business Administration facilities proposed.

An estimated \$500,000 would be required to equip the facility in 1967. The portion of this amount which would be allotted to movable equipment has not yet been determined.

Remaining are site improvement, fees for architectural services and a major item of utility expansion for which the estimate includes \$350,000.

The estimated total budget of \$4,300,000 required for the proposed Business Administration Building as programmed is respectfully submitted for consideration. This total includes approximately \$3,000,000 plus matching funds.

TEXAS TECHNOLOGICAL COLLEGE
Lubbock, Texas

MINUTES OF THE CAMPUS PLANNING COMMITTEE

Meeting No. 271 December 15, 1965

A meeting of the Campus Planning Committee was held at 1:30 p.m. on December 15, 1965, in Room 208 of the Student Union. Members present were Mr. E. J. Urbanovsky and Chairman M. L. Pennington. Other members of the college staff present were Miss Evelyn Clewell, Miss Jerry Kirkwood and Mr. John G. Taylor.

The Business Administration Faculty Committee was represented by Chairman Haskell Taylor, Dr. John Binnion and Dr. George Berry. Other members of the Business Administration faculty present were Dr. Reginald Rushing, Dr. Robert Rouse, Dr. William R. Pasewark and Dr. John Ryan. Dean George Heather, Professor H. A. Anderson and Dr. F. L. Mize entered the meeting a bit later.

The project architects were represented by Mr. Louis Southerland and Mr. Madison Mills.

3162. Business Administration Building (CPC No. 98-65)
(Page, Southerland & Page)

The Chairman reviewed the action taken at the Building Committee and Board meeting last week and reported that the Building Committee authorized the CPC to proceed with the development of the plans as indicated.

A. Square Footage

Mr. Southerland presented various drawings of the building. He said that the layouts of the rooms which were received at the last meeting, with the equipment included, had been studied. Some of the rooms required as much as 90 square feet per student, while the original plans allowed about 35 square feet.

Miss Kirkwood has worked on some of the layouts with Professor Taylor and others as a result of the questions by the architects. Some of the square footage increase has been removed, and Miss Kirkwood will get out additional information at the first opportunity.

Pulling out the big rooms added some square footage for corridors, and the total overall project is back to approximately 200,000 square feet. Steps will be taken to reduce it to the 185,000 square feet which have been approved generally.

Entrances are arranged in all directions, and the lecture room and study area to the north will be connected to the main building at all levels. The rearrangement of the two facilities to the north would allow a site for another building to the east in the years ahead.

B. Basement

Mr. Southerland described the sloping room floors, the core arrangement, the lack of windows, etc.

C. Ground Level

As proposed, it is slightly depressed and would put the main students closer to the next two higher levels. There is a problem on stair doors to prevent smoke damage in case of fire. Texas Tech seems mostly to use the open type and some feel that it could be a hazard. Smoke doors would provide an answer.

The dean's offices and floor layouts, space for files, etc., were discussed.

3162. Business Administration Building (CPC No. 98-65)
(Page, Southerland & Page) (continued)

D. Next Floor

It would be up one-half flight from the ground level. Again there would be the stacked core. The department heads' offices would be on the tower level. The 500 capacity lecture room would be at the floor level.

E. Fourth Level

The floor plan is still in effect. The mechanical room is proposed at this point, as there can be some height development due to the tiered rooms below.

F. Elevations

Twelve levels of offices, plus a mechanical penthouse, are planned for the tower. The tower would be 50' x 100'.

The center portion of the main building will have storage space under a red tile roof. The mechanical room would be located in the center of the building over the top floor of classrooms.

The offices on the first, second and third floors would have higher ceilings than others in the tower in order to match the three floors of the classroom area.

The elevations were studied from a variety of views. Some were perspective and some straight elevations. The type of windows was discussed. A sunken garden arrangement was described.

G. Questions

The sunken garden, amount of red tile, sloping roofs proposed in the first drafts for some areas, appearance of the tower, amount of cut stone and amount of the usual Texas Tech-approved brick were discussed.

It was agreed that the elevations are not too important for the application for matching funds, as the HHFA pays little attention to the exterior as long as the square footage does not increase over five percent, or unless the building is designed to be plush.

It seemed to be the consensus that some additional thought should be given to the space within the dean's and department heads' complexes.

It was agreed that the architects will leave an extra set of the drawings to date with the department heads and that each will go over his area and make his suggestions to Miss Jerry Kirkwood by Sunday. She in turn will clear any changes with the CPC and will send the revised ideas to the architects on next Monday. With the refinements being sent to them, the architects will save a day in the development of the application by omitting the return to Lubbock next week. They will return on January 3 to help put the finishing touches on the application, which is to be mailed on January 4, 1966.

