A CHAPTER HOUSE FOR
ZETA NU OF SIGMA NU FRATERNITY

AT
BOZEMAN, MONTANA

Undergraduate Thesis in Architectural Design

By
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Submitted to the School of Architecture as partial fulfillment of the requirements for the degree of Bachelor of Architecture

at
Montana State University

Bozeman, Montana
March, 1970
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THE CLIENT:

The client for this design project is Zeta Nu of Sigma Nu Fraternity. "Sigma Nu is a group of college men...organized to govern themselves with the high ideals and noble purposes of fraternity, seeking individually and collectively to use honor as a goal and test for every action". (12, 1964; 9)

The present active membership is 56, and there are 11 pledges. Each of these men is diversified in interests, curriculum, likes and dislikes. This diversity is fused by a term called brotherhood.

Sigma Nu's purpose is "that laid on the foundation stone of honor, intellectual achievement, character, and social development might be attained to the end of making each of us better men and citizens". (7, 1967; 1) New facilities should strive to help fulfill this purpose.

National history of Sigma Nu started in 1869 when James Hopkins, James Riley, and Greenfield Quarles organized at Virginia Military Institute in Lexington, Virginia. Many of the traditional aspects of the fraternity can be traced to the cultural, chivalrous, and gentlemanly inheritance of Virginia.
Presently there are 143 functioning chapters across this country and in Canada.

The history of Zeta Nu of Sigma Nu started on April 11, 1947, when the Gamma Phi colony was founded. The sponsoring chapter was Gamma Phi of Sigma Nu located at the University of Montana. In November, 1950, the colony moved into their present location at 11 West College. Two years later on February 2, 1952, they received their charter as chapter 128 in division number 25.

In 1963 the Greeks collectively wanted an area in which they could build their future homes. Figure 1 is a drawing of a proposed Greek Way which was used as an argument for such a place. In 1965 the surveyor used this plan when he subdivided the land into lots.

In Figure 2 the Greek Way Subdivision can be seen in relationship to the proposed campus plan for Montana State University.
PROPOSED GREEK WAY SUBDIVISION

SCALE: 1" = 136.3'
MAP BASED ON AIR PHOTO

FIGURE 1
PROPOSED MSU CAMPUS PLAN

FIGURE 2
CONDITIONS
CREATING A NEED

BACKGROUND
SLEEP-STUDY ROOMS
TOILET FACILITIES
STORAGE
DINING ROOM
KITCHEN
LIVING ROOM
MEETINGS
PARTIES
LAUNDRY
CONDITIONS CREATING A NEED:

Twenty years ago the colony of Gamma Phi moved into the remodeled carriage barn of the Nelson Story mansion. This is the present location of the Sigma Chi Fraternity House. An addition was attached to serve as a boarding house by a private interest. After this addition was completed, Gamma Phi occupied and started paying on the lot and building.

The house has a capacity of 30 men. This is accomplished by having seven, four-men rooms with the president and vice-president in the eighth room. The studying and sleeping rooms are on two floors. Each member has a dresser, desk, bookcase, and a bunk bed. These items are within one room which eliminates a common sleeping area. Each quarter the roommates and arrangements of a room change.

Each floor has one bath with one toilet, two wash basins, and one shower. Mornings and date nights are hectic.

Storage for both the members and the house is extremely limited. Most of the rooms have an iron pipe clothes rack in the room. Kitchen storage is under the front staircase or
in the furnace room.

The dining room is capable of serving 40 persons at four tables. Any excess during rush or when a sorority comes for dinner flows up into the living room. The kitchen facilities are minimal with two of the three refrigerators out in the dining room. After a meal there are no showers as the water is needed to wash the dishes.

Above the kitchen and dining room is the living room. The living room is in two parts with a cantilevered walkway connecting them. This provides a balcony and an open space above the center of the dining room. These areas are very small with low ceilings. They have a very warm homey feeling. The guys play cards, listen to the stereo, or watch television and entertain guests in this area.

There is no room for a chapter meeting. Both the active and pledge meetings take place at the Student Union Building. Any house parties or functions are held in rental facilities around the country. This is excluding keggers which take place in nonrental areas.

