1987
PAN-AMERICAN GAMES
ATHLETIC HOUSING/
POST PAN-AM
UTILIZATION

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EVENTS

The Pan-American Games are an area championship of the International Amateur Athletic Federation. The games are contested by men and women from North, Central and South America, Canada and the Caribbean. The first games were held in February and March, 1951, at Buenos Aires, Argentina and thereafter in a four year cycle.

This amateur championship embraces the following sports events:

Track and Field - running, decathlon, discus, hammer, high jump, hurdles, javelin, long-distance running, long jump, marathon, middle distance running, pentathlon, pole-vault, race walking, relay running, road running, shop put, sprinting, steeplechase, triple jump.

Swimming - free style, back stroke, breast stroke, butterfly, medley relay, individual medley, free style relay, springboard diving, platform diving, synchronized swimming; solo, duet, team.

Waterpolo

Baseball

Basketball

Boxing - mini-flyweight, flyweight, featherweight, light-weight, light welter-weight, welter weight, light-middle weight, middleweight, heavy-weight, light-heavyweight.

Cycling - sprint, scratch, time trials, pursuit.

Road Race

Fencing - foil, saber, epee.

Field Hockey

Gymnastics - all around, horizontal bar, parallel bars, swinging (flying) rings, still rings, pommeled horse, free exercise, vaulting horse, side horse, balance beam, uneven parallel bars, rope climb, club swing, tumbling, trampoline.

Shooting - service rifle, free rifle, bore rifle, small bore rifle, free pistol,
silhouette pistol, rapid fire pistol, center fire pistol, running deer, skeet, air rifle, english match, clay pidgeon, air pistol.

Weightlifting -
paperweight, flyweight bantam weight, feather weight, lightweight, welter weight, middle weight, light heavyweight, heavyweight, super heavyweight.

Wrestling -
paperweight, flyweight, bantam weight, featherweight, lightweight, welterweight, middleweight, light heavyweight, heavyweight, super heavyweight.

Greco-Roman Wrestling -
paperweight, flyweight, bantam weight, featherweight, lightweight, welterweight, middleweight, light heavyweight, heavyweight, super heavyweight.

Rowing -
sculls, oared shell.

Soccer

Polo

Judo -
lightweight, middleweight, featherweight, light heavyweight, heavyweight, open.

Equestrian -
dressage, 3-day event, jumping.

Tennis -
singles, doubles.

Volleyball

Yachting -
snipe class, monotype, lightning class, star class, flying dutchman class, dragon class.

PAN-AMERICAN GAMES
INDIANAPOLIS INDIANA

The International Athletic Federation has chosen Indianapolis, Indiana to host the 1987 Pan-American Games. The state of Indiana is located in the midwestern region of the United States. Indianapolis is the state capitol city and is sometimes referred to as the amateur sports capitol of the world.
The regional center is bounded by Interstate - 65 and a line extending west from I-65 on the north, I-65 and I-70 on the east, I-70 on the south, and proposed Harding Street on the west.

The area is the center of business, finance, and local and state government. It is a showplace for the community which draws business conventions, sporting events, and other activities that generate income and jobs. It is also an area where Indianapolis is expected to feel the greatest impact from the Pan-American Games.
PROBLEM STATEMENT

Whenever major events such as the Pan-American Games take place the vexing question of after use applies. What happens to supporting facilities when the games are over? Who uses them? On what basis? And specifically, is their use sufficiently intensive to justify their construction cost?

Similar issues arise when considering athletic housing for the 1987 Pan-American Games. Where will 6500 athletes be housed? Can new housing be justified, and if so, how can that complex be utilized after the games?

Critics have often pointed with indignation at the cost of such housing projects, especially when public monies are involved. But, in a world growing more urban daily, and in cities where housing is scarce, these various housing complexes are among the best investments that an individual city can make on its future.

Such housing in Indianapolis is justifiable. The economic analysis strategy determined that there is a demand for 300 new housing units in the regional center each year. By the year 2000, the areas population is expected to grow from the present 14,000 to 24,000. Indiana University – Purdue University at Indianapolis (IU-PUI), a growing university with a projected enrollment of 40,000 students poses a need for new student housing/dormitories within the regional center. As Indianapolis strives to become the amateur athletic capitol of the nation, a need also arises for permanent short term housing for annual athletic events.

With a housing project of this type and scale the main concern parallel to sufficient demand is adaptation. How can a successful adaptation from one use to another be achieved, within the complex as well as the community? An attempt must be made to achieve the greatest possible congruence between both types of utilization (Pan-Am./Post Pan-Am.) as well as consider other utilization possibilities in the future.
My thesis focuses on athletic housing for the 1987 Pan-American Games, the need for temporary housing, and how it is to be utilized after the games.

In process, my thesis takes with highest consideration the post Pan-American utilization because this complex will be of principle importance in the development or redevelopment of a new urban district/complex in downtown Indianapolis. In addition, my thesis will provide a tabular survey on the Pan-American utilization. The principle concern of my thesis is to adapt both types of utilization to one another in order to allow the complex to be easily adapted after the games are over and moreover, to allow flexibility for the attitudes and desires of the following generation.
My intent is to provide housing for the 1987 Pan-American Athletes. My goal is to insure a successful solution that will not only meet the athletes housing requirements but will benefit Indianapolis with a stimulating post Pan-Am solution.

In fulfillment of this goal I have developed the following approach:
The first quarter of work will be an analysis of case studies dealing with similar building types followed by site selection and site analysis, finishing with a total program in preparation for the second quarter. The second quarter of study will involve schematic design and preliminary design development. The third and final quarter will be final design development and the formation of final drawings, models, and a thesis book.

