A Recreation Center for Lander College

Mark Steven Eggl
Clemson University

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A Recreation Center for Lander College

Mark Steven Eggl

A terminal project submitted to the Faculty of the College of Architecture, Clemson University, in partial fulfillment of the requirements for the degree of

MASTER OF ARCHITECTURE

Approved:

[Names redacted]

Committee Chairman

[Names redacted]

Major Advisor

[Names redacted]

Head, Department of Architecture Studies

[Names redacted]

Dean, College of Architecture

May 1978
to my FAMILY for their
love and support during
these most important
years

especially to CARLA ANN,
for her love, patience,
and understanding
I would like to express my sincere appreciation to the following persons for their help:

Fritz G. Roth, Committee Chairman
Ken Russo
Charlie Mitchell
Finis Horne, Head of Athletic Department, Lander

To my classmates for their friendship; especially to:

Mike Taylor
Sammy Justice
John Butch
Contents

BACKGROUND INFORMATION ........................................... 1

The Problem
  Problem Statement ............................................. 2
  Goal ...................................................................... 3

Lander College
  History ................................................................. 4
  Location .................................................................. 5
  Trends and Attitudes at Lander College ...................... 6
  Character .................................................................. 7
  Architectural Style .................................................. 7

College Athletics
  Trends and Attitudes in College Athletics .................. 9
  Trends and Attitudes in Athletics at Lander ............... 11

PROGRAMMING ............................................................ 13

Problem Definition
  Design Issues ....................................................... 14

Programming
  Program Development .............................................. 15

Program Definition
  Definition of Athletic Program and Goals ................ 16
THE PROGRAM

Central Core
Design Considerations 20
Special Considerations 20
Functional Analysis 21
Spatial Requirements 21

Offices and Classrooms
Design Considerations 22
Functional Analysis 23
Spatial Requirements 23

Gymnasium
Design Considerations 25
Special Considerations 25
Functional Analysis 26
Spatial Requirements 26

Natatorium
Design Considerations 27
Special Considerations 27
Functional Analysis 28
Special Requirements 28

Arena
Design Considerations 29
Special Considerations 29
Functional Analysis 30
Spatial Requirements 30

SITE INFORMATION

Master Plan 31
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROPOSAL</td>
<td></td>
</tr>
<tr>
<td>Concepts</td>
<td>35</td>
</tr>
<tr>
<td>Site Concept</td>
<td>36</td>
</tr>
<tr>
<td>Building Concept</td>
<td>36</td>
</tr>
<tr>
<td>Architectural Statement</td>
<td>38</td>
</tr>
<tr>
<td>SOLUTION</td>
<td>40</td>
</tr>
<tr>
<td>APPENDIX A</td>
<td>52</td>
</tr>
<tr>
<td>Student Survey</td>
<td>53</td>
</tr>
<tr>
<td>APPENDIX B</td>
<td>54</td>
</tr>
<tr>
<td>Case Studies</td>
<td>55</td>
</tr>
<tr>
<td>REFERENCES</td>
<td>59</td>
</tr>
<tr>
<td>Footnotes</td>
<td>60</td>
</tr>
<tr>
<td>Bibliography</td>
<td>61</td>
</tr>
</tbody>
</table>
BACKGROUND INFORMATION
The Problem

Problem Statement

Landar College is a state supported four year liberal arts college entering a new era of growth and development. Realizing that changes of major importance were going to occur due to growth of the student enrollment, administrators saw the need for a master plan in order to control and organize these changes. They acquired the skills of H. Davis Byrd, a Florence, South Carolina planner and designer, to create a campus master plan, Campus '80.

Within Campus '80 was the proposed construction of many new buildings to meet the educational and social needs of this growing student population. One of the proposed buildings, an athletic, physical education, and recreational facility, is the subject of this terminal project.
Goal

The goal, therefore, is to analyze the future trends of sports programs at Lander College, define the needs of these programs, develop a program to fulfill these needs, and finally, design a physical environment to fit the needs of the program.
Lander College

History

Lander College was founded in 1872 by Samuel Lander, a Methodist clergyman, at Williamston, South Carolina. Originally known as Williamston Female College, it remained a private institution until 1898 when the school became part of the educational system of the South Carolina Conference of the Methodist Episcopal Church, South. In 1904, the college was relocated at Greenwood, South Carolina and renamed to honor its founder.

