### SUMMARY OF LABORATORY TEST RESULTS

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<th>MOISTURE CONTENT</th>
<th>DRY DENSITY</th>
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<td>6-7½</td>
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### SOIL CONDITION

The soil types shown in the previous pages are very typical soils for this area. All soils are perfectly suited to build upon.
SITE AREA

DRAINAGE PATTERN

CITY WATER

STORM & SANITARY SEWERS

STEAM BLDG

EXISTING PIPES

CANAL

TOPOGRAPHY CONTOURS

Spot Elevations

PROPERTY LN.
1. Primary service to the project site will be from Geisendorff Ave.
2. Primary pedestrian traffic will be through U.S. Open Clay Courts.
3. Present pedestrian traffic is shown
**PLANTING SCHEDULE**

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<tr>
<th>AREA</th>
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<th>67JS</th>
<th>AREA</th>
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**KEY**

- Ap - Bottlebrush Buckeye
- Cw - Winter Hawthorn
- Ea - Dwarf Winged Spindletree
- Jk - Kallay Juniper
- Fs - European Beech
- Fm - Marshalls Seedless Green Ash
- Gg - Green Glory Honeylocust
- Hc - Centennial Sixty-nine Daylily
- Hf - Fairy Wings Daylily
- He - Empire Daylily
- Hg - Hosta grandiflora
- Hq - Oak leaf Hydrangea
- Js - Sargent Juniper
- Mb - Bobwhite Crabapple
- Mf - Japanese Flowering Crabapple
- Mi - Lemoine Crabapple
- Md - Snowdrift Crabapple
- Pn - Austrian Pine
- Qr - Red Oak
- Qs - Schumard Oak
- Tw - Wards Yew
- Vp - Common Black Haw
- **Existing Waterways**

- **Existing School Buildings**

- **Proposed Building**

- **Factory Buildings**

- **Low Noise Areas**
  - Some noise from tennis courts
  - Some noise from access road

- **Moderately Noisy Areas**
  - Parking areas are primary cause

- **Highly Noisy**
  - Arena & Factory noises
<table>
<thead>
<tr>
<th>CLIMATIC DATA</th>
<th>JANUARY</th>
<th>FEBRUARY</th>
<th>MARCH</th>
<th>APRIL</th>
<th>MAY</th>
<th>JUNE</th>
<th>JULY</th>
<th>AUGUST</th>
<th>SEPTEMBER</th>
<th>OCTOBER</th>
<th>NOVEMBER</th>
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<td>16</td>
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<td>½</td>
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<td>0</td>
<td>½</td>
<td>1</td>
<td>12</td>
<td>23</td>
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<td>0</td>
<td>½</td>
<td>½</td>
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<td>3</td>
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<td>67°</td>
<td>71°</td>
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<td>147</td>
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<td>2.36&quot;</td>
<td>2.38&quot;</td>
<td>1.94&quot;</td>
</tr>
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</table>

**DESIGN DATA BASED ON SUN & WIND PATTERNS:**

1. **Wind Strongest in Winter** - Coming from N.W. & S.W.
2. **Breeziest Part of Day is Afternoon.**
3. **Winter Windbreak To West Is Desirable.**
4. **Avoid Planting Structures That Block N.E. Breezes in Summer.**
5. **Max. Wind Force Will Not Exceed 50 MPH.**
ENVIRONMENT

PHYSICAL The present areas to the Southeast and Southwest, of the building site to few if any aesthetic qualities. Future plans by IUPUI show the southeast area to be primarily academic. The other area Southwest of the site will primarily be used for a pedestrian monorail system. Expansion of the present athletic facilities will be to the West.

I have chosen to deal only with the immediate project, that is, a multi purpose activities center. The site analysis will therefore include important information about surrounding buildings, since they will remain there for quite some time.

SOCIAL/EMOTIONAL When speaking of a sports center in the urban context one immediately becomes excited. For years the urban environment has deteriorated and sports centers have moved to the richer more elite suburbs. Indianapolis is now privileged to pilot a new movement, a movement which certainly will create a healthier environment and bring new hope to innercity Indianapolis.

EDGE CONDITIONS

All edges of the building are defined. The South boundary is defined by the parking lot and six asphalt courts. The West boundary consists of six pneumatic covered clay courts which eventually tie into the building. The northern boundary is defined and determined by the pedestrian concourse. The Eastern boundary will be determined by the amount of space allotted for the bleachers facing court #1. The steam building may or may not be incorporated in the activities center.