1st Quarter

- Building Type Analysis
- Programing

2nd Quarter

- Schematic Design Development
- Site Analysis
- Programing

3rd Quarter

- Final Design
- Programing
- Book
BERLIN OLYMPICS 1936

The Olympic Village was designed by Warner and Walter March. German constructed, it consisted of 160 tile roofed bungalows in the lake district west of Berlin. These bungalows were clustered in concentric arches around a long landscaped outdoor commons.

Each bungalow was like a simply furnished house which accommodated two stewards and 20-24 athletes, two to a bedroom.

The training facilities in the village consisted of a running track, a fully equipped gymnasium and a swimming hall. Other facilities included in the village were a post office, an infermary, a bank, a music lounge, game rooms, a sauna, dining halls, and administrative space.

The village was designed to serve after the games as billet for officers of the German army.
## SUMMARY

<table>
<thead>
<tr>
<th>AMENITIES</th>
<th>(village) post office, infermery, bank, music lounge, game rooms, saunas, dining hall, outdoor commons, running track, gymnasium, swimming pool</th>
</tr>
</thead>
<tbody>
<tr>
<td>POST UTILIZATION</td>
<td>billet for German army officers, amenities and utilization similar to Olympic use</td>
</tr>
<tr>
<td>ADAPTATION</td>
<td>very successful due to similarities in amenities and lifestyle</td>
</tr>
<tr>
<td>IMAGE</td>
<td>pleasant, relaxing, forested landscape, repeated bungalow housing</td>
</tr>
<tr>
<td>SECURITY</td>
<td>both utilizations shut-off from outside</td>
</tr>
<tr>
<td>PROXIMITY</td>
<td>outside of Olympic gametown, must provide shuttle to and from game locations</td>
</tr>
<tr>
<td>CONCLUSIONS</td>
<td>success of complex and adaptation lies in the similarities of utilization. Due to large unit requirements, monotony and regimentation is created. This repeated</td>
</tr>
</tbody>
</table>
The Olympic Village designed by Paul Salomaa was integrated into the rolling terrain and pre-existing road patterns. Trees and landscape were left undisturbed wherever possible.

The simple shaped three and four storey apartment block varied in size making a good example of multi-family housing. On the Finnish model, living units include two or three rooms plus a kitchen and bath. Most have small balconies and cross ventilation. Common amenities included; saunas, meeting rooms, and shops.

It is evident that after-use had been taken into account from the start. The design was to be a permanent, self sustaining residential community after the games.

Due to the cancelling of the games, new housing was constructed for the 1952 Olympic games. Modeled after the 1940 housing, the new units were constructed on an adjacent site. The first 600 units intended to house the 1940 Olympic athletes were used only as residential dwellings.
<table>
<thead>
<tr>
<th>AMENITIES</th>
<th>saunas, meeting rooms, shops</th>
</tr>
</thead>
<tbody>
<tr>
<td>POST UTILIZATION</td>
<td>self-contained residential community</td>
</tr>
<tr>
<td>ADAPTATION</td>
<td>very successful due to design priority placed on afteruse</td>
</tr>
<tr>
<td>IMAGE</td>
<td>generic residential apartment complex, rolling hills and trees</td>
</tr>
<tr>
<td>SECURITY</td>
<td></td>
</tr>
<tr>
<td>PROXIMITY</td>
<td>shuttle ride to games</td>
</tr>
</tbody>
</table>

**CONCLUSIONS** by keeping amenities to a minimum, adaptation takes place with little problem. Lack of common or village space seems to be a negative aspect toward team spirit and/or morale.
The Olympic Village was planned by a large team of architects headed by Hector Velazques. The village consisted of a 5000 unit, brick tower urban complex with various open spaces. The 5000 units sold as condominium apartments after the games.

The village was designed so that the occupants had to mix. They were to come together in the lounges, cafeterias, discotheque, outdoor theater, swimming pool, and in the training facilities located in surrounding landscaped areas. More than previous olympic villages, this village was a city in itself.

During the excavation for the building a prehispanic historical center was uncovered. A wall section and two small pyramids were restored to give that area of the village a historical focus.
### SUMMARY

<table>
<thead>
<tr>
<th>AMENITIES</th>
<th>(village) cafeterias, discotheque, outdoor theater, swimming pool, training facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>POST UTILIZATION</td>
<td>condominium apartments</td>
</tr>
<tr>
<td>ADAPTATION</td>
<td>tower housing works very well for temporary use but somewhat undesirable for longterm use</td>
</tr>
<tr>
<td>IMAGE</td>
<td>small, self contained urban city image is compatible with both utilizations</td>
</tr>
<tr>
<td>SECURITY</td>
<td>secured at building entrances</td>
</tr>
<tr>
<td>PROXIMITY</td>
<td>shuttle ride to games</td>
</tr>
<tr>
<td>CONCLUSIONS</td>
<td>highrise housing works well for short term use but seems somewhat undesirable for long term living. Repitition of towers create monotony and regementation due to scale of project.</td>
</tr>
</tbody>
</table>
MUNICH OLYMPICS 1972

The Olympic Village designed by Heinle, Wischer & Associates with Ekhart & Wirsing, rose to create three walls of highrise apartments linked at their eastern ends to an even taller slab of common facilities.

An urban character was intensively developed between the high rise tiers. Rows of four storey apartment units were arranged almost casually, and the southern perimeter of the site was given over to 800 two storey apartments that made up most of the women's housing.