In 1948, the Methodist Conference decided it could no longer be the sole financial supporter of the school. Citizens concerned with keeping the college within the community formed the Lander Foundation. Then, in 1973, the Foundation elected to offer Lander as a South Carolina State supported
school to help aid in its progress and development. In July of 1973, the South Carolina General Assembly voted to include Lander College into the state's system of higher education.¹

Location

The campus of Lander College lies near the center of Greenwood, South Carolina approximately two blocks north of the city's central business district. The 51 acre campus is located within a quiet residential neighborhood giving it a favorable school environment.

Residential streets which bound the campus are Stanley Avenue, Crews Street, and Willson street on the south, Durst Avenue on the east, and Lawson Street on the north.

Primary traffic arteries, US 25, 178, and 221, pass within a block or two of the campus giving students quick access to the surrounding area.²
Trends and Attitudes at Lander College

Since its inception, Lander has endeavored to retain its small school character. By limiting enrollment, a student did not become just another number, but was able to retain an identity of his own. However, Lander was unable to offer the advantages of larger institutions, such as better facilities and broader programs of study. Therefore, by becoming part of the state supported system of higher education, Lander sought to combine the advantages of the two. First, Lander gained access to State funding in order to help advance the school's educational programs and facilities. Secondly, by agreement with the State, Lander could still enjoy the advantages of a small school by limiting enrollment. The limit set at 2500 students is to be reached by 1985.

Since being integrated into the state system, Lander's enrollment has increased at an astounding rate. Fortunately, the school has been able to
accomodate the needs of such a fast growing student population through the careful planning of new housing and classroom construction.

Character

The character of Lander College is reflective of the residential district which surrounds it. A serene atmosphere prevails and is further enhanced by the natural beauty of the campus, creating a setting favorable for academic activities. The master plan attempts to retain this atmosphere while giving a sense of order to the campus. A linear or "street" campus is to be formed in an attempt to create an "urban" type mall. An architectural style will be employed which will unify the campus.

Architectural Style

The style of architecture, which was created in the new buildings, supplies a very clean simple statement. Building masses have been kept to a human scale by breaking up large facades with
smaller scale elements. Doors and windows are clearly expressed as meaningful parts rather than holes in the skins of the buildings. Building materials of similar nature are also used so that the common link is again reinforced.
College Athletics

Trends and Attitudes in College Athletics

Athletics have always played an important role in the image of a college. They help create a feeling of community within the school by involving all students in some manner. Inter-school rivalries have always existed and many schools are noted mainly for their achievements in sports.

Until the last decade, participation in sports activities on a vast majority of campuses was limited to an elite group; those who possessed unusual athletic abilities. For the majority of students there was little opportunity to get actively involved in sports activities because of the lack of facilities and the lack of emphasis on participation.
But, in recent years the attitudes of students toward taking an active, participating role in athletics have changed drastically. The major trends which have developed in recent years are:

- The students of average athletic abilities no longer want to fulfill the passive role of spectator; they want a piece of the action, a chance to be able to perform while others watch. Hence, there has been a dramatic increase in emphasis placed on intramural sports programs and leisure recreation and also on the facilities needed to house them.

- Women no longer take a "back seat" to men and sports are no exception to the rule. Therefore the programs and facilities being provided are now usually allocated equally between the sexes.

- Universities and colleges now recognize that athletics for everyone are vital to the enhancement of college education and social life.

The result of these changing attitudes is a greater emphasis on providing the programs and facilities which open opportunities for a much increased student participation. This fact is further reinforced by the astounding rate at which athletic
and sports complexes are being built on campuses throughout the country.  

**Trends and Attitudes in Athletics at Lander**

Until recently, Lander College placed no real emphasis on athletics and therefore had no formal varsity or intramural sports programs. But in 1968, Lander took a step toward creating a viable athletic and recreational sports program by hiring an athletic director. The result was Lander fielded its first intercollegiate men's basketball team. In 1969, the first sports and recreation building was constructed on the campus as a temporary source of housing the sports activities of the school.

Since these initial steps were taken, the number of educational and competitive sports programs have been broadened. The varsity sports program, which is part of the NAIA District #6, now includes four men's and three women's sports. Intramural sports are offered for both males and females in five areas. An opportunity for students to major in Health,
Physical Education, and Recreation (HPER) has also been included in the educational curriculum.