M. L. Pennington
Chairman

The meeting adjourned at 4:05 p.m.

TEXAS TECHNOLOGICAL COLLEGE
Lubbock, Texas

MINUTES OF THE CAMPUS PLANNING COMMITTEE

Meeting No. 272 December 16, 1965

A called meeting of the Building Committee of the Board of Directors was held at 3 p.m. on December 16, 1965, in the Office of the President. Members of the Building Committee present were Chairman Harold Hinn and Mr. C. A. Cash. Mr. Allen was out of the state at the time. Members of the Campus Planning Committee present were Mr. E. J. Urbanovsky, Mr. Nolan E. Barrick and Chairman M. L. Pennington. Also present from the College was Mr. John G. Taylor.

3163. Chemistry Research Building

Dr. Joe Dennis and Dr. R. G. Rekers of the Chemistry Department and Mr. Jim Budd, representing the project architects, were present. Mr. Budd was requested to make additional site studies for more utilization, and he said that the firm could and would be happy to make other suggestions.

3164. Housing

On-Campus

Again, a lengthy discussion was held on the various alternatives, ramifications, time schedule, need, etc., and the project architects were requested to make a feasibility study for a self-contained unit for approximately 1,000 women students on the play area to the west of Thompson and Gaston and Wells and Carpenter and east of Flint Avenue.

The information was transmitted to the architects, and they said they would be glad to make the study. The study is to be complete by December 27, and a meeting is to be held here on December 27 or 28, 1965.

Off-Campus

Intermingled with the on-campus housing, a good bit of time was devoted to the discussion of off-campus housing including the number of requests that have been received, the fact that only one of the groups approved for off-campus housing has started construction, the possibility of additional spaces for 1966, the number of student spaces for which requests have been received or intimated which could be in excess of 10,000 over the next few years, etc.

In view of the overall need, the Campus Planning Committee was requested to hold up the process of additional approval until further information has been developed.

3165. Classrooms (Temporary)

It was the consensus that, if the wooden buildings proposed are to be used, approval could be received at a later date and still have the facilities in use by September, 1966.

The decision is to be made at a later date.

M. L. Pennington
Chairman

The meeting adjourned at 9 p.m.

TEXAS TECHNOLOGICAL COLLEGE
Lubbock, Texas

MINUTES OF THE CAMPUS PLANNING COMMITTEE

Meeting No. 273 December 22, 1965

A meeting of the Campus Planning Committee was held at 1:30 p.m. on December 22, 1965, in Room 120 of the Administration Building. Members present were Mr. E. J. Urbanovsky, Mr. Nolan E. Barrick and Chairman M. L. Pennington. Other members of the college staff present were Mr. John G. Taylor and Mr. O. R. Downing.

3166. Engineering Survey

(Mr. Jack Roberts of Zumwalt & Vinther entered the meeting.)

In keeping with the action of the Board of Directors at the last meeting, the proposed scope of the survey was studied in detail. Some refinements were made and it was agreed that the scope of the preliminary survey, to be made by Zumwalt & Vinther for the sum of \$10,000, was in order to prepare the final agreement which would be sent to the Chairman of the Board for approval.

Mr. Roberts asked for a liaison member of the college staff with whom his firm could work in developing the survey. Mr. O. R. Downing was asked to be the liaison member, with the understanding that all the departments of the College from which help would be needed would be available to assist him. He is to use members of his staff and of other departments as necessary in order to proceed expeditiously with the survey.

(Mr. Roberts left the meeting.)

The meeting moved to the President's Office at 2:15 p.m., and Miss Evelyn Clewell, the Biology Faculty Committee composed of Dr. Earl Camp, Dr. R. W. Strandtmann, and Dr. Lyle C. Kuhnley and Mr. Bill Felty, coordinator for the project, and Mr. Bob Deshayes, representing the project architects, entered the meeting.

3167. Biology Building (CPC No. 99-65)

Mr. Felty and Mr. Deshayes both reemphasized that the presentation is a program design and not a building design, as there has been insufficient time to do more than to develop the program. After the application is filed, there will be time then for serious study of the building and the arrangements.

Mr. Felty explained that in the last study there were 143,650 gross square feet and 88,400 net square feet of assignable space. A decision was made to reduce the gross square footage by 3 percent in order to get within the budget. The Faculty Committee of the Biology Department and the architects made a new plan which reduced the gross square footage by 4 percent and probably will reduce the net space by 3 percent and still allow them to maintain the program.