The women's housing was designed to become student housing after the games and the men's block was to be sold as highly desirable flats. The village was provided with shops, banks, a post office, theater, cinema,
churches, restaurants, an infirmary, information desks, and a contact zone with interview rooms. Mass transit connections were located close by. A pneumatic waste collection system was installed, and across much of the site pedestrian and vehicular traffic was separated. These things contributed to making the village a successful urban community after the games.

Hans Hollein's overhead system of "path-finder" tube media-lines run along streets and squares supplied with neon tubes, loud speakers, rails for panels, hot and cold air vents, and color coded, indicate routes to different areas.
**SUMMARY**

<table>
<thead>
<tr>
<th>AMENITIES</th>
<th>(village) shops, banks, post office, theater, cinema, churches, restaurants, infirmary, information desk, contact zone with interview rooms</th>
</tr>
</thead>
</table>
| POST UTILIZATION | mens quarters sold as highly desirable flats  
                       womens quarters used as student housing |
| ADAPTATION   | not immediately successful due to lack of demand and unresolved adaptation of facility use, long term adaptation - very successful and popular with families |
| IMAGE        | directed more towards olympics but works very well as an urban community |
| SECURITY     | shut off from public only during games |
| PROXIMITY    | walking distance to game sites - new urban district in Munich |
| CONCLUSIONS | split use - student/residential flats help reduce regimentation  
                       large variety of amenities require a lengthy time for successful adaptation |
MONTREAL OLYMPICS 1976

The village was designed by Roger Daston and Lucdurand. Two twin pyramidal forms gave spectators a single architectural image they could remember.

The two off-set structures connect just above grade, rising in continuous set backs to 19 storeys. They include 980 housing units, each with terraces, cross ventilation and a magnificent view. The usual amenities were also present but located across the street in the International Zone. Most training facilities remained behind on the main olympic site.

The two pyramidal forms were over scaled to their park and low-rise surroundings, but it was the use of unprotected exterior walkways that aroused negative criticism. Exterior walkways for access to apartments were used at every level, a practice that is uncommon in a climate where winters are harsh and double-loaded corridors the norm.
Security was the reason given by game officials, who pointed out that surveillance was easier when all horizontal movement through the building could be in full view of those outside.

**SUMMARY**

<table>
<thead>
<tr>
<th>AMENITIES</th>
<th>international zone located across the street from complex</th>
</tr>
</thead>
<tbody>
<tr>
<td>POST UTILIZATION</td>
<td>rich elderly housing in one tower - long waiting list</td>
</tr>
<tr>
<td>ADAPTATION</td>
<td>successful - no village in complex</td>
</tr>
<tr>
<td>IMAGE</td>
<td>directed towards olympics - pyramidal towers give sculptural image</td>
</tr>
<tr>
<td>SECURITY</td>
<td></td>
</tr>
<tr>
<td>PROXIMITY</td>
<td>walking distance to game sites</td>
</tr>
</tbody>
</table>

**CONCLUSIONS** image too strongly related to Olympic games
MOSCOW OLYMPICS 1980

Moscow's mayor said "nothing built for the Olympics will end as a giant waste after the games."
The village built in the southwest suburbs is really a small city. The village residential zone is comprised of 18 block long, 16 storey apartment slabs arranged in six u-shaped clusters that face each other in groups of three across a pedestrian concourse. Built of prefabricated elements, the buildings are identical in their massing. They contain two or three room dwelling units with kitchenettes, bathrooms, built in closets, and balconies.
The repetition of a single high rise form quickly leads to a sense of regimentation.

A few decorative devices - scalloped parapet details and alternating blue and rose colored accents fail to relieve the monotony.
<table>
<thead>
<tr>
<th>SUMMARY</th>
</tr>
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<tr>
<td>AMENITIES</td>
</tr>
<tr>
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</tr>
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</tr>
<tr>
<td>CONCLUSIONS</td>
</tr>
</tbody>
</table>
ANALYSIS CONCLUSION

In this analysis it becomes clear that attempting to complete a project of such scale would be a tremendous undertaking within the given time-frame. It would be more appropriate to provide research suggesting various site locations and housing possibilities. Upon such research the project should be narrowed to one solution which will allow me to explore my thesis in detail, ending with a thorough complete project.
LOCATION OF EVENTS

It is desirable to centrally locate the site relative to event locations in order to minimize transportation time. When determining a centralized location one must consider the post Pan-Am utilization with highest priority as mentioned earlier.

SITE/BUIDING IDENTIFICATION
- Hoosier Dome 1
- Market Square Arena 2
- Natatorium 3
- Track/Field Stadium 4
- Sports Center 5
- Velodrome 6
- Convention Center 7
- Speedway 8
- Eagle Creek 9

GAME LOCATION
- Track and Field 1,4
- Swimming 3

- Baseball
- Boxing 2
- Cycling 6
- Equestrian 9
- Fencing 7
- Field Hockey 1,4
- Gymnastics 2
- Judo 1,2
- Road Race 8
- Rowing 9
- Shooting 9
- Socker 1,4
- Tennis 5
- Weightlifting 1,2
- Wrestling 1,2
- Volleyball 1,2
The assets and opportunities are positive elements on which new growth of the regional center will be based. It is evident that a housing project of this scale will have a major impact on the regional center. Therefore, future goals and opportunities must be considered before as well as after a site is selected.

WHITE RIVER
- proposed for development as a major urban park
- proposed Indianapolis Zoo
MEDICAL CENTER
- largest medical research facility in the state

I.U.P.U.I.
- growing urban university, projected enrollment 40,000
- two practice athletic fields proposed on the north side

AMATEUR SPORTS
- includes the track and field stadium, natatorium, and the Indianapolis Sports Center

INDIANA CAPITOL
- concentration of state government offices
- potential inter-relationship with the canal and the university

HOOSIER DOME & CONVENTION CENTER
- opportunity to develop related uses, hotels, commercial, recreational, entertainment, and parking

SOUTHSIDE INDUSTRIAL

FLETCHER PLACE/GREER ST.