With increased student interest shown in the student survey and anticipated expansion into other sports the need for a new recreation center to fulfill the needs of these new programs is apparent.
PROGRAMMING
Problem Definition

Design Issues

Three major issues were considered in defining the problem dealt with here:

- the creation of a facility which satisfies the needs of the athletic, physical education and recreation programs which currently exist and of those to be added in the future
- the design of a facility which complements and reinforces the architectural style created in the new buildings on the campus
- the promotion of spectator interest in athletics in an effort to gain increased participation.
Programming

Program Development

The program for this facility was developed primarily from one received from the athletic director of Lander College. It was written to accommodate a maximum future enrollment of 2500 students.

The programming process included:

- Defining the goals and activities of each athletic and recreation program,
- Conducting a student survey to determine where student interests lie,
- Investigating case studies of athletic facilities on campuses with similar student enrollments.
Program Definition

Definition of Athletic Program and Goals

Four basic programs, in which students may participate, exist at Lander. They are:

Leisure Recreation

- All activities are open to all students.
- The goals are those set by the individual.

Intramural Sports

- Sports played at the intramural level, for both men and women, will include: softball, basketball, volleyball, soccer, football, water polo, tennis, badminton, racket ball, and handball.
- The goal is to create student interest in sports by introducing the incentive of competition between students.
Varsity Sports

- Open to selected participants only.

Sports played at the intercollegiate level will include basketball, volleyball, tennis, golf, swimming, track, baseball, soccer, wrestling, and gymnastics.

- The goal is to create a sense of student spirit and unity on campus as well as within the Greenwood community.

HPER (health, physical education, and recreation) Program

- Activities within the program are open to all students who enroll in the HPER major or classes which are offered.

- The goal is to offer interested students a chance to become proficient in skills which are taught.

Student Survey

A student survey was conducted to aid in determining special requirements needed within the facility. Goals of the survey were to:
define the area where student interests lie,

- assess the needs for additional sports programs,

- determine the level of student participation within individual programs.

The result of the survey may be found in Appendix A.

**Case Studies**

To define the areas needed for each activity, case studies were conducted for schools with characteristics similar to those at Lander College. Ratios of activity or support areas to student enrollment were derived and used as indications of the amount of space needed for activities within this facility. Case studies may be found in Appendix B.
PROGRAM
Central Core

Design Considerations

- Should be centrally located in the facility, with activity areas clustered around it.

- Access to all activity areas from lockers should be quick and direct, avoiding the use of ramps and steps to reach any activity area.

- Common equipment and check-out areas.

Special Considerations

- Control of access to locker and playing areas is of major concern so that theft, vandalism, and unauthorized use of the facility is minimized.
Functional Analysis

Spatial Requirement

<table>
<thead>
<tr>
<th>Support Areas</th>
<th>Square Footage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men's student lockers (448)</td>
<td>1800</td>
</tr>
<tr>
<td>Men's staff lockers (56)</td>
<td>600</td>
</tr>
<tr>
<td>Women's student lockers (448)</td>
<td>1800</td>
</tr>
<tr>
<td>Women's staff lockers (56)</td>
<td>600</td>
</tr>
<tr>
<td>Equipment check-out room</td>
<td>2000</td>
</tr>
<tr>
<td>Laundry</td>
<td>400</td>
</tr>
<tr>
<td>Check room</td>
<td>100</td>
</tr>
<tr>
<td>Training room</td>
<td>1000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Activity Areas</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Gymnastics</td>
<td>2000</td>
</tr>
<tr>
<td>Modern Dance</td>
<td>1500</td>
</tr>
<tr>
<td>Handball (6 courts @ 800)</td>
<td>4800</td>
</tr>
<tr>
<td>Combative Sports</td>
<td>2000</td>
</tr>
<tr>
<td>Weight training</td>
<td>1200</td>
</tr>
</tbody>
</table>

19,800
Offices and Classrooms

Design Considerations

- Zoned away from noisy activity areas.
- Classrooms and offices zoned separately.
- Common office area with separate HPER and Athletic departments.
- Offices should have views.
Functional Analysis

Spatial Requirement

**Athletic Department**
- Offices (6 @ 140) 840
- Secretary/Reception 150
- Work area 150
- Storage 100

**HPER Department**
- Offices (7 @ 140) 980
- Secretary/Reception 150
- Work area 150
- Storage 100

**Other**
- Conference room 320
- Toilets -
- Lounge 240

Sub-Total 3180
Classrooms

Lecture room

Classrooms (2 @ 500)

Sub-Total 3180

1500

1000

5680
Gymnasium

Design Considerations

- Easy access from locker areas.
- Access to outdoor activity areas.