Greenhouses

A great deal of discussion occurred on the greenhouses - Where they should go, the present and future use, etc. The architects, tentatively, have some on the roof, as has been suggested in the past, and some on the ground.

The experimental greenhouses probably would be on the roof and the production greenhouses could be on the ground. The Biology faculty want all the greenhouses as near the building as possible and feel that all will become experimental in the years ahead, within 10 years or so, depending on the growth of the department and research.

3167. Biology Building (CPC No. 99-65)Greenhouses (continued)

The architects said that greenhouses on the roof would require a different type of roof and topping, and probably \$15,000 to \$20,000 would need to be spent on the roof in order to prepare it to accommodate the greenhouses. The construction costs of the greenhouses would be no different whether on the roof or on the ground.

It would cost more to add greenhouses to the roof at a later date, but the architects didn't know just how much.

It was agreed that for the application, the architects would use the square footage as shown. It can be decided later if the greenhouses will be on the roof or on the ground. The architects are to proceed as if the experimental greenhouses are on the roof and let us know when they must have a specific decision on the location. The plans would be left flexible.

It was agreed that the program of the Biology Department could be fulfilled within the terms of the money, square footage, etc.

The architects felt that the building should be designed for additional vertical stories in the future. Six floors are planned now and would be ideal from the standpoint of design. It would be possible to go laterally in two directions. The architects recommended enough structure to handle ten vertical stories.

Equipment Budget

Mr. Felty said that after working with the Biology Faculty Committee, the equipment needs had been underestimated. The original estimate was \$120,000 and it is now \$188,000. The movable equipment was overestimated, originally at \$80,000 and now at \$55,000. The audiovisual and communication equipment was overestimated at \$25,150 and is now at \$5,150. He said the new arrangement of equipment funds is the equivalent of one greenhouse over the original estimate and that one greenhouse could be eliminated or bid as an alternate in order to stay within the budget.

Laboratory Equipment

The cost varies from 50¢ to \$5 per square foot. The architects asked Mr. Felty for information on equipment costs in the past.

Three hundred eighty thousand dollars (\$380,000) represents the budget for laboratory equipment, a portion of the chilling station and utility costs.

Mr. Deshayes estimated that the total cost figure would be approximately \$24 per square foot if the estimate for laboratory furniture is realistic. It won't be possible to determine the amount until next year when the project is further developed. Mr. Felty had suggested earlier that a cost of \$25 per square foot probably should be used for the project.

The project, as it stands now, has 137,610 gross square feet.

Site

Mr. Deshayes presented drawings and discussed accesses for service, pedestrian access from all directions, future feasible expansion, the 500 capacity auditorium to the north end and the conservatory to the east end.

He then went over tentative arrangements for the various floors.

3167. Biology Building (CPC No. 99-65)Basement

Graduate instructors' offices, electron microscope complex, mechanical rooms, etc. The 500 capacity lecture room would have access to the basement floor.

First Floor

Five hundred capacity lecture room with entrance from the north end.

Three-passenger elevator, stairs.

Mechanical risers.

Upper part of conservatory.

Entrances to the building proper.

Freshman Biology and preparation rooms.

Pedestrian circulation, size of corridors, etc.

Second Floor

Advanced Botany. The core plan would be maintained in the main unit which would house advanced Botany and prep rooms.

The advanced Biology lecture room, with a capacity for 150, room with 50 capacity, faculty offices, conference rooms, etc., would be over the 500 capacity lecture room.

Third Floor

Microbiology facilities with the same core arrangements.

There would be nothing over the 500 lecture room.

The size of the structure at this level is 112' x 112'.

Fourth Floor

The fourth floor would have the Ecology offices, seminar rooms, training and research, etc.

Fifth Floor

The fifth floor would have the remainder of Ecology and the related disciplines.

Sixth Floor

Have the Radiobiology, Embryology, Genetics, Plant Anatomy, general facilities, etc.

Roof

The roof would have the head house and three long greenhouses, to be air-conditioned by evaporative type coolers.

The building is arranged so that the graduate and research facilities would be toward the higher levels as there would be less traffic.

Mr. Deshayes said again that his firm has fulfilled the program needs, and felt that they can live with what has been done. However, they probably will have to change the building in the future. They want to make a serious study of the building needs.

3167. Biology Building (CPC No. 99-65)

The utilities within the building would be housed in proposed stacks which can also be used to exhaust the air.

General structure would be prestressed precast beams, monolithic concrete, Texas Tech brick, etc.

The Biology Faculty Committee stated that they were well satisfied with the program developments to date and were ready to put the program in the next phase of development.

The next problem is to proceed in such a manner as to provide the final information for the application which is to be mailed Wednesday, January 5, 1966.