UNION STATION
- proposed as a ground transportation center (passenger trains, bus, taxi, and other vehicles)

CORE
- center of office,

financial, retail, and pedestrian activity in downtown

MONUMENT CIRCLE
- historical architectural landmark
- renovated streetscape for outdoor events

MARKET SQUARE ARENA
- major activity area, city market, Market Square Arena and the City/County Building

LOCKERBIE SQUARE
- historic residential district restored through public and private funds

CHATHAM - ARCH
- historic residential district

WAR MEMORIAL MALL
- significant urban open space, includes historic buildings and monuments

PROJECT H & H-I
- area of a significant resurgence of new housing

CANAL
- potential for development aiding the revitalization of new housing
- lower canal development plan

MIDTOWN
- potential area for development for new commercial and residential facilities
The Regional Center has environmental problems that hinder new growth and development. The Pan-American Housing Project should be utilized or located in an area that will generate new growth and development.

MIDTOWN
- substandard housing and abandoned structures,
- health and safety problems
- deterioration of commercial strip along Indiana Ave.
creates blight and disinvestment in the neighborhood
- lack of recreational space
- area between the university and neighborhood is vacant
- Lockfield Gardens is abandoned

WHITE RIVER
- water pollution
- unsightly river bank

STRING TOWN
- substandard housing and abandoned structures
- hazardous railroad crossings and truck traffic

VALLEY
- substandard housing and abandoned structures

SOUTHSIDE INDUSTRIAL
- uneconomical use of vital area
- warehousing, truck terminals, railroad yards next to residential and commercial areas
- disposed waste on vacant lots, and neglected and abandoned establishments

FLETCHER PLACE/GREER ST.
- residential area without adequate buffering from industrial area
- abandoned structures

DIAGONAL STREETS
- intersections with complicated signalization and increased traffic congestion

NORTHEAST HOUSING
- substandard housing and abandoned structures

CANAL ZONE
- mixed and incompatible land use
- substandard structures
- canal inaccessible for recreation purposes due to poor condition of areas surrounding the canal

CORE
- dispersal and decentralization of some core activities, and population to suburb
This is a very generalized land use plan. Detailed land use plans will be looked at more closely in site analysis.
POST PAN-AM UTILIZATION POSSIBILITIES

STUDENT HOUSING
With the expected growth of IU-PUI to reach 40,000 in the near future, new housing will soon be in demand. Student housing may vary from apartment to dormitory type units. IU-PUI currently does not provide dorm housing but the Pan-Am Games provide an excellent opportunity to do so.

YUPPY HOUSING
Due to the expanding commercial core, a need for young urban professional housing is on the rise.

FACULTY AND STAFF
Due to the growth of IU-PUI campus and the hospital, a need for faculty and staff housing arises.

APARTMENT/CONDOMINIUMS
Condominium housing might possibly be desirable for IU-PUI and hospital staff.

MULTIPLE FAMILY
Families are beginning to move back into the regional center due to revitalization of neighborhoods. Revitalization creates a more desirable place to raise a family.

AMATEUR ATHLETIC
With Indianapolis striving to become the amateur athletic capitol of the United States a need for permanent short-term housing arises. A facility where athletes can come and train or participate in local events and live while doing so is a possibility. The Pan-Am Games provide an excellent opportunity in order to acquire funds for this type of facility.

REHABILITATION
The Pan-Am Games provide an excellent opportunity to initiate rehabilitation of Lockfield Gardens and the Lower Canal Zone.

ELDERLY HOUSING
SITE POSSIBILITIES

MIDTOWN
The midtown site is a vacant housing subdivision bound by North St., Blake St. and Indiana Avenue. A housing project on this site could stimulate much needed redevelopment in the area. The area is zoned for a major university complex, apartments, offices, or research and development uses. The regional center planning committee intends this site to become apartments.

LOWER CANAL ZONE
The canal zone site is bound by New York St., Senate Ave., West St., Michigan St., and Indiana Avenue. This site consists of many substandard commercial buildings. If this site is used it would be reasonable to consider reuse of some structures. A housing project of this nature could initiate the lower canal redevelopment project. This area is zoned for core activities of all types with a variety of related land uses - 100% lot coverage and unlimited building heights. Housing on this site would have to follow the canal corridor design guide-lines.

LOCKFIELD GARDENS
Lockfield Gardens was the first multiple family housing complex to be built in Indianapolis. It has been declared a historic landmark, but lies abandon in need of revitalization. The Pan-Am Games allow for an
opportunity to rehab these units. Revitalization of these units would not be a sufficient amount of units, but could be combined with new housing to meet the requirements.

FORT BENJAMIN HARRISON 4

Fort Benjamin Harrison possesses existing quarters for stationed soldiers. If the fort is utilized for athletic housing the soldiers could be put on leave or temporarily restationed. This site requires long shuttle rides to and from the game locations and also does not contribute to the regional center development plan. This site should only be chosen if time or economics does not permit the construction of new facilities.