SPECIAL CONSIDERATIONS

1. Beware of building shadows on the tennis courts.
2. Beware of wind patterns on the tennis courts.
3. Provide protective path shelters from activities center to sports arena
4. Provide protective path shelters from activities center to pneumatic covered clay courts.
5. Provide direct access from the bleacher area around court 1 to activities center.
Present Site Context

- Blake Street
- Site Location
- York Street
- Railroad Tracks
- Acme Evans
- Livingston Street
- White River
- Washington Avenue
- Engineering School Parking
- Law School
- Blackford Street
- Access Road
- Canal
- Oil Storage
- E.Z.Bake Flour
- IPALCO

North
Views From the Site

IPALCO

Contractor's Trailers

Storage Bins

Foundry
IMAGE OF THE BUILDING

The image of the building should be reflective of the positive qualities found in surrounding buildings. It should also reflect an image of the true athlete as well as a newer image of the combination athlete and socialite. It should carry this personal image accross without becoming too bold and destroying human scale.

IMAGES OF SURROUNDING BUILDINGS

The Law School reflects an image of function and code. On one hand, the structure is undefined, candy coated. Vertical circulation areas are clearly defined from the exterior, however, once inside they become less obvious and much less exciting. The law building describes a perfect prototype of an educational building on IUPUI's campus (red exterior face brick and concrete structure)

The size and shape of the Sports Arena is reflective of its use. Its most unique feature is the use of one material to cover another. Here concrete piers are covered with a metal screen to create a sleek texture unbecoming of a typical structure using only concrete. This quality adds to the users mischief and changes previous conceptual beliefs that all sport arenas are unfinished and bold.

The ACME EVANS E-Z BAKE FLOUR CO. reflects a unique texture. Its form symbolizes its function. Primarily its design is determined by the production process taking place inside. The spaces were completely designed around their function. Since function is its primary concern, there is a certain purity involved in viewing its form. This feeling of purity and simplicity in structure is lost in the other surrounding buildings.

ORIENTATION

IUPUI has centered all its buildings with certain direction. It seems that all campus buildings face main roadways as an advertisement to the passer-by. The Law Building follows suit, however its nicest structural gesture is in the direction of Military Park. Orientation of the Sports Arena is primarily in the direction of Military Park and the canal. Both these views tend to separate the user from the busy inner city confusion he is accustomed to.
SKETCHES OF PROPOSED SPORTS ARENA

WHITE RIVER RECREATIONAL CENTER & (IUPUI)
THE FUTURE SITE

TOURNAMENT CLAY COURTS

SPORTS ARENA

PARKING LOT

PEDESTRIAN PATHWAY

STEAM BLDG.

CANAL

BLEACHERS

DECIDUOUS VEGETATION

EMBANKMENT
THE DESIGN PROCESS
WHITE RIVER RECREATIONAL CENTER @ (IUPUI)
CONCEPTUAL DESIGN

The conceptual design started with several concepts. Most of which are summed up in the objectives. In order to create a clear cut image it became necessary to further define and separate spaces. In both schemes 1 & 2 the separation is evident. The raquetball and squash courts have all been grouped on the West side where as the subordinate spaces such as the lounge and locker rooms have all been grouped on the Eastern side. This separation is also apparent in the section.

The separation in a vertical manor may also be thought of as segregation. This segregation became an important design decision. In a building type such as this it is essential that the user be given some privacy. Therefore the ground floor spaces are considered to be the active, public areas and all spaces such as the control desk pro-shop and lounge support this public, active atmosphere. Above the spaces are again segregated. The upper areas serve primarily as a dining facility. The reason for locating these areas on the second level was to create an atmosphere where all the various players can unite, have a meal, and enjoy themselves away from the vigorous, more public ground level. In short the upper areas convey a private feeling whereas the lower areas convey a public feeling.

A second means of separation was achieved through the use of a diagonal circulation route. In scheme one the diagonal with its recessed viewing areas, defines an axis of separation. In scheme two the diagonal again reappears. This time it serves not only as a separator but also as a means of shortening the distance one has to travel if he wishes to play tennis on the courts located immediately to the North. This means of separation became a central theme.
WHAT WORKED AND WHAT DIDN'T

1) Both concepts use an exterior circulation path as a means of delivering the user to the tennis courts immediately to the West. Concept two is better because it involves a shorter distance. However, concept seems to convey a smoother means of access into the space.

2) Concept one utilizes an exterior expression of vertical circulation which can immediately be perceived from the exterior. This idea seemed a much better solution than those ideas used in concept two.

3) Both concepts unfortunately do not make good use of the East wall, since the bleacher area produced a dead view from ground level.

4) The pro-shop in concept two worked very well from an advertising standpoint. Concept one did not work as well.

5) Concept one was much more open and spatial than concept two.

6) In both concepts it would have been much better to have located the gallery spaces closer to the central portion of the building. Public access would therefore be minimized.

7) The kitchen and storage spaces in concept one function much more efficiently than the kitchen and storage spaces in concept two.