Elevations

It was agreed that only two elevations would be necessary for the application.

Questions were asked with the following answers:

There are 33 faculty offices included in the present design.

There has been no study as yet of the specialized versus general space and it was agreed that it would be made after the application is filed as there would then be time.

Mr. Deshayes said that he would be very happy if the College were to literally tear the present design apart, as they want to do a great deal more study before recommending the building plans.

The consensus of the architects, Mr. Felty and the Biology Faculty Committee, was that the room sizes were ample for the equipment which needs to be accommodated. Mr. Deshayes said that he took one of the smallest rooms for a trial and while it was tight, all of the needed equipment could be accommodated and he felt that the rest of the rooms should, rather easily, take the necessary equipment.

It was agreed that the architects should proceed with the preliminary plans after the application is filed. The preliminary plans would be presented to the Board of Directors at the meeting on April 23, 1966, before proceeding with final drawings. Mr. Deshayes estimated that the final drawings would require six to eight months.

Some discussion ensued on the application for matching funds by title. The undergraduate facilities will be requested under Title I of the Higher Education Facilities Act and the application must be filed on January 7, 1965.

Research and Graduate

The matching funds for research and graduate facilities will be filed under Title II, and will be filed as soon after January 7, 1966, as possible. Title II applications are sent directly to Washington.

M. L. Pennington
Chairman

The meeting adjourned at 4:05 p.m.

TEXAS TECHNOLOGICAL COLLEGE
Lubbock, Texas

MINUTES OF THE CAMPUS PLANNING COMMITTEE

Meeting No. 274 December 23, 1965

A meeting of the Campus Planning Committee was held at 9 a.m. on December 23, 1965, in Room 120 of the Administration Building. Members present were Mr. E. J. Urbanovsky, Mr. Nolan E. Barrick and Chairman M. L. Pennington. Other members of the college staff present were Mr. John G. Taylor and Mr. R. B. Price. The project architects were represented by Mr. Howard W. Schmidt and Mr. Bob Messersmith.

3168. Housing

On-Campus

The architects presented the studies to date, at the request of the Board of Directors' Building Committee to study a site east of Flint and west of Thompson, Gaston, Wells and Carpenter Halls for approximately 1,000 women students in a self-contained unit or units.

1. Scheme A

The architects discussed the parking lots in the area, possible new parking lots, drive change, access road, kitchen for one unit and air-conditioning, which probably would need to be handled by another small unit. The recreation space could be provided in the area.

Other ideas advanced and discussed were:

Additional parking probably would have to be across Flint.

A parking philosophy is essential to overall planning. There should be a pedestrian plan to the rest of the campus around the existing buildings.

A kitchen for only 1,000 students has disadvantages. A single unit for 1,000, if it were to be the last one, would be in order. However, a complex for 3,000 would provide economies through better management, etc.

The CPC agreed that it would be well to request Mr. Dana to be present for the Building Committee meeting if at all possible, in order to make as much progress as feasible. Later, the architects reported that Mr. Dana had called and said he could be here.

Will more halls be built in this area? If so, the proposed unit could be part of a long-range plan.

2. Scheme B

A great deal of savings could be achieved in the food service in a complex of 3,000 over the unit for 1,000. Going back to smaller feeding units would be a step in the direction we have been trying to get away from. It would be possible to close the kitchens and dining rooms for the four existing men's halls into a central complex.

Another adaptation which would increase the total housing in the area to 3,416 by the addition of two towers now and two others in the future was discussed.

The plan could provide a commons area with four dining halls similar to the original plan across Flint for the buildings in the area, plus the two additional ones.

3168. HousingOn-Campus2. Scheme B (continued)

The parking concept would change, as women in the area would reduce the overall needs. If the feeding were phased out of the existing four halls, the space could be used for other purposes.

Coeducational housing should be considered in the plans, and the plan would phase into it.

(Mr. Barrick left the meeting at 9:45 a.m.)

3. Scheme C

The original proposal west of Flint with a new design and rearrangement of the buildings, parking, play areas, traffic control and access roads was presented and discussed.

4. Scheme D

The plan would be similar to Scheme C and west of Flint, but at Flint and 19th Street. Living units, parking, traffic, date pick up, play fields, commons area, acreage to be used, etc., were discussed at length.

A rather detailed study indicated that the location at 19th and College would be the safest of all, as it would provide the least possible conflict with future college development and all the other advantages. It would be further away, but the College is building in that direction.