AMATEUR SPORTS 5

Bound by New York Street, Parkway Drive, Lansing and White River, this site is a splendid location for permanent short term housing for amateur athletic events. Its location is adjacent to the track and field stadium, natatorium, and the Indianapolis Sports Center. The area is zoned for major university complexes, apartments, offices or research and development uses.
MIDTOWN/LOCKFIELD GARDENS
RESIDENTIAL

MIDTOWN
Area 38 acres
Density 26 DU/A
(average 5 athletes per dwelling unit = 4,940)

LOCKFIELD GARDENS
Area 15 acres
Density 23 DU/A
(average 4 athletes per dwelling unit = 1,380)
IUPUI AMATEUR SPORTS ATHLETIC

AMATEUR ATHLETIC
Area  2.5 acres
Density  50 DU/A
(average 2.5 athletes per dwelling unit = 310)
The above diagram organizes Midtown, Lockfield Gardens, and the Amateur Athletic complex, describing how they will be utilized before and after the games. The darkened box indicates the Amateur Athletic Complex, a separate complex in which I intend to focus my thesis project.
TEMPORARY ATHLETIC HOUSING COMMUNITY/RESIDENTIAL HOUSING COMMUNITY

Pan-Am Utilization <----> Post Pan-Am Utilization
North/South <---- Athletic <---- Residential ---> Young Urban Professionals
   Americans
2 months  <---- temporary <---- long term
21 day assigned <---- rent by unit
preparation two/bdroom
14 day furnished <---- unfurnished
participant
arrival
17 day game period
10 day
departure

(1) fenced in <---- security <---- security ---> 24 hrs.
   secured area laundry <----> laundry
   for protection
   from reporters
(2) 24 hour bldg. monitor
(3) low profile security
   person - each facility
on call medic to <---- medical <----> no in house medical facility
be housed in each
facility tv lobby <----> community room --> parties & meetings
   info <----> administration
no kitchen <---- dining <----> dining --> kitchen
facilities (required
dining to take place  . maint. <----> maint.
in village)

PERMANENT SHORT-TERM ATHLETIC HOUSING

Pan-Am and Post Pan-Am utilizations are similar. Security is the only major change between uses.

FUTURE USE

Could possibly be used as a hotel / convention center
PROJECT

With the growing interest in amateur athletics in America and the need for regular training facilities and competition sites, a need for permanent short term housing has arisen. Striving to become the amateur athletic capital of the United States, Indianapolis has made great strides in becoming a regular host of amateur athletic events.

Indianapolis hosts the Scarborough Peace Games alternating every other year with Scarborough, Ontario, Canada; the White River Park State Games, every year; the National Sports Festival; the Pan-American Games coming in 1987; and will probably host the summer Olympics in the near future. Indianapolis also consists of major university campuses, I.U.P.U.I., Butler, and Indiana Central, which regularly host athletic events. In the past few years the city of Indianapolis has built world class sports facilities such as the Hoosier Dome, Market Square Arena, and the Natatorium. These events and facilities justify a need for permanent short term housing.

With the approaching Pan-American games an opportunity exists to establish a housing complex. A complex not only for the housing of Pan-Am athletes, but a complex in which athletes/teams can visit, stay, participate or train year-round.
GOALS & OBJECTIVES

Lively and livable center-point for the Pan-American games.

Non-confusible, attractive buildings with various experience areas.

Urban character achieved through mix of functions and utilizations.

Heavily frequented communications areas.

Social integration of the occupants through the promotion of communications.

Flexible organization of the installations so as to assure adaptability for change of utilization (Pan-American / Post Pan-Am.).

To make the complex attractive to others outside the complex.

Flexible structures which provide for variable floor plans and change in utilizations.

For reasons of economy achieve the greatest possible congruence between both types of utilizations.

Take into consideration future utilization possibilities which cannot yet be determined.

Provide numerous opportunities for contact between athletes and residents.

By means of landscaping, various open areas should be created in order to stimulate multi-purpose utilization by the occupants.

Develop an image that will be suitable for both athletic and residential housing.

Centralized facilities – the shortest possible routes from the apartments to the centralized facilities.
## SLEEPING

<table>
<thead>
<tr>
<th>Function</th>
<th>provide privacy to occupant(s) 2-3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Image</td>
<td>private, comfortable informal</td>
</tr>
<tr>
<td>Primary Users</td>
<td>athlete(s), athlete and spouse</td>
</tr>
<tr>
<td>Activities</td>
<td>sleeping, dressing, reading, writing</td>
</tr>
<tr>
<td>Time of use</td>
<td>primarily evenings and at night</td>
</tr>
<tr>
<td>Furniture/Equipment</td>
<td>bed(s), clothes, storage unit(s), chairs(s), desk(s)</td>
</tr>
<tr>
<td>Thermal</td>
<td>provide adequate comfort for normal residential living, own thermostat</td>
</tr>
<tr>
<td>Acoustic</td>
<td>adequate for sleeping</td>
</tr>
<tr>
<td>Lighting</td>
<td>natural daylighting, task lighting when daylighting is inadequate</td>
</tr>
<tr>
<td>Views</td>
<td>view to outside desired, view in is undesirable</td>
</tr>
<tr>
<td>Adjacent Spaces</td>
<td>bathroom, living, dining</td>
</tr>
<tr>
<td>Primary Considerations</td>
<td>privacy from rest of complex, comfort, southern daylighting</td>
</tr>
<tr>
<td>Area</td>
<td>200 sq. ft.</td>
</tr>
</tbody>
</table>
# BATH