8) Both concepts lacked a formidable entry. Understanding the problems I started developing my design.
DESIGN DEVELOPMENT

Design development is the process whereby one removes all the kink and bugs discovered at the conceptual level. Upon completion of this stage the entire project should be well thought out.

Starting with the floor plans I began reworking areas that needed change or development. It became evident that some form of open area was needed to introduce the user. By repositioning my offices, lounge and pro-shop to the East side and slipped the reception and storage areas in behind, along the viewless East wall, I was able to solve this problem of blind wall space. The service wing then allowed direct access to the pro-shop for supplies and storage space. Furthermore this shift and relocation allowed an open atrium to appear in the central space. Consequently, by repositioning the court areas into a horizontal arrangement, circulation became free and more space was allotted to the atrium. This shift still allowed the diagonal to play its role of easy circulation. Also this shift allowed East and West circulation to function in a much more efficient and direct manor. At the second level, I simply relocated the gallery spaces nearer the center of the building. Access, therefore, became much less troublesome. The kitchen, likewise, needed some adjustment. Since the exterior delivery space was fixed it became necessary to extend the delivery area, inorder to create a connection, into the kitchen which had to be located centrally between the two dining areas. The extention therefore became the areas for cold and dry storage. Thus each dining area was given a view of important tennis courts. The major sacrifice in this refinement occurred in the South dining area where views toward the #1 clay court could not be achieved.
FINAL DESIGN

The final design is simply the time with which one reviews the design development and fills in the gaps, where gaps occur. In my case one overwhelming gap did occur. Somehow my elevations lacked vitality and articulation. At this point I began redesigning the elevations. This was of some help, however, the building still maintained a feeling of being plugged in between the tennis courts to the West and the bleacher section to East. The solution occurred when the building form was allowed to absorb these adjoining areas. By lowering and enclosing the tennis courts to the west and cantilevering a roof over the bleachers, a new image appeared. Clad in white, enamal baked panels, the building accepted a startling new appearance. Further refinements such as utilizing a universal angle and articulating various window units created a much more cohesive package. Often this package represented the functions which occurred behind the wrapper. Ultimately the design reflects an environment which is universal and can accept any man as a member.

The final design phase was concerned with a special study. This phase presents each student with a chance to experiment in some area of interest to himself. I chose to redesign my atrium area. Originally, it contained slightly depressed, rectilinear planter. The central theme behind its location was one of disturbance, something which obstructs circulation therefore causing the user to observe its prominence. The present space definitely needed vitality. The solution was inspired from two sources. The first was by SOM and their design for a plaza in Chicago and the second was my love for plant life. The solution proposed a delightful arena with various nooks for seating combined with a variety of plant life common to Indiana and its immediate environment.
CONCEPTUAL DESIGN

WHITE RIVER RECREATIONAL CENTER @ (IUPUI)
CONCEPT 2
LEVEL
2
DESIGN DEVELOPMENT

WHITE RIVER RECREATIONAL CENTER (IUPUI)
FINAL DESIGN

WHITE RIVER RECREATIONAL CENTER © (IUPUI)
CONCLUSION

Looking back on the past and analyzing, it becomes important to determine what a conclusion really is. In my opinion it becomes necessary to reflect upon areas of study which seem to be either lacking or strong.

I wish that more of my time could have been spent on various study models. The ones designed seemed to be lacking in detail and accuracy, but not in concept and specific intention. Primarily my design was directed in a two dimensional direction. Once the floor plans were assimilated and arranged in a functional manor, the main priority was then to create a fluid external facade. The final design was a two dimensional, paper solution. This solution opposes a three dimensional, model solution which Ball State seems to stress so strongly.

The most interesting part of design occurred in the final quarter. The study consisted of a section perspective and structural isometric. The reason this area of study is important is because I found it important to maintain a human scale within the structure. Obviously, this innerface of two important issues, structure and scale, create an environment which maintains its integrity and comfort from year to year.

All in all the design process remains an unending process. At each decision point it becomes necessary to peel away a deeper level of understanding. The product although still incomplete displays the essence of my design. A design which I feel proud to display.
ACKNOWLEDGMENTS

WHITE RIVER RECREATIONAL CENTER @ (IUPUI)

A special thanks to:
Professor Robert A. Fisher (studio critic).
Professor Robert J. Koester (studio critic).
Professor J. Robert Taylor (outside critic).
Professor John Robert Russel (landscape critic).
Professor Omar Faruque (landscape critic).
Craig Mullins (architect and client).
Charles W. Brown (architect and father).
BIBLIOGRAPHY

Architectural Record V.70 p.127-140, Aug. 1931.
Drawing File, Marc Szabo, Van Nostrand Reinhold Co., 1976

A special thanks to the following:
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The Sports Court Systems for specifications and details.
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