Special Considerations

- Should be able to accommodate varying sports and/or multiple classes at one time.
Functional Analysis

Spatial Requirement

Square Footage

Floor area
16,000

Storage
500

16,500
Natatorium

Design Considerations

- Locker rooms should have direct access to pool area so that circulation across corridors is eliminated.

- Line of sight for spectator seating must be carefully considered, with seating running the length of the pool.

Special Considerations

- Humidity and noise control.

- Manner of maintaining lighting fixtures.

- Protection of structure against humidity and chlorine.
Functional Analysis

Spatial Requirement

<table>
<thead>
<tr>
<th></th>
<th>Square Footage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pool and deck</td>
<td>12,500</td>
</tr>
<tr>
<td>Pool filter room</td>
<td>1,200</td>
</tr>
<tr>
<td>Filter room storage</td>
<td>300</td>
</tr>
<tr>
<td>Exterior deck</td>
<td>14,000</td>
</tr>
</tbody>
</table>
Arena

Design Considerations

- Building located close to spectator parking.
- Team locker rooms should have quick, direct access to arena floor.

Special Considerations

- Spectator sight lines.
- Mass entry and exit requirements.
### Functional Analysis

- Men's varsity
- Men's visitor
- Women's varsity
- Women's visitor
- Concession
- Men's restroom
- Women's restroom
- Lobby
- Storage

### Spatial Requirement

<table>
<thead>
<tr>
<th>Facility</th>
<th>Square Footage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seating (2800 @ 5)</td>
<td>14,000</td>
</tr>
<tr>
<td>Playing floor</td>
<td>8,000</td>
</tr>
<tr>
<td>Storage</td>
<td>2,000</td>
</tr>
<tr>
<td>Public toilets</td>
<td>-</td>
</tr>
<tr>
<td>Concessions</td>
<td>500</td>
</tr>
<tr>
<td>Men's varsity lockers (35)</td>
<td>1,000</td>
</tr>
<tr>
<td>Men's visiting lockers (25)</td>
<td>800</td>
</tr>
<tr>
<td>Women's varsity lockers (35)</td>
<td>1,000</td>
</tr>
<tr>
<td>Women's visiting lockers (25)</td>
<td>800</td>
</tr>
</tbody>
</table>

Total: 28,100
SITE INFORMATION
Master Plan

Upon becoming a state supported school, Lander College was faced with the task of controlling and planning the tremendous growth of student enrollment and the development of the campus. The master plan attempts to combine the old and the new while retaining the character of the old. It also sets up a pattern in building arrangement which would create a campus which functions better and more efficiently, rather than having a random building pattern as in the past.

"The Development Plan calls for the creation of a cluster campus, with some characteristics of a linear concept. The buildings occupy generally the higher elevations of the southern half of the campus. A pedestrian mall and several plazas and courts would link all buildings at grade level. A new primary entrance is located at the intersection of Lawson and Sproles Streets. Construction of new buildings fit in
between existing structures and the cluster concept links existing and new construction. Open space is retained around the cluster as a buffer and to provide contrast with the "urban" character of the mall. Parking would be provided on the periphery of the campus, and Sproles Street would be closed to eliminate traffic through the campus. Athletic fields occupy the northern half of the campus. Housing clusters are provided along the stream in the north end of the campus."

The master plan proposes that the physical education and recreation programs be utilized as an important factor in generating a sense of identity with the college in the commuter students and a sense of unity between commuter and resident students. The facility is therefore placed on a major pedestrian circulation route and near the center of the campus. Because of the nature of the activities inherent in an athletic complex, some degree of separation from the academic campus is necessary. However, by no means should the facility be isolated from the mainstream of campus activity.
Hence it has been placed in close proximity to the student center.
Concepts

Site Concept

As in the master plan, a student street is to be formed in the academic area of the campus. It can be seen in the site plan that the proposed facility will be located at the northern most point of the student street. The concept is to design the lobby of the recreation center as a major focal point on the street. By limiting access from the lobby, except at the entrance, it will act as an end point or terminator of the student street.

Building Concept

The concept for the building was to zone the different areas of the facility onto three separate floors.
The office and classroom areas are on the upper level above noisy activity areas.

The lobby, which is an extension of the student street, acts also as a viewing deck to major activities in the building. Students, as well as spectators of the events held in the arena, become visually aware of the athletic activities in an attempt to increase interest and participation in sports.