5. Philosophy

A great deal of time was spent in discussing philosophy, which must be considered for the overall College. All possible facets must be kept in mind and considered. Some are as follows:

The development of all halls must fit in the long-range plan. It is difficult to provide a housing system piecemeal. Economics, cars, pedestrians, utilities, growth, parking, esthetics, etc., must be considered. The College has been rather eminently successful so far, and it would be unwise to deviate from a plan that has been working, unless the ground rules have changed. There must be some goals, and one would be student growth. For instance, 35,000 students probably will be here earlier than the estimated date. There is some need to know how far to go to provide on-campus housing for women, men and coeducational; and how far do we go with men's housing off campus?

The architects were requested to prepare a list of debits and credits for each of the proposals studied.

Small towers east of Flint were looked at years ago.

There is a need to decide what is good for the College and not look back. Parking and class-change intervals should not dictate the location, as both can be handled when necessary.

Many schemes have been considered in past years. The educational buildings will be added toward the southwest. Timing is going to be very important in the location of residence halls.

Efforts should be made to think as big as possible.

3168. HousingOn-Campus5. Philosophy (continued)

Money will be a very important factor as, at the present time, only \$4 million can be borrowed from the HHFA in any one year; the funds have not been made available to the HHFA for allocation during the current fiscal year, although funds have been authorized. The HHFA has been working the requests but has presented none for approval.

The requests for off-campus housing for men and the status of each were reviewed.

It seems vital to stay out of the way of academic needs as much as possible at the present time. After the current academic program has been completed or is much further along, study for additional housing can be made.

It will probably be necessary to control the traffic on Flint in years ahead, regardless of what is done at this time.

Each time the CPC meets on the plans for the Business Administration and Biology buildings, progress is made in overall thinking, and new ideas come into mind.

6. Recommendation

In summary, it was agreed that the 1,000 complex could be installed east of Flint, but it would be short-range, stop-gap planning, and the identical problem would be faced again next year.

After a great deal of consideration, it was agreed that the Chairman would prepare and present a summary of the past developments and thoughts to date, and the architects would present all the plans discussed above to the Building Committee of the Board of Directors at the meeting to be held at 2 p.m. on December 27, 1965, in the Office of the President. In addition, the recommendation would be made that the preferred site be at the northwest corner of Flint and 19th Street.

M. L. Pennington
Chairman

The meeting adjourned at 12:30 p.m.

(It was agreed to meet at 9 a.m. on Monday, December 27, 1965, in order to review again the presentation to the Building Committee and get the benefit of Mr. Dana's thinking.)

TEXAS TECHNOLOGICAL COLLEGE
Lubbock, Texas

MINUTES OF THE CAMPUS PLANNING COMMITTEE

Meeting No. 275 December 27, 1965

A meeting of the Campus Planning Committee was held at 9 a.m. on December 27, 1965, in the Office of the President. Members present were Mr. E. J. Urbanovsky and Chairman M. L. Pennington. In addition, Mr. O. R. Downing, Mr. John G. Taylor, Mr. Guy J. Moore, Mr. Bob Messersmith, Mr. Howard W. Schmidt and Mr. Arthur W. Dana were present.

3169. Housing

On-Campus

The summary of past developments, the thoughts to date and the various building schemes to be presented to the Building Committee at the afternoon meeting were reviewed and discussed.

There was discussion on the need of the individual student to maintain an identity as the College grows, in order to prevent the student from becoming merely a number. Housing can offset a good deal of the need for group identification, and feeding should be arranged to keep the student from getting lost in vast halls.

The experience with deans over the country, the affect of off-campus housing, graduate and married student housing were discussed, as were the cost of going to school and the need to hold the line as much as possible on board and room costs.

Attention was devoted to the shortage of high-caliber management in housing and food service and the competition for such management.

The operations of other institutions were reviewed.

Various cost savings, the cost per student space for each of the plans to be presented, etc., were discussed.

M. L. Pennington
Chairman

The meeting adjourned at 11:35 a.m.

TEXAS TECHNOLOGICAL COLLEGE
Lubbock, Texas

MINUTES OF THE CAMPUS PLANNING COMMITTEE

Meeting No. 276 December 27, 1965

A meeting of the Campus and Building Committee of the Board of Directors and the Campus Planning Committee was held at 2 p.m. on December 27, 1965, in the Office of the President.

Members of the Building Committee present were Mr. Harold Hinn, Chairman, and Mr. C. A. Cash.

Members of the Campus Planning Committee present were Mr. E. J. Urbanovsky, Mr. Nolan E. Barrick and Chairman M. L. Pennington. Others present from the College were Mr. John G. Taylor, Mr. O. R. Downing and Mr. Guy J. Moore.