<table>
<thead>
<tr>
<th>Function</th>
<th>daily hygienic activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Image</td>
<td>private, comfortable,</td>
</tr>
<tr>
<td></td>
<td>clean, light, airy</td>
</tr>
<tr>
<td>Primary User(s)</td>
<td>16-35 year old athletes,</td>
</tr>
<tr>
<td></td>
<td>and guests</td>
</tr>
<tr>
<td>Activities</td>
<td>daily hygienic care</td>
</tr>
<tr>
<td></td>
<td>shit / shower / shave</td>
</tr>
<tr>
<td>Time of use</td>
<td>periodically all day</td>
</tr>
<tr>
<td>Furniture/Equipment</td>
<td>bathtub and or shower,</td>
</tr>
<tr>
<td></td>
<td>lavatory, water closet,</td>
</tr>
<tr>
<td></td>
<td>bathroom fixtures</td>
</tr>
<tr>
<td>Thermal</td>
<td>zone of high humidity</td>
</tr>
<tr>
<td></td>
<td>provide adequate ventilation</td>
</tr>
<tr>
<td>Acoustic</td>
<td>moderate privacy</td>
</tr>
<tr>
<td>Lighting</td>
<td>even illumination for all</td>
</tr>
<tr>
<td></td>
<td>areas, task lighting over</td>
</tr>
<tr>
<td></td>
<td>lavatory</td>
</tr>
<tr>
<td>Views</td>
<td>no view necessary</td>
</tr>
<tr>
<td>Adjacent Areas</td>
<td>kitchen, living, dining,</td>
</tr>
<tr>
<td></td>
<td>sleeping</td>
</tr>
<tr>
<td>Primary Considerations</td>
<td>comfort, function,</td>
</tr>
<tr>
<td></td>
<td>efficiency</td>
</tr>
<tr>
<td>Area</td>
<td>150 sq. ft.</td>
</tr>
</tbody>
</table>
LOUNG /RECREATION

Function
multi functional, general use/living recreation area

Image
informal, open, light, relaxed

Primary Users
16-35 athletes, guests entertaining, conversing, watching television, games, reading, writing, light calisthenics

Time of Use
primarily in the evening, occasionally throughout the day

Furniture/Equipment
sofa, chairs, dining tables, room divider, ping pong, furniture should be moveable

Thermal
provide adequate comfort for normal residential living, direct natural ventilation, own thermostat

Acoustic
moderat privacy room divider for acoustic berriers

Lighting
natural lighting task lighting when natural lighting is inadiquit

View
view to outside desired area should have direct access to outside terrace, patio or balcony

Adjacent Area(s)
kitchen-bathroom

Primary considerations
allow user flexibility to reflect the identities of users

Area
1000 sq. ft.
## RECEPTION

<table>
<thead>
<tr>
<th>Function</th>
<th>to provide an area for receiving athletes, guests, for group gatherings and interviews, a place where snacks are available, an information/check in desk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Image</td>
<td>cheerful, light, open</td>
</tr>
<tr>
<td>Primary User(s)</td>
<td>occupants of the building, guests, reporters</td>
</tr>
<tr>
<td>Activities</td>
<td>relaxing, conversing, watching television, social interaction, games, interviews</td>
</tr>
<tr>
<td>Time of use</td>
<td>24 hours</td>
</tr>
<tr>
<td>Furniture/Equipment</td>
<td>couches, chairs, tables, snack machines, games</td>
</tr>
<tr>
<td>Thermal</td>
<td>provide a comfortable temperature range for medium to large gatherings of people</td>
</tr>
<tr>
<td>Acoustic</td>
<td>moderate sound insulation,</td>
</tr>
<tr>
<td>Lighting</td>
<td>daylighting desired with adequate even illumination for entire area, task lighting when day lighting is not sufficient</td>
</tr>
<tr>
<td>Views</td>
<td>exterior view</td>
</tr>
<tr>
<td>Adjacent Spaces</td>
<td>weight room, workout room, public restrooms, information desk</td>
</tr>
<tr>
<td>Primary Considerations</td>
<td>comfort of the user</td>
</tr>
<tr>
<td>Area</td>
<td>1400 sq. ft.</td>
</tr>
</tbody>
</table>
DINING

Function
provides an area for daily meals, breakfast, lunch, dinner

Image
cheerful, light, airy, comfortable

Primary Users
occupants of the building, guests

Activities
relaxing, conversing, eating

Time of use
morning, afternoon, evening

Furniture/Equipment
chairs, tables

Thermal
provide a comfortable temperature range for large gatherings of people

Acoustic
moderate sound insulation, keep reverberation to a minimum

Lighting
adequate even illumination for entire, natural daylighting when possible

Views
exterior views

Adjacent areas
kitchen, recreation, public restrooms

Primary Considerations
views, natural lighting, natural ventilation

Area
3500 sq. ft.
ADMINISTRATION

Function
provide area for complex administration, offices, information desk, phone operator

Image
private, professional

Primary Users
employees, administrative staff

Activities
check in, information, accounting, secretarial, mailing

Time of use
8:00 a.m.-5:00 p.m.

Furniture/Equipment
chairs, desks, tables, closets

Thermal
provide adequate comfort for normal daily work

Acoustic
moderate sound insulation

Lighting
even illumination for the entire area, task lighting for work desk.