Since there are more members than available space in the house, it usually works out
that sophomores, juniors, and senior officers live in the house. Freshmen by college rule cannot live off-campus. The rest either live at home or in apartments. Because no liquor is allowed in the house or at a function, these apartments serve as places for pre-functions and post-functions.

The ladies restroom was remodeled two years ago to include a washer and dryer. It is necessary to walk through the living room to get to these facilities.

Since the present facilities fail to fulfill the physical, social, and psychological needs of a fraternity, it is quite evident that a new facility is needed as soon as possible.
SITE CONDITIONS

CLIMATE
SUN ANGLES
ORIENTATION
ADJACENT ENVIRONMENT
VIEWS
TOPOGRAPHY
SOIL ANALYSIS
UTILITIES
LEGAL RESTRICTIONS
TRAFFIC PATTERNS
SITE CONDITIONS:

Bozeman's climate is mild and dry with an average mean temperature of 43 degrees Fahrenheit. (1, 1970; 1) The following seasonal data indicates the climatic conditions of the area:

<table>
<thead>
<tr>
<th></th>
<th>Temperature</th>
<th>Rainfall</th>
<th>Snow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring</td>
<td>41.2°F</td>
<td>5.50 in.</td>
<td>23.6 in.</td>
</tr>
<tr>
<td>Summer</td>
<td>63.0</td>
<td>5.26</td>
<td>1.0</td>
</tr>
<tr>
<td>Fall</td>
<td>44.4</td>
<td>4.02</td>
<td>12.1</td>
</tr>
<tr>
<td>Winter</td>
<td>23.1</td>
<td>2.51</td>
<td>37.2</td>
</tr>
</tbody>
</table>

(11, 1941; 32)

Extreme temperatures occur during the winter and summer months with radical changes occurring over a short period of time. High winds are not common, but generally mild winds from the southwest are experienced. Storm winds are generally from the east.

The growing season is approximately 107 days with the first killing frost about the 15th of September and the last about May, 28. (1, 1970; 1)

Angles of the sun vary from a high of approximately 68° in the summer to a low of approximately 19° in the winter. (11, 1947; 7)

The fraternity is presently paying on lot #8 of the Greek Way Subdivision. For orientation, this area is approximately six blocks from the Student Union Building in a
southeast direction. (see Figure 2) The Sigma Nu lot is roughly trapezoidal in shape with the bottom face, the front of the lot, curved outward and facing west. (see Figure 3)

The site is located in the center of the Greek Way Subdivision and as such will eventually be the only one completely surrounded by other Greek houses. (see Figure 1) To the northeast is the Kappa Delta Sorority, the only builders on Greek Way. The rest of the lots, as the site, stand empty with no visual definition between the lots. There is no vegetation except for an assortment of weeds and grass on the whole subdivision.

To the north, the city of Bozeman is located. The view is residential and western with the Bridger Mountains providing the backdrop. The University's letter "M" is located on these mountains.
To the east lies a shallow valley with scattered residential areas developing. A small plateau rises above this area.

Looking east

To the south are cultivated fields dotted with homes. Behind these fields and wrapping around to the east are the foothills of the Gallatin Range.

Looking south

To the west is land utilized by the Montana State University Agricultural Department and the football practice fields. The distant view, 30 miles away, is the Spanish Peak Wilderness area with the Field House dome off to the immediate right.
Looking west

For the topography the site has a uniform slope running from west to east. The drop is approximately 11 feet with no dips or irregularities across the site. (see Figure 4)

The following data will explain the soil composition of the site:

0 - 10 inches, dark grayish-brown silt loam of laminated or fine-granular structure.

10 - 16 inches, light grayish-brown silt loam containing streaks of organic matter. The material is coarsely granular and has an indistinct prismatic structure.

16 - 24 inches, structureless non-calcareous light brown silt loam.

24 - 36 inches, friable and porous gray very fine sandy loam containing light-colored streaks of line. The material in this layer is very calcareous.

36 - 72 inches, structureless cal-
COUNTOUR MAP
CULTIVATED

FIGURE 4
Utilities for the site are readily available. Adjacent to the site along Greek Way are the sewer (see Figure 5) and water (see Figure 6) lines. These already have lines to the property line. Gas can be utilized from the six inch line along South Third Avenue. (see Figure 6) Electrical lines and telephone cable are also along South Third Avenue, which is east of the site. (see Figure 5)

Bozeman follows the Uniform Building Code for all buildings. Greek Way Subdivision is classified as an "AA" zone and, as such, must adhere to the stated regulations of the Zone Requirement chart, Appendix "A". There is one exception to this in that fraternity and family houses follow the setback requirements of an "A" zone.