The Project Architects were represented by Mr. Howard W. Schmidt, Mr. Bob Messersmith and Mr. Evan Roberts.

3170. Housing

On-Campus

The Chairman orally presented the summary of past developments and thoughts. A copy is attached to and made a part of the Minutes, although some of the information was presented in summary form to conserve time. (Attachment No. 607, page 1876)

The architects then presented the various schemes, starting with Scheme A.

Mr. Dana presented the food service information, delving mostly into economics, recruiting of capable managers, cooks, etc., and the need for the student to maintain an identity.

He also listed the food savings costs to date as reflected in figures prepared by Mrs. Shirley S. Bates, Director of Residence Halls Food Service.

There was a great deal of discussion on the idea of consolidating the feeding facilities for the area east of Flint and on the two plans across Flint. All phases and possible complications were discussed in detail.

(Mr. Barrick left the meeting at approximately 3:50 p.m.)

The number of students per floor and the number of floors to a tower were discussed, and it was agreed that a floor with ~~72~~⁵² spaces and 11 residential floors seemed to be the proper working unit.

Parking and pedestrian traffic were discussed.

The speed and the number of elevators were discussed in detail.

The top capacity in a complex and the reasons for it, etc., were discussed.

After all information and ideas had been discussed, Mr. Hinn and Mr. Cash approved the site at the northwest corner of 19th Street and Flint Avenue and the filing of an application with the HHFA as soon as possible, for three towers of 572 capacity each, and the required amount of the commons.

3170. HousingOn-Campus (continued)

The Building Committee requested a long-range projection on housing needs from the architects.

The architects said that Building Committee approval will be needed by mid-January for the exterior design, elevations, etc., in order to stay on the extremely tight schedule for the development of plans and specifications. The time schedule calls for construction to begin not later than May 15, 1966, in order to have the facilities by September, 1967.

It was agreed to meet again at 2 p.m. on January 18, 1966.

M. L. Pennington
Chairman

The meeting adjourned at 6:20 p.m.

Campus Planning Committee
December 27, 1965
Attachment No. 607
Item 3170

HOUSING SUMMARY
BUILDING COMMITTEE MEETING

December 27, 1965

Assignment

At the last meeting, the Building Committee instructed the CPC to study a site to the east of Flint and west of the Thompson, Gaston, Wells and Carpenter sites for a self-contained unit or units for about 1,000 women students.

There was no question at the time but that a unit could be put there if the decision were made to do so. However, the architects were to study the feasibility, practicality, etc., and to report their findings to the Building Committee on December 27, 1965.

The architects have studied many applications on the site and will present a summary and the plan that seems most feasible. In keeping with good study procedures, the architects and the CPC have again studied single units, multiple units, complexes, combinations, short range plans, longer range plans, enrollment predictions, housing needs by years, coeducational housing and the sites, each of which will be presented to you today, if you wish, and will go as far as you wish.

Review

Texas Tech is probably the most sophisticated institution in a wide swath of our part of the country in housing, including food service.

Our thinking has undergone quite a metamorphosis in the past ten years. All of us, the Board, CPC, and Housing staff were almost dazzled by our boldness when Thompson, Gaston, Wells and Carpenter Halls were planned and constructed in two years, some eight years ago. No one near us had done anything on such a large scale, and the money we had to borrow was a bit staggering. When one of the architects went out into the cane field to step off the far corner of Gaston Hall, it looked as if he had gone out of the country and a new horizon was established at Texas Tech.

Food Service has always been much of a determining factor. At that time, 700 to 800 seemed to be an ideal unit to feed. The early halls had a capacity of 320, and it was easy to see that over twice the number could be handled more efficiently and economically.

As the housing needs grew, so did our imaginations but the 700 to 800 scheme carried into Wall, Gates, Hulen and Clement Halls, although they were a bit larger than any others to that time. Men's 9 and 10 increased the size of the feeding units to 1,056 and that was awfully big just four years ago.

Each time a new project was contemplated, inspection teams went out to study the best systems in the country. Our visions began to broaden as new concepts were found, refined and put into use, along with innovations of the students, staff, architects, CPC and Board.

The idea of the central food facility was advanced by Mrs. Bates and accepted. The consolidation of Bledsoe, Gordon, West and Sneed for food purposes came about in much the same way as it became apparent that larger units could be fed more economically without losing any, or very few, advantages. To do the best job possible and to be sure we were on the right track, it became necessary to seek the best professional help. That is where Mr. Dana entered our picture with most beneficial results, as he played a major role in the development of both the Central Food Facilities and Consolidated Food Service Unit.