Views
exterior views, views of reception lobby, recreation area, dining, vending

Adjacent area(s)
lobby recreation, workout gym, dining, vending

Primary considerations
comfortable and adequate for administrative needs

Area
1200 sq. ft.
## WORKOUT

<table>
<thead>
<tr>
<th>Function</th>
<th>an area were an athlete can receive attention for sore or sprained parts of the body.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Image</td>
<td>informal, clean, cheerful, light, airy</td>
</tr>
<tr>
<td>Primary user(s)</td>
<td>occupants of the complex</td>
</tr>
<tr>
<td>Activities</td>
<td>messages, saunas, whirlpools, treatment of minor injuries</td>
</tr>
<tr>
<td>Time of use</td>
<td>varies, highest use during the day and evenings</td>
</tr>
<tr>
<td>Furniture/Equipment</td>
<td>whirlpools, storage units, tubs, tables</td>
</tr>
<tr>
<td>Thermal</td>
<td>good ventilation for the removal of humidity, heat and odors</td>
</tr>
<tr>
<td>Acoustic</td>
<td>maximum sound isolation, deadening needed</td>
</tr>
<tr>
<td>Lighting</td>
<td>even illumination for entire area, task lighting for individual treatment areas</td>
</tr>
<tr>
<td>Views</td>
<td>should be restricted some views to exterior and adjacent spaces</td>
</tr>
<tr>
<td>Adjacent area(s)</td>
<td>weight room, lounge, laundry locker, coaches offices</td>
</tr>
<tr>
<td>Primary considerations</td>
<td>comfort and privacy of the athlete</td>
</tr>
<tr>
<td>Area</td>
<td>1000 sq. ft.</td>
</tr>
<tr>
<td><strong>WEIGHTS</strong></td>
<td></td>
</tr>
<tr>
<td>-------------</td>
<td></td>
</tr>
<tr>
<td><strong>Function</strong></td>
<td>provide an area where weights and weight machines can be utilized along with other physical activities</td>
</tr>
<tr>
<td><strong>Image</strong></td>
<td>clean functional</td>
</tr>
<tr>
<td><strong>Primary User</strong></td>
<td>16-35 year old athletes</td>
</tr>
<tr>
<td><strong>Activities</strong></td>
<td>weight lifting, stretching and various exercises, possibly jogging</td>
</tr>
<tr>
<td><strong>Time of use</strong></td>
<td>morning, afternoon, and evenings</td>
</tr>
<tr>
<td><strong>Furniture/Equipment</strong></td>
<td>universal weights, free weights, benches, storage cabinets, shelves, possibly a wood running track</td>
</tr>
<tr>
<td><strong>Thermal</strong></td>
<td>provide for comfort of athletes under physical exertion, good ventilation for the removal of humidity and odors</td>
</tr>
<tr>
<td><strong>Acoustic</strong></td>
<td>maximum sound isolation</td>
</tr>
<tr>
<td><strong>Lighting</strong></td>
<td>even illumination throughout entire area</td>
</tr>
<tr>
<td><strong>Views</strong></td>
<td>exterior view if possible, view into laundry and workout room</td>
</tr>
<tr>
<td><strong>Adjacent area(s)</strong></td>
<td>workout room, laundry, locker room, saunas, vending area</td>
</tr>
<tr>
<td><strong>Primary Considerations</strong></td>
<td>functional without feeling, smelling like a gym, ventilation and temperature control</td>
</tr>
<tr>
<td><strong>Area</strong></td>
<td>2,000 sq. ft.</td>
</tr>
</tbody>
</table>
LAUNDERING

Function provide an area for the cleaning of clothing

Image informal, functional efficient

Primary Users occupants of the building, trainers, coaches

Activities washing, drying, folding, ironing

Time of use on and off throughout the day

Furniture/Equipment washers, dryers, tables for sorting and folding of clothes, ironing boards, chairs

Thermal vented to remove heat, humidity and odors

Acoustic provide for maximum sound isolation

Lighting provide adequate even lighting over entire area, daylighting if possible

Views exterior view desirable, views into adjacent spaces would be nice

Adjacent Spaces weight room, workout room, vending area

Primary Considerations efficiency, function, sound isolation

Area 400 sq. ft.
UNIT TYPES

A unit type analysis is needed in order to explore various types of temporary living quarters. This analysis will help in determining which type of unit shall be most adequate for a complex such as permanent short term athletic housing.

While exploring unit types an analysis shall also be provided on supporting spaces such as dining and recreation. This shall determine the most efficient combination between living, sleeping and dining.

LOUNGE & DINING POSSIBILITIES

A Dining and lounge facilities combined on each floor/accommodations should support about 20-25 on each floor.

B Lounge with kitchenette on each floor/main meals take place in a larger dining hall elsewhere.
C Lounging and dining take place within the individual unit.

UNIT TYPE POSSIBILITIES

A Hotel type unit

B Dormitory type unit
C Dormitory type unit with private bathroom facilities

D Apartment type unit
# SPACE SUMMARY

## SPACE ALLOCATION SCHEDULE

The square foot area allocations are suggested and may be altered if necessary.

<table>
<thead>
<tr>
<th>Category and Components</th>
<th>Approx. Net Area (Sq. Ft.)</th>
</tr>
</thead>
</table>

### HOUSING FACILITIES

- units 40 @ 400 16,000
- 20 @ 460 9,200
- (each unit includes a 70 sq. ft. bathroom)
- kitchenette/lounge 540
- 3 @ 180
- living room 1,800
- 6 @ 300
- dining area 3,500
- recreation/lounge 3,000
- conference/inter-vie rooms 200
- 200
- 500
- laundry (devided) 300
- vending area 150
- reception lobby 1,400
- restrooms 600
- janitor 80
- vending 80
- reception desk 200
- manager 200
- asst. manager 200
- business office 200
- secretarial/operator 200
- kitchen 700
- storage(chairs etc.) 300
- maintenance 700

Total 40,350

- plus 10% allotment for structure, mech., etc. 4,030

**TOTAL** 44,380

### TRAINING FACILITIES

- reception lobby 600
- reception desk 150
- bldg. manager 200
- asst. manager 200
- weight area:
  - running track 5,000
  - stretching area 1,400
- locker rooms 1,400
- laundry 400
- sauna 500
- workout (tapping) 400
- equipment storage 500
- maintenance 500
- janitorial 100
- visiting coaches 500
- offices 5 @ 100
- trainer's office 300
- 2 @ 150

**TOTAL** 13,400

### COMPLEX ADMINISTRATION

- president 300
- executive director 350
- secretarial 500
- admin. assistant 270

- plus 10% allotment for structure, mechanical, etc...