Located on the activities level is the central core and all playing floors. Assess is then easily controlled by placing a check area at the foot of the major vertical circulation spine of the building.
Architectural Statement

The architectural character of the center intends to compliment and reinforce the style of the new buildings on campus. The manipulation of mass and void as simple, direct expressions of meaningful parts can be seen in the use of the fire stairs. The stairs, being voids, are used to separate the masses of the activity areas. The large facades of the arena and gymnasium are broken up by shifting the planes of the walls.

The introduction of a new element, a sloping roof, also appears. The design issues which determined the sloping natatorium roof were:

- the need to allow afternoon sun coming from the west to reach the exterior pool deck,
an attempt to define the natatorium as an element whose activities are different from those contained in the rectangular arena and gymnasium masses,

an attempt to lower the height of the natatorium since it was placed on the sloping area of the sight.
SOLUTION
a recreation center for lander college

a terminal project submitted to the faculty of the college of architecture, clemson university, in partial fulfillment of the requirements for the degree of master of architecture

april 20, 1978

analysis & concepts
classroom & office level 667’
floor plan

- Gymnasium: Supply air from upper part of mechanical spaces; return at lower part.
- Arena: Supply air from each corner; return below upper seating.
- Lobby: Supply air from upper part of mechanical spaces; return at lower part.
- Natatorium: Supply air from mechanical area above seating; return below seating.
- Classrooms: Supply and return air ducted to each room.
- Offices: Supply and return air ducted to each room.
- Mechanical level: 627'
sections
framing plans

- steel beam
- rigid steel frame
- pre-cast concrete beam
- p.c. conc. double tees
- foundation steel beam
- bar joist
- column
- roof

667'

654'

639'
aerial

lobby

perspectives
APPENDIX A
To the students:

This survey is being conducted to gather information which will be needed to program and design a proposed recreation center for Lander College.

Sex: Male Female
72 107

57 42 41 37 1

Do you now participate in any kind of sports activity? If so, check which of the following in which you participate. Yes 142, No 37

Leisure recreation 114
Intramural sports 68
Varsity sports 22

If physical education classes were not required at Lander, would you still participate in any type of recreational or sports activity? If so, which of the following. Yes 161, No 18

Leisure recreation 127
Intramural sports 94
Varsity sports 30

When a new sports and recreation facility is built at Lander, in which of the following sports would you participate?

Basketball 89 Judo 25
Tennis 114 Karate 56
Volleyball 75 Fencing 16
Badminton 56 Self-defense 50
Handball 49 Modern dance 47
Racketball 49 Gymnastics 60
Weight training 46 Swimming 141
Squash 17 Other 6
Wrestling 20

Do you now attend intercollegiate sports events when they occur at Lander College? Yes 137, No 42

During which hours do you feel you would use this recreation facility?

<table>
<thead>
<tr>
<th>Time</th>
<th>Attendance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morning</td>
<td>23</td>
</tr>
<tr>
<td>Afternoon</td>
<td>111</td>
</tr>
<tr>
<td>Evening</td>
<td>116</td>
</tr>
</tbody>
</table>
Francis Marion College Center
Francis Marion College, Florence, S. C.
Student enrollment: 2,681
Floor area: 100,000 sq. ft.

- The lockers are zoned in one common area making access to playing areas easy and convenient. In a similar manner, offices and classrooms are also grouped in one part of the building.

- One major entrance lobby has been used which makes control of circulation into the building easy in that one control point is required at the entrance to this lobby.
Pembrook University Physical Education Center
Pembrook University, Pembrook, N.C.
Student enrollment: 2,183
Floor area: 80,000 sq. ft.

- A well organized floor plan designed around a central core concept.
- All locker rooms and playing floors are located on the same level making circulation to playing areas quick and direct without having to use stairs.
- Classrooms and offices are located at the front of the building eliminating circulation through other areas to reach these functions.
- The locating of a major and minor entrance on the front of the building may make control somewhat harder.
Access from locker rooms to playing areas is complicated, in some cases circulating through stairs is required to reach playing areas.

Control of people coming into the building is good by placing the reception and check point at the main lobby.

Locker rooms are scattered throughout the building instead of being placed in a common cluster.
St. Andrews Physical Education Center
St. Andrews Presbyterian College,
Laurinburg, N. C.
Architect: A. G. Odell & Associates
Student enrollment: 1,063
Floor Area: 70,000 sq. ft.

- Lockers are grouped in one common area with activity areas grouped around them.
- All activity areas are located on the same level, eliminating the need to use stairs.
- Location of the gymnasium on the interior of the building may present problems during mass entry or exit situations as circulation routes are through corridors.
REFERENCES
References

Footnotes


Bibliography
