Hitting it Out of the Park

Key Factors to Consider When Upgrading Your Campus’s Ball Fields

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Key Factors to Consider for Ball Field Planning & Design

1. Define Purpose / Utilization
2. Size & Dimensions
3. Orientation
4. Playing Surface
5. Spectator Seating
6. Safety
7. Support Facilities
8. Lighting
9. Parking / Access
10. Environment / Experience
Define the **Purpose / Utilization** of the Complex

**Potential Uses:**

- Regular Season Games
- Tournaments
- Practice Facilities
- Rental Facility / Leagues
- Community Use
- Assemblies / Events
- Concerts
- Fairs / Markets
Playing Field Design Requirements & Recommendations
(Field Dimensions, Striping, Fencing, Bases, etc.)

RULE 1
The Game, Playing Field and Equipment

The Approved Playing Field is the official definition of the NCAA Baseball Rule Committee (formerly "base committee") regarding a specific rule or part of the rule. It serves to illustrate the spirit and explanation of the rule. Approved Rules or Notes follow the rules they explain.

The Game

SECTION 1. Baseball is a game made up of two teams of nine players each. The team at bat is known as the offensive team, and its objective is to score runs by hitting the ball and advancing to bases in a fashion designed to be safe while the defensive team completes the game by preventing the team at bat from scoring runs. A run is scored when a runner crosses home plate after touching each base in the correct order.

The field is the property of the home team and is usually in fair condition to enable the offensive team to achieve its goals. The field is not to be changed during the game without the consent of both teams. The game is played on a diamond-shaped field, usually 90 feet apart. The pitcher's mound is located 60 feet 6 inches from the front of home plate. The batter's box is 60 inches long and 30 inches wide, with the plate located at one end. The bases are 90 feet apart, with the home plate at the intersection of the first and third base lines.

Infield, Outfield Dimensions

SECTION 2. a. The infield shall be a 900 square foot square. The dimensions of the field shall be measured from the center of the pitcher's mound to the baseline, as shown in the diagram. The baseline shall be the line between the foul line, formed by extending the line from the center of the home plate.

b. The recommended dimensions for standard dimensions are 300 feet from the rear of the outfield fence to the foul line. The foul lines are 175 feet from the baseline, and the baseball field is 100 feet by 100 feet. The pitching mound shall be 15 feet 6 inches from the plate, and the batter's box shall be 60 inches by 30 inches. The bases shall be 90 feet apart, with the home plate at the intersection of the first and third base lines.

RULE 2
Field of Play

The following information regarding the playing facility and field specifications apply to all competitions, including the NCAA Softball Rules.

2.1 Layout

For the layout of the playing field, refer to the drawing showing official dimensions.

2.1.1 All new fields shall be established with consideration to the following:

a. The center of the center field fence line shall be the center of the first base line and the third base line, which is to be measured from the center of the pitcher's mound to the baseline, as shown in the diagram. The baseline shall be the line between the foul line, formed by extending the line from the center of the home plate.

b. The recommended dimensions for standard dimensions are 300 feet from the rear of the outfield fence to the foul line. The foul lines are 175 feet from the baseline, and the baseball field is 100 feet by 100 feet. The pitching mound shall be 15 feet 6 inches from the plate, and the batter's box shall be 60 inches by 30 inches. The bases shall be 90 feet apart, with the home plate at the intersection of the first and third base lines.

2.2 Artificial Turf

A synthetic turf surface field may be used for collegiate competitions. It is recommended that the outfield portions be green, as there is an infield portion, the inners, and less together above than the outfield portion.

2.3 Backstop

The batting area shall be the required batter's box, which is located 10 feet behind home plate. The box shall be 3 feet 6 inches wide and 6 feet high, and the backstop shall extend from the box at least 18 feet behind home plate. The backstop shall be constructed of materials that will withstand the elements and provide a safe environment for players.
“Baseball outfield dimensions may vary based on college preference & site characteristics”
Softball Outfield
NJCAA Recommendation
(From NCAA Rule Book)

"Softball outfield dimensions may vary based on college preference & site characteristics"

Size & Dimensions of the Ball Fields

- 220' with 6' high fence
- 230' with 4' high fence
- 190' with 6' high fence
- 210' with 4' high fence
- 190' with 6' high fence
- 210' with 4' high fence

Softball outfield dimensions may vary based on college preference & site characteristics.
Size & Dimensions of the Ball Fields

Baseball Infield
NJCAA Requirements
(From NCAA Rulebook)
Orientation of the Ball Field

From NCAA Rule Book:

“Ball Fields should be oriented with consideration to the following factors:
1. Protection of Players
2. Comfort of Spectators
3. Sun angles
4. Prevailing Winds
5. Outfield Backdrop
6. Existing Conditions: Obstacles / Barriers / Geography”

From Major League Baseball Rule Book:

“It is desirable that the line from home base through the pitcher’s plate to second base shall run East / Northeast.”.....to keep the afternoon sun out of the batter’s eyes.
Orientation of the Ball Field

Wrigley Field – Chicago Cubs (Northeast)

Fenway Park – Boston Red Sox (Northeast)

Yankee Stadium – New York Yankees (Northeast)

Guaranteed Rate Field – Chicago White Sox (Southeast)

Major League Baseball Examples
Notable Ball Field Configurations
Type of **Playing Surface**

**Artificial Turf vs. Natural Grass (Pros):**

- **Lower** cost of *regular maintenance.* (Irrigation / pesticides / mowing / striping)
- **Playable** immediately *after construction* vs waiting for grass to grow
- **No rainfall protection** required  (Playable 30 min after rain / Increased playing time)
- **Customizable** ball *play speeds*…based on field dimensions.
- **Consistent** playing surface / **Predictable** ball bounces / No differential settlement.
- **Attractive**…Manicured and consistent appearance.
- **Long-term** *logo integration.*
- **Often** *viewed by athletes* as a **higher quality** playing surface.

![Artificial Turf](Artificial_Turf.jpg)  ![Natural Grass](Natural_Grass.jpg)
Artificial Turf vs. Natural Grass (Cons):

- **Higher up-front cost:** $11 - $13/sf (vs) $5 - $6/sf for natural grass.
- More extensive **Stormwater Management** requirements / costs.
- Playing surface **replacement** required every 8-12 years. ($6/sf)
- Playing surface can be **Warmer** than natural grass on hot days *(Due to rubber infill mix)*
## Type of Playing Surface – Cost Comparison
*(Baseball + Softball Fields)*

<table>
<thead>
<tr>
<th></th>
<th>Artificial Turf (Baseball + Softball)</th>
<th>Natural Grass (Baseball + Softball)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Playing Surface / Base / Drainage</td>
<td>$2,200,000</td>
<td>$1,000,000</td>
</tr>
<tr>
<td>Irrigation</td>
<td>$0</td>
<td>$500,000</td>
</tr>
<tr>
<td>Stormwater Detention</td>
<td>$600,000</td>
<td>$0 - $300,000</td>
</tr>
<tr>
<td><strong>Total</strong> (Baseball + Softball Fields)</td>
<td><strong>$2,800,000</strong></td>
<td><strong>$1,800,000</strong></td>
</tr>
</tbody>
</table>

### O & M Costs:

- Grooming
- Sweeping
- Surface Repairs

- Mowing
- Striping
- Pesticides
- Water Use

Requires Surface Replacement Every 8-12 Years:
- **$1,000,000**

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### Field Size Comparisons

<table>
<thead>
<tr>
<th>Field Type</th>
<th>Size</th>
<th>Total Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Softball Field</td>
<td>40,000 sf</td>
<td></td>
</tr>
<tr>
<td>Baseball Field</td>
<td>125,000 sf</td>
<td>165,000 sf</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>165,000 sf</td>
</tr>
<tr>
<td>Soccer Field</td>
<td>95,000 sf</td>
<td></td>
</tr>
<tr>
<td>Football Field</td>
<td>66,000 sf</td>
<td></td>
</tr>
</tbody>
</table>

*(One Acre = 43,560 sf)*
Spectator Seating Type & Capacity

Grandstand Design Factors:

- Expected Attendance (Capacity)
- Aesthetics (Image)
- Longevity (Construction Type)
- Site Characteristics
- Budget / Cost

- Raised Aluminum Bleachers ($)
- Stands Integrated into Sloping Grade ($$)
- Raised Stands with Enclosure ($$ - $$$)
Safety Components (For Players & Spectators)

- Protection Fencing at Dugouts
- Backstop Wall Padding
- Protective Netting / Fencing for Spectators
- PVC Fence Cap
- Smooth Playing Surfaces
- Perimeter Warning Track
Support Facilities

- **Dugouts** *(On-Grade / Sunken / Hybrid)*
- **Storage** *(Field Equip. & Maint. Supplies)*
- **Bull Pens** *(Pitching Lanes)*
- **Batting Cages** *(Interior and/or Exterior)*
- **Press Boxes + AV Systems**
- **Restroom Facilities** *(Spectators & Teams)*
- **Locker Facilities** *(Teams & Officials)*
- **Concessions** *(Determine Offerings)*

**Title IX Compliance Requirements:**
Provide Comparable Quality / Equitable Facilities Between BB & SB Fields
## Ball Field Lighting