Not long after, the Board instructed the CPC to go to work on additional facilities to be ready for occupancy in September, 1967. Again, inspection teams went out. Consultations and visits were held with the most qualified people in the profession, and the idea of the complex was substantiated at almost each stop. Much thought and planning were done in connection with a complex to handle some 3,000 students, as it seemed to be the most feasible answer to the housing problems at Texas Tech. The Board of Directors on February 12, 1965, approved a housing complex for approximately 3,000 students to be located across Flint with the exact site to be determined later.

Off-campus housing for men entered the picture at the May meeting and caused some delay in the development of plans.

The recommendation for a complex to handle ultimately about 3,400 students was proposed to the Board at the December meeting, the site to be west of Flint and south of the Physical Plant Headquarters. The first addition would have three towers with a capacity of 572 each, two for women and one for men to replace Men's 9 which is to be taken for women in 1966, and the start of the commons area. Provisions were included to increase the size in the future.

A longer range plan was involved than was perhaps ever spelled out. The possibilities were contemplated for two complexes west of Flint to accommodate about 7,000 students, the other to be at the corner of Flint and 19th. After that time, much more would be known of the academic program as most, if not all, of the academic buildings under the present program would have been completed. In the meantime, housing would have stayed out of the way of the academic program as much as possible. It would then be possible to come back through the campus, if needed and feasible in view of the developments, with individual units or to increase the size of existing units or complexes in order to get more land usage. It looked as if the plan would be the safest to follow in the absence of a long-range plan at the time.

We had been told to think big and the last time, we probably took too much for granted in making the presentation to the Board. As time always seems to be so precious, we probably try to put too much into the fire too fast, and thereby create an improper impression.

And we did not have a plan at the December meeting which the Board would approve.

Philosophy

There is a need to make some assumptions in the absence of a long-range plan. Basically, where are we going?

What might be the ultimate size of the College in order that more intelligent planning may be made? It looks as if there is no reason to think of slowing up short of an enrollment of 35,000 and perhaps not then. The enrollment probably will be 35,000 sooner than anticipated.

What shall we do with housing? Will only women be housed? Will there be no new halls for men, or could there be some as time goes by? Should a flexible goal be established for a specific number of students to be accommodated at future times? It would not be difficult to have a total of 15,000 to 16,000 housing spaces within the next ten years or even sooner, if there should be a need. The program could be stopped at any time. A specific plan could be quite helpful as long as conditions were favorable for more housing.

Housing should be tied to the overall college picture, as it affects just about all aspects of the College. All aspects of academic needs should be kept in the forefront--undergraduate, graduate, research, etc. To a somewhat lesser extent, the College ties to the overall state picture, and it should also be kept in mind as much as possible.

Each time a new dormitory site is studied or the concept of the program is changed, more factors are brought into consideration. The overall relationship to the College must be readjusted, and something new is learned in the process. Many plans have been studied over the years, including single units in different locations.

Each additional step that is taken in the development of the Business Administration and Biology buildings brings more developments into light and the paths to be followed become a bit clearer. In addition, there are many other projects to consider as time and funds permit. Each will have to fit into the overall picture and will affect the other projects and vice versa.

Communications

Communications are always a problem for all--the Board, the CPC and the staff that is to operate the facilities. As mentioned a few moments ago, we try to hurry so much at the Board meetings that we probably fail in communications by not indicating properly the depth of many of the studies that are made in the process of arriving at a recommendation.

Fairly elaborate minutes are kept by the CPC, probably more so than others on campus, but it is difficult for you to read and remember all that goes on between meetings. During the week of the meetings, it is just not possible, it seems, to get all the information to you in writing in time for study before you arrive, and you do not have adequate time after you get here. There is a lack of communication on our part, and it leaves you at a disadvantage at the meetings.

As a result, we tend to think that we have kept you apprised of developments only to find that we have not, and then there is no time to develop them properly during the meetings.

In addition, we compound some problems for you, particularly in housing. We recommend, and everyone agrees on the necessity, that more site usage must be obtained. When you take us too literally, we tend to say quickly that we didn't intend to go quite that far.

Along the same line, we recommend that private capital be allowed to construct and operate off-campus housing for men. When you intimate that perhaps no additional housing for men should be constructed on campus, we again say that we didn't intend to go that far.

We recommend coeducational housing to you as a good solution and probably the best arrangement of all, but it conflicts to some extent with our recommendation for off-campus men's housing.

We talk about taking additional men's housing for women and that conflicts to some extent with coeducational housing, unless women's housing is taken by men to offset the loss.

We recommend that all women's housing be on campus and that tends to contradict other recommendations.