Major car traffic from town will be on Willson Avenue, a primary arterial street running north and south. (see Figure 7) Traffic from campus will probably run along South Third Avenue or along Hagy Boulevard from South Third Avenue. (see Figure 7)

Pedestrian traffic to campus more than
SEWER LAYOUT MAP
ELECTRICAL LINE PLACEMENT
TELEPHONE LINE PLACEMENT

FIGURE 5
WATER LAYOUT MAP
GAS LINE PLACEMENT

STA. 0+26 TO 11+38
PLACE 1112 L.F. 6" C.I.P.

STA. 3+26 PLACE 45° BEND
likely will be through the Kappa Delta parking lot, down South Fifth Avenue to Grant and on to campus. (see Figure 8)
PEDESTRIAN TRAFFIC MAP

FIGURE 8
FUNCTIONS OF THE BUILDING

CHAPTER HOUSE
LIVING ROOM
DINING ROOM
KITCHEN
CHAPTER ROOM
SLEEP-STUDY AREAS
TOILET FACILITIES
REC-ROOM
STORAGE
SPECIAL CONSIDERATIONS
OUTSIDE AREAS
FUNCTIONS OF THE BUILDING:

The function of this building is to be a home for a group of male college students. As such, they will study, eat, sleep, relax, socialize, and hold meetings. The house is expected to be a center for their activities.

The living room will be used for entertaining, relaxing, as well as, a gathering place before a meal. This will be the formal area of the house. By furniture arrangement, smaller intimate areas should be attempted in which different activities such as card playing or watching television could be taking place. This formal area should have a strong masculine mood. Accessible from the living room will be a small ladies' powder room.

The dining room is another area in which a masculine mood should prevail. The average capacity of this area will be between 40 and 50 men. The dining room will also be used for parties, the main activity being dancing. For this reason there should be an area into which these activities could expand.

Off the dining room of necessity will be the kitchen. This should be of adequate
size to cook for fifty men regularly. The kitchen will need space for preparation, dishwashing, and storage. Food storage next to the kitchen should include both a food freezer and a dry food area. Near this area will be a service entrance and a small lavatory.

The Chapter Room should be large enough to seat 70 to 80 men if necessary. This room is used once a week so its use is limited. As such, this area would best be used as an expansion area off the dining room. There is a traditional way in which the seating is arranged. Closet space is needed for storage of ceremonial and traditional articles. Special consideration for this area will be lighting and ventilation.

The sleep and study habits of each member are bound to be different. Therefore, the design of the sleep-study area should attempt to separate them. Also with the trend of allowing girls into the dormitories at certain hours, having them separated would eliminate a lot of problems. It is desirable that four men rooms be used as in the existing facilities. With ten such rooms and the president and vice-president in an eleventh room, this makes a house of 42 men.
Each man will have his own desk, a closet, a dresser, and a sleeping area. Besides the individual study areas provided in these rooms, there should also be at least two other study rooms; one in which sinks and blackboards could be installed for group studying or working on projects and the other as a guest room which could be converted into a study room with facilities for a campus television installation.

Depending on the design and closeness of the rooms, toilet facilities should be sufficient to take care of the 42 men living in the house. Each man should have a storage compartment for his toilet articles and towels in such an area. Separate but accessible from the sleep-study area should be located a laundry room with two sets of washers and dryers.

The recreation room will be an informal area of the house. Here space should be provided for pool tables and table tennis. This area will serve as a gathering place for the men and their dates. Many times after a campus program or local show the men need a place to go. This is especially true for the men under 21. A fireplace would be desirable in this area. This room would also serve as a place for the weekly pledge meeting.
Storage areas for trunks, suitcases, yard equipment, house cleaning equipment, and sports equipment will be needed. Some of this area may be accommodated in the mechanical room.

Entrance into the house, in addition to the front door, should be facilitated by a back door, which would lead to the study rooms without going through the living room.

Another special consideration will be an area to dispatch and receive mail.