<table>
<thead>
<tr>
<th>Guidelines</th>
<th>Infield</th>
<th>Outfield</th>
<th>Lower Cost</th>
<th>Higher Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Park &amp; Recreational</td>
<td>30 fc</td>
<td>20 fc</td>
<td>$600 - $700 K (BB + SB)</td>
<td></td>
</tr>
<tr>
<td>High School / Some Comm. Colleges</td>
<td>50 fc</td>
<td>30 fc</td>
<td>$600 - $700 K (BB + SB)</td>
<td></td>
</tr>
<tr>
<td><strong>NCAA – Best Practices</strong></td>
<td></td>
<td></td>
<td>$800 - $900 K (BB + SB)</td>
<td></td>
</tr>
<tr>
<td>Standard Intercollegiate Play</td>
<td>70 fc</td>
<td>50 fc</td>
<td>$800 - $900 K (BB + SB)</td>
<td></td>
</tr>
<tr>
<td>Regional &amp; National TV</td>
<td>100 fc</td>
<td>70 fc</td>
<td></td>
<td>$800 - $900 K (BB + SB)</td>
</tr>
<tr>
<td>National Championship TV</td>
<td>125 fc</td>
<td>100 fc</td>
<td></td>
<td>$800 - $900 K (BB + SB)</td>
</tr>
</tbody>
</table>
Ease of **Parking & Access**

- Convenient Parking in Proximity to Fields
- Vehicular Drop Off Zone
- Identifiable Entry / Access Points
- Clear Pedestrian Circulation
BLACK HAWK COLLEGE’S BALL FIELDS VISION
Original BHC Ball Fields Upgrades Scope

- Upgrade Safety Components
  - Add Protective Netting
  - Improve Fencing
  - Fix Uneven Playing Surface
  - Add Warning Tracks
- Replace Dugouts
- Add Irrigation
- Improve Drainage
BHC 2020 Facilities Master Plan

Consolidate Fields / Create Athletic Complex

- **New Storage Building**
  - Furniture Storage (4000 sf)

- **New Facilities / HCCTP Building**
  - 8000 sf
  - Facilities Vehicle Storage
  - HCCTP Storage & Classroom

- **New Art Annex**
  - Ceramics Lab / Kiln (5000 sf)

- **Building 1 Addition**
  - 19,500 sf
  - Music Relocation / Expansion
  - Conference Center

- **Building 2 Renovation**
  - (20) Enlarged Classrooms
  - Offices
  - New Entry

- **Building 4 Renovation**
  - (20) Enlarged Classrooms
  - Offices
  - New Entry

- **Parking Lot 3 Expansion**
  - Increase 150 to 320 Spaces (170 Additional)

- **New Fieldhouse**
  - 36,200 sf
  - 85' x 200' Indoor Turf (Soccer)

- **New CTE Building**
  - 80,640 sf (16 Auto Bays)
  - CTE Labs (High Bay / Auto / Manuf.)
  - Outdoor Yard Space
  - (2) Classrooms
  - Offices

- **Diesel / Large Truck – CTE**
  - 19,000 sf (4 Semi Truck Bays)

- **Building 2 & STB CTE Renovation**
  - CTE Labs

- **Cross Campus Pathway**
  - Exterior Pathway, Bridge & Lighting

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**Building 4 Renovation**
- Student Activities (Lvl.1)
- Vet Services / Counseling
- Dining / Food Service
- Upgrade Balconies
- Art Expansion (Lvl. 2)

**Building 3 Renovation**
- Athletics / Fitness
- Campus Police
- (7) Natural Science Labs
- (4) Health Sciences Labs
- (3) Classrooms
- Offices
- New Entry

**Parking Lot 3 Expansion**
- Increase 150 to 320 Spaces (170 Additional)

**New Fieldhouse**
- 36,200 sf
- 85' x 200' Indoor Turf (Soccer)

**Softball Field Relocate**
- Synthetic Turf
- Support Facilities & Lighting
Creating an **Environment / Experience**
Existing Black Hawk College Baseball Field
New Black Hawk College Ball Field Complex
Welcoming **Image / Gateway** into the Complex
Spectator Experience / Views of Field from Concessions & Plaza
Spectator Experience / Views of Field from Seating
Incorporation of BHC **Logos and Branding**
(Field / Roofs / Banners)
Player Experience / Incorporation of BHC Colors and Branding
Player Experience / Incorporation of BHC Colors and Branding
Existing Morton College Ball Fields
New Morton College Ball Field Complex
(Connects to Neighborhood / Creates Destination for College & Community)
Primary Gateway into the Complex
North Neighborhood Gate / New Main Street Through Complex
Clear / Identifiable Stadium Entries
Spectator Experience / Views of Field
Spectator Experience / Roof Terrace over Lockers and Restrooms
Spectator Experience / Roof Terrace over Lockers and Restrooms
Athletic Lockers / Restrooms / Dugouts Facility
Experience on Field / Dugout Access
View of Complex from Above
Hitting it Out of the Park

Key Factors to Consider When Upgrading Your Campus’s Ball Fields

THANK YOU...

QUESTIONS?

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