**TOTAL** 13,300

### HOUSING TOTAL 44,380

### TRAINING TOTAL 13,300

### COMPLEX TOTAL 57,680
Provide a link to the river in order to utilize the flood plain for exercising or jogging.
1. Provide a link between the Amateur Athletic Zone & Campus by creating pedestrian nodes or path through the site connecting the two.

2. Direction can be swayed by rows of trees creating paths.
### Climate

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Degree Days</th>
<th>Rel. Hum.</th>
<th>Prec. Wind</th>
<th>Average Number of Days of Sunup/Sundown</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum</td>
<td>Minimum</td>
<td>Monthly</td>
<td>Highest</td>
<td>Lowest</td>
</tr>
<tr>
<td>J 37</td>
<td>21</td>
<td>29</td>
<td>70</td>
<td>-18</td>
</tr>
<tr>
<td>F 39</td>
<td>23</td>
<td>31</td>
<td>67</td>
<td>-10</td>
</tr>
<tr>
<td>M 48</td>
<td>30</td>
<td>29</td>
<td>80</td>
<td>-6</td>
</tr>
<tr>
<td>A 61</td>
<td>40</td>
<td>51</td>
<td>89</td>
<td>20</td>
</tr>
<tr>
<td>M 72</td>
<td>51</td>
<td>61</td>
<td>93</td>
<td>28</td>
</tr>
<tr>
<td>J 82</td>
<td>60</td>
<td>71</td>
<td>96</td>
<td>42</td>
</tr>
<tr>
<td>J 88</td>
<td>64</td>
<td>75</td>
<td>99</td>
<td>40</td>
</tr>
<tr>
<td>A 63</td>
<td>63</td>
<td>74</td>
<td>97</td>
<td>41</td>
</tr>
<tr>
<td>S 75</td>
<td>55</td>
<td>66</td>
<td>96</td>
<td>34</td>
</tr>
<tr>
<td>D 67</td>
<td>44</td>
<td>55</td>
<td>88</td>
<td>20</td>
</tr>
<tr>
<td>N 50</td>
<td>32</td>
<td>41</td>
<td>78</td>
<td>4</td>
</tr>
<tr>
<td>D 39</td>
<td>23</td>
<td>31</td>
<td>70</td>
<td>-14</td>
</tr>
<tr>
<td>Y 62</td>
<td>42</td>
<td>52</td>
<td>99</td>
<td>-18</td>
</tr>
</tbody>
</table>

**SITE ANALYSIS** 54
1. Deciduous vegetation should be placed on the south side of the site in order to allow winter sun to penetrate and warm the building. Summer sun will be blocked allowing the building to be cooled.

2. Vegetation should be placed throughout the site to provide pleasant areas of shade.

3. Provide various overhangs blocking summer sun from entering the building. Winter sun should be allowed to enter to provide warmth.

4. Concrete slabs must be utilized for heat storage.
WIND

SECTION A  SEE NEXT PAGE

1) STRATEGIC LOCATION OF PARKING LOTS, AND PONDS, CAN HELP HEAT WINTER WINDS AND/OR COOL SUMMER BREEZES.
2. PROVIDE CARNIVOROUS VEGETATION, BURMS, ETC. ON THE NORTH SIDE OF SITE TO PROTECT FROM WINTER WINDS. PLACEMENT OF VEGETATION, FONDS, ETC. CAN COOL SUMMER BREEZES ALLOWED TO PENETRATE THROUGH BUILDING.

3. ALLOW CROSS VENTILATION FOR SUMMER COOLING.
THE FLOODWALL PEAK ELEVATION OF 702 SHOULD BE MAINTAINED ALONG WHITE RIVER IN ORDER TO PREVENT FLOODING.
1) Main flow of traffic exists along New York Street. Site access should come from secondary streets.
2) Vegetation should be utilized along the north side of New York Street in order to buffer traffic noise.

3) Pedestrian nodes should be created on the path from Campus to the Track and Field Stadium.
VIEWS APPROACHING SITE

1. Main views when approaching the site exist along New York Street, while secondary views exist from Lime Street and Parkway East.
1. Try to provide a variety of views throughout the complex.
2. Some views may want to be blocked or screened by vegetation.

Block views to street

Provide views while moving through spaces

Rooms

Hallways
ELEVATED PATH LINKING COMPLEX TO RIVER IS DEVELOPED
PATH SPANS OVER LIME STONE
BUILDING SPANS LIME STREET LINKING HOUSING TO THE RIVER

FLOODWALL ELEVATION
LIME STREET OVERPASS

HOUSING LINKED TO RIVER
FLOOD WALL ELEVATION IS MAINTAINED

EAST ELEVATION
Scheme three developed further this scheme discovers that Lime street should be cut off and developed into a recreation or common space.

Flood wall punched out creating a common space.
Complicated angles create major problems.

West elevation

South elevation
1  Project Site
2  Graduate Townhouse Apartments
3  Warthin Apartments
4  Womens Center
5  Dentistry Building
6  Administration Building
7  Oral Health Research Institute
8  Ball Residence
9  Colman Hall
10 Lecture Hall

11 University
12 Track & Fi
13 Natatorium
14 National C
15 Sports Cen
16 Baseball F
17 Parking
18 Temp. Park
19 White Rive

FINAL DESIGN 70
CONCLUSION

Ahhh.
BIBLIOGRAPHY