According to codes, the house should provide 42 off-street parking spaces. The only other special outside area will be a barbecue area.
A fraternity house presents a unique opportunity to produce a significant building. The expression and interrelation of the various spatial needs should result in a forceful positive statement of a contemporary fraternity image. The grand fraternity houses of the past did this in their day; a feeble attempt to reproduce their style today would be an unfortunate chronological misplacement. To be valid, today's house must be a contemporary building and incorporate the best of current thinking and technology.
ECONOMIC
CONSIDERATIONS

HOUSE CORPORATION
PROPERTY
BUDGET
CHAPTER PROPERTY FUND
ALUMNI ASSOCIATION
FINANCING
NATIONAL FRATERNITY
ECONOMIC CONSIDERATIONS:
The Zeta Nu of Sigma Nu house corporation is the legal body of the house. This corporation is composed of alumni who live in the area. Because of the turnover of members each year it is necessary to have such a body to conduct long range plans and business of the house.

The house corporation owns the present facilities at 11 West College. Since 1965, payments have been made on lot #8 of Greek Way Subdivision. Both the lot and improvements are on a twenty-year contract maturing in 1985. The following table will explain the present situation of the site and improvement costs:

<table>
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<tr>
<th>Item Description</th>
<th>Principal</th>
<th>Current Balance</th>
<th>Annual Payment</th>
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</thead>
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<tr>
<td>A. Original Purchase</td>
<td>$80,432.25</td>
<td>$66,745.56</td>
<td>$615.86 (5% Int.)</td>
</tr>
<tr>
<td>B. Special Improvements</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(City of Bozeman)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Original Water</td>
<td>4,310.30</td>
<td>3,232.65</td>
<td>365.50</td>
</tr>
<tr>
<td>Balance: Paving</td>
<td>7,191.76</td>
<td>5,357.55</td>
<td>602.90</td>
</tr>
<tr>
<td>Lighting</td>
<td></td>
<td></td>
<td>15.51</td>
</tr>
<tr>
<td>C. Gallatin County Tax</td>
<td></td>
<td></td>
<td>153.76</td>
</tr>
<tr>
<td>TOTAL</td>
<td>$20,045.31</td>
<td>$15,264.76</td>
<td>$1,756.53</td>
</tr>
</tbody>
</table>

Items "A" and "B" are paid annually at the fixed amounts specified above. Item "C" will change each year as property values
and mill levies increase. In the past year, this increase has been approximately 7% per year.

The house is run on a financial budget with a gain of $2,000.00 per year as a goal. This profit is placed into a savings account.

Another way in which the house is putting money away is through a National program. Each member pays into this Chapter Property Fund which the National keeps for the house.

Actual financing of building a future home is presently being considered by the house corporation and the alumni association. Some of the possibilities include loans, bonds, and donations. The National Fraternity is appreciative of our problems and is willing to help, but the action must originate from the active chapter.
SUMMARY
SUMMARY:

The question was advanced as to what is the trends in fraternity life in relationship to the future university system?

On a National scope, the number of students pledging fraternal organizations is growing but not in proportion to the number of students enrolling in colleges and universities across the United States.

The Greek system appears to be dying on those larger university campuses where the university is able to provide the environment for which today's student is looking.

Generally speaking, the Greek system is stronger on small scale campuses where the Greek organizations have an opportunity to add to campus life. Montana State University is such a place. As long as fraternal organizations can be supplementary to the educational process, they will exist.

Today the challenge lies within the fraternity organization itself. The fraternity must realize its obligations and change to provide the educational, cultural, and social stimulation that today's student is seeking.
The design and interrelationship of the various needs in this building has resulted in a favorable environment conducive for individual development. It is now up to the fraternity both collectively and individually to use the design towards a meaningful college experience.

Designed for today's active college man, this chapter house makes use of various living levels in which the activities of fraternity life can take place both on a small and large scale. The design maintains its traditional aspect of an organized living group; but, looking into the future as to wants and needs, areas are provided for the chapter house to become a social center for the members, providing facilities for entertaining women and for social drinking when the present restrictions are lifted.

Zeta Nu Chapter of Sigma Nu Fraternity looks forward to the time when a building program will be initiated. The design and written portion of this thesis are meant to be stepping stones on which permanent plans may be based.


8. Mountain States Telephone. Interview.