If you say, "Let's put all housing on campus," we quickly say that there is a need to conserve space and that some off-campus housing is most helpful.

We may place so many factors in the fire that the results seem to be a tendency on our part to vacillate, again due largely perhaps to a lack of proper communication.

A combination of all aspects of housing, to some degree, would seem to offer the best solution.

More time with the Building Committee would be most helpful, and that is exactly why you are here today and why you were here on December 16. I think the last meeting with you did a very great deal to reestablish communications.

Other Considerations

There are many factors that affect housing--and vice versa.

Some are: Timing, academic program including all aspects, pedestrian flow, distance, safety, car traffic, parking, class schedules, utilities, grass areas for exercise, transportation, maintenance, flexibility, additions in the future, ingress, egress, money, needs of overall College, direction College is growing as to the southwest generally, open spaces, esthetics, etc.

What do we want the College to become? Judging from the enrollment and quality of students, the College seems to have been successful so far. It would seem to be unwise to change the philosophy that has brought us to this point except for a better one or unless the one in use becomes obsolete.

Parking and traffic are real problems in planning residence halls. The Board has turned the problem back to the Traffic and Security Commission. It has met and plans to have an announcement, before the students leave for the summer, for a plan to be put into effect next September. However, there is nothing available to help with residence hall planning at this time.

Funds will always be a problem and will determine the pace at which halls will be erected, if there were nothing else to do it. If funds are borrowed from the HHFA, and that is the best interest rate available, the maximum to be borrowed each year is \$4 million. No assignments of funds have been made this year, as the funds have not been made available although appropriated. If everything worked out, \$4 million would be available this Federal fiscal year and another \$4 million would be available next July. That would be enough to fund just about anything we have in sight at the moment.

It would be possible to borrow money on the open market, but the interest rate would be more and the last action on the discount rate could affect it a great deal. Complications of operation and financing of the system would be compounded as all other funds have been borrowed from the Federal Government.

The Viet Nam war could affect the availability of Federal funds in the future, also. While considering the various residence hall projects, it is necessary to keep in mind as many facets of the College as possible. A project is dependent to a large degree on other aspects of the College and is put together with those aspects in mind. When it is changed, a new set of conditions arises for consideration and time is needed to make a proper study.

Another consideration is the pending request from the fraternities for approval of houses, not just lodges, the reason being that if private capital is invited to provide off-campus housing, why should not the fraternities be allowed to do the same? There is merit in the request, but there are a good many considerations to take into account, and I hope that all are studied carefully before a decision is made. If every one of the fraternities were to build houses for 50 people each, it would hardly accommodate the needs for housing for one year.

If fraternities build houses, some of the sororities would want to follow suit, and that would really complicate the housing philosophy in existence at this time.

The consideration of land use is being used more and more in the thinking of all, and it will be with us from now on. How far do we go along the line of more use until it is no longer feasible or practicable?

How much can we afford to depend on off-campus housing? At least three groups have stated that they will have housing in use by next September, but only one has broken ground, and it will have a tight fight to be ready then. With all the requests pending, it would be possible to have as many as 10,000 additional spaces off campus in the near future if they all do as they have stated they will. However, none of them is in a position to guarantee anything, and they have not been requested to do so. Looking back, it would have been much better to grant approval for a limited time in order to give the approval to someone else if a group did not come through on schedule. So far, all we have are promises, and some are taking steps at the present time that confuse and compound the issues.

Streets must be a part of the long-range plan. For instance, it probably will be necessary to control the traffic on Flint at least to some degree in the years ahead.

Action

Time is getting short and it is almost essential that a decision be made today if there is to be additional housing on campus in September of 1967. To provide it, we would like to have broken ground this month, in keeping with the past schedules.

Sooner or later, a stand that seems best for the College must be taken, then we must go ahead and not look back.

It would be good not to try to solve the problem for only one year. It would be only stopgap and would put us back into exactly the same position next year and could be a step backward.

The farther we went into the study, the more obvious it became that we should be in a position to provide cost figures, economies of food service and philosophy and answer questions concerning the various schemes to be presented. We knew of no one more qualified than Mr. Dana, and the Board again has asked him to help us. So, we asked Mr. Dana to be here today and are glad that his schedule was such that he could. We believe that he can help make more progress today than would have been made otherwise.

We all want to be of as much help to you as possible as you decide what is best for the College. We often remark facetiously that emergencies are a dime a dozen and attention is paid only to crises. If there is to be additional housing by September, 1967, we are in a crisis now.

This brings us pretty well up to date, and now Mr. Schmidt is to go through the studies, step by step, and show the pros and cons of the various schemes as developed by them and reviewed by the CPC.